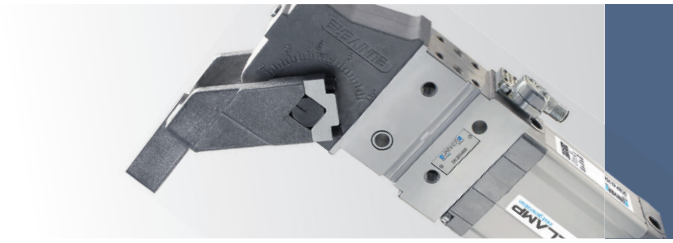
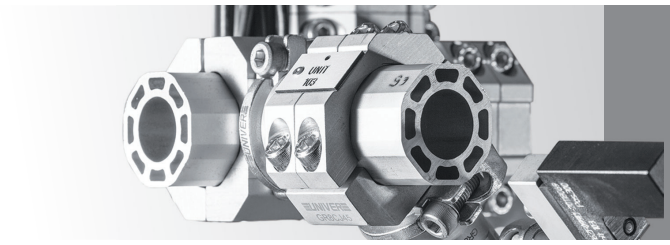
UNIVER®
Industrial Automation



PNEUMATIC
AUTOMATION



AUTOMOTIVE



MODULAR
TOOLING
SYSTEM

PRODUCT
OVERVIEW

UNIVER®
Industrial Automation

BUSINESS PROFILE
PRODUCT HISTORY
SALES NETWORK

Pneumatic Automation

1 Cylinders



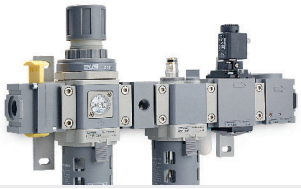
2 High-Tech



3 Valves



4 Air Treatment



5 Accessories



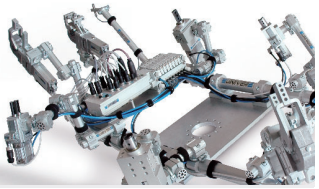
Automotive

6 Clamping Technology



Modular Tooling System

7 GR8 Tooling



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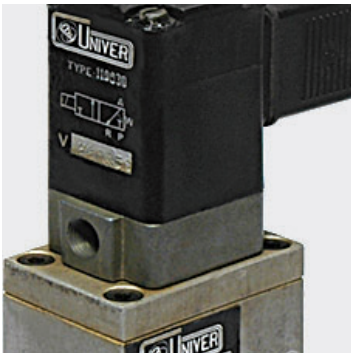
In light of technical updates, **Univer S.p.A.** reserves the right to modify technical features of their products with no obligation to issue prior notice.

Information contained in the present catalogue is pure indication, for further details about product technical features and related parameter values to be respected for a proper functioning, please refer to the datasheets available at:
www.univer-group.com

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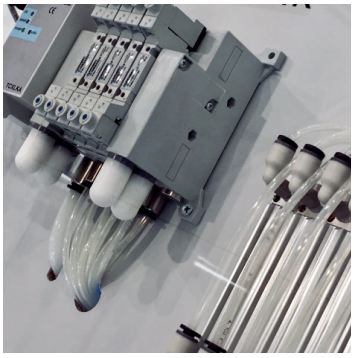


UNIVER®
Industrial Automation



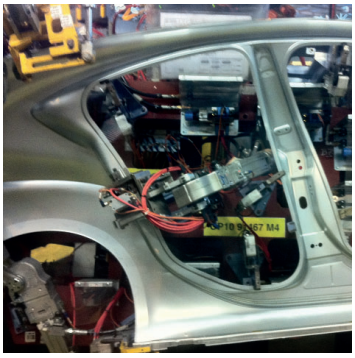
Early stages

UNIVER has started its activity in the field of industrial automation during the 1970s, with the production of its first series of pneumatic valves and poppet valves for vacuum.



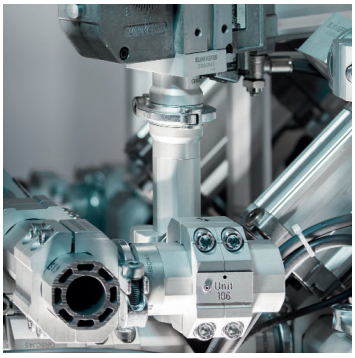
Pneumatic

In the following decades, the widening range of technologically advanced and original pneumatic components has allowed the continuous growth and development of the company, which has become one of the major Italian businesses in the production of industrial automation equipment.



Automotive

In 2000, after many years of experience in the supply of pneumatic components to the automotive market, the Automotive Division was created, thus developing numbers of solutions for BIW in the automotive industry.



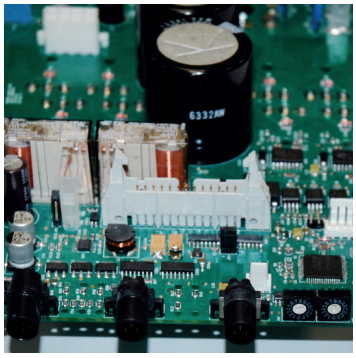
GR8 Tooling

New entry, the Division of Modular Tooling Systems (GR8) represents the new challenge in the press field and handling of metal sheets in Automotive and Industrial Automation.

OUR CUSTOMERS



BUSINESS PROFILE



Electronics

The Electronic Division, supporting both Pneumatic Automation and Automotive divisions, is specialized in the study, design and manufacturing of the electric and electronic devices which are integrated in UNIVER products.



Univer Service

In Italy, the commercial company **UNIVER SERVICE S.r.l.** controls the domestic market and guarantees a quick and efficient service, thanks to different operational offices and distributors in the whole country.

UNIVER SERVICE

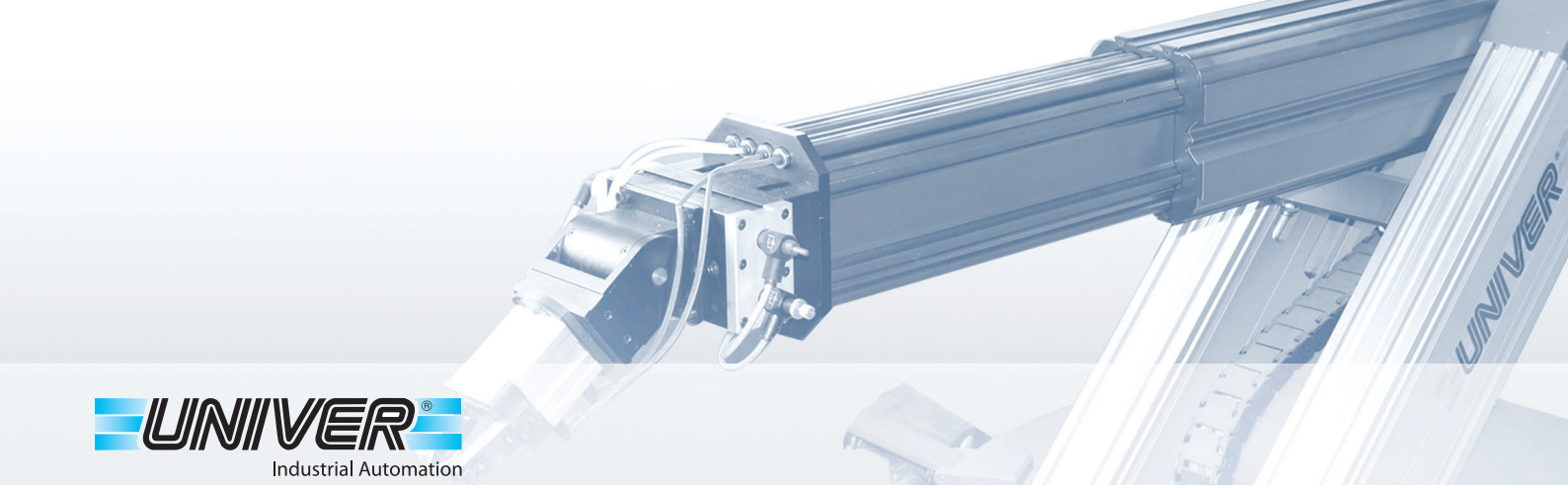


Univer Group

The UNIVER Group has many direct branches and an active distribution network covering the most important industrialized areas.

UNIVER GROUP

since **1971**
KNOW-HOW
RESEARCH
INNOVATION



UNIVER®
Industrial Automation

UNIVER

1971 Foundation of UNIVER company

1973 Poppet valves for compressed air and vacuum

UNIVER®

1980 Valves according to ISO 5599 (Industry Award)

1982 UNIVERSAL series valves

1986 Cylinders and mounting elements according to ISO 6431(first cylinders on the market with extruded aluminium profile)

1988 Cylinders with antirotation piston and octagonal tube
Electrically actuated microvalves
Rodless cylinders (patented)

1989 Rotating cylinders (patented)
Short-stroke cylinders

1991 10 mm Nanovalve
G6 - G7 - G8 series valves

1992 Slide units in extruded aluminium profile

1993 Cybrain programmable actuators (patented)

1997 Telescopic cylinders (patented)

1998 Locking units (patented)

1999 Compact cylinders with supplied adjustable cushioning standard (patented)

1970 1980 1990



First valve series



ISO 6431 Pneumatic Cylinders



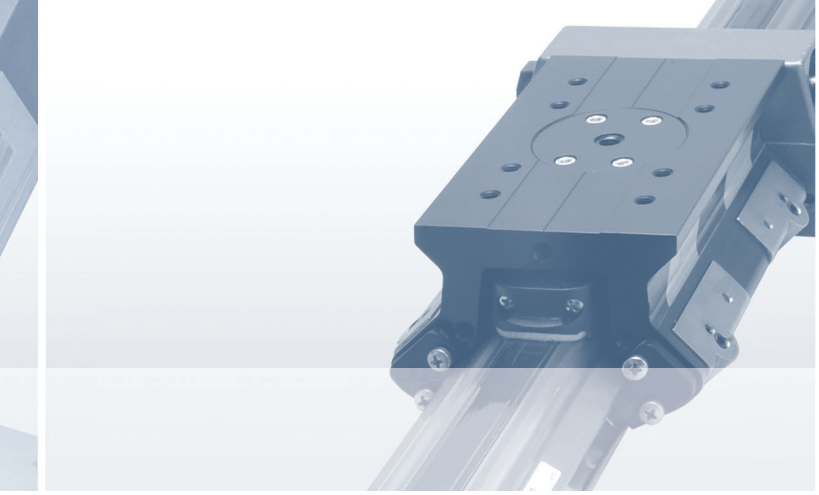
10 mm Nanovalve

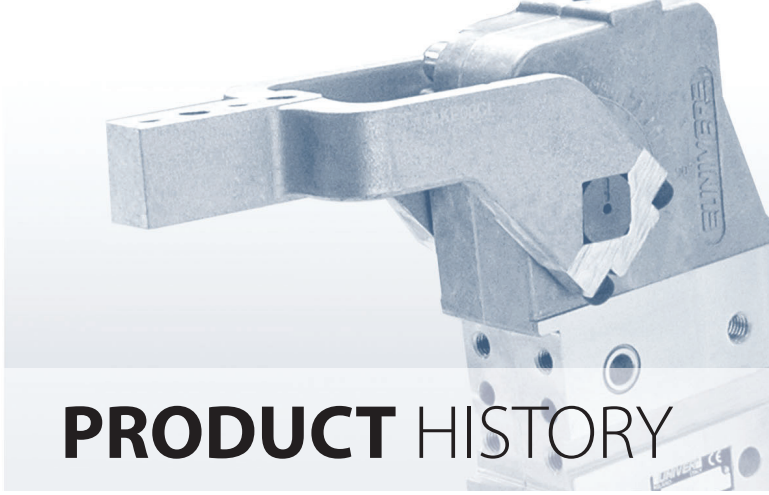


2/3 stage Telescopic Pneumatic Cylinders



Pneumatic and Electric Power Clamps





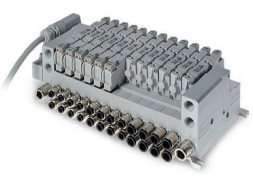
PRODUCT HISTORY

2000 Combobox valves
2001 Pneumatic power clamps and retractable locating pin units
2002 Oval cylinders
2003 Electric cylinders (patented)
Electric power pivots
Electric power clamps and retractable locating pin units
2004 Valves according to ISO 15407/VDMA 24563
Serial communication control blocks
Pneumatic grippers
2005 Pneumatic power pivots (patented)
2006 10 mm Nanovalve - 2nd generation
2007 COMPACT 10/15 mm valves
2008 TC Serial communication control system
2009 JL Guided compact cylinders
KL Cylinders according to ISO 15552

2000

2010 Compact cylinders Ø 80-100 according to ISO 21287
HZE Air treatment system
ISO 15552 Pneumatic cylinders
2011 10 mm bistable Nanovalves
Marking unit
2012 P15E 15 mm COMPACT Valves
GR8 Modular Tooling System
2013 Short Stroke Cylinders - Tube New Design
Valves with panel operation
Pneumatic Gripper
2014 ESSENTIAL valves
P22 22 mm COMPACT valves
2017 TC-E Modular Control System
2018 Sub-base Multipin for ESSENTIAL Valves
2019 CompactEvo Valves
KR Cylinders
IO-Link Module
Pneumatic power clamps UNICLAMP
Pneumatic power clamps BLUECLAMP
Power pivots e-PIVOT

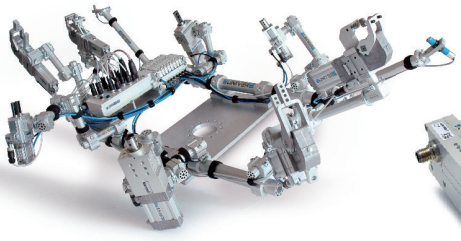
2010



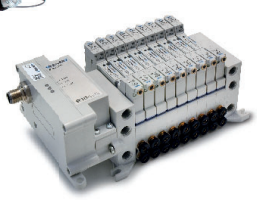
COMPACT Valves



ISO 15552 Pneumatic Cylinders



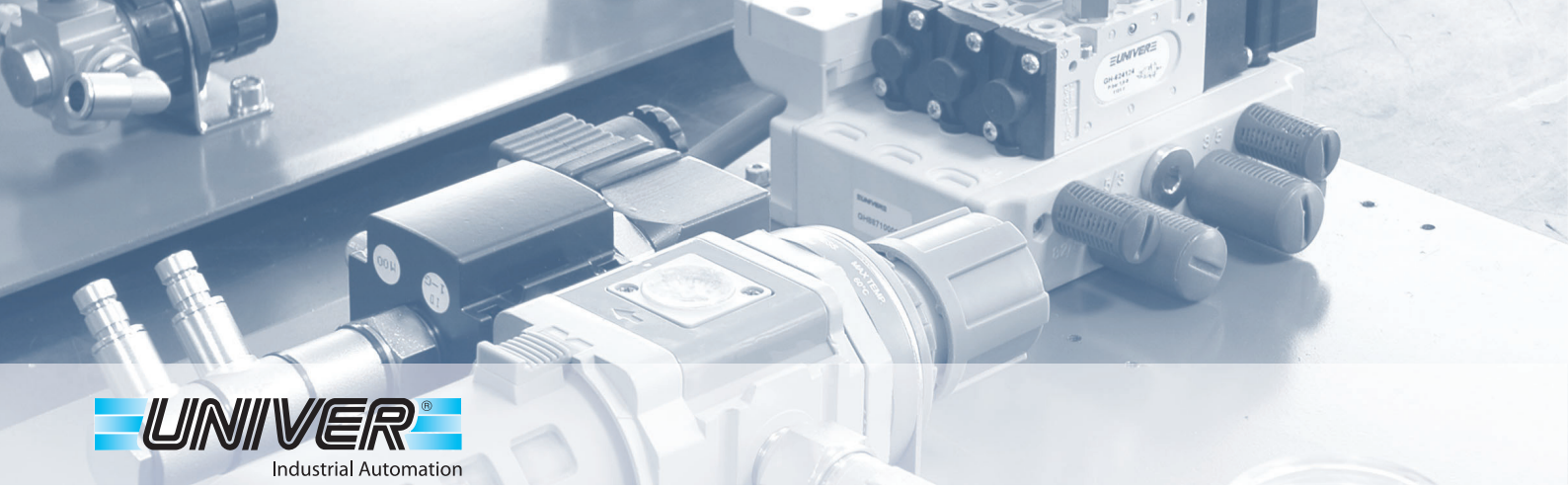
Modular Tooling System



IO-Link Module



Pneumatic Power Clamps
UNICLAMP



UNIVER®
Industrial Automation

Univer Service

In Italy, the commercial company **UNIVER SERVICE S.r.l.** controls the domestic market and guarantees a quick and efficient service, thanks to different operational offices and distributors in the whole country.

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SALES NETWORK

Univer Group

The UNIVER Group has many direct branches and an active distribution network covering the most important industrialized areas.



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1

Cylinders



	Standards-based Cylinders	M KL KE KD K	2 4 6 7 8/9
	Standards-based Compact Cylinders	RP RM RO RN RS RQ	11 12 13 14 16 17
	Stainless steel Cylinders	PM PK PRM	19/20 21 22
	Oval Cylinders	OV	23/24
	Short-stroke Cylinders	W	25
	Rotary Cylinders	R YR2 YR3	26 27 28
	Rodless Cylinders	S1 S5 VL1	30 31 32
	Guided Cylinders	J JLE JTE/JX	34/35/36 37 38
	Other Cylinders	MP	39
	Assembly Kits	M/K RP/RM RO/RN RS/RQ S1/S5/VL1	40 41 41 41 42

1

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	aluminium, crimped on barrel
Barrel	stainless steel
Piston	brass (Ø8÷16), aluminium (Ø20-25)
Guide slide	acetalic resin
Piston rod	stainless steel
Piston seal	NBR
Guide bush for piston rod	standard supplied
Shock absorber seals	NBR
Cushionings	adjustable on both sides (Ø16÷25)



CODIFICATION KEY

M	1	0	0	0	2	5	0	0	5	0			
1	2	3		4			5				6	7	8

1 Series

M = Ø8÷25 mm ISO 6432 Microcylinders

2 Type

1 = Stainless steel piston rod (standard vesion)
2 = Chromium-plated steel piston rod (to be used only with locking unit)
3 = Reduced version with stainless steel piston rod

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
50 = **D.A.** With adjustable cushionings (Ø16÷25)
51 = **D.A.** Through piston rod with adjustable cushionings (Ø16÷25)
60 = **S.A.** Retracted piston rod (Ø10÷25), Max stroke 50 mm
70 = **S.A.** Extended piston rod (Ø16÷25), Max stroke 25 mm

D.A. = Double acting
S.A. = Single acting

4 Bore (mm)

008 = Ø8
010 = Ø10
012 = Ø12
016 = Ø16
020 = Ø20
025 = Ø25

5 Stroke (mm)

0010 = 10 **0080** = 80 **0250** = 250
0020 = 20 **0100** = 100 **0300** = 300
0025 = 25 **0125** = 125 **0320** = 320
0030 = 30 **0150** = 150 **0400** = 400
0040 = 40 **0160** = 160 **0500** = 500
0050 = 50 **0175** = 175
0075 = 75 **0200** = 200

6 Option

F = Preset for locking unit reduced protrusion

7 Magnetic

M = Magnetic version (Ø10÷25)

8 ATEX option

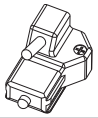
X = Atex (upon request)

See ATEX Catalogue for types and versions

M190 version with high temperature seals (Max 120°C) available upon request

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with clips	Articulated self-lubricating fork	Fork with axially mounted articulated pin	Fork with angle mounted articulated pin	Floating joint	Female rear hinge	Angle bracket	Flange	Nut for end-cap	Holder for DF sensor	DF sensor
											
8	MF-15008	MF-17008	-	-	-	MF-21008	MF-13008	MF-12008	MF-20008	-	
10	MF-15008	MF-17008	-	-	-	MF-21008	MF-13008	MF-12008	MF-20008	DH-M10DF	
12	MF-15012	MF-17012	MF-22016	MF-23012	MF-24012	MF-21012	MF-13012	MF-12012	MF-20012	DH-M12DF	DF
16	MF-15012	MF-17012	MF-22016	MF-23012	MF-24012	MF-21012	MF-13012	MF-12012	MF-20012	DH-M16DF	
20	MF-15020	MF-17020	MF-22020	MF-23020	MF-24020	MF-21020	MF-13020	MF-12020	MF-20020	DH-M20DF	
25	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	MF-21020	MF-13020	MF-12020	MF-20020	DH-M25DF	

Ø	Holder for DH sensor	DH sensor
		
8	-	
10	DH-M10	
12	DH-M12	DH
16	DH-M16	
20	DH-M20	
25	DH-M25	

Through piston rod



Reduced version with adjustable cushionings



UNIVER®

K | ISO 15552 Cylinders



KL

CLEAN PROFILE
Easier to clean

QUICK INSTALLATION
Sensors and connections on one side

UNIVER TECHNOLOGY
Strong and Reliable

ISO 15552
Interchangeability

KE

Ø 32 ÷ 125 mm





KL

Ø 32 ÷ 125 mm





KD

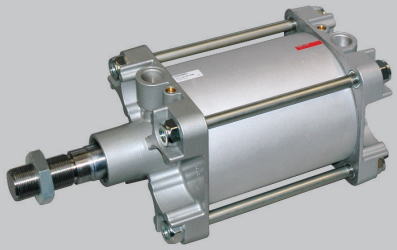
Ø 32 ÷ 125 mm





K 160/200

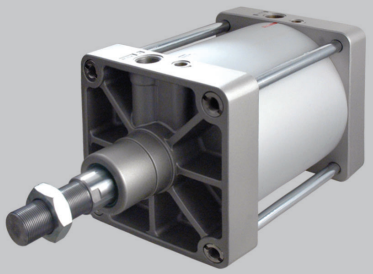
Ø 160 - 200 mm





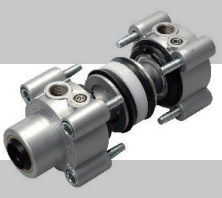
K 250/320

Ø 250 - 320 mm





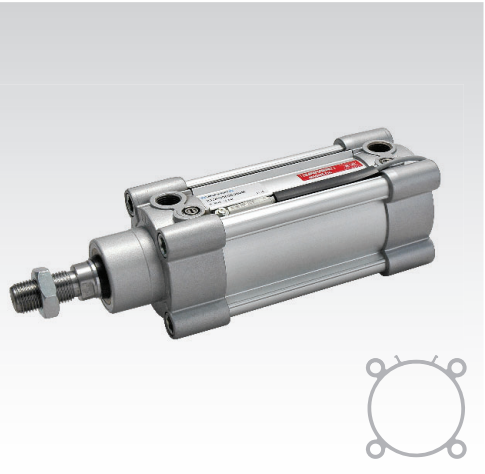
KIT **Assembly Kit**
available for all series



KL
Ø 32 ÷ 125 mm - ISO 15552 Pneumatic Cylinders
CLEAN PROFILE

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast aluminium
Barrel	anodized aluminium
Piston	die-cast aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston seal	NBR
Guide bush for piston rod	UNIVER Original self-lubricating and self-aligning
Shock absorber seals	NBR
Cushionings	adjustable on both sides
Other available versions	tandem, two-position tandem, opposed, with common piston rod (upon request)



CODIFICATION KEY

K	L	2	0	0	0	3	2	0	0	5	0		M	
1		2	3		4			5				6	7	8

1 Series
KL = Ø 32÷125 mm - ISO 15552 Pneumatic Cylinders

Magnetic version standard supplied

2 Type
1 = Stainless steel piston rod
2 = Chromium-plated steel piston rod

3 Version
00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
60 = **S.A.** Retracted piston rod Max stroke 50 mm
70 = **S.A.** Extended piston rod Max stroke 50 mm

D.A. = Double acting
S.A. = Single acting

4 Bore (mm)
032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63
080 = Ø80
100 = Ø100
125 = Ø125

5 Stroke (mm)
0025 = 25
0050 = 50
0075 = 75
0080 = 80
0100 = 100
0125 = 125
0150 = 150
0160 = 160
0175 = 175
0200 = 200
0250 = 250
0300 = 300
0320 = 320
0350 = 350
0400 = 400
0450 = 450
0500 = 500
0600 = 600
0700 = 700
0800 = 800
0900 = 900
1000 = 1000

6 Option
F = Preset for locking unit reduced protrusion
G = Preset for locking unit ISO protrusion

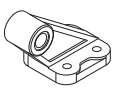
7 Magnetic
M = Magnetic version standard supplied

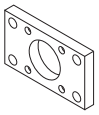
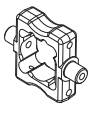
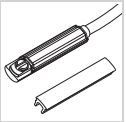
8 ATEX option
X = Atex (upon request)

See ATEX Catalogue for types and versions

KL190 and KL290 versions with high temperature seals (Max 120°C) and versions with low temperature seals (Max -30°C) available upon request

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with clips	Articulated self-lubricating fork	Fork with axially mounted articulated pin	Fork with angle mounted articulated pin	Floating joint	Female rear hinge with pin	Counter hinge 90° (CETOP)	Counter hinge 90°	Counter hinge 90° (CNOMO)	Narrow female hinge with pin	Articulated counter hinge
											
32	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	KF-10032A	KF-19032CTA	KF-19032	KF-19032CN	KF-10032AS	KF-19032SC
40	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	KF-10040A	KF-19040CTA	KF-19040	KF-19040050CN	KF-10040AS	KF-19040SC
50	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	KF-10050A	KF-19050CTA	KF-19050	KF-19040050CN	KF-10050AS*	KF-19050SC
63	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	KF-10063A	KF-19063CTA	KF-19063	KF-19063080CN	KF-10063AS	KF-19063SC
80	KF-15080	KF-17080	KF-22080	KF-23080	KF-24080	KF-10080A	KF-19080CTA	KF-19080	KF-19063080CN	KF-10080AS*	KF-19080SC
100	KF-15080	KF-17080	KF-22080	KF-23080	KF-24080	KF-10100A	KF-19100CTA	KF-19100	KF-19100125CN	KF-10100AS	KF-19100SC
125	KF-15125	KF-17125	-	-	-	KF-10125A	KF-19125CTA	-	KF-19100125CN	KF-10125AS	KF-19125SC

Ø	Articulated rear male hinge	Rear male hinge	Front/rear flange	Angle bracket	Front/rear hinge with floating pin	Hinge support	ISO intermediate hinge	DF sensor and DHF covering strip
								
32	KF-11032S	KF-11032	KF-12032	KF-13032	KF-14032AP	KF-41032	KLF-14032	
40	KF-11040S	KF-11040	KF-12040	KF-13040	KF-14040AP	KF-41040050	KLF-14040	
50	KF-11050S	KF-11050	KF-12050	KF-13050	KF-14050AP	KF-41040050	KLF-14050	
63	KF-11063S	KF-11063	KF-12063	KF-13063	KF-14063AP	KF-41063080	KLF-14063	DF DHF-0020100
80	KF-11080S	KF-11080	KF-12080	KF-13080	KF-14080AP	KF-41063080	KLF-14080	
100	KF-11100S	KF-11100	KF-12100	KF-13100	KF-14100AP	KF-41100125	KLF-14100	
125	KF-11125S	KF-11125	KF-12125	KF-13125	KF-14125AP	KF-41100125	KLF-14125	

* = If employed with articulated rear male hinge diameter 50-80 use KF-11050SSA (pin Ø16) and KF-11080SSA (pin Ø20)



Tube profile with integrated sensor grooves
UNIVER Original since 2005



Recessed sensor
DF series



Magnetic piston
standard supplied



Fixing screws integrated in the end-cap profile



Sensor grooves available in different positions



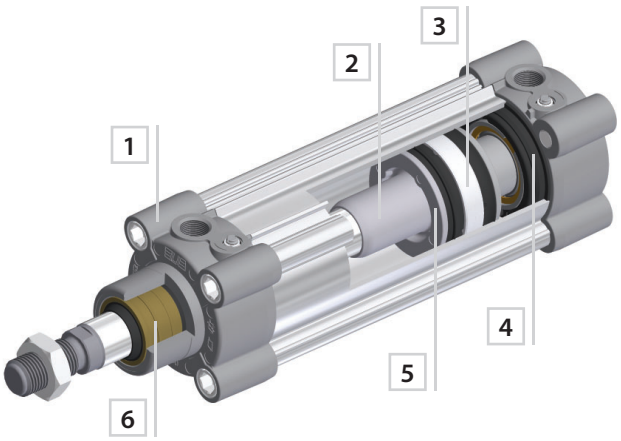
Possibility to mount DH sensors with brackets



Intermediate hinge with locking system guaranteed by UNIVER AUTOMOTIVE expertise



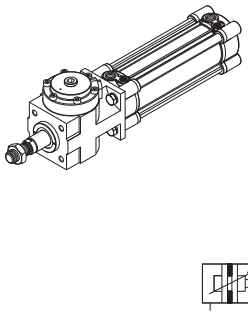
Standard fixing elements
UNIVER Original



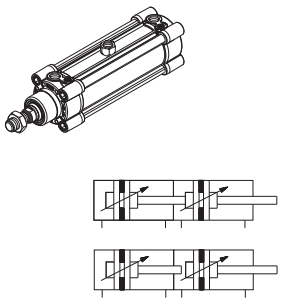
1	Die-cast end-caps in aluminium
2	Die-cast piston in aluminium
3	Guide slide in acetalic resin with integrated magnetic ring
4	Wear-resistant shock absorber seals in nitrilic rubber compound
5	Lip piston seals in nitrile rubber compound
6	**UNIVER Original** self-aligning and self-lubricating guide bush for piston rod

Other available versions

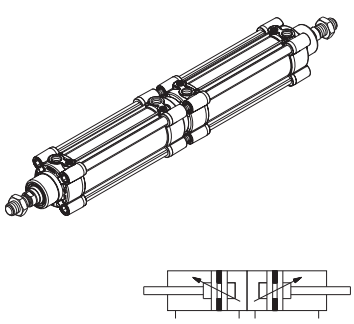
- Cylinder with L1-N locking unit



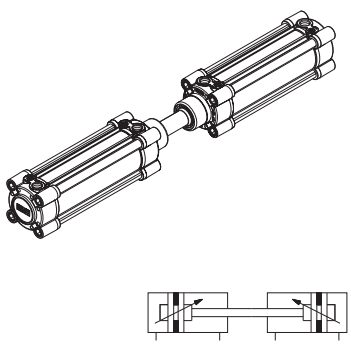
- Tandem cylinder
  Two-position tandem cylinder



- Opposed cylinders



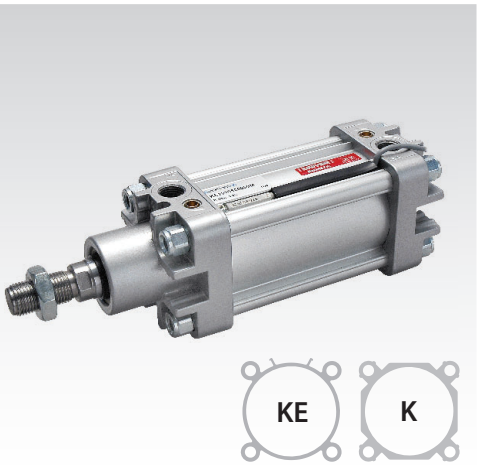
- Cylinders with common piston rod



1

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast aluminium
Barrel	anodized aluminium
Piston	die-cast aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston seal	NBR
Guide bush for piston rod	UNIVER Original self-lubricating and self-aligning
Shock absorber seals	NBR
Cushionings	adjustable on both sides
Other available versions	tandem, two-position tandem, opposed, with common piston rod (upon request)



CODIFICATION KEY

K	E	2	0	0	0	3	2	0	0	5	0			
1		2	3		4			5				6	7	8

1 Series

KE = Ø 32÷125 mm - ISO 15552 Pneumatic Cylinders

K = Ø 32÷125 mm - ISO 15552 Pneumatic Cylinders (former ISO 6431 VDMA 24562) **(available upon request)**

2 Type

1 = Stainless steel piston rod
2 = Chromium-plated steel piston rod

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
60 = **S.A.** Retracted piston rod Max stroke 50 mm
70 = **S.A.** Extended piston rod Max stroke 50 mm

D.A. = Double acting
S.A. = Single acting

4 Bore (mm)

032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63
080 = Ø80
100 = Ø100
125 = Ø125

5 Stroke (mm)

0025 = 25 **0150** = 150 **0320** = 320 **0700** = 700
0050 = 50 **0160** = 160 **0350** = 350 **0800** = 800
0075 = 75 **0175** = 175 **0400** = 400 **0900** = 900
0080 = 80 **0200** = 200 **0450** = 450 **1000** = 1000
0100 = 100 **0250** = 250 **0500** = 500
0125 = 125 **0300** = 300 **0600** = 600

6 Option

F = Preset for locking unit reduced protrusion
G = Preset for locking unit ISO protrusion

7 Magnetic

M = Magnetic version

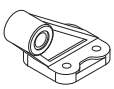
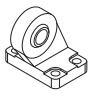
8 ATEX Option

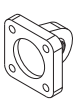
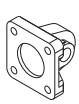
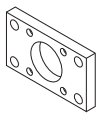
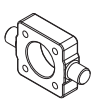
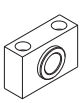
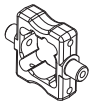
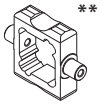
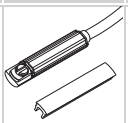
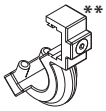
X = Atex (upon request)

See ATEX Catalogue for types and versions

KE190 and KE290 versions with high temperature seals (Max 120°C) and versions with low temperature seals (Max -30°C) available upon request

FIXING ELEMENTS AND ACCESSORIES

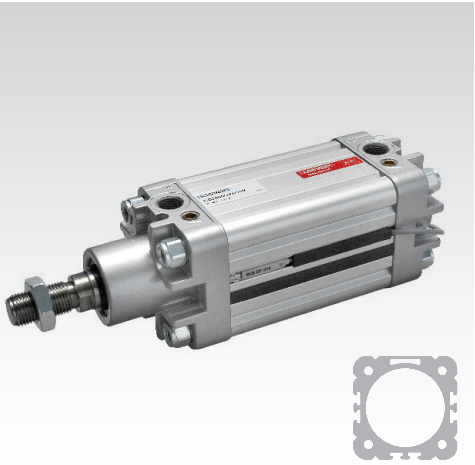
Ø	Female fork with clips	Articulated self-lubricating fork	Fork with axially mounted articulated pin	Fork with angle mounted articulated pin	Floating joint	Female rear hinge with pin	Counter hinge 90° (CETOP)	Counter hinge 90°	Counter hinge 90° (CNOMO)	Narrow female hinge with pin	Articulated counter hinge
											
32	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	KF-10032A	KF-19032CTA	KF-19032	KF-19032CN	KF-10032AS	KF-19032SC
40	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	KF-10040A	KF-19040CTA	KF-19040	KF-19040050CN	KF-10040AS	KF-19040SC
50	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	KF-10050A	KF-19050CTA	KF-19050	KF-19040050CN	KF-10050AS*	KF-19050SC
63	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	KF-10063A	KF-19063CTA	KF-19063	KF-19063080CN	KF-10063AS	KF-19063SC
80	KF-15080	KF-17080	KF-22080	KF-23080	KF-24080	KF-10080A	KF-19080CTA	KF-19080	KF-19063080CN	KF-10080AS*	KF-19080SC
100	KF-15080	KF-17080	KF-22080	KF-23080	KF-24080	KF-10100A	KF-19100CTA	KF-19100	KF-19100125CN	KF-10100AS	KF-19100SC
125	KF-15125	KF-17125	-	-	-	KF-10125A	KF-19125CTA	-	KF-19100125CN	KF-10125AS	KF-19125SC

Ø	Articulated rear male hinge	Rear male hinge	Front / rear flange	Angle bracket	Front / rear hinge with floating pin	Hinge support	ISO Intermediate hinge	ISO Intermediate hinge	DF sensor and DHF covering strip	DH sensor	Mounting bracket for DH sensor
								 **		 **	 **
32	KF-11032S	KF-11032	KF-12032	KF-13032	KF-14032AP	KF-41032	KLF-14032	KF-14032			DH-K032050
40	KF-11040S	KF-11040	KF-12040	KF-13040	KF-14040AP	KF-41040050	KLF-14040	KF-14040			DH-K032050
50	KF-11050S	KF-11050	KF-12050	KF-13050	KF-14050AP	KF-41040050	KLF-14050	KF-14050	DF DHF-0020100	DH	DH-K032050
63	KF-11063S	KF-11063	KF-12063	KF-13063	KF-14063AP	KF-41063080	KLF-14063	KF-14063			DH-K063125
80	KF-11080S	KF-11080	KF-12080	KF-13080	KF-14080AP	KF-41063080	KLF-14080	KF-14080			DH-K063125
100	KF-11100S	KF-11100	KF-12100	KF-13100	KF-14100AP	KF-41100125	KLF-14100	KF-14100			DH-K063125
125	KF-11125S	KF-11125	KF-12125	KF-13125	KF-14125AP	KF-41100125	KLF-14125	KF-14125			DH-K063125

* = If employed with articulated rear male hinge diameter 50-80 use KF-11050SSA (pin Ø16) and KF-11080SSA (pin Ø20)
**= Fixing elements and accessories for K series

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast aluminium
Barrel	anodized aluminium
Piston	die-cast aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston seal	NBR
Guide bush for piston rod	UNIVER Original self-lubricating and self-aligning
Shock absorber seals	NBR
Cushionings	adjustable on both sides
Other available versions	tandem, two-position tandem, opposed, with common piston rod (upon request)



CODIFICATION KEY

K	D	2	0	0	0	3	2	0	0	5	0		M	
1		2	3		4			5				6	7	8

1 Series

KD = Ø 32÷125 mm - ISO 15552 Pneumatic Cylinders

Magnetic version standard supplied

2 Type

1 = Stainless steel piston rod
2 = Chromium-plated steel piston rod

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
60 = **S.A.** Retracted piston rod Max stroke 50 mm
70 = **S.A.** Extended piston rod Max stroke 50 mm

D.A. = Double acting
S.A. = Single acting

4 Bore (mm)

032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63
080 = Ø80
100 = Ø100
125 = Ø125

5 Stroke (mm)

0025 = 25 **0150** = 150 **0320** = 320 **0700** = 700
0050 = 50 **0160** = 160 **0350** = 350 **0800** = 800
0075 = 75 **0175** = 175 **0400** = 400 **0900** = 900
0080 = 80 **0200** = 200 **0450** = 450 **1000** = 1000
0100 = 100 **0250** = 250 **0500** = 500
0125 = 125 **0300** = 300 **0600** = 600

6 Option

F = Preset for locking unit reduced protrusion
G = Preset for locking unit ISO protrusion

7 Magnetic

M = Magnetic version standard supplied

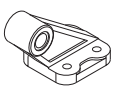
8 ATEX Option

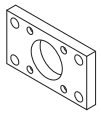
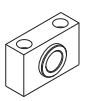
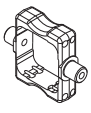
X = Atex (upon request)

See ATEX Catalogue for types and versions

KD190 and KD290 versions with high temperature seals (Max 120°C) and versions with low temperature seals (Max -30°C) available upon request

FIXING ELEMENTS AND ACCESSORIES

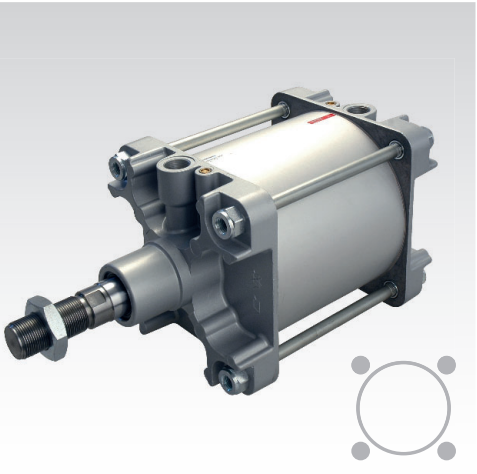
Ø	Female fork with clips	Articulated self-lubricating fork	Fork with axially mounted articulated pin	Fork with angle mounted articulated pin	Floating joint	Female rear hinge with pin	Counter hinge 90° (CETOP)	Counter hinge 90°	Counter hinge 90° (CNOMO)	Narrow female hinge with pin	Articulated counter hinge
											
32	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	KF-10032A	KF-19032CTA	KF-19032	KF-19032CN	KF-10032AS	KF-19032SC
40	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	KF-10040A	KF-19040CTA	KF-19040	KF-19040050CN	KF-10040AS	KF-19040SC
50	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	KF-10050A	KF-19050CTA	KF-19050	KF-19040050CN	KF-10050AS*	KF-19050SC
63	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	KF-10063A	KF-19063CTA	KF-19063	KF-19063080CN	KF-10063AS	KF-19063SC
80	KF-15080	KF-17080	KF-22080	KF-23080	KF-24080	KF-10080A	KF-19080CTA	KF-19080	KF-19063080CN	KF-10080AS*	KF-19080SC
100	KF-15080	KF-17080	KF-22080	KF-23080	KF-24080	KF-10100A	KF-19100CTA	KF-19100	KF-19100125CN	KF-10100AS	KF-19100SC
125	KF-15125	KF-17125	-	-	-	KF-10125A	KF-19125CTA	-	KF-19100125CN	KF-10125AS	KF-19125SC

Ø	Articulated rear male hinge	Rear male hinge	Front / rear flange	Angle bracket	Front / rear hinge with floating pin	Hinge support	ISO Intermediate hinge	DF sensor and DHF covering strip	Cable clamping for DF sensor
									
32	KF-11032S	KF-11032	KF-12032	KF-13032	KF-14032AP	KF-41032	KDF-14032		
40	KF-11040S	KF-11040	KF-12040	KF-13040	KF-14040AP	KF-41040050	KDF-14040		
50	KF-11050S	KF-11050	KF-12050	KF-13050	KF-14050AP	KF-41040050	KDF-14050		
63	KF-11063S	KF-11063	KF-12063	KF-13063	KF-14063AP	KF-41063080	KDF-14063	DF DHF-0020100	DF-001
80	KF-11080S	KF-11080	KF-12080	KF-13080	KF-14080AP	KF-41063080	KDF-14080		
100	KF-11100S	KF-11100	KF-12100	KF-13100	KF-14100AP	KF-41100125	KDF-14100		
125	KF-11125S	KF-11125	KF-12125	KF-13125	KF-14125AP	KF-41100125	KDF-14125		

* = If employed with articulated rear male hinge diameter 50-80 use KF-11050SSA (pin Ø16) and KF-11080SSA (pin Ø20)

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast aluminium
Barrel	anodized aluminium
Tie-rods	zinc-plated steel
Piston	die-cast aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston rod scraper seals	NBR
Piston seals	polyurethane (Ø160) - NBR (Ø200)
Cushionings	adjustable on both sides
Other available versions	tandem, two-position tandem, opposed, with common piston rod (upon request)



CODIFICATION KEY

K	2	0	0	1	6	0	0	0	8	0		
1	**2**	**3**		**4**			**5**				**6**	**7**

1 Series

K = Ø 160/200 mm - ISO 15552 Pneumatic Cylinders

2 Type

1 = Stainless steel piston rod
2 = Chromium-plated steel piston rod

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod

D.A. = Double acting

4 Bore (mm)

160 = Ø160
200 = Ø200

5 Stroke (mm)

0025 = 25	**0150** = 150	**0320** = 320	**0700** = 700
0050 = 50	**0160** = 160	**0350** = 350	**0800** = 800
0075 = 75	**0175** = 175	**0400** = 400	**0900** = 900
0080 = 80	**0200** = 200	**0450** = 450	**1000** = 1000
0100 = 100	**0250** = 250	**0500** = 500	
0125 = 125	**0300** = 300	**0600** = 600	

6 Magnetic

M = Magnetic version

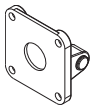
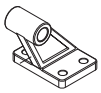
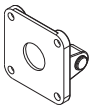
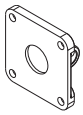
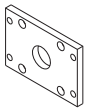
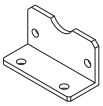
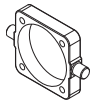
7 ATEX option

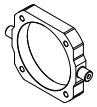
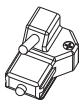
X = Atex (upon request)

See ATEX Catalogue for types and versions

K190 and K290 versions with high temperature seals (Max 120°C) and versions with low temperature seals (Max -30°C) available upon request

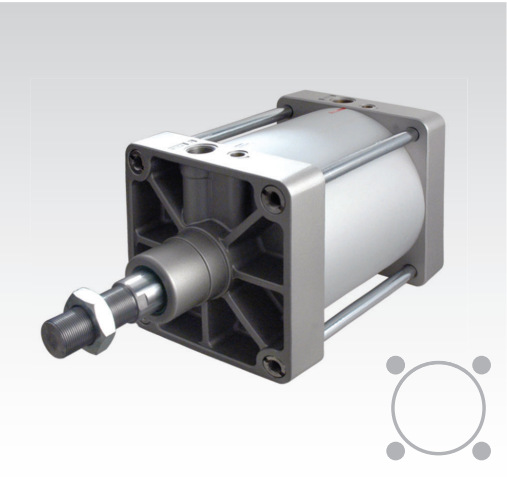
FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with clips	Articulated self-lubricating fork	Female rear hinge with pin	Counter hinge 90° (CETOP)	Narrow female hinge with pin	Articulated rear male hinge	Rear male hinge	Front/rear flange	Angle bracket	Front / rear hinge with floating pin	Hinge support
											
160	KF-15160	KF-17160	KF-10160A	KF-19160CTA	KF-10160AS	KF-11160S	KF-11160	KF-12160	KF-13160	KF-14160AP	KF-41160200
200	KF-15160	KF-17160	KF-10200A	KF-19200CTA	KF-10200AS	KF-11200S	KF-11200	KF-12200	KF-13200	KF-14200AP	KF-41160200

Ø	ISO intermediate hinge	DH sensor	Mounting bracket for DH sensor
			
160	KF-14160	DH	DH-K160200
200	KF-14200		DH-K160200

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast aluminium
Barrel	anodized aluminium
Tie-rods	zinc-plated steel
Piston	die-cast aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston rod scraper seals	NBR
Piston seals	NBR
Cushionings	adjustable on both sides



CODIFICATION KEY

K	2	0	0	2	5	0	0	0	8	0		
1	**2**	**3**		**4**		**5**					**6**	**7**

1 Series

K = Ø 250/320 mm - ISO 15552 Pneumatic Cylinders

2 Type

1 = Stainless steel piston rod
2 = Chromium-plated steel piston rod

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod

D.A. = Double acting

4 Bore (mm)

250 = Ø250
320 = Ø320

5 Stroke (mm)

0025 = 25	**0150** = 150	**0320** = 320	**0700** = 700
0050 = 50	**0160** = 160	**0350** = 350	**0800** = 800
0075 = 75	**0175** = 175	**0400** = 400	**0900** = 900
0080 = 80	**0200** = 200	**0450** = 450	**1000** = 1000
0100 = 100	**0250** = 250	**0500** = 500	
0125 = 125	**0300** = 300	**0600** = 600	

6 Magnetic

M = Magnetic version

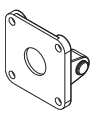
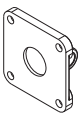
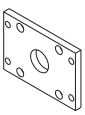
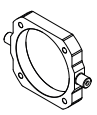
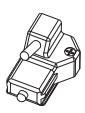
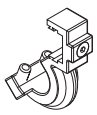
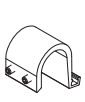
7 ATEX option

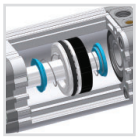
X = Atex (upon request)

See ATEX Catalogue for types and versions

For versions with high temperature seals (Max 120°C) and versions with low temperature seals (Max -30°C) available upon request

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with clips	Articulated self-lubricating fork	Female rear hinge with pin	Rear male hinge	Front/rear flange	ISO intermediate hinge	Pin for hinge	DH sensor	Mounting bracket for DH sensor	DF sensor	Mounting bracket for DF sensor
											
250	KF-15250	KF-17250	KF-10250A	KF-11250	KF-12250	KF-14250	KF-18250	DH	DH-K250	DF	-
320	KF-15320	KF-17320	KF-10320A	KF-11320	KF-12320	KF-14320	KF-18320		-		DH-K320DF



Adjustable pneumatic cushioning

UNIVER Original since 1999

- **No change in dimensions comparing to an equivalent cylinder without cushionings**
- **Standard supplied for all models**



STANDARDS-BASED

Available in compliance with UNITOP and ISO 21287 standards

STANDARD AND OCTAGONAL TUBE

Available in standard version and non-rotating version with **UNIVER Original** octagonal tube



Standard Octagonal

RP/RM

RP (UNITOP RU-2/7)
Ø 16 ÷ 63 mm



RM (ISO 21287)
Ø 16 ÷ 100 mm



RP210

With anti-rotation guides
Ø 16 ÷ 63 mm

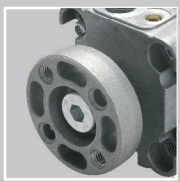




RO/RN

RO (UNITOP RU-2/7)
Ø 16 ÷ 63 mm

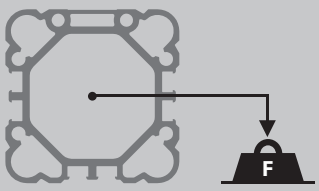




RN (ISO 21287)
Ø 16 ÷ 63 mm

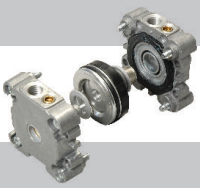


Non-rotating (octagonal tube) version
Max load (Nm)



Ø	Nm
16	0,5
20	0,8
25	1
32	2
40	3
50	5
63	8

KIT **Assembly Kit**
available for all series



CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast zamak (Ø 16 ÷ 25 mm)
	die-cast aluminium (Ø 32 ÷ 63 mm)
Barrel	anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston seal	NBR
Guide bush for piston rod	acetalic resin
Shock absorber seals	NBR
Cushionings	adjustable on both sides (UNIVER Original standard supplied)
Magnet	plasto-ferrite (standard supplied)
Other available versions	tandem, two-position tandem, opposed, with common piston rod (upon request)



CODIFICATION KEY

R	P	2	0	0	0	3	2	0	0	2	5		
1		2	3		4			5				6	7

1 Series

RP = Ø 16÷63 mm - UNITOP Compact Cylinders

2 Type

1 = Stainless steel female piston rod
2 = Chromium-plated steel female piston rod

Upon request
3 = Stainless steel male piston rod (Ø40÷63)
4 = Chromium-plated steel male piston rod (Ø40÷63)

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
10 = **D.A.** Non-rotating guided piston rod
11 = **D.A.** Non-rotating guided through piston rod
20 = **D.A.** Long piston (Ø32÷63)
60 = **S.A.** Retracted piston rod
70 = **S.A.** Extended piston rod

D.A. = Double acting
S.A. = Single acting

4 Bore (mm)

016 = Ø16
020 = Ø20
025 = Ø25
032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63

5 Stroke (mm)

Single acting
0005 - 0010 (Ø16÷25)
0005 - 0010 - 0015 - 0020 - 0025 (Ø32÷63)
Double acting
0005 - 0010 - 0015 - 0020 - 0025 - 0030 - 0040 0050 - 0060 - 0080

Max standard stroke
0040 (Ø16)
0050 (Ø20-25)
0080 (Ø32÷63)
Max stroke with non-rotating guided piston rod (upon request)
0100 (Ø16)
0200 (Ø20-25)
0400 (Ø32-40)
0500 (Ø50-63)

6 Option

C = With flange for versions:
100-101-120-160-170
200-201-220-260-270
H = Hollow piston rod only for through piston rod versions without flange

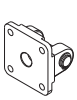
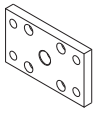
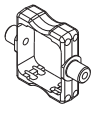
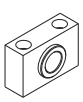
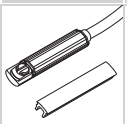
7 ATEX option

X = Atex (upon request)

See ATEX Catalogue for types and versions

For high temperature applications please contact our Sales Office

FIXING ELEMENTS AND ACCESSORIES

Ø	Flange for female piston rod	Rear male hinge	Rear female hinge with pin	Counter hinge 90°	Front/rear flange	Angle bracket	Intermediate hinge	Centering adaptor ring	Hinge support	DF sensor and DHF covering strip	Cable clamping for DF sensor
											
16	RPF-28016	RPF-11016	-	-	RPF-12016	RPF-13016	-	-	-	DF DHF-0020100	DF-001
20	RPF-28020	RPF-11020	-	-	RPF-12020	RPF-13020	-	-	-		
25	RPF-28025	RPF-11025	-	-	RPF-12025	RPF-13025	-	-	-		
32	RPF-28032	KF-11032	KF-10032A	KF-19032	KF-12032	KF-13032	KDF-14032	RSF-09032	KF-41032		
40	RPF-28040	-	RPF-10040A	KF-19040	RPF-12040	RPF-13040	RPF-14040	RSF-09040	KF-41040050		
50	RPF-28050	-	RPF-10050A	KF-19050	RPF-12050	RPF-13050	RPF-14050	RSF-09050	KF-41040050		
63	RPF-28063	-	RPF-10063A	KF-19063	RPF-12063	RPF-13063	RPF-14063	RSF-09063	KF-41063080		

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast zamak (Ø 16 ÷ 25 mm)
	die-cast aluminium (Ø 32 ÷ 100 mm)
Barrel	anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston seal	NBR
Guide bush for piston rod	acetalic resin
Shock absorber seals	NBR
Cushionings	adjustable on both sides (UNIVER Original standard supplied)
Magnet	plasto-ferrite (standard supplied)
Other available versions	tandem, two-position tandem, opposed tandem, with common piston rod (upon request)





CODIFICATION KEY

R	M	3	0	0	0	3	2	0	0	2	5		
1		2	3		4				5			6	7

1 Series

RM = Ø 16÷100 mm - ISO 21287 Compact Cylinders

2 Type

3 = Stainless steel male piston rod
4 = Chromium-plated steel male piston rod

Upon request
1 = Stainless steel female piston rod (Ø40÷100)
2 = Chromium-plated steel female piston rod (Ø 40÷100)

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
20 = **D.A.** Long piston (Ø32÷63)
60 = **S.A.** Retracted piston rod
70 = **S.A.** Extended piston rod

D.A. = Double acting
S.A. = Single acting

4 Bore (mm)

016 = Ø16 **050** = Ø50
020 = Ø20 **063** = Ø63
025 = Ø25 **080** = Ø80
032 = Ø32 **100** = Ø100
040 = Ø40

5 Stroke (mm)

Single acting
0005 - 0010 (Ø16÷25)
0005 - 0010 - 0015 - 0020 - 0025 (Ø32÷100)
Double acting
0005 - 0010 - 0015 - 0020 - 0025 - 0030
0040 - 0050 - 0060 - 0080

Max standard stroke
0040 (Ø16)
0050 (Ø20-25)
0080 (Ø32÷63)

6 Option

H = Hollow piston rod only for through piston rod versions without flange

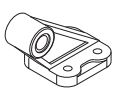
7 ATEX option

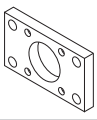
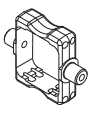
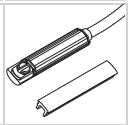
X = Atex (upon request)

See ATEX Catalogue for types and versions

For high temperature applications please contact our Sales Office

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with clips	Articulated self-lubricating fork	Fork with axially mounted articulated pin	Fork with angle mounted articulated pin	Floating joint	Centering adaptor ring	Female rear hinge with pin	Counter hinge 90° (CETOP)	Counter hinge 90°	Counter hinge 90° (CNOMO)	Narrow female hinge with pin
											
16	MF-15012	MF-17012	MF-22016	MF-23012	MF-24012	-	-	-	-	-	-
20	MF-15020	MF-17020	MF-22020	MF-23020	MF-24020	-	-	-	-	-	-
25	MF-15020	MF-17020	MF-22020	MF-23020	MF-24020	-	-	-	-	-	-
32	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	RSF-09032	KF-10032A	KF-19032CTA	KF-19032	KF-19032CN	KF-10032AS
40	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	RSF-09040	KF-10040A	KF-19040CTA	KF-19040	KF-19040050CN	KF-10040AS
50	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	RSF-09050	KF-10050A	KF-19050CTA	KF-19050	KF-19040050CN	KF-10050AS
63	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	RSF-09063	KF-10063A	KF-19063CTA	KF-19063	KF-19063080CN	KF-10063AS
80	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	RSF-09080	KF-10080A	KF-19080CTA	KF-19080	KF-19063080CN	KF-10080AS
100	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	RSF-09100	KF-10100A	KF-19100CTA	KF-19100	KF-19100125CN	KF-10100AS

Ø	Articulated counter hinge	Articulated rear male hinge	Rear male hinge	Front/rear flange	Angle bracket	Front/rear hinge with floating pin	Hinge support	ISO intermediate hinge	DF sensor and DHF covering strip	Cable clamping for DF sensor
										
16	-	-	RPF-11016	RPF-12016	RPF-13016	-	-	-		
20	-	-	RPF-11020	RPF-12020	RPF-13020	-	-	-		
25	-	-	RPF-11025	RPF-12025	RPF-13025	-	-	-		
32	KF-19032SC	KF-11032S	KF-11032	KF-12032	KF-13032	KF-14032AP	KF-41032	KDF-14032		
40	KF-19040SC	KF-11040S	KF-11040	KF-12040	KF-13040	KF-14040AP	KF-41040050	RPF-14040		
50	KF-19050SC	KF-11050S	KF-11050	KF-12050	KF-13050	KF-14050AP	KF-41040050	RPF-14050	DF DHF-0020100	DF-001
63	KF-19063SC	KF-11063S	KF-11063	KF-12063	KF-13063	KF-14063AP	KF-41063080	RPF-14063		
80	KF-19080SC	KF-11080S	KF-11080	KF-12080	KF-13080	KF-14080AP	KF-41063080	KDF-14080		
100	KF-19100SC	KF-11100S	KF-11100	KF-12100	KF-13100	KF-14100AP	KF-41100125	KDF-14100		

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast zamak (Ø 16 ÷ 25 mm)
	die-cast aluminium (Ø 32 ÷ 63 mm)
Barrel	anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston seal	NBR
Guide bush for piston rod	acetalic resin
Shock absorber seals	NBR
Cushionings	adjustable on both sides (UNIVER Original standard supplied)
Magnet	plasto-ferrite (standard supplied)
Other available versions	tandem, two-position tandem, opposed tandem, with common piston rod (upon request)





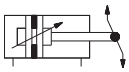


CODIFICATION KEY

R	O	2	0	0	0	3	2	0	0	2	5		
1		2	3		4			5				6	7

1 Series

RO = Ø 16÷63 mm - UNITOP Compact Cylinders octagonal tube



2 Type

1 = Stainless steel female piston rod with flange
2 = Chromium-plated steel female piston rod with flange

Male piston rod upon request (Ø40÷63)

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
20 = **D.A.** Long piston (Ø32÷63)

D.A. = Double acting

4 Bore (mm)

016 = Ø16
020 = Ø20
025 = Ø25
032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63

5 Stroke (mm)

0005 - 0010 - 0015 - 0020 - 0025
0030 - 0040 - 0050 - 0060 - 0080

Max standard stroke
0040 (Ø16)
0050 (Ø20-25)
0080 (Ø32÷63)

6 Option

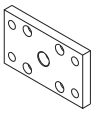
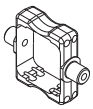
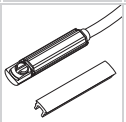
H = Hollow piston rod only for through piston rod versions without flange

7 ATEX option

X = Atex (upon request)

See ATEX Catalogue for types and versions

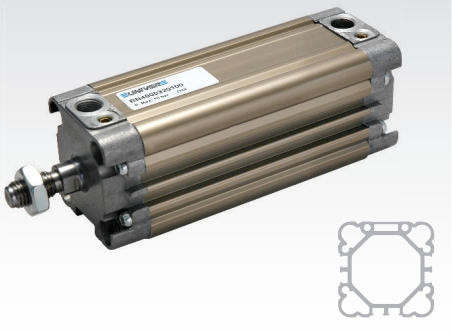
FIXING ELEMENTS AND ACCESSORIES

Ø	Rear male hinge	Rear female hinge with pin	Counter hinge 90°	Front/rear flange	Angle bracket	Intermediate hinge	Centering adaptor ring	HInge support	DF sensor and DHF covering strip	Cable clamping for DF sensor
										
16	RPF-11016	-	-	RPF-12016	RPF-13016	-	-	-	DF DHF-0020100	DF-001
20	RPF-11020	-	-	RPF-12020	RPF-13020	-	-	-		
25	RPF-11025	-	-	RPF-12025	RPF-13025	-	-	-		
32	KF-11032	KF-10032A	KF-19032	KF-12032	KF-13032	KDF-14032	RSF-09032	KF-41032		
40	-	RPF-10040A	KF-19040	RPF-12040	RPF-13040	RPF-14040	RSF-09040	KF-41040050		
50	-	RPF-10050A	KF-19050	RPF-12050	RPF-13050	RPF-14050	RSF-09050	KF-41040050		
63		RPF-10063A	KF-19063	RPF-12063	RPF-13063	RPF-14063	RSF-09063	KF-41063080		

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast zamak (Ø16÷25)
	die-cast aluminium (Ø32÷63)
Barrel	anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston seal	NBR
Guide bush for piston rod	acetalic resin
Shock absorber seals	NBR
Cushionings	adjustable on both sides (UNIVER Original standard supplied)
Magnet	plasto-ferrite (standard supplied)
Other available versions	tandem, two-position tandem, opposed tandem, with common piston rod (upon request)



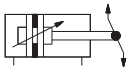


CODIFICATION KEY

R	N	3	0	0	0	3	2	0	0	2	5		
1		2	3		4			5				6	7

1 Series

RN = Ø 16÷63 mm - ISO 21287 Compact Cylinders octagonal tube



2 Type

3 = Stainless steel male piston rod
4 = Chromium-plated steel male piston rod

Female piston rod upon request (Ø40÷63)

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
20 = **D.A.** Long piston (Ø32÷63)

D.A. = Double acting

4 Bore (mm)

016 = Ø16
020 = Ø20
025 = Ø25
032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63

5 Stroke (mm)

0005 - 0010 - 0015 - 0020 - 0025
0030 - 0040 - 0050 - 0060 - 0080

Max standard stroke
0040 (Ø16)
0050 (Ø20-25)
0080 (Ø32÷63)

6 Option

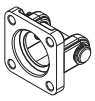
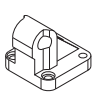
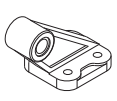
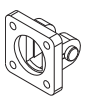
H = Hollow piston rod only for through piston rod versions without flange

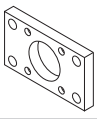
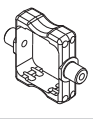
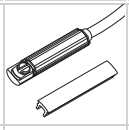
7 ATEX option

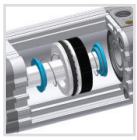
X = Atex (upon request)

See ATEX Catalogue for types and versions

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with clips	Articulated self-lubricating fork	Fork with axially mounted articulated pin	Fork with angle mounted articulated pin	Floating joint	Centering adaptor ring	Rear female hinge with pin	Counter hinge 90° (CETOP)	Counter hinge 90°	Counter hinge 90° (CNOMO)	Narrow female hinge with pin
											
16	MF-15012	MF-17012	MF-22016	MF-23012	MF-24012	-	-	-	-	-	-
20	MF-15020	MF-17020	MF-22020	MF-23020	MF-24020	-	-	-	-	-	-
25	MF-15020	MF-17020	MF-22020	MF-23020	MF-24020	-	-	-	-	-	-
32	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	RSF-09032	KF-10032A	KF-19032CTA	KF-19032	KF-19032CN	KF-10032AS
40	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	RSF-09040	KF-10040A	KF-19040CTA	KF-19040	KF-19040050CN	KF-10040AS
50	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	RSF-09050	KF-10050A	KF-19050CTA	KF-19050	KF-19040050CN	KF-10050AS
63	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	RSF-09063	KF-10063A	KF-19063CTA	KF-19063	KF-19063080CN	KF-10063AS

Ø	Articulated counter hinge	Articulated rear male hinge	Rear male hinge	Front/rear flange	Angle bracket	Front/rear hinge with floating pin	HInge support	ISO Intermediate hinge	DF sensor and DHF covering strip	Cable clamping for DF sensor
										
16	-	-	RPF-11016	RPF-11016	RPF-11016	-	-	-	DF DHF-0020100	DF-001
20	-	-	RPF-11020	RPF-11020	RPF-11020	-	-	-		
25	-	-	RPF-11025	RPF-11025	RPF-11025	-	-	-		
32	KF-19032SC	KF-11032S	KF-11032	KF-12032	KF-13032	KF-14032AP	KF-41032	KDF-14032		
40	KF-19040SC	KF-11040S	KF-11040	KF-12040	KF-13040	KF-14040AP	KF-41040050	RPF-14040		
50	KF-19050SC	KF-11050S	KF-11050	KF-12050	KF-13050	KF-14050AP	KF-41040050	RPF-14050		
63	KF-19063SC	KF-11063S	KF-11063	KF-12063	KF-13063	KF-14063AP	KF-41063080	RPF-14063		



Adjustable pneumatic cushioning

UNIVER Original since 1999

- **No change in dimensions comparing to an equivalent cylinder without cushionings**
- **Standard supplied for all models**



STRONG

Oversized guide and piston rods

ISO 15552

Interaxes, centering diameters and piston rods complying with ISO 15552 standards

RS

Ø 32 ÷ 100 mm



RS210

With anti-rotation guides **Ø 32 ÷ 100 mm**





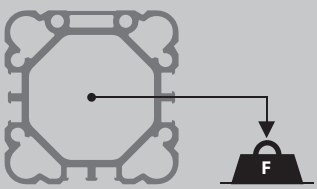
RQ

Ø 32 ÷ 63 mm





Non-rotating version (octagonal tube)
Max load (Nm)



Ø	Nm
32	2
40	3
50	5
63	8

KIT **Assembly Kit**
available for all series



RS

Ø 32 ÷ 100 mm - STRONG Compact Cylinders

centering diameters, interaxes and piston rods complying with ISO 15552

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast aluminium
Barrel	anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston seal	NBR
Guide bush for piston rod	acetalic resin
Shock absorber seals	NBR
Cushionings	adjustable on both sides (UNIVER Original standard supplied)
Magnet	plasto-ferrite (standard supplied)
Other versions available	tandem, two-position tandem, opposed tandem, with common piston rod (upon request)





CODIFICATION KEY

R	S	2	0	0	0	3	2	0	0	2	5		
1		2	3		4			5				6	7

1 Series

RS = Ø 32÷100 mm STRONG Compact Cylinders

2 Type

1 = Stainless steel female piston rod
2 = Chromium-plated steel female piston rod
3 = Stainless steel male piston rod
4 = Chromium-plated steel male piston rod

3 Version

For type 1 - 2

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
10 = **D.A.** Non-rotating guided piston rod (Ø32÷63)
11 = **D.A.** Non-rotating guided through piston rod (Ø32÷63)
20 = **D.A.** Long piston (Ø32÷63)
60 = **S.A.** Retracted piston rod
70 = **S.A.** Extended piston rod

For type 3 - 4

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
20 = **D.A.** Long piston (Ø32÷63)
60 = **S.A.** Retracted piston rod
70 = **S.A.** Extended piston rod

D.A. = Double acting
S.A. = Single acting

4 Bore (mm)

032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63
080 = Ø80
100 = Ø100

5 Stroke (mm)

Single acting
0005 - 0010 - 0015 - 0020 - 0025
Double acting
0005 - 0010 - 0015 - 0020 - 0025 - 0030 - 0040 - 0050 - 0060 - 0080
Max standard stroke
0080 (Ø32÷100)

Max stroke with long piston (upon request)
0800 (Ø32-40) **1000** (Ø50-63)
Max stroke withnon-rotating guided piston rod (upon request)
0400 (Ø32-40) **0500** (Ø50) **0800** (Ø63)

6 Option

H = Hollow piston rod only for through piston rod versions without flange
G = Preset for locking unit only for D.A. cylinders with chromium-plated steel piston rod
C = With flange for versions: 100-101-120-160-170 200-201-220-260-270

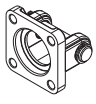
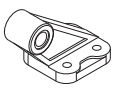
7 ATEX Option

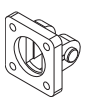
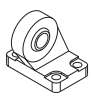
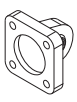
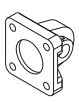
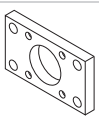
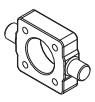
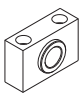
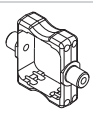
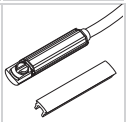
X = Atex (upon request)

See ATEX Catalogue for types and versions

For high temperature applications please contact our Sales Office

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with clips	Articulated self-lubricating fork	Fork with axially mounted articulated pin	Fork with angle mounted articulated pin	Floating joint	Flange for female piston rod	Centering adaptor ring	Female rear hinge with pin	Counter hinge 90° (CETOP)	Counter hinge 90°	Counter hinge 90° (CNOMO)
											
32	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	RPF-28032	RSF-09032	KF-10032A	KF-19032CTA	KF-19032	KF-19032CN
40	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	RPF-28040	RSF-09040	KF-10040A	KF-19040CTA	KF-19040	KF-19040050CN
50	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	RPF-28050	RSF-09050	KF-10050A	KF-19050CTA	KF-19050	KF-19040050CN
63	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	RPF-28063	RSF-09063	KF-10063A	KF-19063CTA	KF-19063	KF-19063080CN
80	KF-15080	KF-17080	KF-22080	KF-23080	KF-24080	-	RSF-09080	KF-10080A	KF-19080CTA	KF-19080	KF-19063080CN
100	KF-15080	KF-17080	KF-22080	KF-23080	KF-24080	-	RSF-09100	KF-10100A	KF-19100CTA	KF-19100	KF-19100125CN

Ø	Narrow female hinge with pin	Articulated counter hinge	Articulated rear male hinge	Rear male hinge	Front/rear flange	Angle bracket	Front/rear hinge with floating pin	Hinge support	ISO Intermediate hinge	DF sensor and DHF covering strip	Cable clamping for DF sensor
											
32	KF-10032AS	KF-19032SC	KF-11032S	KF-11032	KF-12032	KF-13032	KF-14032AP	KF-41032	KDF-14032		
40	KF-10040AS	KF-19040SC	KF-11040S	KF-11040	KF-12040	KF-13040	KF-14040AP	KF-41040050	RPF-14040		
50	KF-10050AS	KF-19050SC	KF-11050S	KF-11050	KF-12050	KF-13050	KF-14050AP	KF-41040050	RPF-14050		
63	KF-10063AS	KF-19063SC	KF-11063S	KF-11063	KF-12063	KF-13063	KF-14063AP	KF-41063080	RPF-14063	DF DHF-0020100	DF-001
80	KF-10080AS	KF-19080SC	KF-11080S	KF-11080	KF-12080	KF-13080	KF-14080AP	KF-41063080	KDF-14080		
100	KF-10100AS	KF-19100SC	KF-11100S	KF-11100	KF-12100	KF-13100	KF-14100AP	KF-41100125	KDF-14100		

RQ

Ø 32 ÷ 63 mm - STRONG Compact Cylinders octagonal tube centering diameters, interaxes and piston rods complying with ISO 15552 **NON-ROTATING**

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	die-cast aluminium
Barrel	anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel, stainless steel upon request
Piston seal	NBR
Guide bush for piston rod	acetalic resin
Shock absorber seals	NBR
Cushionings	adjustable on both sides (UNIVER Original standard supplied)
Magnet	plasto-ferrite (standard supplied)
Other available versions	tandem, two-position tandem, opposed tandem, with common piston rod (upon request)





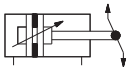


CODIFICATION KEY

R	Q	2	0	0	0	3	2	0	0	2	5		
1		2	3		4			5				6	7

1 Series

RQ = Ø 32÷63 mm - STRONG Compact Cylinders octagonal tube



2 Type

1 = Stainless steel female piston rod with flange
2 = Chromium-plated steel female piston rod with flange
3 = Stainless steel male piston rod
4 = Chromium-plated steel male piston rod

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
20 = **D.A.** Long piston

D.A. = Double acting

4 Bore (mm)

032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63

5 Stroke (mm)

Double acting
0005 - 0010 - 0015 - 0020 - 0025
0030 - 0040 - 0050 - 0060 - 0080

Max standard stroke
0080

Max stroke with long piston (upon request)
0800 (Ø32-40)
1000 (Ø50-63)

6 Option

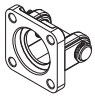
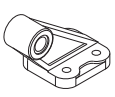
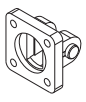
H = Hollow piston rod only for through piston rod versions without flange
G = Preset for locking unit only with chromium-plated steel piston rod

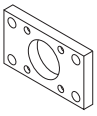
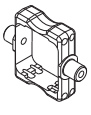
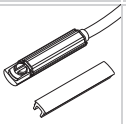
7 ATEX Option

X = Atex (upon request)

See ATEX Catalogue for types and versions

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with clips	Articulated self-lubricating fork	Fork with axially mounted articulated pin	Fork with angle mounted articulated pin	Floating joint	Centering adaptor ring	Female rear hinge with pin	Counter hinge 90° (CETOP)	Counter hinge 90°	Counter hinge 90° (CNOMO)	Narrow female hinge with pin
											
32	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	RSF-09032	KF-10032A	KF-19032CTA	KF-19032	KF-19032CN	KF-10032AS
40	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	RSF-09040	KF-10040A	KF-19040CTA	KF-19040	KF-19040050CN	KF-10040AS
50	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	RSF-09050	KF-10050A	KF-19050CTA	KF-19050	KF-19040050CN	KF-10050AS
63	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	RSF-09063	KF-10063A	KF-19063CTA	KF-19063	KF-19063080CN	KF-10063AS

Ø	Articulated counter hinge	Articulated rear male hinge	Rear male hinge	Front, rear flange	Angle bracket	Front / rear hinge	Hinge support	ISO Intermediate hinge	DF sensor and DHF covering strip	Cable clamping for DF sensor
										
32	KF-19032SC	KF-11032S	KF-11032	KF-12032	KF-13032	KF-14032AP	KF-41032	KDF-14032	DF DHF-0020100	DF-001
40	KF-19040SC	KF-11040S	KF-11040	KF-12040	KF-13040	KF-14040AP	KF-41040050	RPF-14040		
50	KF-19050SC	KF-11050S	KF-11050	KF-12050	KF-13050	KF-14050AP	KF-41040050	RPF-14050		
63	KF-19063SC	KF-11063S	KF-11063	KF-12063	KF-13063	KF-14063AP	KF-41063080	RPF-14063		

PM/PK/PRM

Stainless steel Cylinders

The UNIVER **PM/PRM/PK** cylinders, in **AISI304/316** stainless steel, are suitable for high corrosion environments, such as in food, chemical, shipbuilding and pharmaceutical industries.

In compliance with **ISO 6432, 15552** and **21287** standards these cylinders are interchangeable with products with the same features.

FDA PK/PRM FDA APPROVED PISTON SEALS (STANDARD SUPPLIED)



PM

Ø 16 ÷ 25 mm - ISO 6432



PM

Ø 32 ÷ 63 mm



PK

Ø 32 ÷ 125 mm - ISO 15552



PRM

Ø 20 ÷ 100 mm - ISO 21287



CHARACTERISTICS

Ambient temperature	0 ÷ 80 °C (-20 °C with dry air)
Fluid	compressed air, filtered, not lubricated
Working pressure	1 ÷ 10 bar
End-caps	stainless steel AISI 304
Barrel	stainless steel AISI 304
Piston	brass
Piston rod	stainless steel AISI 316
Piston seals	polyurethane
Guide bush for piston rod	sintered brass
Shock absorber seals	neoprene
Cushionings	adjustable on both sides (Ø 25)



CODIFICATION KEY

P	M	3	0	0	0	1	6	0	0	1	0	M	
1		2	3		4			5				6	7

1 Series

PM = Ø 16 ÷ 25 mm - ISO 6432 Stainless steel Pneumatic Cylinders

2 Type

3 = Male piston rod

3 Version

00 = **D.A.** Standard
01 = **D.A.** Through-rod
50 = **D.A.** With adjustable cushionings (Ø25)
51 = **D.A.** Through-rod with adjustable cushionings (Ø25)

D.A. = Double acting

4 Bore (mm)

016 = Ø16
020 = Ø20
025 = Ø25

5 Stroke (mm)

0010 = 10
0025 = 25
0050 = 50
0080 = 80
0100 = 100
0125 = 125
0160 = 160
0200 = 200
0250 = 250
0320 = 320
0400 = 400
0500 = 500

6 Magnetic

M = Magnetic version standard supplied

7 ATEX option

X = Atex (upon request)

See ATEX Catalogue for types and versions

Version with high temperature seals (Max 120°C) available upon request.

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with pin	Articulated self-lubricating fork	Angle bracket (MS3)	Flange (MF8)	Rear female hinge	Nut for end-cap	Nut for piston	DF bracket and adapter	DF sensor
									
16	MF-15012PI	MF-17012I	MF-13012I	MF-12012I	MF-21012I	MF-20012I	MF-16012I	DH-P016020DFI	
20	MF-15020PI	MF-17020I	MF-13020I	MF-12020I	MF-21020I	MF-20020I	MF-16020I	DH-P016020DFI	DF-P700L06
25	KF-15032PI	KF-17032I	MF-13020I	MF-12020I	MF-21020I	MF-20020I	KF-16032I	DH-P025032DFI	

CHARACTERISTICS

Ambient temperature	0 ÷ 80 °C (-20°C with dry air)
Fluid	compressed air, filtered, not lubricated
Working pressure	1 ÷ 10 bar
End-caps	stainless steel AISI 304
Barrel	stainless steel AISI 304
Piston	aluminium
Guide slide	PBT+PTFE
Piston rod	stainless steel AISI 316
Piston seals	polyurethane
Guide bush for piston rod	sintered brass
Cushionings	neoprene



CODIFICATION KEY

P	M	3	0	0	0	3	2	0	0	5	0	M
1		2	3		4			5				6

1 Series

PM = Ø 32 ÷ 63 mm - Stainless steel Pneumatic Cylinders

2 Type

3 = Male piston rod

3 Version

00 = **D.A.** Standard
01 = **D.A.** Through piston rod

D.A. = Double acting

4 Bore (mm)

032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63

5 Stroke (mm)

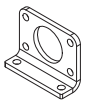
0010 = 10
0025 = 25
0050 = 50
0080 = 80
0100 = 100
0125 = 125
0160 = 160
0200 = 200
0250 = 250
0320 = 320
0400 = 400
0500 = 500

6 Magnetic

M = Magnetic version (standard supplied)

Version with high temperature seals (Max 120°C) available upon request.

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with pin	Articulated self-lubricating fork	Angle bracket (MS3)	Rear female hinge	Pin (MF8)	Nut for piston	Nut for end-cap	DF bracket and adapter	DF sensor
									
32	KF-15032PI	KF-17032I	MF-13032I	MF-21032I	MF-18032I	KF-16032I	MF-20032I	DH-P025032DFI	DF-P700L06
40	KF-15040PI	KF-17040I	MF-13040I	MF-21040I	MF-18040I	KF-16040I	MF-20040I	DH-P040DFI	
50	KF-15050PI	KF-17050I	MF-13050I	MF-21050I	MF-18050I	KF-16050I	MF-20050I	DH-P050DFI	
63	KF-15050PI	KF-17050I	MF-13063I	MF-21063I	MF-18063I	KF-16050I	MF-20063I	DH-P063DFI	

CHARACTERISTICS

Ambient temperature	0 ÷ 80°C (-20 °C with dry air)
	0 ÷ 150°C (with high temperature seals)
Fluid	compressed air, filtered, not lubricated
Working pressure	1 ÷ 10 bar
End-caps	stainless steel AISI 316
Barrel	stainless steel AISI 316
Piston	die-cast aluminium
Guide slide	PBT+PTFE
Piston rod	stainless steel AISI 316
Piston seal	polyurethane (**FDA Approved**)
Guide bush for piston rod	sintered brass
Cushionings	adjustable on both sides



CODIFICATION KEY

P	K	3	0	0	0	3	2	0	0	2	5	M	
1		2	3		4			5				6	7

1 Series
PK = Ø 32÷125 mm - ISO 15552 Stainless steel Pneumatic Cylinders

2 Type
3 = Male piston rod

3 Version
00 = **D.A.** Standard
01 = **D.A.** Through piston rod

D.A. = Double acting

4 Bore (mm)
032 = Ø32 **080** = Ø80
040 = Ø40 **100** = Ø100
050 = Ø50 **125** = Ø125
063 = Ø63

5 Stroke (mm)

0025 = 25	**0150** = 150	**0320** = 320	**0700** = 700
0050 = 50	**0160** = 160	**0350** = 350	**0800** = 800
0075 = 75	**0175** = 175	**0400** = 400	**0900** = 900
0080 = 80	**0200** = 200	**0450** = 450	**1000** = 1000
0100 = 100	**0250** = 250	**0500** = 500	
0125 = 125	**0300** = 300	**0600** = 600	

6 Magnetic
M = Magnetic version (standard supplied)

7 ATEX option
X = Atex (upon request)

See ATEX Catalogue for types and versions

Version with high temperature seals (Max 150°C) available upon request.

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with pin	Articulated self-lubricating fork	Front/rear flange	Angle bracket	Female hinge with pin	Rear male hinge	Counter hinge 90°	Articulated rear male hinge	Narrow female hinge with pin	Intermediate hinge for tie-rods
										
32	KF-15032PI	KF-17032I	KF-12032I	KF-13032I	KF-10032AI	KF-11032I	KF-19032CTAI	KF-11032SI	KF-10032ASI	KF-14032TI
40	KF-15040PI	KF-17040I	KF-12040I	KF-13040I	KF-10040AI	KF-11040I	KF-19040CTAI	KF-11040SI	KF-10040ASI	KF-14040TI
50	KF-15050PI	KF-17050I	KF-12050I	KF-13050I	KF-10050AI	KF-11050I	KF-19050CTAI	KF-11050SI	KF-10050ASI	KF-14050TI
63	KF-15050PI	KF-17050I	KF-12063I	KF-13063I	KF-10063AI	KF-11063I	KF-19063CTAI	KF-11063SI	KF-10063ASI	KF-14063TI
80	KF-15080PI	KF-17080I	KF-12080I	KF-13080I	KF-10080AI	KF-11080I	KF-19080CTAI	KF-11080SI	KF-10080ASI	KF-14080TI
100	KF-15080PI	KF-17080I	KF-12100I	KF-13100I	KF-10100AI	KF-11100I	KF-19100CTAI	KF-11100SI	KF-10100ASI	KF-14100TI
125	KF-15125PI	KF-17125I	KF-12125I	KF-13125I	KF-10125AI	KF-11125I	KF-19125CTAI	KF-11125SI	KF-10125ASI	KF-14125TI

Ø	Hinge support	Nut for piston	DF bracket and adapter	DF sensor
				
32	KF-41032I	KF-16032I	DH-P025032DFI	DF-P700L06
40	KF-41040050I	KF-16040I	DH-P040DFI	
50	KF-41040050I	KF-16050I	DH-P050DFI	
63	KF-41063080I	KF-16050I	DH-P063DFI	
80	KF-41063080I	KF-16080I	DH-P080DFI	
100	KF-41100125I	KF-16080I	DH-P100DFI	
125	KF-41100125I	KF-16125I	DH-P125DFI	

CHARACTERISTICS

Ambient temperature	0 ÷ 80°C (-20 °C with dry air)
Fluid	compressed air, filtered, not lubricated
Working pressure	1 ÷ 10 bar (double acting) 2 ÷ 10 bar (single acting)
End-caps	stainless steel AISI 316
Barrel	Ø20-25 stainless steel AISI 304, Ø32-100 stainless steel AISI 316
Piston	aluminium
Guide slide	PBT+PTFE
Piston rod	stainless steel AISI 316
Piston seal	polyurethane (**FDA Approved**)
Guide bush for piston rod	technopolymer



CODIFICATION KEY

P	R	M	3	0	0	0	3	2	0	0	2	5	M	
1			2	3		4			5				6	7

1 Series

PRM = Ø 20÷100 mm - ISO 21287 Stainless steel Pneumatic Cylinders

2 Type

1 = Female piston rod
3 = Male piston rod

3 Version

00 = **D.A.** Standard
01 = **D.A.** Through piston rod

4 Bore (mm)

020 = Ø20 **050** = Ø50
025 = Ø25 **063** = Ø63
032 = Ø32 **080** = Ø80
040 = Ø40 **100** = Ø100

D.A. = Double acting

5 Stroke (mm)

0010 = 10 **0160** = 160
0025 = 25 **0200** = 200
0050 = 50 **0250** = 250
0075 = 75 **0300** = 300
0100 = 100 **0350** = 350
0125 = 125 **0400** = 400

6 Magnetic

M = Magnetic version (standard supplied)

7 ATEX option

X = Atex (upon request)

See ATEX Catalogue for types and versions

Version with high temperature seals (Max 150°C) available upon request.

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with pin	Articulated self-lubricating fork	Front/rear flange	Angle bracket	Female hinge with pin	Rear male hinge	Counter hinge 90°	Articulated rear male hinge	Narrow female hinge with pin	Nut for piston
										
20	MF-15020PI	MF-17020I	-	-	-	-	-	-	-	MF-16020I
25	MF-15020PI	MF-17020I	-	-	-	-	-	-	-	MF-16020I
32	KF-15032PI	KF-17032I	KF-12032I	KF-13032I	KF-10032AI	KF-11032I	KF-19032CTAI	KF-11032SI	KF-10032ASI	KF-16032I
40	KF-15032PI	KF-17032I	KF-12040I	KF-13040I	KF-10040AI	KF-11040I	KF-19040CTAI	KF-11040SI	KF-10040ASI	KF-16040I
50	KF-15040PI	KF-17040I	KF-12050I	KF-13050I	KF-10050AI	KF-11050I	KF-19050CTAI	KF-11050SI	KF-10050ASI	KF-16050I
63	KF-15040PI	KF-17040I	KF-12063I	KF-13063I	KF-10063AI	KF-11063I	KF-19063CTAI	KF-11063SI	KF-10063ASI	KF-16050I
80	KF-15050PI	KF-17050I	KF-12080I	KF-13080I	KF-10080AI	KF-11080I	KF-19080CTAI	KF-11080SI	KF-10080ASI	KF-16080I
100	KF-15050PI	KF-17050I	KF-12100I	KF-13100I	KF-10100AI	KF-11100I	KF-19100CTAI	KF-11100SI	KF-10100ASI	KF-16080I

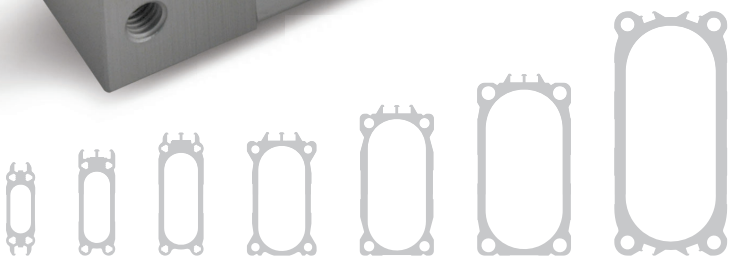
Ø	DF bracket and adapter	DF sensor
		
20	DH-P020DFI	DF-P700L06
25	DH-P025032DFI	
32	DH-P025032DFI	
40	DH-P040DFI	
50	DH-P050DFI	
63	DH-P063DFI	
80	DH-P080DFI	
100	DH-P100DFI	

COMPACT
Up to **40%** width reduction if compared to standard cylinders

ANTI-ROTATION
Piston rod max rotation 0,3° ÷ 0,9°

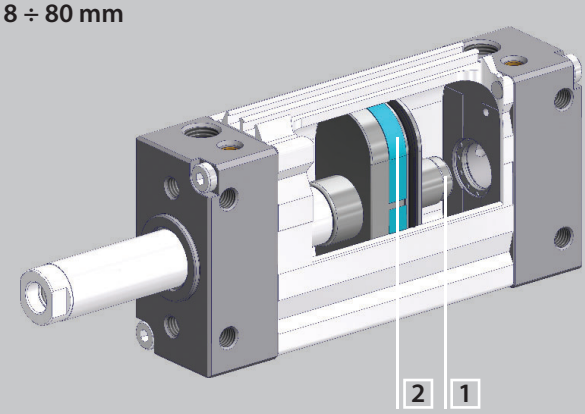
CUSHIONING
Standard supplied Ø18 ÷ 80 mm
(adjustable pneumatic cushionings)





OV

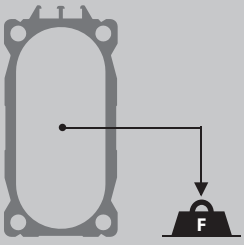
Ø18 ÷ 80 mm



1 Adjustable pneumatic cushioning
- Standard supplied
- No variation in dimensions comparing to an equivalent cylinder without cushionings

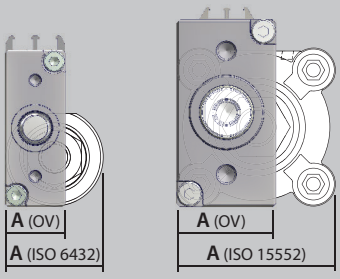
2 Oversized piston guide and UNIVER orginal seal
- Suitable for heavy loads (F)
- Piston rod rotation highly reduced

Max applicable torque (Nm) and related Max rotation



Ø	F (Nm)	Degrees
18	0,80	0,90
25	1,00	0,80
32	1,40	0,60
40	1,70	0,40
50	2,00	0,35
63	2,30	0,30
80	2,60	0,30

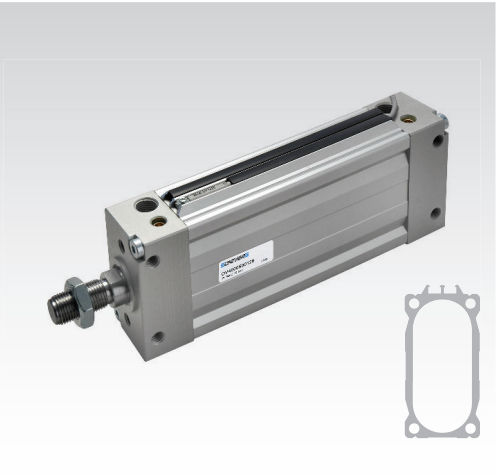
Comparison of A dimension: OV cylinder vs ISO standard cylinder



Ø	A (OV)	A (ISO)	Reduction
18	16	28	-42%
25	20	31	-35%
32	24,5	48	-45%
40	38	54	-30%
50	40	67	-40%
63	50	78	-35%
80	60	97	-38%

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	anodized aluminium
Barrel	anodized aluminium
Piston	aluminium
Guide slide	technopolymer
Piston rod	stainless steel (Ø18-25), chromium-plated steel (Ø32÷80)
Piston seal	NBR
Guide bush for piston rod	standard supplied
Piston rod scraper seals	polyurethane
Cushionings	adjustable on both sides (standard supplied)
Magnet	Neodymium (standard supplied)

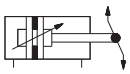


CODIFICATION KEY

O	V	2	0	0	0	3	2	0	0	5	0	
1		**2**	**3**		**4**			**5**				**6**

1 Series

OV = Ø 18÷80 mm - Oval Cylinders



2 Type

1 = Stainless steel female piston rod (Ø18÷80)
2 = Chromium-plated steel female piston rod (Ø32÷80)
3 = Stainless steel male piston rod (Ø18÷80)
4 = Chromium-plated steel male piston rod (Ø32÷80)

3 Version

00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
02 = **D.A.** Hollow through piston rod

D.A. = Double acting

4 Bore (mm)

018 = Ø18
025 = Ø25
032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63
080 = Ø80

5 Stroke (mm)

0010 - 0025 - 0040 - 0050 - 0080 - 0100 - 0125 - 0160 - 0200 (Ø18-25)
0010 - 0025 - 0040 - 0050 - 0080 - 0100 - 0125 - 0160 - 0200 - 0250 - 0320 (Ø32÷80)

6 ATEX Option

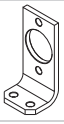
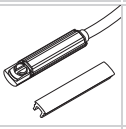
X = Atex (upon request)

See ATEX Catalogue for types and versions

Theoretical forces **(N)** developed at working pressure **(bar)**

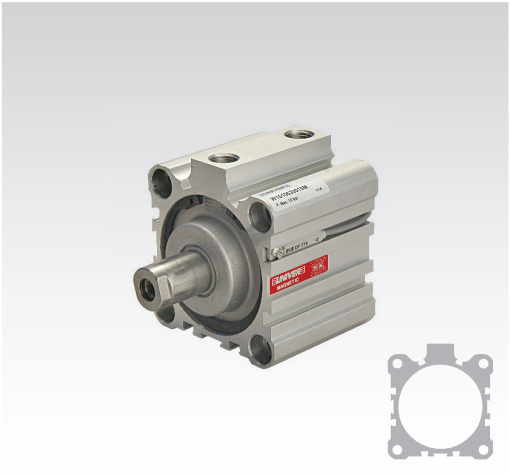
Ø	Working pressure bar Thrust 2	4	6	8	10	Working pressure bar Traction 2	4	6	8	10	Cushioning length
18	54	108	162	216	270	41	82	122	163	204	8
25	98	196	295	393	491	82	165	247	330	412	10
32	161	322	483	643	804	138	276	415	553	691	10
40	251	502	754	1005	1256	221	422	633	844	1055	14
50	393	785	1178	1570	1963	330	660	990	1320	1650	Front 11/Back 14
63	623	1246	1870	2493	3116	560	1120	1682	2240	2800	Front 11/Back 14
80	1005	2010	3015	4019	5024	942	1884	2826	3770	4711	Front 20/Back 27

FIXING ELEMENTS AND ACCESSORIES

Ø	Female fork with clips	Articulated self-lubricating fork	Fork with axially mounted articulated pin	Fork with angle mounted articulated pin	Floating joint	Angle bracket	Male hinge	Flange	DF sensor and DHF covering strip	Cable clamping for DF sensor
										
18	MF-15020	MF-17020	MF-22020	MF-23020	KF-24020	OVF-13018	OVF-11018	OVF-12018	DF DHF-0020100	DF-001
25	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	OVF-13025	OVF-11025	OVF-12025		
32	KF-15032	KF-17032	KF-22025	KF-23025	KF-24032	OVF-13032	OVF-11032	OVF-12032		
40	KF-15040	KF-17040	KF-22040	KF-23040	KF-24040	OVF-13040	OVF-11040	OVF-12040		
50	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	OVF-13050	OVF-11050	OVF-12050		
63	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	OVF-13063	OVF-11063	OVF-12063		
80	KF-15050	KF-17050	KF-22050	KF-23050	KF-24050	OVF-13080	OVF-11080	OVF-12080		

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	aluminium
Barrel	aluminium
Piston	aluminium
Guide slide	technopolymer
Piston rod	stainless steel
Piston seal	NBR
Guide bush for piston rod	standard supplied
Piston rod scraper seal	polyurethane
Shock absorber seals	NBR (standard supplied)
Other versions available	tandem, two-position tandem, multiple position tandem



CODIFICATION KEY

W	1	0	0	0	3	2	0	0	5	0			
1	2	3		4			5				6	7	8

1 Series
W = Ø 12÷100 mm
Short Stroke Cylinders

2 Type
1 = Stainless steel piston rod
7 = Stainless steel female piston rod with male rear hinge, versions 00 - 10 - 60 - 70 (except for bore Ø12)

3 Version
00 = **D.A.** Standard version
01 = **D.A.** Through piston rod
10 = **D.A.** Non-rotating piston rod (except for Ø 12)
11 = **D.A.** Non-rotating through piston rod (except for Ø 12)
31 = **D.A.** Hollow through piston rod (except for Ø 12-16)
60 = **S.A.** Retracted piston rod
70 = **S.A.** Extended piston rod

D.A. = Double acting
S.A. = Single acting

4 Bore (mm)
012 = Ø12
016 = Ø16
020 = Ø20
025 = Ø25
032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63
080 = Ø80
100 = Ø100

5 Stroke (mm)
Single acting
0005 - 0010 (Ø12÷25)
0005 - 0010 - 0025 (Ø32÷100)
Double acting
0005 - 0010 - 0020 - 0025 - 0030 - 0040 - 0050 (Ø12-16)
0005 - 0010 - 0020 - 0025 - 0030 - 0040 - 0050 - 0075 (Ø20÷100)

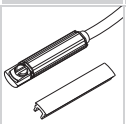
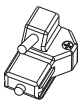
6 Option
S = Safety distance (only for versions 10 and 11)

7 Magnetic
M = Magnetic version (except for Ø 12)

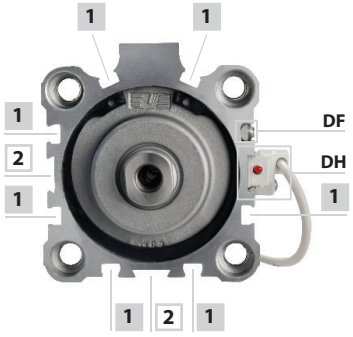
8 ATEX option
X = Atex (upon request)

See ATEX Catalogue for types and versions

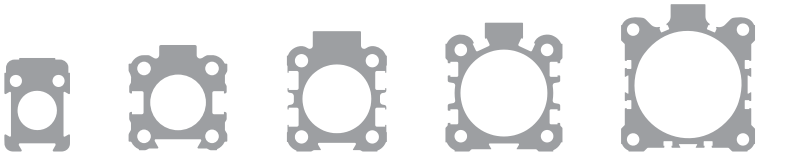
FIXING ELEMENTS AND ACCESSORIES

Ø	Nipple	DF sensor and DHF covering strip	Cable clamping for DF sensor	DH sensor
				
12	WF-50012	DF DHF-0020100	DF-001	DH
16	WF-50012			
20	WF-50020			
25	WF-50020			
32	WF-50032			
40	WF-50040			
50	WF-50050			
63	WF-50063			
80	WF-50080			
100	WF-50080			

TUBE PROFILE



1 Groove for DF series recessed sensor
2 Groove for DH series traditional sensor

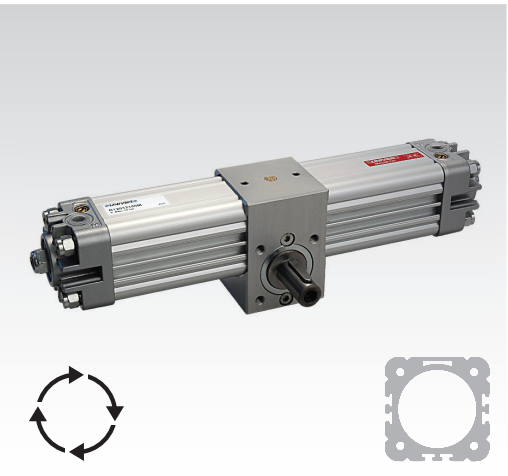


Ø 12 mm | **Ø 16-20 mm** | **Ø 25-32 mm** | **Ø 40 mm** | **Ø 50-63-80-100 mm**

1

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷ 10 bar
End-caps	aluminium
Barrel	aluminium
Piston	die-cast aluminium
Guide slide	acetalic resin
Rack	stainless steel
Piston seal	NBR
Pinion	nitrided steel
Shock absorber seals	NBR
Cushionings	adjustable on both sides (standard supplied)



CODIFICATION KEY

R	1	1	0	3	2	1	8	0	
1		2		3			4		5

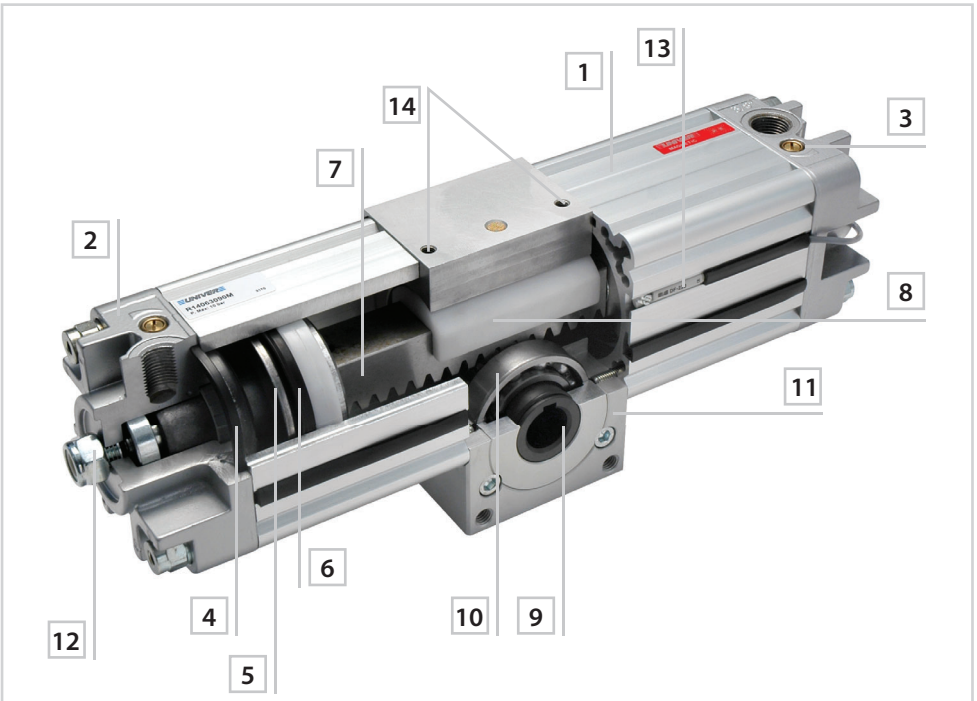
1 Series
R = Ø 32÷125 mm Pneumatic rotary Cylinders

2 Type
11 = Male pinion without adjustment (degree of accuracy ± 3°)
12 = Male pinion with adjustment ± 5°
13 = Female pinion without adjustment (degree of accuracy ± 3°)
14 = Female pinion with adjustment ± 5°

3 Bore (mm)
032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63
080 = Ø80
100 = Ø100
125 = Ø125

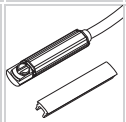
4 Angle of rotation
090 = 90°
180 = 180°
270 = 270°
360 = 360°

5 Magnetic
M = Magnetic version



1. Cylinder barrel: extruded profile in aluminium
2. Die-cast end-caps in aluminium
3. Adjustable on both sides cushionings
4. Shock absorber seals
5. Die-cast piston in aluminium alloy and acetalic resin guide slide
6. Piston seals in nitrile rubber compound
7. Standards-based steel square rack
8. Guide slide for rack with self-adjusting backlash recovery
9. Nitrided steel pinion
10. Ball bearings for pinion support
11. Anodized aluminium central body
12. Adjustment screws: angle of rotation ±2,5°
13. DF series magnetic sensor
14. Screws for backlash recovery

ACCESSORIES

Ø	DF sensor and DHF covering strip	Cable clamping for DF sensor
		
32 40 50 63 80 100 125	DF DHF-0020100	DF-001

CHARACTERISTICS

Ambient temperature	-20° ÷ 80 °C
Fluid	filtered air, with or without lubrication, neutral gases
Working pressure	4 ÷ 8 bar (single acting) 2 ÷ 8 bar (double acting)
Connections	NAMUR interface (G1/4)
Rotation	0-90°±3° (external adjustment)
Max pressure	10 bar
End-caps	die-cast aluminium
Piston	die-cast aluminium
Guide slide	acetalic resin
Seals	NBR
Body	hard anodized aluminium extrusion
Pinion	nickel-plated steel
Screws and nuts	stainless steel

Connections: bottom hole for ball valve installation in compliance with ISO 5211/DIN 3337 standards. Solenoid valve interface, shaft top-end and top hole for accessory fixing in compliance with VDI/VDE 3845 NAMUR standards.



CODIFICATION KEY

Y	R	2	0	1	D	A	0
1		2			3		

1 Series

YR2 = Rotary Actuators for Process Automation

2 Size (mm)

00 = 32 (DA0 only)
01 = 50
2A = 63 (F04)
2B = 63 (F05)
03 = 75
35 = 85
04 = 100
45 = 115
05 = 125
55 = 145
06 = 160
08 = 200
10 = 250

3 Version

DA0 = Double acting
S12 = Single acting - 12 springs standard
(different number of springs upon request)

Torque - double acting version (P = 6 bar)

Part No.	Torque (Nm)
YR200DA0	7,3
YR201DA0	17,7
YR22ADA0-YR22BDA0	28,2
YR203DA0	60
YR235DA0	102
YR204DA0	142
YR245DA0	261,6
YR205DA0	333
YR255DA0	473
YR206DA0	680
YR208DA0	1276
YR210DA0	3234

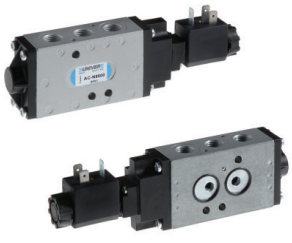
Torque - single acting version (P = 6 bar)

Part No.	Torque (Nm)	
	0°	**90°**
YR201S12	10,5	7,2
YR22AS12-YR22BS12	16,8	11,4
YR203S12	36	24
YR235S12	64	39
YR204S12	87	56
YR245S12	159,6	101,6
YR205S12	203	130
YR255S12	303	173
YR206S12	429	260
YR208S12	796	520
YR210S12	1909	1254

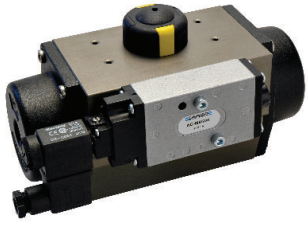
YR series ball valve



AC-N series NAMUR valves



AC-N series valves with actuator



YR3



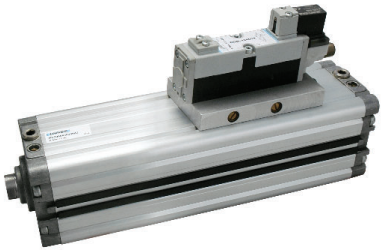
Part. No	Ø	Torque (Nm)*	Kinetic energy (J)	Sensor
YR3003	10	0,3	0,002	DF-T
YR3007	12	0,6	0,006	
YR3010	15	1,5	0,006	
YR3020	18	2,2	0,025	
YR3030	20	3,2	0,048	
YR3050	25	5,5	0,080	
YR3070	28	7,5	0,24	
YR3100	32	9,8	0,32	
YR3200	40	19	0,56	

* = Theoretical torque at 5 bar

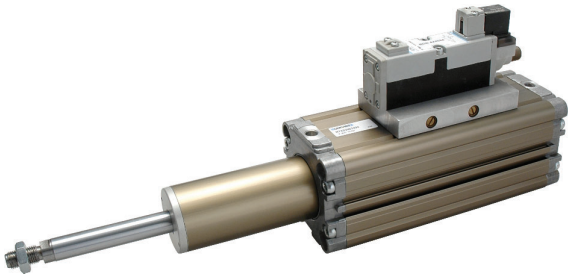
Ambient temperature: 0 ÷ 50 °C
Working pressure: 1,5 ÷ 7 bar
Rotation angle: 0° ÷ 180°
Version upon request: with idraulic shock absorbers Ø 15 ÷ 63
(add suffix **D** to part no. e.g. YR3010D)

Examples of CYLINDER - VALVE assembly

- **RV - STRONG cylinder with integrated VDMA valve**
  STRONG cylinder with integrated 5/2-5/3 VDMA solenoid valve, side 18 or 26 mm.
  Supply and exhaust occur directly from the connection plate between valve and cylinder and exhausts are adjustable.
  Electrical connection M12 can be operated also from a PLC.



- **RW - Telescopic cylinder with integrated VDMA valve**
  Telescopic cylinder with integrated 5/2-5/3 VDMA solenoid valve, side 18 or 26 mm.
  Supply and exhaust occur directly from the connection plate between valve and cylinder and exhausts are adjustable.
  Electrical connection M12 can be operated also from a PLC.



- **KD series ISO 15552 cylinder with integrated valve**
  Valve mounting by means of a proper plate embedded in one of tube sensor grooves.



- **RS series STRONG cylinder with integrated valve**
  Valve mounting by means of a proper plate embedded in one of tube sensor grooves.

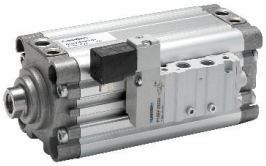
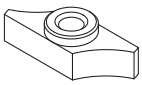


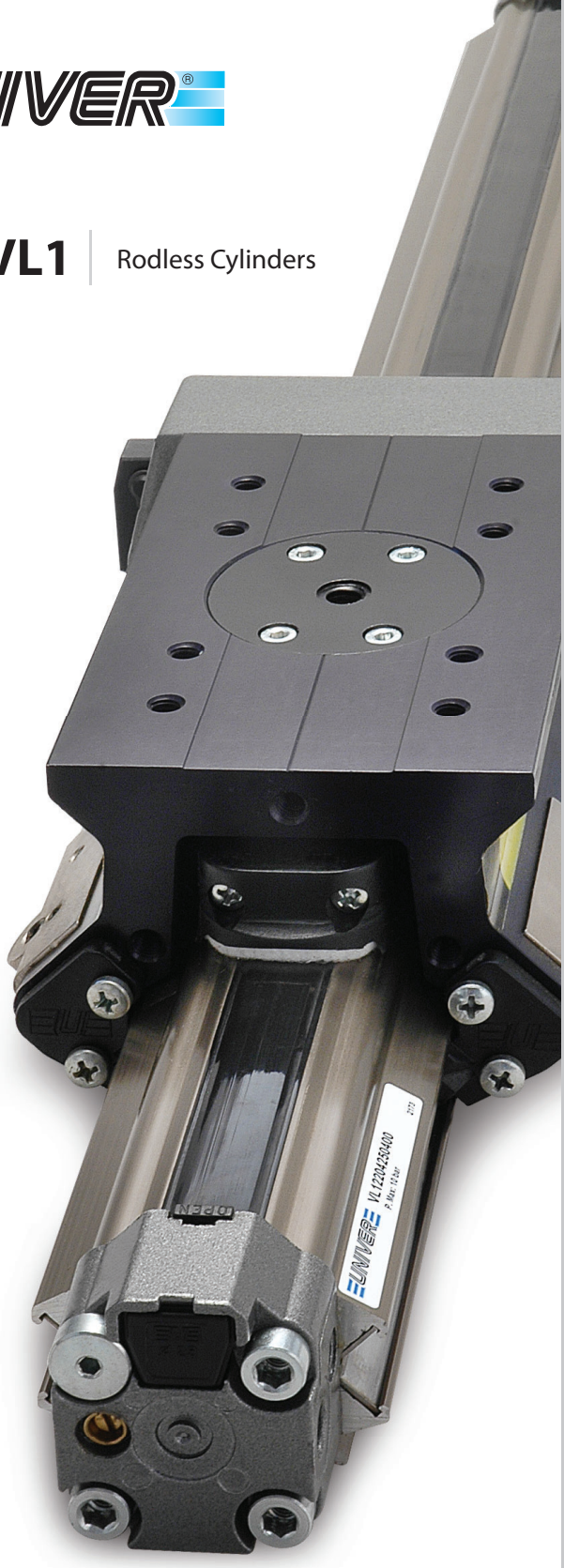
Plate for mounting valve on sensor groove



DF-003 (M3)
DF-004 (M4)

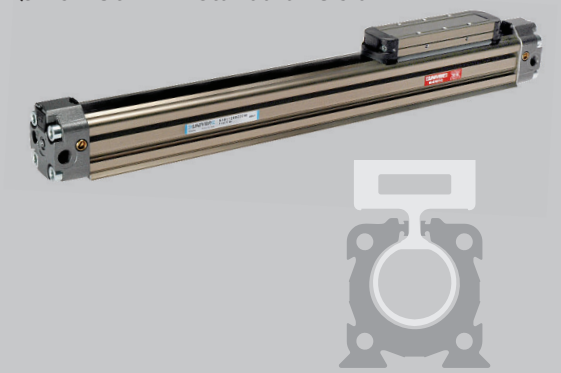
S1-S5-VL1

Rodless Cylinders



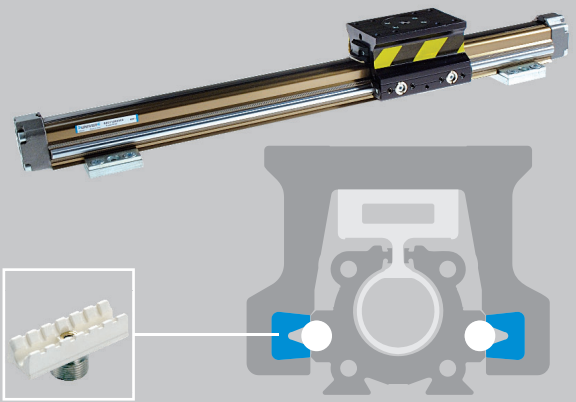
S1

Ø 16 ÷ 50 mm - Standard version



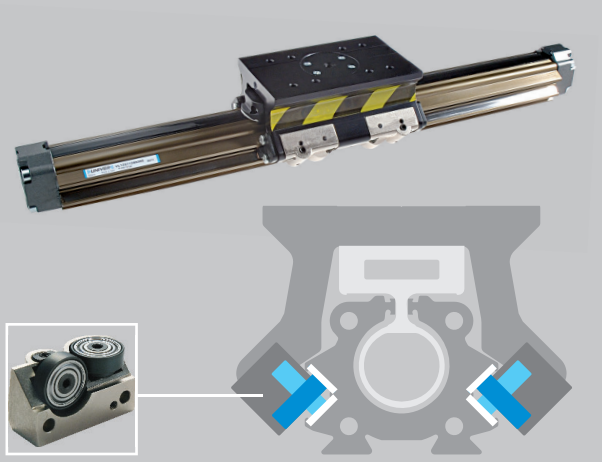
S5

Ø 25 ÷ 50 mm - Version with integrated guides
Technopolymer sliding guide

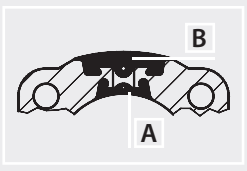


VL1

Ø 25 ÷ 50 mm - Version with 90° integrated guides
Sliding on ball bearings



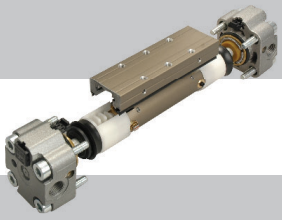
UNIVER Original since 1988



A - Internal strip (**seal**)
B - External strip (**protection**) made of reinforced elastomer with Kevlar fiber



KIT **Assembly Kit**
available for all series



CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	3 ÷10 bar
End-caps	die-cast light alloy
Barrel	anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston seal	NBR
Shock absorber seals	mechanical
Cushionings	adjustable on both sides (standard supplied)
Magnet	upon request



CODIFICATION KEY

S	1	0	1	1	2	5	0	8	5	0		
1		2	3	4	5		6				7	8

1 Series

S1 = Ø 16÷50 mm - Rodless Cylinders standard version

2 Carriage type

0 = Standard carriage
2 = Medium carriage (except for Ø16)
3 = Long carriage (except for Ø16)

3 Left end-cap supply port

0 = No supply port (both chambers are supplied from the right end-cap)
1 = Side supply port (except for Ø16)
2 = Bottom supply port (except for Ø16)
3 = Rear supply port (except for Ø16)

4 Right end-cap supply port

1 = Side supply port (except for Ø16)
2 = Bottom supply port (except for Ø16)
3 = Rear supply port (except for Ø16)
4 = Rear supply ports for both chambers on the right end-cap
5 = Side supply ports for both chambers on the right end-cap (only for Ø16)

5 Bore (mm)

16 = Ø16
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50

6 Stroke (mm)

Up to **5000** (Ø 16)
Up to **6000** (Ø 25÷50)

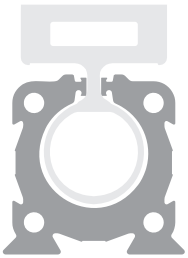
7 Magnetic

M = Magnetic version standard supplied (Ø 16) upon request (Ø 25÷50)

8 ATEX option

X = Atex (upon request)

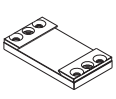
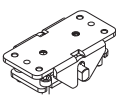
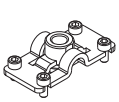
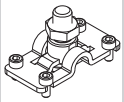
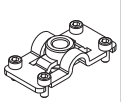
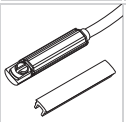
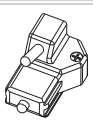
See ATEX Catalogue for types and versions



S1

- Extruded aluminium profile Ø 16 ÷ 50 mm
- Stroke up to 6 m
- Different supply port configurations available
- Different carriage types
- High translation speed 0,2 ÷ 3 m/s

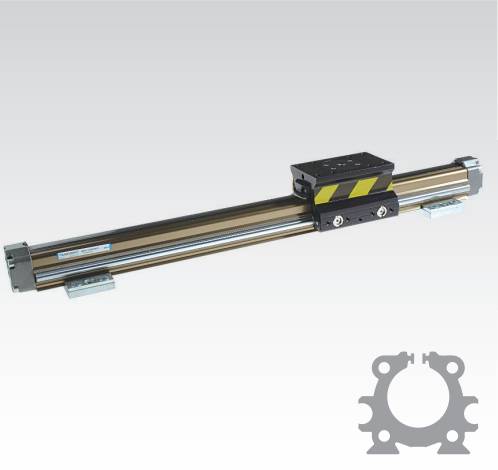
FIXING ELEMENTS AND ACCESSORIES

Ø	Bracket	Angle bracket	Fixing plate	Oscillating bracket	Female threaded connection	Male threaded pin	Female connection without thread	**DF** sensor and **DHF** covering strip	Cable clamping for DF sensor	**DH** sensor	Bracket for **DH** sensor
											
16	SF-13016	-	SF-12016	SF-24016	SF-26016	SF-27016	SF-28016	DF	DF-001	-	-
25	-	SF-13025	SF-12025	SF-24025	SF-26025	SF-27025	SF-28025	-	-	DH	DH-S25
32	-	SF-13032	SF-12032	SF-24032	SF-26032	SF-27032	SF-28032	-	-		DH-S32
40	SF-13040	-	SF-12040	SF-24032	SF-26032	SF-27032	SF-28032	-	-		DH-S40
50	SF-13050	-	SF-12050	-	-	-	-	-	-		DH-S50

Subject to change

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	3 ÷10 bar
End-caps	die-cast light alloy
Barrel	anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston seal	NBR
Shock absorber seals	mechanical
Cushionings	adjustable on both sides (standard supplied)



CODIFICATION KEY

S	5	0	1	1	2	5	0	8	5	0
1		2	3	4	5		6			

1 Series
S5 = Ø 25÷50 mm - Rodless Cylinders with integrated guides - Technopolymer sliding guide

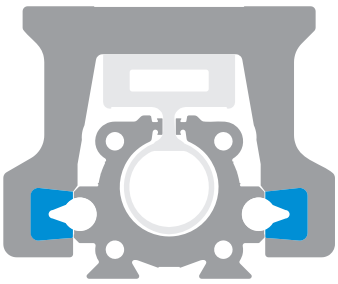
2 Carriage type
0 = Standard carriage (except Ø 40-50)
2 = Medium carriage
3 = Long carriage

3 Left end-cap supply port
0 = No supply port (both chambers are supplied from the right end-cap)
1 = Side supply port
2 = Bottom supply port
3 = Rear supply port

4 Right end-cap supply port
1 = Side supply port
2 = Bottom supply port
3 = Rear supply port
4 = Rear supply ports for both chambers on the right end-cap

5 Bore (mm)
25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50

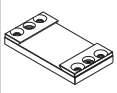
6 Stroke (mm)
Up to **6000**



S5

- Extruded aluminium profile Ø 25 ÷ 50 mm
- Stroke up to 6 m
- Flexible guide system
- Sliding of the carriage with plastic slide on steel shafts
- Translation speed 0,2 ÷ 1,5 m/sec.
- Version with locking unit available

FIXING ELEMENTS

Ø	Bracket	Angle bracket	Fixing plate
			
25	-	SF-13025	SF-12025
32	-	SF-13032	SF-12032
40	SF-13040	-	SF-12040
50	SF-13050	-	SF-12050

S5 with L6 locking unit

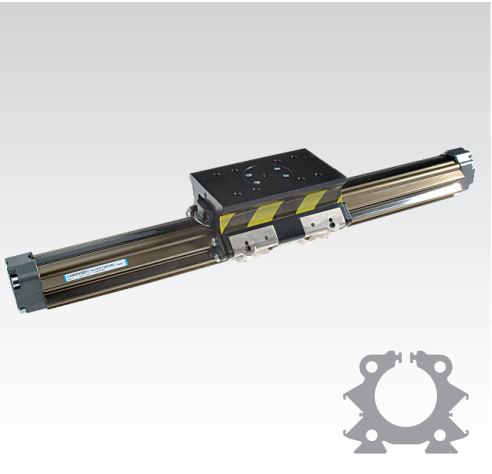


VL1

Ø 25 ÷ 50 mm - Rodless Cylinders with 90° integrated guides
Sliding on ball bearings

CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	3 ÷10 bar
End-caps	die-cast light alloy
Barrel	anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston seals	NBR
Shock absorber seals	mechanical
Cushionings	adjustable on both sides (standard supplied)



CODIFICATION KEY

V	L	1	2	2	1	1	3	2	0	8	5	0
1			2	3	4	5	6		7			

1 Series

VL1 = Ø 25÷50 mm - Rodless Cylinders with 90° integrated guides Sliding on ball bearings

2 Carriage type

2 = Medium carriage
3 = Long carriage

3 No. of ball bearing pairs standard supplied

Medium carriage	**Long carriage**
2 = Ø 25÷40	**3** = Ø 25÷40
3 = Ø 50	**4** = Ø 50

4 Left end-cap supply port

0 = No supply port (both chambers are supplied from the right end-cap)
1 = Side supply port
2 = Bottom supply port
3 = Rear supply port

5 Right end-cap supply port

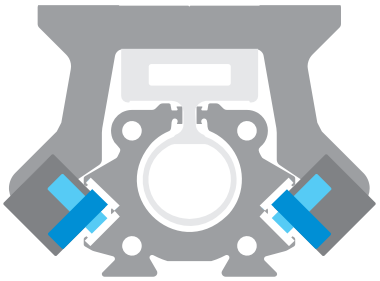
1 = Side supply port
2 = Bottom supply port
3 = Rear supply port
4 = Rear supply ports for both chambers on the right end-cap

6 Bore (mm)

25 = Ø25
32 = Ø32
40 = Ø40
50 = Ø50

7 Stroke (mm)

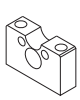
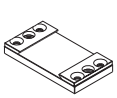
Up to **6000**



VL1

- Extruded aluminium profile Ø 25 ÷ 50 mm
- Stroke up to 6 m
- Heavy duty precision series
- Rigid guide system
- Sliding of the carriage on ball bearings
- Translation speed 0,2 ÷ 2 m/sec.
- Version with locking unit available

FIXING ELEMENTS

Ø	Bracket	Angle bracket	Fixing plate
			
25	-	SF-13025	SF-12025
32	-	SF-13032	SF-12032
40	SF-13040	-	SF-12040
50	SF-13050	-	SF-12050

VL1 with L6 locking unit



J Slide Units

STRONG
Extruded aluminium profile structure
UNIVER Original

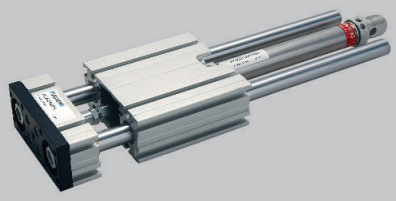
STURDY
Oversized hollow guiding shafts
made of chromium-plated steel

SMOOTH SLIDING
Self-lubricating guiding bushes
made of special steel

STANDARD
Wide range of standard solutions
for any application requirement

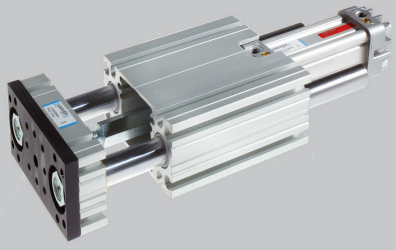


J1
ISO 6432 Cylinders



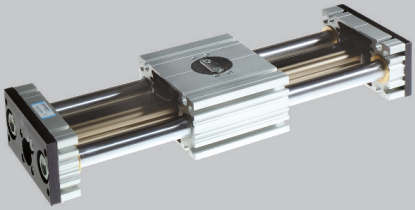


ISO 15552 Cylinders



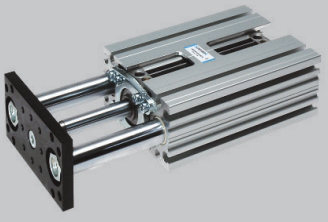


J3
Rodless Cylinders





J_RS
STRONG Cylinders



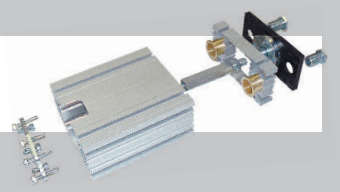


J64RT2
Telescopic Cylinders





KIT **Assembly Kit**
available for all series



1

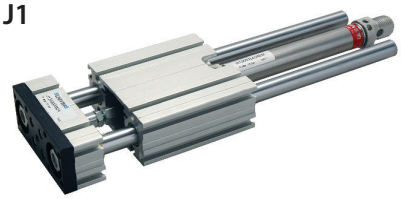
CHARACTERISTICS

Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air, with or without lubrication
Working pressure	2 ÷ 10 bar
Barrel	extruded anodized aluminium
Guide bush for piston rod	special steel
Shafts	chromium-plated steel
Shaft scraper seals	polyurethane
Flange	steel



Slide Units for M, KE/K, KD series cylinders

J1






CODIFICATION KEY

J	1	0	A	5	5	0	0	5	0	A
1	2		3	4	5	6				7

1 Series

J = Slide Unit

2 Type

10 = Protruding shafts and short housing (recommended for strokes up to 50 mm)
11 = Protruding shafts and medium housing
12 = Protruding shafts and long housing
14 = Fully protected cylinder
16 = Central mounting (semi-external cylinder)
17 = Central mounting (fully protected cylinder)
18 = Medium moving housing (external cylinder)
19 = Long moving housing (external cylinder)

3 Accessories

A = Shaft scrapers standard supplied

4 Slide unit size

0 = 16 for Ø16 cylinders
2 = 25 for Ø25 cylinders
3 = 32 for Ø32 cylinders
4 = 40 for Ø40 cylinders
5 = 50 for Ø50 cylinders
6 = 63 for Ø63 cylinders
7 = 80 for Ø80 cylinders
8 = 100 for Ø100 cylinders

5 Cylinder bore (mm)

0 = Ø16
2 = Ø25
3 = Ø32
4 = Ø40
5 = Ø50
6 = Ø63
7 = Ø80
8 = Ø100

6 Cylinder stroke (mm)

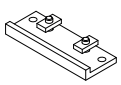
M
0025 - 0030 - 0040 - 0050 - 0075
0100 - 0125 - 0150 - 0160 - 0175
0200 - 0250 - 0300 - 0400 - 0500

KE/K - KD
0025 - 0050 - 0075 - 0080 - 0100
0125 - 0150 - 0160 - 0175 - 0200
0250 - 0300 - 0320 - 0400 - 0450
0500 - 0600 - 0700 - 0800 - 0900
1000

7 Cylinder option

A = M150 series Ø16÷25 microcylinders
K200 series Ø32÷100 cylinders
B = M250 series Ø16÷25 microcylinders with locking unit
K200 series Ø32÷100 cylinders with locking unit
(only for J12, J14, J16, J17)
C = KE200 series Ø 32÷100 cylinders
D = KE200 series Ø 32÷100 cylinders with locking unit (only for J12, J14, J16, J17)
E = KD200 series Ø32÷100 cylinders
F = KD200 series Ø32÷100 cylinders with locking unit (only for J12 , J14 and J16)

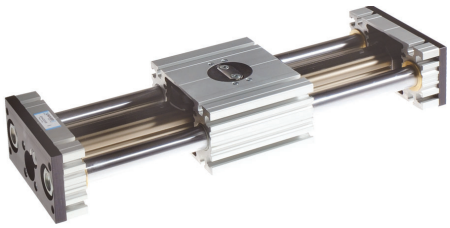
FIXING ELEMENTS

Ø	Aluminium fixing bracket	Aluminium fixing bracket	Steel fixing plate	Aluminium fixing bracket	Rod support for Serie J guide unit
					
16	JF-13016	JF-14016	JF-42016	JF-43016	JF-601016
25	JF-13025	JF-14025	JF-42025	JF-43025	JF-601025
32	JF-13032	JF-14032	JF-42040	JF-43040	JF-601032
40	JF-13040	JF-14040	JF-42040	JF-43040	JF-601040
50	JF-13050	JF-14050	JF-42050	JF-43050	JF-601050
63	JF-13063	JF-14063	JF-42063	JF-43063	JF-601063
80	JF-13080	JF-14100	JF-42100	JF-43100	JF-601080
100	JF-13100	JF-14100	JF-42100	JF-43100	JF-601100

Slide units are supplied with integrated cylinder

Slide Units for S1 series rodless cylinders

J3





CODIFICATION KEY

J	3	0	A	5	3	0	1	0	0	A
1	2		3	4	5	6				7

1 Series
J = Slide Unit

2 Type
30 = Fully protected cylinder (2 bearings - standard carriage)
31 = Fully protected cylinder (2 bearings - long carriage)

3 Accessories
A = Shaft scrapers standard supplied

4 Slide unit size
4 = 40 for Ø25 cylinders
5 = 50 for Ø32 cylinders
6 = 63 for Ø40 cylinders
7 = 80 for Ø50 cylinders

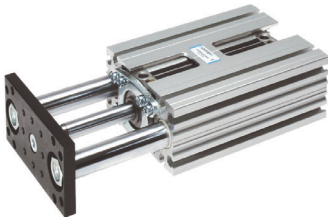
5 Cylinder bore (mm)
2 = Ø25
3 = Ø32
4 = Ø40
5 = Ø50

6 Slide unit stroke (mm)
Up to **0800**

7 Supply port option
A = Supply ports on both end-caps
B = Supply ports on the right end-cap only

Slide Units for RS series STRONG compact cylinders

J_RS





CODIFICATION KEY

J	6	4	R	S	3	3	0	0	5	0	B
1	2		3		4	5	6				7

1 Series
J = Slide Unit - Shaft scrapers standard supplied

2 Slide unit type
64 = Fully protected cylinder (stroke longer than 50 mm)
65 = Fully protected cylinder, through opening
66 = Fully protected cylinder, through opening, two plates
67 = Fully protected cylinder, two plates (stroke longer than 50 mm)

3 Cylinder type
RS = STRONG cylinder (RS22J... series) with long piston and tube with sensor grooves on the same side as supply ports to allow mounting of magnetic sensors

4 Slide unit size
3 = 32 for Ø32 cylinders
4 = 40 for Ø40 cylinders
5 = 50 for Ø50 cylinders
6 = 63 for Ø63 cylinders

5 Cylinder bore (mm)
3 = Ø32
4 = Ø40
5 = Ø50
6 = Ø63

6 Slide unit stroke (mm)
0015 ÷ 0800

7 Cylinder option
A = Cylinder with long piston
B = Cylinder with long piston and locking unit

Slide units are supplied with integrated cylinder

1

Slide Units for RT2 series telescopic cylinders

J64RT2





CODIFICATION KEY

J	6	4	R	T	2	4	4	0	8	0	0	A
1	2		3			4	5		6			7

1 Series
J = Slide Unit - Shaft scrapers standard supplied

2 Slide unit type
64 = Fully protected telescopic cylinder

3 Cylinder type
RT2 = 2 stage telescopic cylinders

4 Slide unit size
3 = 32 for Ø32 cylinders
4 = 40 for Ø40 cylinders
5 = 50 for Ø50 cylinders
6 = 63 for Ø63 cylinders

5 Cylinder bore (mm)
3 = Ø32
4 = Ø40
5 = Ø50
6 = Ø63

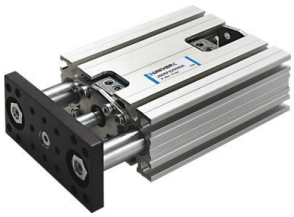
6 Slide unit stroke (mm)
Standard stroke
0120 - 0160 - 0180 - 0200 - 0300 - 0400 - 0500
0600 - 0700 - 0800 - 0900 - 1000 - 1100 - 1200

Min - Max stroke
0160 ÷ 0400 (Ø32)
0160 ÷ 0600 (Ø40)
0120 ÷ 0900 (Ø50)
0120 ÷ 1200 (Ø63)

7 Cylinder option
A = 2 stage telescopic cylinders

Slide Units for RP series compact cylinders

J65





CODIFICATION KEY

J	6	5	R	P	2	2	0	0	5	0	A
1	2		3		4	5		6			7

1 Series
J = Slide Unit - Shaft scrapers standard supplied

2 Slide unit type
65 = Fully protected cylinder, through opening

3 Cylinder type
RP = UNITOP Ø25 mm compact cylinder

4 Slide unit size
2 = 25 for Ø25 cylinders

5 Cylinder bore (mm)
2 = Ø25

6 Slide unit stroke (mm)
0050 ÷ 0200

7 Cylinder option
A = Cylinder with long piston

Slide units are supplied with integrated cylinder

CHARACTERISTICS

Ambient temperature	-5 ÷ +60 °C
Fluid	filtered air, with or without lubrication
Working pressure	1 ÷ 10 bar
Body	aluminium
Shafts	chromium-plated steel (JLES), hardened-plated steel (JLEV)
Piston	aluminium
Piston rod	C40 chromium-plated steel
Guide bearing	bearings (JLES), ball bushing (JLEV)
Piston seal	polyurethane
Shock absorber seals	polyurethane
Magnet	standard supplied
Flange	steel



CODIFICATION KEY

J	L	E	S	0	1	2	0	0	3	0	
1			2	3			4				5

1 Series

JLE = Ø 12 ÷ 63 mm - Guided Compact Cylinders

2 Guide bearing

S = Bearings
V= Ball bushing

3 Bore (mm)

012 = Ø12
016 = Ø16
020 = Ø20
025 = Ø25
032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63

4 Stroke (mm)

0010 = 10
0020 = 20
0025 = 25
0030 = 30
0040 = 40
0050 = 50
0075 = 75
0100 = 100
0125 = 125
0150 = 150
0175 = 175
0200 = 200

Standard stroke (mm)*

Ø	10	20	25	30	40	50	75	100	125	150	175	200
12	■	■		■	■	■	■	■				
16	■	■		■	■	■	■	■				
20		■		■	■	■	■	■	■	■	■	■
25		■		■	■	■	■	■	■	■	■	■
32			■		■	■	■	■	■	■	■	■
40			■		■	■	■	■	■	■	■	■
50			■		■	■	■	■	■	■	■	■
63			■		■	■	■	■	■	■	■	■

* Extra strokes upon request

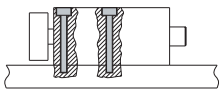
5 ATEX option

X = Atex (upon request)

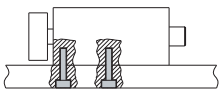
See ATEX Catalogue for types and versions

Fixing schemes

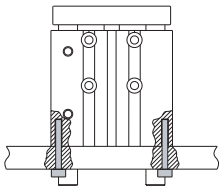
■ **Top** fixing



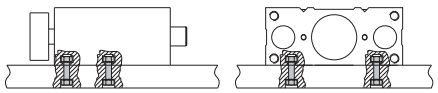
■ **Bottom** fixing



■ **Rear** fixing



■ **T-slot** fixing



DF-T magnetic sensor

ELECTROMECHANICAL
DF-T200L03
DF-T200M08

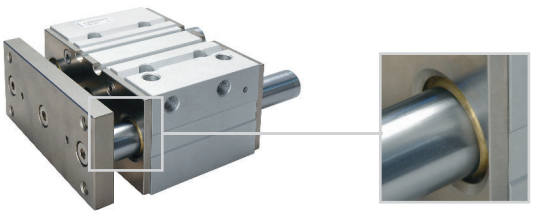
ELECTRONIC (PNP)
DF-T700L03
DF-T700M08

SLOT ADAPTER
DF-R002 (Ø12 mm)
DF-R003 (Ø 16 ÷ 63 mm)



Upon request

■ Version with metallic piston rod scraper

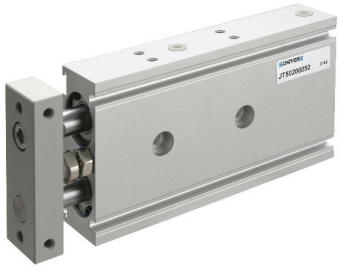


Special versions upon request: metal rodscrapers, pneumatic cushioning, high temperature (+120°)

1

Ø 6 ÷ 32 mm - Twin Rod Guided Cylinder

JTE



Ambient temperature: -5 ÷ 60 °C
Stroke adjustment: 0 ÷ 5 mm

Part No.	Ø	Working pressure (bar)	Theoretical thrust force (N)*		Standard stroke (mm)	Max stroke (mm)	Sensor
			Thrust	Traction			
JTES006 JTEV006	6	1,5 ÷ 7	28	15,5	10-20-30	50	DF-T + DF-R002 (adapter)
JTES010 JTEV010	10	1 ÷ 7	113	84	10-15-20-25-30 35-40-45-50-60-70	70	
JTES015 JTEV015	15	1 ÷ 7	200	150	10-15-20-25 30-35-40-45 50-60-70-75 80-90-100	120	
JTES020 JTEV020	20	0,5 ÷ 7	314	236		130	
JTES025 JTEV025	25	0,5 ÷ 7	490	378		150	
JTES032 JTEV032	32	0,5 ÷ 7	802	603		150	

S = Bearings
V= Ball bushing

* = Theoretical thrust force at 5 bar

Ø 6 ÷ 20 mm - Pneumatic Mini Slide Unit

JX1



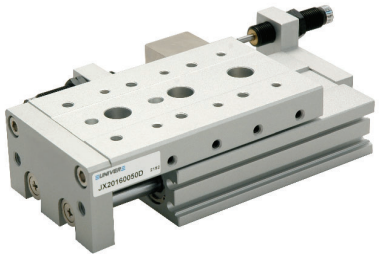
Part No.	Ø	Working pressure (bar)	Theoretical thrust force (N)*		Standard stroke (mm)	Sensor
			Thrust	Traction		
JX1006	6	1,2 ÷ 7	14,2	10,6	5-10-15-20-25 30-40-50-60	DF-T
JX1010	10	0,6 ÷ 7	39,3	33		
JX1016	16	0,6 ÷ 7	101	86		
JX1020	20	0,5 ÷ 7	157	132		

* = Theoretical thrust force at 5 bar

Ambient temperature: -5 ÷ 60 °C
Embodied linear guide

Ø 6 ÷ 25 mm - Slide Table Actuator

JX2



Part No.	Ø	Working pressure (bar)	Theoretical thrust force (N)*		Standard stroke (mm)	Sensor
			Thrust	Traction		
JX2006	6	1 ÷ 8,5	25	20	10-20-30-40-50	DF-T
JX2008	8		51	38	10-20-30-40-50-75	
JX2012	12		113	85	10-20-30-40-50-75-100	
JX2016	16		201	151	10-20-30-40-50-75-100-125	
JX2020	20		314	236	10-20-30-40-50-75-100-125-150	
JX2025	25		491	380	10-20-30-40-50-75-100-125-150	

* = Theoretical thrust force at 5 bar

Ambient temperature: 0 ÷ 60 °C
Versions upon request:
with stroke adjusting screw (add suffix R to part no. e.g. JX2008R)
with hydraulic shock absorbers Ø 8 ÷ 25 (add suffix **D** to part no. e.g. JX2008D)

CHARACTERISTICS

Ambient temperature	Max. 60° C
Fluid	filtered air with or without lubrication
Working pressure	2 ÷10 bar
Supply air ports	G1/8
Fixing	with brackets
Version	single acting, front spring
End-caps	technopolymer
Barrel	anodized aluminium
Piston rod	zinc-plated steel
Piston seals	NBR
Spring	steel



CODIFICATION KEY

M	P	0	3	5	0	0	7	5	T
1		2			3				4

1 Series

MP = Clamping cylinder

2 Bore (mm)

035 = Ø35
040 = Ø40 (upon request)

3 Stroke (mm)

0075 = 75
0115 = 115

Other strokes available upon request

4 Option

A = orange buffer
N = black buffer
T = transparent buffer
_ = without buffer

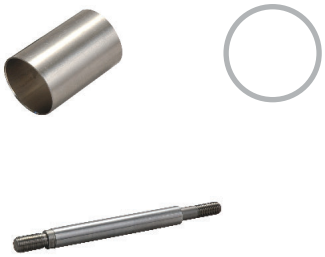
ACCESSORIES

Ø	Orange buffer	Black buffer	Trasparent buffer	Short bracket	Long bracket
					
35 40	MPF-300035A	MPF-300035N	MPF-300035T	MPF-310035C	MPF-310035L

ISO 6432

M
Ø 8 ÷ 25 mm Microcylinders







ISO 15552

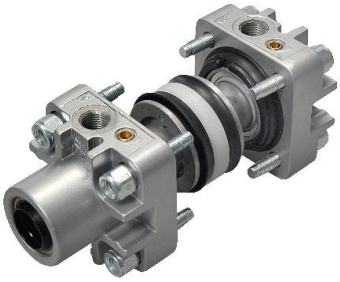
KL
Ø 32 ÷ 125 mm Pneumatic Cylinders



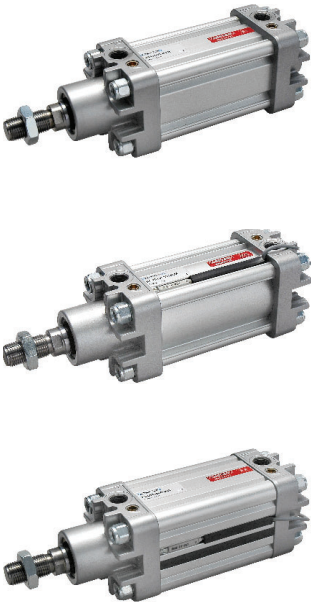




K/KE/KD
Ø 32 ÷ 125 mm Pneumatic Cylinders



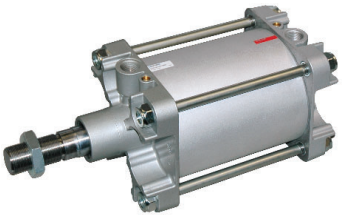




K Ø 160-200
Ø 160 - 200 mm Pneumatic Cylinders







ISO 21287

RP-RM
Ø 16 ÷ 100 mm Compact Cylinders

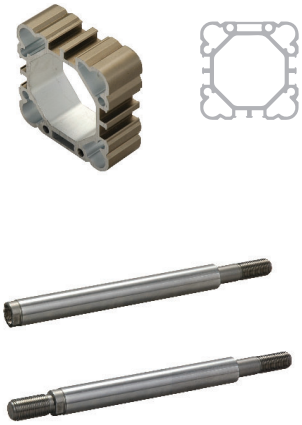






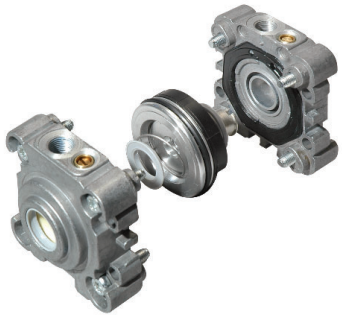
RO-RN
Ø 16 ÷ 63 mm Compact Cylinders

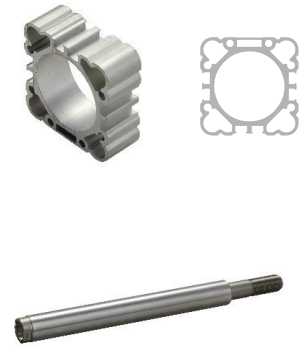






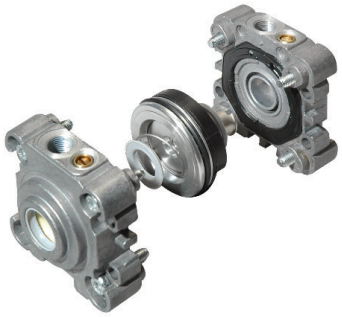
RS
Ø 32 ÷ 100 mm STRONG Cylinders

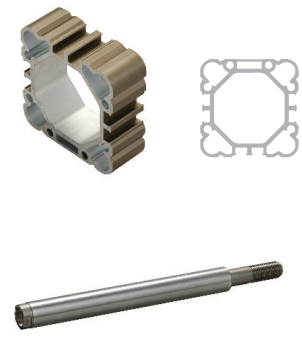






RQ
Ø 32 ÷ 63 mm STRONG Cylinders



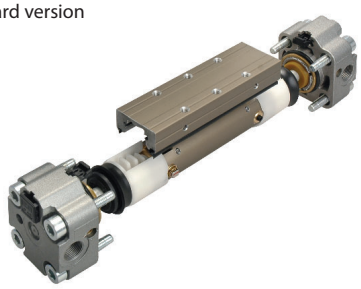


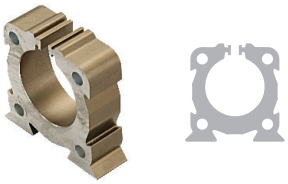


1

Rodless cylinders

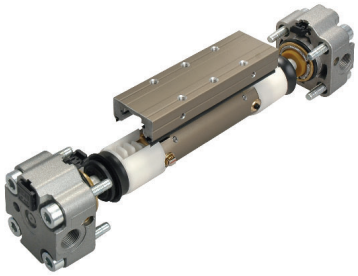
S1
Ø 16 ÷ 50 mm Rodless Cylinders
standard version

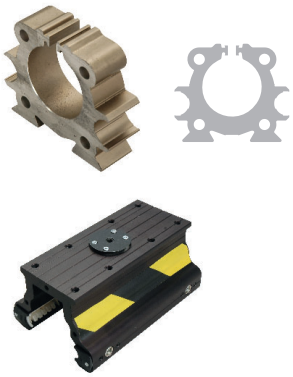


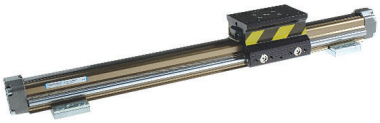




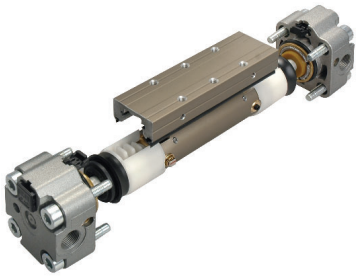
S5
Ø 25 ÷ 50 mm Rodless Cylinders with integrated guides
tecnopolymer sliding guide

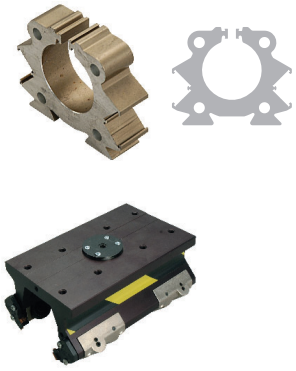


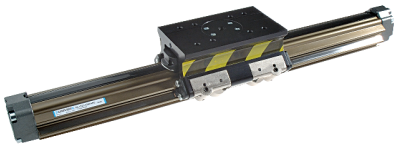




VL1
Ø 25 ÷ 50 mm Rodless Cylinders with integrated guides 90°
sliding on ball bearings







For any inquiry please contact our Sales Office

Subject to change

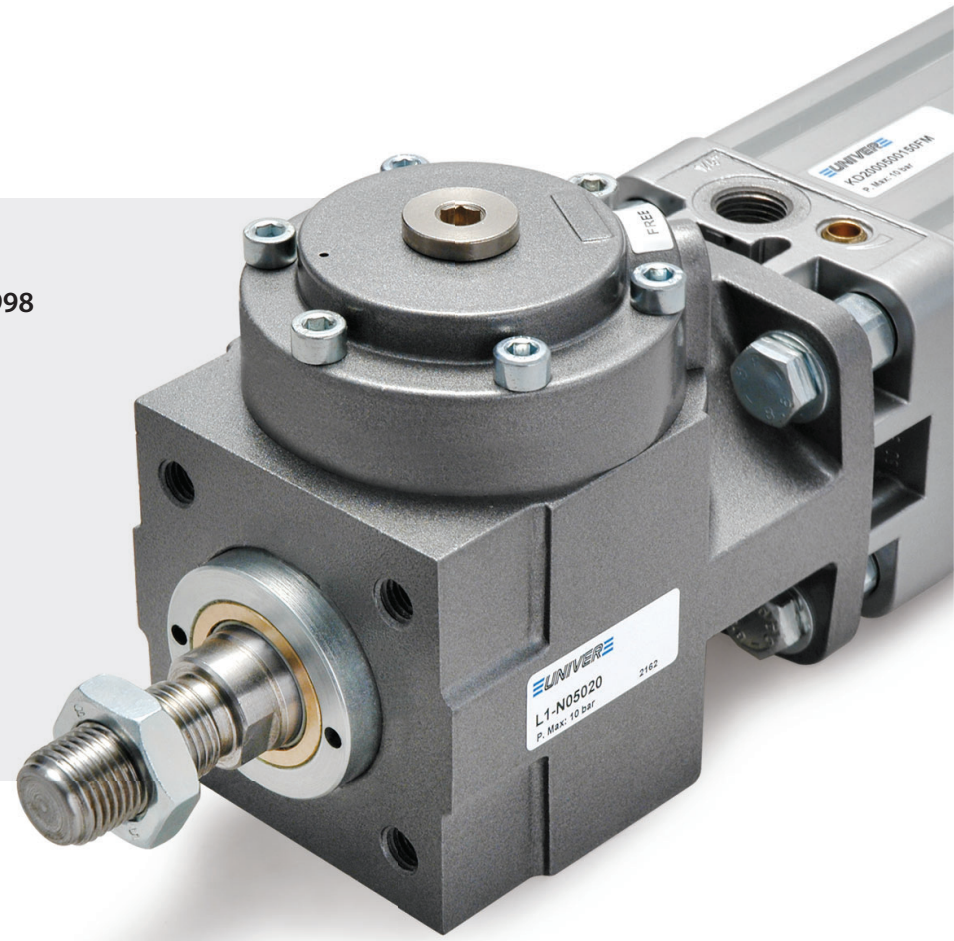
Pneumatic Automation

2

High-Tech



	Locking Units	L1-N L6	2/3 4
	Telescopic Cylinders	RT	5/6
	Pneumatic Actuators	NTZ NQZ NFZ	8 8 9
	Pneumatic Grippers	YM	10/11



ORIGINAL
Locking system **UNIVER Original since 1998**

STATIC/DYNAMIC
Static locking and dynamic braking in a single device

POWERFUL
The highest locking force among market equivalent devices

SAFE
No rod slipping even if affected by oil and grease

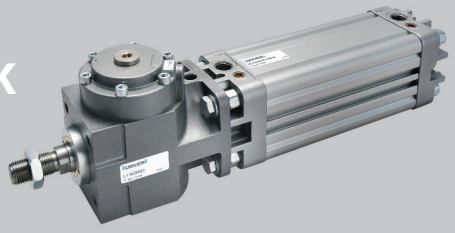
L1-N

For cylinders **Ø 16 ÷ 125 mm**
For piston rods **Ø 6 ÷ 32 mm**

M



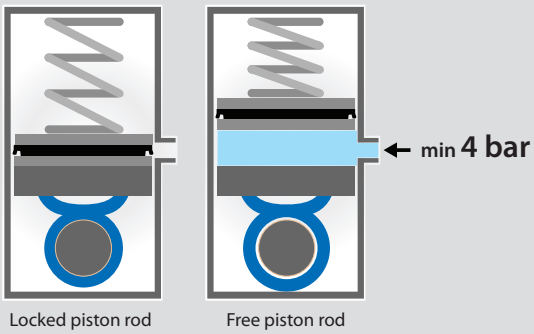
KL
KE/K
KD

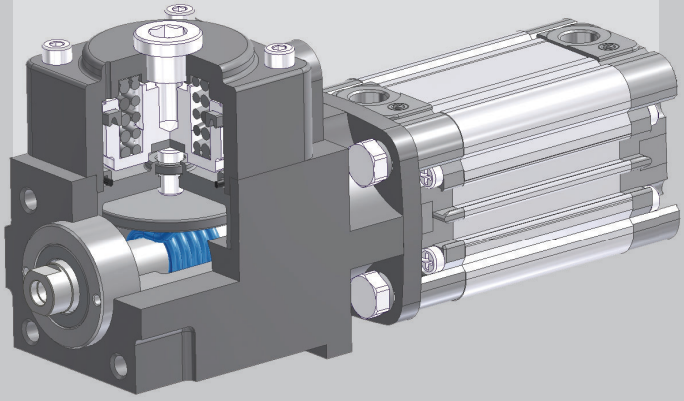


RS



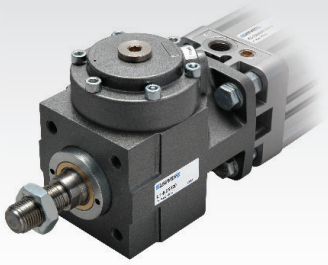
Working principle





CHARACTERISTICS

Ambient temperature	-20 ÷ 30 °C
Fluid	filtered air, with or without lubrication
Working pressure	4 ÷10 bar
Body	die-cast aluminium
Cover	die-cast aluminium
Piston	aluminium
Seals	NBR
Springs	special steel



M, KL, KE/K, KD, RS series cylinders



CODIFICATION KEY

L	1	-	N	0	6	3	2	0		
	1			2			3		4	5

1 Series

L1-N = Locking unit for cylinders and piston rods

2 Cylinder bore (mm)

016 = Ø16 **050** = Ø50
020 = Ø20 **063** = Ø63
025 = Ø25 **080** = Ø80
032 = Ø32 **100** = Ø100
040 = Ø40 **125** = Ø125

3 Piston rod bore (mm)

06 = Ø6 **16** = Ø16
08 = Ø8 **20** = Ø20
10 = Ø10 **25** = Ø25
12 = Ø12 **32** = Ø32

4 Option

K = Metallic piston rod scraper upon request

5 ATEX option

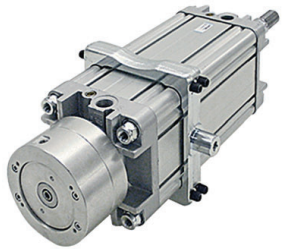
X = Atex (upon request)

See ATEX Catalogue for types and versions

Core features and performance

Ø	Ø rod (mm)	Static locking force	Pressure on the equivalent cylinder	Dynamic braking force	Response time at 6 bar	Stopping point repeatability	Vibration resistance	Shock resistance	Minimum release pressure
		N	bar	a 1m/s	ms			J	bar
16	6	200	10	40% of the static locking force	12	< 1 mm at 1 m/s	10 g (10-55 Hz) for 30 minutes on each axis	2	4
20	8	314			12			3	
25	10	490			15			4	
32	12	800			20			5	
40	16	1260			20			8	
50	20	2000			25			11	
63	20	3100			25			15	
80	25	5000			30			21	
100	25	7850			30			29	
125	32	12300			40			40	

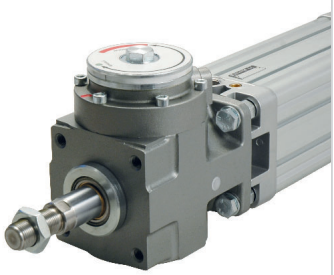
NFZ 160/200
ISO 15552 cylinders with integrated locking unit



Locking unit with M8 inductive position sensor



Customized version upon request



2

CHARACTERISTICS

Ambient temperature	-20 ÷ +80 °C
Fluid	filtered air, with or without lubrication
Working pressure	4,5÷10 bar
Body	die-cast aluminium
Seals	NBR
Internal parts	brass/aluminium



UNIVER Locking Units for rodless cylinders perform the function of keeping the carriage in any intended point of its stroke and allow high locking accuracy.
They can be mounted on both sides of the carriage and the mechanical braking force can be further increased by means of an additional pneumatic override.

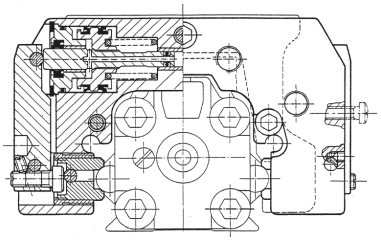
CODIFICATION KEY

L	6	-	S	5	0	3	2
1			2		3		

1 Series	2 Type	3 Cylinder bore (mm)
L6 = Locking Unit	**S5** = For S5 series rodless cylinder **V1** = For VL1 series rodless cylinder	**025** = Ø25 **032** = Ø32 **040** = Ø40 **050** = Ø50

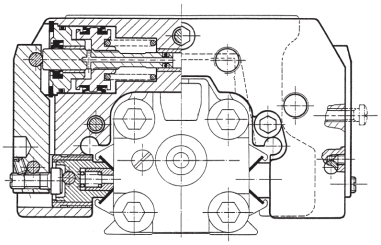
- S5 series with locking unit





- VL1 series with locking unit





- Min. release pressure: 4,5 bar
- Able to keep the carriage in position in both directions
- Easy to be mounted on both sides of the carriage
- Permanent manual release by means of 2 screws M5
- Locking performed by mechanical springs in absence of air
- Preset for additional pneumatic override to increase locking force

RT

Telescopic Pneumatic Cylinders

ORIGINAL

UNIVER Original design and technology

INDUSTRIALIZED

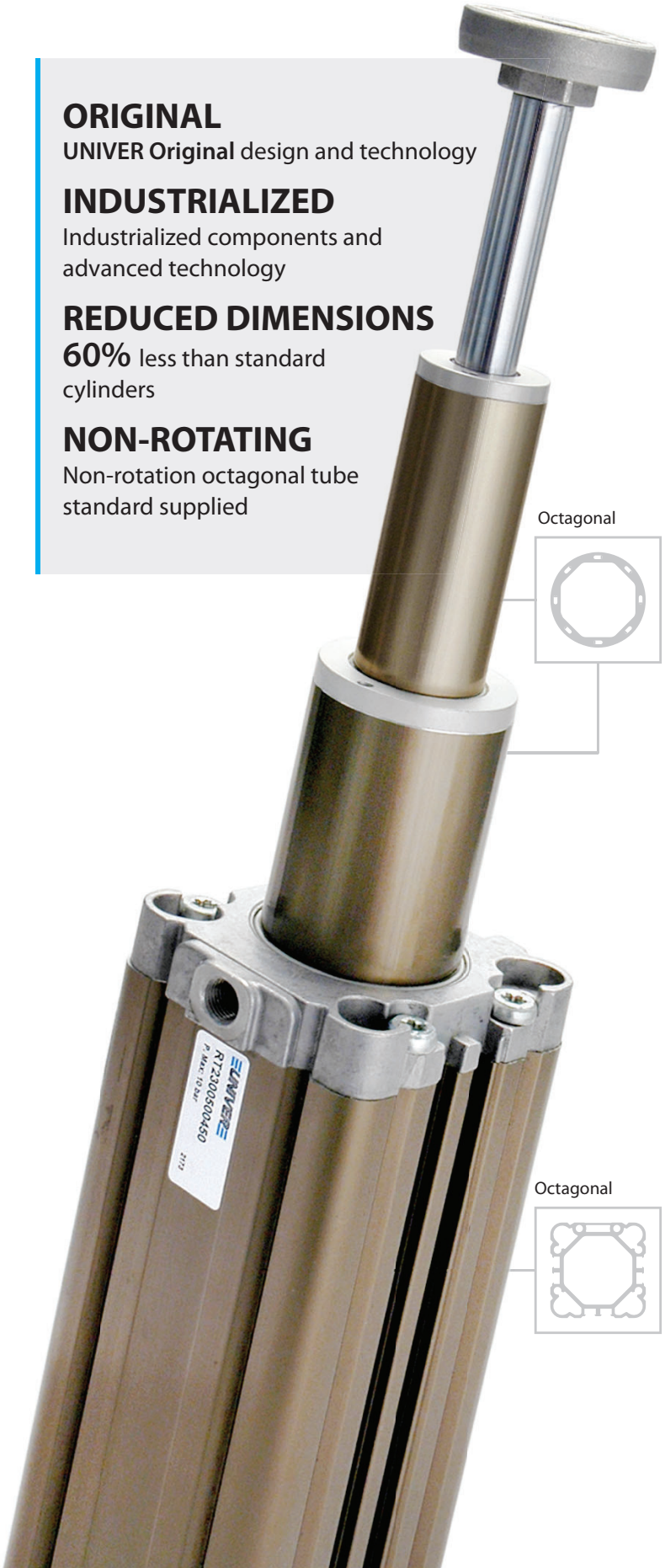
Industrialized components and advanced technology

REDUCED DIMENSIONS

60% less than standard cylinders

NON-ROTATING

Non-rotation octagonal tube standard supplied



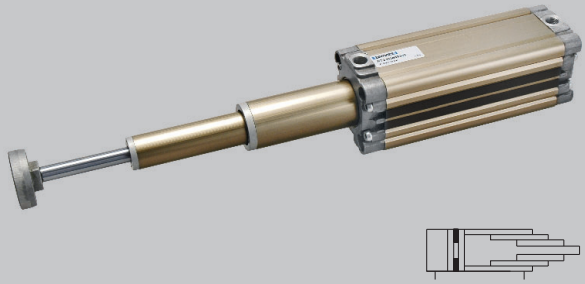
RT2

2 stages **Ø 25 ÷ 63 mm**



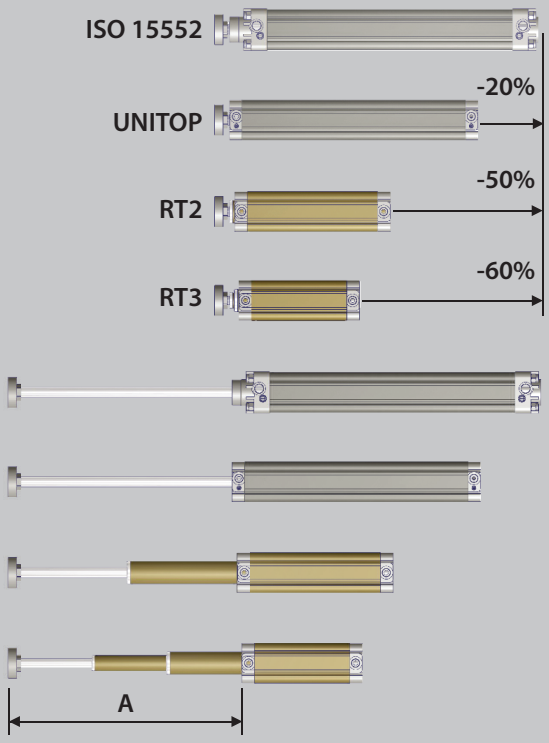
RT3

3 stages **Ø 40 ÷ 63 mm**



Comparison of overall dimensions

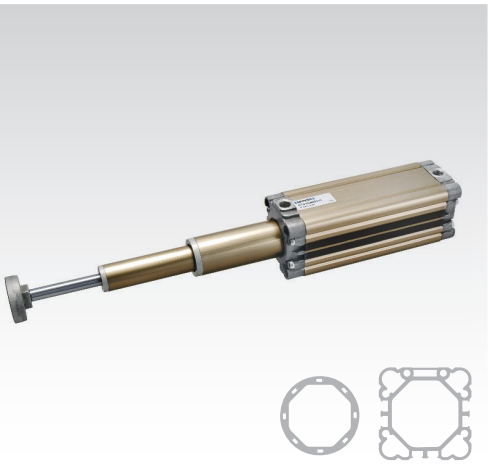
stroke 300 mm (A)



2

CHARACTERISTICS

Ambient temperature	-20 ÷ +80 °C
Fluid	filtered air, with or without lubrication
Working pressure	1,5 ÷10 bar
End-caps	die-cast aluminium
Barrel	internally/externally anodized aluminium
Piston	aluminium
Guide slide	acetalic resin
Piston rod	non-rotating, chromium-plated steel, with flange (female piston rod)
	stainless steel upon request
Piston seals	NBR
Guide bush for piston rod	acetalic resin
Shock absorber seals	NBR
Magnet	standard supplied (stage 1)



Telescopic cylinders work under optimal conditions when the load is in axial position, i.e. when the cylinder is placed vertically, working either upward or downward. They can obviously work also horizontally and cantilevered, but in this case it is needed to:
- Reduce the maximum stroke by 50% compared to nominal maximum strokes
- Request cylinders with slide units
- Support the radial load by means of other devices such as carriages, slides or sliding guides

CODIFICATION KEY

R	T	2	2	0	0	3	2	0	6	0	0		
1		2	3	4	5			6				7	8

1 Series

RT = Ø 25÷63 mm - 2/3 Stage Telescopic Pneumatic Cylinders (with non-rotating piston rod and elastic shock absorber seals)

2 Rod

1 = Stainless steel piston rod
2 = Chromium-plated steel piston rod

3 Stages

2 = 2 stages
3 = 3 stages

4 Type

0 = **D.A.** Female piston rod
3 = **D.A.** Male piston rod

D.A. = Double acting

5 Bore (mm)

2 stages
025 = Ø25
032 = Ø32
040 = Ø40
050 = Ø50
063 = Ø63

3 stages
040 = Ø40
050 = Ø50
063 = Ø63

6 Stroke (mm)

2 stages
0100 - 0120 - 0160 - 0180 - 0200 - 0300 - 0400 - 0500
0600 - 0700 - 0800 - 0900 - 1000 - 1100 - 1200

Max stroke: **0300** (Ø25) **0900** (Ø50)
0400 (Ø32) **1200** (Ø63)
0600 (Ø40)

3 stages
0150 - 0180 - 0210 - 0240 - 0270 - 0300 - 0360 - 0450
0600 - 0750 - 900 - 1050 - 1200 - 1500 - 1800

Max stroke: **1200** (Ø40)
1500 (Ø50)
1800 (Ø63)

7 Option

I = Without flange (only for female piston rod)
L = Freely rotating piston rod (without flange)
M = With telescopic magnetic shaft (stage 2-3) except for Ø 25, only for female piston rod

8 ATEX Option

X = Atex (upon request)

See ATEX Catalogue for types and versions

Nominal tolerance on stroke **(mm)** and maximum applicable torque **(Nm)** for non-rotating piston rod

Ø	Tolerances mm		Applicable torque Nm	
	2 stages	3 stages	2 stages	3 stages
25	+2/0	-	0,5	-
32	+3,2/0	-	0,8	-
40	+3,2/0	+4/0	1	0,5
50	+3,2/0	+4/0	2	0,8
63	+3,2/0	+4/0	3	1

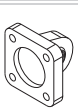
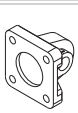
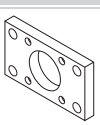
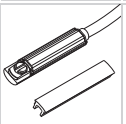
Theoretical forces at 6 bar **(N)** **(2 stages)**

Ø	Available surface mm²		Working pressure bar	
	thrust	traction	thrust	traction
25	201	111	123	65
32	314	201	192	123
40	490	377	300	231
50	804	603	492	369
63	1256	1055	769	649

Theoretical forces at 6 bar **(N)** **(3 stages)**

Ø	Available surface mm²		Working pressure bar	
	thrust	traction	thrust	traction
40	201	111	123	65
50	314	201	192	123
63	490	377	300	231

FIXING ELEMENTS AND ACCESSORIES

Ø	Female hinge with pin	Counter hinge 90°	Male articulated hinge	Rear male hinge	Front / rear flange	Angle bracket	DF sensor and DHF covering strip	Cable clamping for DF sensor
								
25	-	-	-	RPF-11025	RTF-12025	RTF-13025	DF DHF-0020100	DF-001
32	KF-10032A	KF-19032	KF-11032S	KF-11032	KF-12032	KF-13032		
40	KF-10040A	KF-19040	KF-11040S	KF-11040	KF-12040	KF-13040		
50	KF-10050A	KF-19050	KF-11050S	KF-11050	RTF-12050	RTF-13050		
63	KF-10063A	KF-19063	KF-11063S	KF-11063	RTF-12063	RTF-13063		

NTZ-NQZ-NFZ

Programmable Pneumatic Actuators



NTZ

Pneumatic actuator with integrated digital measuring detector and safety locking device
Ø 32 ÷ 63 mm



NQZ

Pneumatic actuator with digital measuring system
Ø 32 ÷ 63 mm



NFZ

Pneumatic actuator with integrated safety locking device
Ø 32 ÷ 63 mm



Pneumatic actuator with integrated digital measuring system and safety locking device

NTZ



The system does not need to be connected to the moving part of the mechanism, as movement is generated by an internal piston with bidirectional pneumatic function. Such piston, operated by a 5-way valve, moves autonomously untill it meets the obstacle, thus measuring the stopping position.
Position detection is obtained by the transformation of the translation movement of the piston rod into the rotary movement of the screw, by means of screw-female screw coupling. Then the encoder turns the rotation into a sequence of electrical impulses.
The piston and the encoder body need to be fixed, i.e. must not move regardless of screw rotation. This is the reason why the cylinder has been designed with octagonal piston and properly modified non-rotating piston rod.
The speed of the impact against the obstacle is limited by proper calibrated reducers which are embodied in the actuator, while the translation speed can be suitably controlled by means of a standard flow regulator.
For the indicated repeatability of reading to be guaranteed, the translation speed needs to be kept as constant as possible.
Main application fields are: mechanisation, palletization and automation of operating machines.

Max speed: 1 m/s
Repeatability accuracy: ± 0,3 mm

CODIFICATION KEY

N	T	Z	0	3	2	0	3	5	0
1			2			3			

1 Series	2 Bore (mm)	3 Max stroke (mm)
NTZ = Ø 32÷63 mm - Pneumatic actuator with integrated digital measuring system and safety locking device	**032** = Ø32 **040** = Ø40 **050** = Ø50 **063** = Ø63	**0350** (Ø32) **0450** (Ø40) **0600** (Ø50) **0750** (Ø63)

Pneumatic actuator with digital measuring system

NQZ



Pneumatic actuators with digital measuring system are particularly suitable for:
- Detection of stopping position
- Anti-collision control in critical sequencing cycles
- Level control in palletization / de-palletization of piled objects
- Identification, classification and dimensional selection of objects (tolerances and rejects)
- Certification stations of machined pieces or tool breaking on machines for chip removal

The device can be used as both digital measuring detector and pneumatic actuator with digital measuring system

Max speed: 0,2 m/sec (detector) 0,8 m/sec (actuator)
Repeatability accuracy: ± 0,02 mm

CODIFICATION KEY

N	Q	Z	0	3	2	0	3	5	0
1			2			3			

1 Series	2 Bore (mm)	3 Max stroke (mm)
NQZ = Ø 32÷63 mm - Pneumatic actuator with integrated digital measuring system	**032** = Ø32 **040** = Ø40 **050** = Ø50 **063** = Ø63	**0350** (Ø32) **0450** (Ø40) **0600** (Ø50) **0750** (Ø63)

Subject to change

Pneumatic actuator with integrated safety locking device

NFZ



Locking device embodied in the cylinder rear part in axial position.
High repeatability and intervention speed (16 ms).

Recommended application:
Emergency braking intervention at the speed allowed by the cylinder; for repeated functioning, as locking unit or braking intervention ≤ 50 mm/s.

Piston rod holding force (without axial backlash): ≥ 3 times the thrust of a cylinder supplied at 6 bar.
Locking force independent from ambient conditions or piston rod maintenance.
Locking device passive functioning, in absence of signal and/or air supply.

Minimum pressure: ≥ 3 bar

CODIFICATION KEY

N	F	Z	0	3	2	0	3	5	0
1			2			3			

1 Series	2 Bore (mm)	3 Max stroke (mm)
NFZ = Ø 32÷63 mm - Pneumatic actuator with integrated safety locking device	**032** = Ø32 **040** = Ø40 **050** = Ø50 **063** = Ø63	**0350** (Ø32) **0450** (Ø40) **0600** (Ø50) **0750** (Ø63)

Angular Pneumatic Gripper

2

YMA11



Part No.	Ø	Gripping force (Nm)*		Max arm length L (mm)	Sensor
		Opening	Closing		
YMA11-10	10	0,25	0,2	30	DF-T + DF-R002
YMA11-16	16	0,6	0,45	40	
YMA11-20	20	1,15	0,85	60	
YMA11-25	25	2,25	1,7	70	

* = Gripping force at 5 bar
L = Gripping point 30 mm

Working pressure: 1,5 ÷ 7 bar
Ambient temperature: -5 ÷ 60 °C
Max frequency (cycles/min): 180
Opening angle: +30° -10°

180° Angular Pneumatic Gripper

YMA20



Part No.	Ø	Gripping force (N)*	Max arm length L (mm)	Sensor
YMA20-10	10	6	60	DF-T...
YMA20-16	16	20	70	
YMA20-20	20	36	80	
YMA20-25	25	78	90	

* = Gripping force at 5 bar
L = Gripping point 30 mm

Working pressure: 2 ÷ 6 bar
Ambient temperature: -10 ÷ 60 °C
Max frequency (cycles/min): 60
Repeatability: ± 0,2
Opening angle: +180°~182° / -3°

Parallel Pneumatic Gripper with Linear Guide

YMP20



Part No.	Ø	Pressure (bar)	Max frequency (cycles/min)	Repeatability (mm)	Gripping force (N)*		Stroke open/close (mm)	Sensor
					Opening	Closing		
YMP20-10	10	2 ÷ 7	100	± 0,01	16	11	4	DF-T...
YMP20-16	16	1 ÷ 7	100	± 0,01	44	32	6	
YMP20-20	20	1 ÷ 7	100	± 0,01	65	42	10	
YMP20-25	25	1 ÷ 7	100	± 0,01	110	67	14	
YMP20-32	32	1 ÷ 7	60	± 0,02	193	160	22	
YMP20-40	40	1 ÷ 7	60	± 0,02	318	260	30	

* = Gripping force at 5 bar, gripping point 30 mm

Ambient temperature: 0 ÷ 60 °C

Low Profile Parallel Pneumatic Gripper with Linear Guide

YMP30



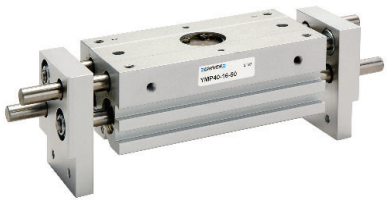
Part No.	Ø	Max frequency (cycles/min)	Gripping force (N)*		Stroke (mm)	Sensor
			Opening	Closing		
YMP30012	12	100	48	48	12-24-48	DF-T...
YMP30016	16		91	91	16-32-64	
YMP30020	20		138	138	20-40-80	

* = Gripping force at 5 bar, gripping point 30 mm

Working pressure: 1,5 ÷ 7 bar
Ambient temperature: 0 ÷ 60 °C

Wide-type Parallel Pneumatic Gripper

YMP40



Part No.	Ø	Max frequency (cycles/min)	Gripping force (N)*		Stroke (mm)	Sensor
			Opening	Closing		
YMP40010	10	40	14	14	20-40-60	DF-T + DF-R002
YMP40016	16	40	44	44	30-60-80	
YMP40020	20	40	77	77	40-80-100	
YMP40025	25	40	128	128	50-100-120	
YMP40032	32	20	227	227	70-120-160	

* = Gripping force at 5 bar, gripping point 30 mm

Working pressure: 1,5 ÷ 6 bar
Ambient temperature: -10 ÷ 60 °C
Repeatability: ±0,1

Self-centering 3 Jaw Pneumatic Gripper

YMP50



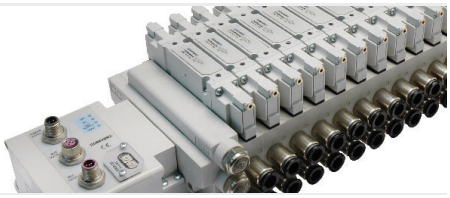
Part No.	Ø	Pressure (Bar)	Max frequency cycles/min	Gripping force (N)*		Stroke open/close (mm)	Sensor
				Opening	Closing		
YMP50-16	16	2 ÷ 6	120	16	14	4	DF-T...
YMP50-20	20	2 ÷ 6	120	28	25	4	
YMP50-25	25	2 ÷ 6	120	46	41	6	
YMP50-32	32	2 ÷ 6	60	81	73	8	DF-T + DF-R002
YMP50-40	40	2 ÷ 6	60	127	117	8	
YMP50-50	50	2 ÷ 6	60	204	187	12	
YMP50-63	63	2 ÷ 6	60	359	332	16	
YMP50-80	80	2 ÷ 6	30	520	495	20	DF-...
YMP50-100	100	2 ÷ 6	30	775	745	24	
YMP50-125	125	2 ÷ 6	30	1310	1265	32	

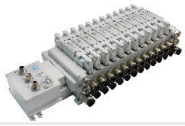
* = Gripping force at 5 bar, gripping point 20 mm (Ø16-25) 30 mm (Ø 32÷63) 50 mm (Ø 80 ÷125)

Ambient temperature: -10 ÷ 60 °C
Repeatability: ±0,01

3

Valves



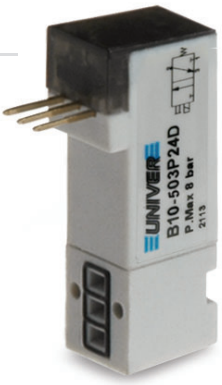
	Electropilots	B11 B10 B12 B A AA AB	3 4 5 7 8 9 10
	Standards-based Valves	BE/BE12 AE BD AC-N	11 15 16 22
	Spool Valves	CL/CM E F G6/GL6 G7 PS	23 30 33 34/37 41 42
	Poppet Valves	AC CH AF/AG AI AI-JET AI-JET2 AM	47 50 52/54 56 57 59 60
	COMPACT Valves	P10 P15 P15E	61 67 74
	ESSENTIAL Valves	EL18/22	79
	Communication systems	TC	86
	Accessories	COILS OPERATORS	88 90
	Certified Electropilots	CSA-UL	92
	Complementary Valves	YR AP/AM YF YG-6300	94 96 98 99

Standard	Low consumption	High flow rate	Magnetic memory
B11	**B10**	**B12**	**LATCHING**
1 W 10 Nl/min	0,3 W 10 Nl/min	0,6 W 28 Nl/min Special version 40 Nl/min	Energizing through short impulse, de-energizing through the same impulse with inverted polarity.



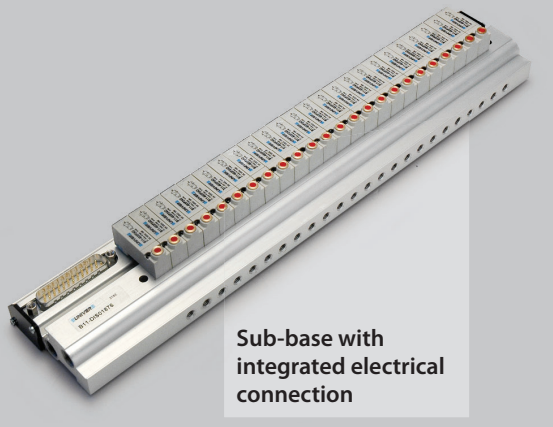






B11/B10/B12

ISO 15218 - 10 mm Nanovalves



Sub-base with integrated electrical connection



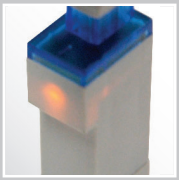
Manual override (standard)



No manual override (upon request)



ISO 15218 interface



LED



90° connector



In-line connector



In-line PIN



90° cables



In-line cables

CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid	10 µm filtered air, with or without lubrication
Max pressure	7 bar
Operating frequency	5 Hz
Fixing	2 screws M1,7
Connections	ISO 15218 interface
Nominal bore (mm)	0,7 (3/2 NC) 1,3 (3/2 NO)
Nominal flow rate (Nl/min)	10
Valve body	self-extinguishing technopolymer
Seals	VITON/NBR
Voltage	24 V DC (12V DC upon request)
Power consumption	1 W
Electrical connection	D-535U40 (IP65), solder pin (IP00), Molex
Led	yellow (standard)
Manual override	monostable button



CODIFICATION KEY

B	1	1	-	4	0	1	L	2	4	D
1				2	3	4	5	6		

1 Series
B11 = ISO 15218 - 10 mm Nanovalves - 1 W standard

2 Model
4 = Monostable

3 Type
0 = 3/2 NC
1 = 3/2 NO

4 Function
1 = With manual override (L variant)
2 = Without manual override (L variant)
3 = With manual override (P variant)
4 = Without manual override (P variant)
5 = With manual override (M variant)
6 = Without manual override (M variant)

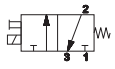
5 Variant
L = 90° connector (protected pins)
M = In-line connector protected pins (upon request)
P = In-line connector (for assembly on electronic board)

6 Voltage
24D = 24 V DC
12D = 12 V DC (upon request)

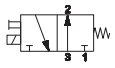
Fixing screws standard supplied. Max tightening torque 0,15 Nm
Other versions upon request: in-line cables and 90° cables

90° Connector (Protected pins) In-line PIN



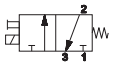


B11-401L24D

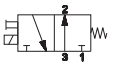


B11-411L24D



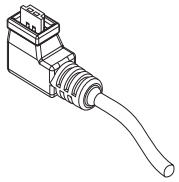


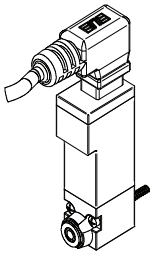
B11-403P24D



B11-413P24D

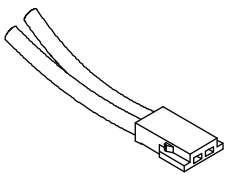
D-535U40300/500

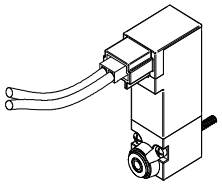




Single connector with wire
D-535U40300 = wire length 300 mm
D-535U40500 = wire length 500 mm

D-530-30/50/200





Miniature connector with loose cables
D-530-30 = wire length 300 mm
D-530-50 = wire length 500 mm
D-530-200 = wire length 2000 mm

CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid	10 µm filtered air, with or without lubrication
Max pressure	7 bar
Operating frequency	5 Hz
Assembly	2 screws M1,7
Connections	ISO 15218 interface
Nominal bore (mm)	0,7
Nominal flow rate (Nl/min)	10
Valve body	self-extinguishing technopolymer
Seals	VITON/NBR
Voltage	24 V DC (12V DC upon request)
Power consumption	0,3 W (speed-up 1,3 W)
Electrical connection	D-535U40 (IP65), solder pin (IP00), Molex
Led	yellow (standard)
Manual override	monostable button



CODIFICATION KEY

B	1	0	-	4	0	1	L	2	4	D
1				2	3	4	5	6		

1 Series
B10 = ISO 15218 - 10 mm Nanovalves - low power consumption

2 Model
4 = Monostable

3 Type
0 = 3/2 NC

4 Function
1 = With manual override (L variant)
2 = Without manual override (L variant)
3 = With manual override (P variant)
4 = Without manual override (P variant)
5 = With manual override (M variant)
6 = Without manual override (M variant)

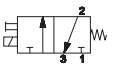
5 Variant
L = 90° Connector (protected PIN)
M = In-line connector (protected PIN, Molex connection)
P = In-line PIN (suitable for mounting on circuit boards)

6 Voltage
24D = 24 V DC
12D = 12 V DC (upon request)

Fixing screws standard supplied. Max tightening torque 0,15 Nm
Other versions upon request: in-line cables and 90° cables

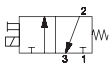
90° Connector (protected PIN) — In-line PIN — Latching in-line PIN (with magnetic memory)





B10-401L24D





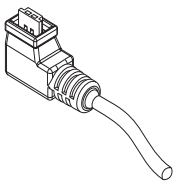
B10-403P24D

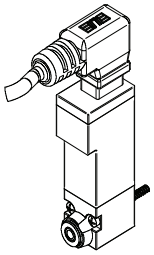


This version is energized by an electrical impulse and de-energized by a similar impulse with inverted polarity.

For further information please contact our Sales Office

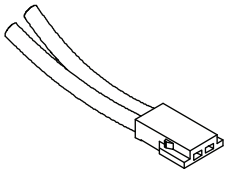
D-535U40300/500

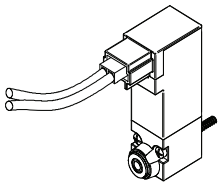




Single connector with wire
D-535U40300 = wire length 300 mm
D-535U40500 = wire length 500 mm

D-530-30/50/200





Miniature connector with loose cables
D-530-30 = wire length 300 mm
D-530-50 = wire length 500 mm
D-530-200 = wire length 2000 mm

CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid	10 µm filtered air, with or without lubrication
Max pressure	7 bar
Operating frequency	5 Hz
Fixing	2 screws M1,7
Connections	ISO 15218 interface
Nominal bore (mm)	1,3
Nominal flow rate (Nl/min)	28
Valve body	self-extinguishing technopolymer
Seals	VITON/NBR
Voltage	24 V DC (12 V DC upon request)
Power consumption	0,6 W (speed-up 1 W)
Electrical connection	D-535U40 (IP65), solder pin (IP00), Molex
Led	yellow (standard)
Manual override	monostable button



CODIFICATION KEY

B	1	2	-	4	0	1	L	2	4	D
1				2	3	4	5	6		

1 Series
B12 = ISO 15218 - 10 mm Nanovalves - high flow rate

2 Model
4 = Monostable

3 Type
0 = 3/2 NC

4 Function
1 = With manual override (L variant)
2 = Without manual override (L variant)
3 = With manual override (P variant)
4 = Without manual override (P variant)
5 = With manual override (M variant)
6 = Without manual override (M variant)

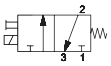
5 Variant
L = 90° connector (protected PIN)
M = In-line connector (protected PIN, Molex connection)
P = In-line PIN (suitable for mounting on circuit boards)

6 Voltage
24D = 24 V DC
12D = 12 V DC (upon request)

Fixing screws standard supplied. Max tightening torque 0,15 Nm
Other versions (upon request): In-line cables and 90° cables, nominal flow rate 40 Nl/min

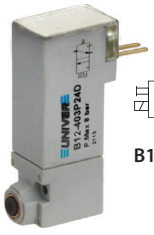
90° Connector (protected PIN)

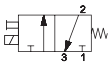




B12-401L24D

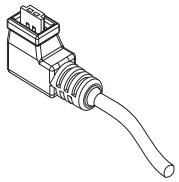
In-line PIN

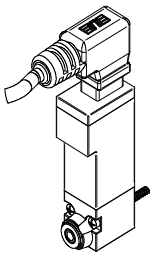




B12-403P24D

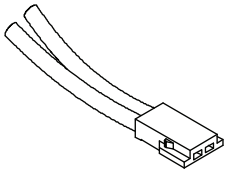
D-535U40300/500

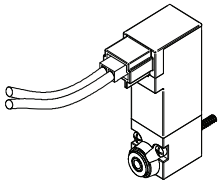




Single connector with wire
D-535U40300 = wire length 300 mm
D-535U40500 = wire length 500 mm

D-530-30/50/200





Miniature connector with loose cables
D-530-30 = wire length 300 mm
D-530-50 = wire length 500 mm
D-530-200 = wire length 2000 mm

B 10 mm

1,2 W
12 Nl/min





A 15 mm

2 W
38 Nl/min

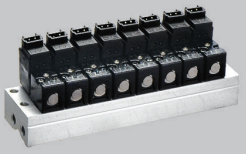




DETENT SYSTEM UNIVER Original since 1988

B 10 mm

3/2 NC - NO





Revolving coil
180° x 180°



Manual
override



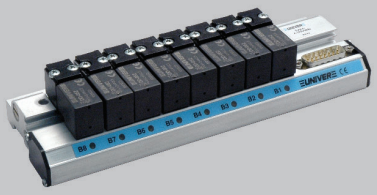
Athmosphere
exhaust



Conveyed
exhaust

A 15 mm

2/2 NC - NO, 3/2 NC - NO





Revolving coil
90° x 90°



Manual
override



ISO 15218
interface



90° connector



In-line connector



Loose cables



Faston



90° connector



In-line connector



Loose cables

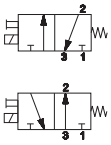
CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C	
Fluid	10 µm filtered air, with or without lubrication	
Commutation system	poppet	
Max pressure	8 bar	
Fixing	2 screws M1,6	
Connections	on sub-base	
Nominal bore (mm)	0,5	0,6
Nominal flow rate (Nl/min)	9	12
Max frequency	2300 ÷ 3000 cycles/min	
Valve body	technopolymer (aluminium external cover)	
Seals	NBR	
Power consumption	1,2 W (1,35 W with LED) - 0,5 W (speed-up 1,2 W)	
Electrical connection	Molex bipolar connector or loose cables	
Voltage	12 V DC - 24 V DC	
Manual override	recessed button - 1 position	



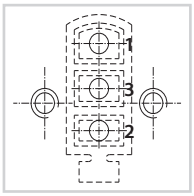
Valves with conveyed exhaust





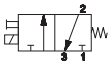
B-101N 3/2 NC

B-121N 3/2 NO

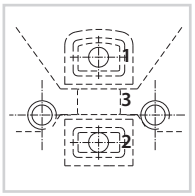


Valves with athmosphere exhaust



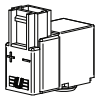


B-102N 3/2 NC



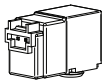
Revolving coil 180°x180°

Coils



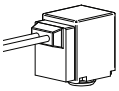
DE-352 24 V DC 1,2 W
DE-452 24 V DC 1,35 W

Coil with 90° upward connector
12 V DC upon request



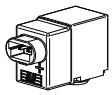
DE-552 24 V DC 1,2 W
DE-652 24 V DC 1,35 W

Coil with integrated in-line connector
12 V DC upon request



DE-052L030 24 V DC 1,2 W

Coil with loose cables
12 V DC upon request



DE-642I 12 V DC 1,35 W
DE-652I 24 V DC 1,35 W

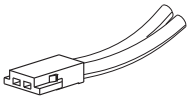
Coil with in-line connector with protection
for a complete tightness

D-500



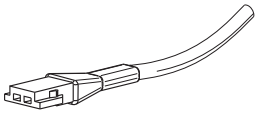
Miniature connector
without wires

D-530-30/50/200



Miniature connector with loose cables
D-530-30 = wire length 300 mm
D-530-50 = wire length 500 mm
D-530-200 = wire length 2000 mm

D-535-30/50/200



Miniature connector with cables
D-535-30 = wire length 300 mm
D-535-50 = wire length 500 mm
D-535-200 = wire length 2000 mm

Upon request
0,5 W
Low power consumption



Solenoid valves are supplied without coil and connector
See ATEX Catalogue for types and versions

CHARACTERISTICS

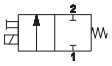
Ambient temperature	-5 ÷ +50 °C	
Fluid	10 µm filtered air, with or without lubrication	
Commutation system	poppet	
Max pressure	9 bar	
Fixing	nr. 2 screws M3	
Connections	ISO 15218 interface	
Nominal bore (mm)	1,2	1,5
Nominal flow rate (Nl/min)	26	38
Max frequency	2700 cycles/min	
Valve body	technopolymer (aluminium external cover)	
Seals	NBR	
Power consumption	2 W DC / 2,3 VA AC (Ø 1,2) - 2,5 W DC / 3,5 VA AC (Ø 1,5)	
Electrical connection	15 mm connector - Molex bipolar connector or loose cables	
Voltage	24 V DC -12 V DC - 24 V AC - 110 V AC - 230 V AC	
Manual override	recessed button - 1 position (other manual overrides upon request)	
Protection degree with connector	IP65	



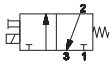
15 mm Microvalves

NC





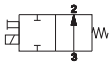
	Ø	Voltage
A-141N	1,2	2 W DC
A-142N	1,5	2,5 W DC
A-151N	1,2	V DC/AC 2W/2 VA



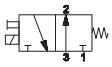
A-101N	1,2	2 W DC
A-102N	1,5	2,5 W DC
A-111N	1,2	V DC/AC 2W/2 VA
A-112N	1,5	V DC/AC 2,5W/3,5 VA

NO





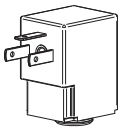
	Ø	Voltage
A-161N	1,2	2 W DC
A-162N	1,5	2,5 W DC
A-171N	1,2	V DC/AC 2W/2 VA



A-121N	1,2	2 W DC
A-122N	1,5	2,5 W DC
A-131N	1,2	V DC/AC 2W/2 VA

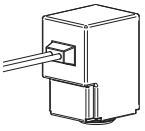
Revolving coil 90°x90°

Coils



DD-013 230 V AC - 50/60 Hz - 3,5 VA
DD-040 24 V AC - 50/60 Hz - 2,3 VA
DD-041 12 V DC - 2 W
DD-042 12 V DC 2,5 W
DD-050 48 V AC - 50/60 Hz - 2,3 VA

DD-051 24 V DC - 2 W
DD-052 24 V DC - 2,5 W
DD-060 110 V AC - 50/60 Hz - 2,3 VA
DD-070 230 V AC - 50/60 Hz - 2,3 VA



DD-051L030 24 V DC - 2 W
DD-052L030 24 V DC - 2,5 W

24 V DC Faston connector
12 V DC upon request

24 V DC Coil with loose cables
12 V DC upon request

Sub-base for external electrical connection



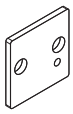
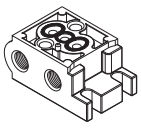
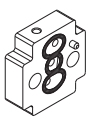
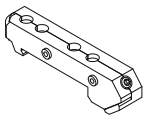
A - 326A - _ _ G1/8 (standard)
A - 326B - _ _ M5 (upon request)
A - 326D - _ _ tube 4 (upon request)

_ _ = Number of positions

Sub-base for integrated electrical connection



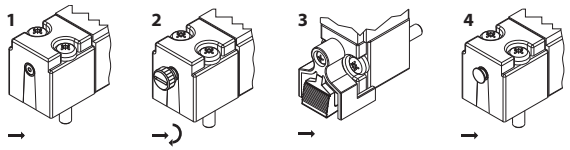
For further information please contact our Sales Office

A-299-11	**A-301**	**A-305**	**A-350**	**A-345**
				
Sealing plate	Blank end-plate	Single base	Inverter plate	46277/3 (EN50022) DIN rail adaptor

Solenoid valves are supplied without coil and connector
See ATEX Catalogue for types and versions

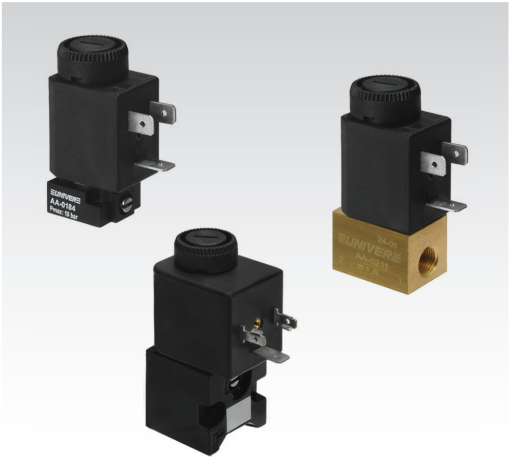
Manual override

1 = Recessed button - 1 position (standard supplied) →
2 = Impulse screw - 1-2 positions (upon request) ⊖
3 = Front button – 1 position (upon request) →
4 = Key button – 1 position (upon request) →



CHARACTERISTICS

Ambient temperature	-10 ÷ +50 °C			
Fluid	50 µm filtered air, with or without lubrication; neutral gases (versions for different fluids available upon request)			
Commutation system	direct intervention poppet with cushioned seals			
Pressure	0 ÷ 10 bar (2/2, 3/2 NC), 3 ÷ 10 bar (3/2 NO)			
Connections	on sub-base / threaded on the body			
	sub-base	**G 1/8**	**M5**	**CNOMO**
Nominal bore (mm)	1,2 ÷ 1,5	1 ÷ 1,5	1 ÷ 1,5	1,2 ÷ 1,5
Nominal flow rate (Nl/min)	30 ÷ 60	28 ÷ 60	30 ÷ 60	33 ÷ 45
Power consumption	3,5 W (DC) - 5 VA (AC)		2,5 W (DC) - 3,3 VA (AC)	
Connector	AM-5110			AM-5111
Sleeve	U1			
Coil	DA - DC			
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC			
Protection degree	IP65			



U1 Sleeves - with moving core



AA-0150 3/2 NO
AA-0157 3/2 NC
AA-0170 2/2 NC

Coil-sleeve locking nuts

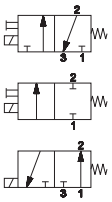


AM-5213A 3/2 NO
AM-5211A 3/2 NC
AM-5211B 2/2 NC

2/2 - 3/2 U1 Electropilot

For mounting on U1 **G1/8** sub-base

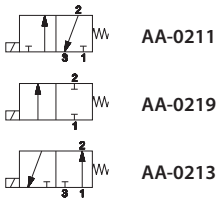




AA-0184
AA-0186
AA-0188

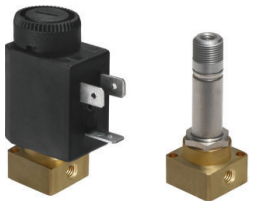
2/2 - 3/2 U1 Electropilot G1/8

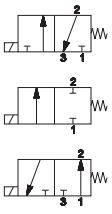




AA-0211
AA-0219
AA-0213

2/2 - 3/2 U1 Electropilot M5



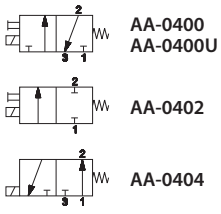


AA-0231
AA-0239
AA-0233

2/2 - 3/2 U1 CNOMO Electropilot

For mounting on U2 **G1/8** SPEED sub-base





AA-0400
AA-0400U
AA-0402
AA-0404

SPEED Series modular sub-base

U1 sub-base **G1/8**



AA-0450

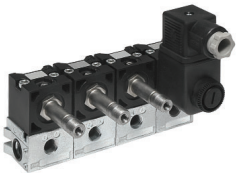


2/2 - 3/2
U1 Electropilot

CNOMO sub-base **G1/8**



AB-0900

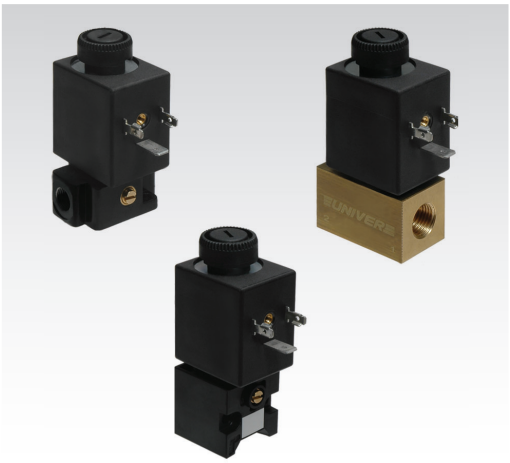


2/2 - 3/2
U1 CNOMO Electropilot

Manual override:
Impulse screw – 2 positions (standard supplied). Recessed button - 1 position, Impulse screw - 1-2 positions, Locking nut with button – 1 position (upon request)
Solenoid valves are supplied without coil, connector and locking nuts
See ATEX Catalogue for types and versions

CHARACTERISTICS

Ambient temperature	-10 ÷ +50 °C			
Fluid	10 µm filtered air, with or without lubrication; neutral gases (versions for different fluids available upon request)			
Commutation system	direct intervention poppet with cushioned seals			
Pressure	0 ÷ 10 bar (2/2, 3/2 NC), 3 ÷ 10 bar (3/2 NO)			
Connections	on sub-base / threaded on the body			
	sub-base	**G 1/8**	**G1/4**	**CNOMO**
Nominal bore (mm)	2,1 ÷ 2,4	2,1 ÷ 2,4	1,6 ÷ 6	2,1 ÷ 2,4
Nominal flow rate (Nl/min)	92 ÷ 150	100 ÷ 155	95 ÷ 650	92 ÷ 110
Power consumption	11W (DC) - 10 VA (AC)			
Connector	AM-5111			
Sleeve	U2			
Coil	DB			
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC			
Protection degree	IP65			



U2 Sleeves - with moving core



AB-0600 3/2 NO
AB-0613 3/2 NC
AB-0640 2/2 NC [a]
AB-0643 2/2 NC

(a) = Suitable for bases with diameter 3 ÷ 6 mm

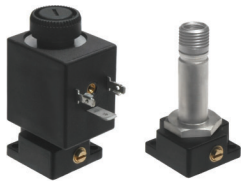
Coil-sleeve locking nuts

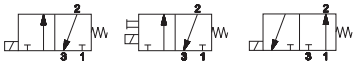


AM-5214A 3/2 NO
AM-5212A 3/2 NC
AM-5212B 2/2 NC

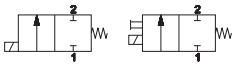
2/2 - 3/2 U2 Electropilot

For mounting on U2 sub-base **G1/8**



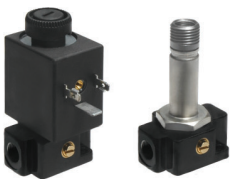


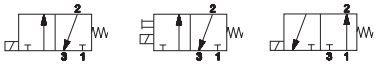
AB-0681 **AB-0687** **AB-0685**



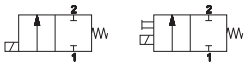
AB-0722 **AB-0728**

2/2 - 3/2 U2 Electropilot G1/8



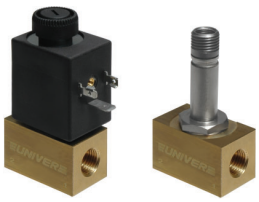


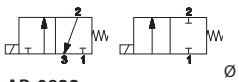
AB-0751 **AB-0757** **AB-0755**



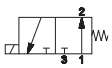
AB-0765 **AB-0771**

2/2 - 3/2 U2 Electropilot G1/4





AB-0822



AB-0819

	Ø	Max Pressure (bar)
AB-0824	1,6	30
AB-0825	2	20
AB-0826	2,4	15
AB-0827	3	10
AB-0828	3,5	9
AB-0829	4	8
AB-0830	4,5	7
AB-0831	5	6,5
AB-0832	5,5	6
AB-0833	6	5

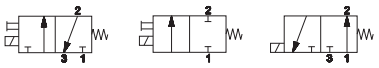
U2 - 17 VA Coil for version 2/2

DB-0607 24V AC - 50/60 Hz
DB-0608 110V AC - 50/60 Hz
DB-0610 230V AC - 50/60 Hz

2/2 - 3/2 U2 CNOMO Electropilot

For mounting on U2 **G1/8** SPEED sub-base





AB-0885 **AB-0886** **AB-0888**

The bore (mm) indicated on 3/2 valves refers to the exhaust

SPEED Series modular sub-base

U2 **G1/8** sub-base



AB-0900



2/2 - 3/2
U2 Electropilot



2/2 - 3/2
U2 CNOMO Electropilot

Manual override:
Impulse screw – 2 positions (standard supplied). Recessed button - 1 position, Impulse screw - 1-2 positions, Locking nut with button – 1 position (upon request)
Solenoid valves are supplied without coil, connector and locking nuts
See ATEX Catalogue for types and versions

ORIGINAL

Valves and sub-bases **UNIVER Original since 1980**

MIXED and SPOOL SYSTEM

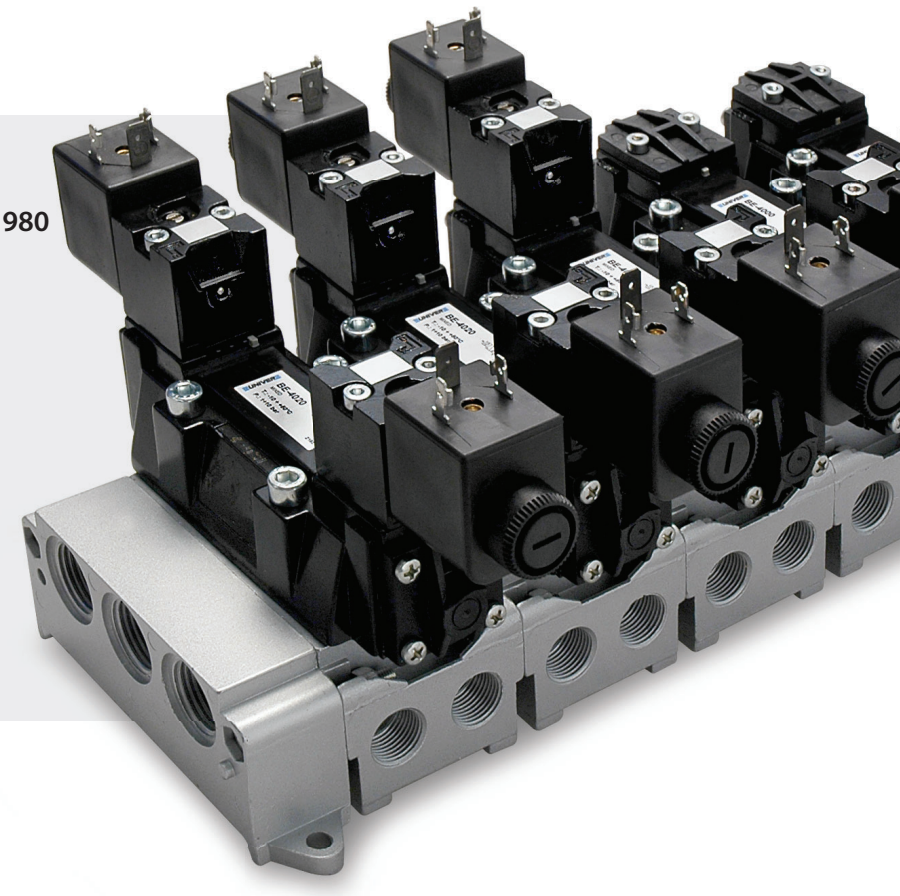
Versions with either mixed or spool system available for all series



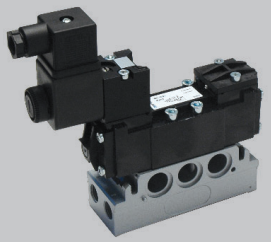
MIXED
for heavy applications



SPOOL
for all applications



BE 3 — ISO 1

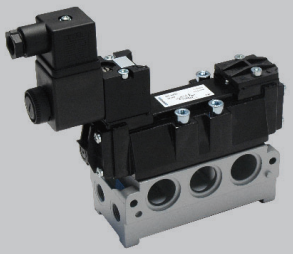




M12

1480
Nl/min

BE 4 — ISO 2

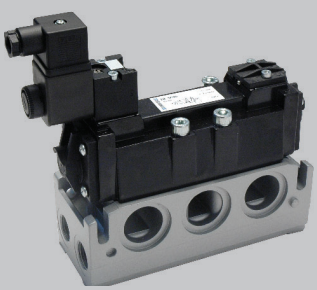




M12

2300
Nl/min

BE 5 — ISO 3

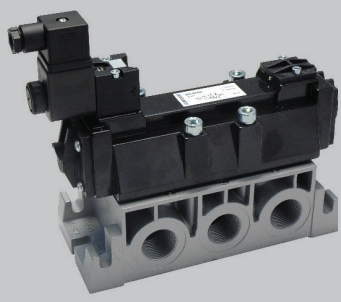




M12

4200
Nl/min

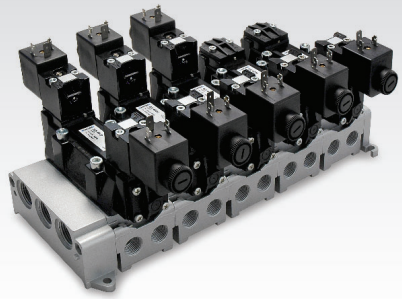
BE 6 — ISO 4



6600
Nl/min

CHARACTERISTICS

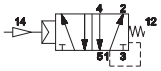
Ambient temperature	-10 ÷ +50 °C			
Fluid	50 µm filtered air (mixed system)			
	50 µm filtered air, with or without lubrication (spool system)			
Commutation system	mixed and spool			
Max pressure	10 bar			
Connection	ISO 5599/1 interface			
	size 1	**size 2**	**size 3**	**size 4**
Nominal bore (mm)	8	10	15	19
Nominal flow rate (Nl/min)	1480	2300	4200	6600
Valve body	acetalic resin with zamak cover			
Seals	NBR and polyurethane (mixed system), NBR (spool system)			
Electropilot/Coil	AA series/U3			
Power consumption	2,5 W (DC) - 5 VA (AC)			
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC			
Manual override	impulse screw - 2 positions (BE), recessed button - 1 position (BE12)			



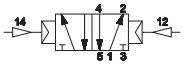
BE Single/double pneumatic impulse



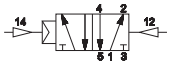
MIXED SYSTEM



	size
BE-3100	1
BE-4100	2
BE-5100	3
BE-6100	4

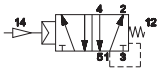


	size
BE-3150	1
BE-4150	2
BE-5150	3
BE-6150	4

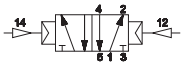


	size
BE-3170	1
BE-4170	2
BE-5170	3
BE-6170	4

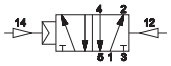
SPOOL SYSTEM



	size
BE-3800	1
BE-4800	2
BE-5800	3
BE-6800	4



	size
BE-3850	1
BE-4850	2
BE-5850	3
BE-6850	4

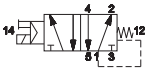


	size
BE-3870	1
BE-4870	2
BE-5870	3
BE-6870	4

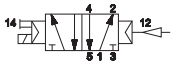
BE Single electrical impulse



MIXED SYSTEM

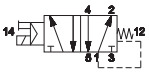


	size
BE-3000	1
BE-4000	2
BE-5000	3
BE-6000	4

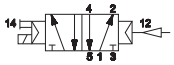


	size
BE-3060	1
BE-4060	2
BE-5060	3
BE-6060	4

SPOOL SYSTEM



	size
BE-3700	1
BE-4700	2
BE-5700	3
BE-6700	4



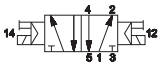
	size
BE-3760	1
BE-4760	2
BE-5760	3
BE-6760	4

BE Double electrical impulse

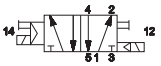


* = For version with manual override contact our Sales Department

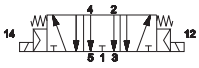
MIXED SYSTEM



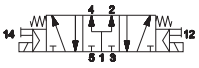
	size
BE-3020	1
BE-4020	2
BE-5020	3
BE-6020	4



	size
BE-3030	1
BE-4030	2
BE-5030	3
BE-6030	4

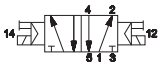


	size
BE-3200*	1
BE-4200*	2
BE-5200*	3
BE-6200*	4

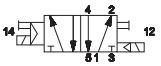


	size
BE-3205	1
BE-4205	2
BE-5205	3
BE-6205	4

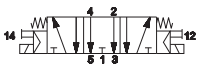
SPOOL SYSTEM



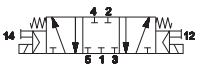
	size
BE-3720	1
BE-4720	2
BE-5720	3
BE-6720	4



	size
BE-3730	1
BE-4730	2
BE-5730	3
BE-6730	4



	size
BE-3900	1
BE-4900	2
BE-5900	3
BE-6900	4



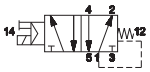
	size
BE-3940	1
BE-4940	2
BE-5940	3
BE-6940	4

For versions with recessed button 1 position, add suffix U to part number
Solenoid valves are supplied without coil, connector and locking nuts
See ATEX Catalogue for types and versions

BE12 Single electrical impulse

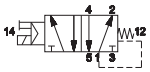


MIXED SYSTEM



	size
BE12-3000	1
BE12-4000	2
BE12-5000	3

SPOOL SYSTEM

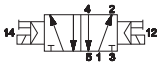


	size
BE12-3700	1
BE12-4700	2
BE12-5700	3

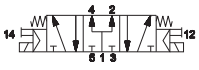
BE12 Double electrical impulse



MIXED SYSTEM

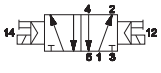


	size
BE12-3020	1
BE12-4020	2
BE12-5020	3

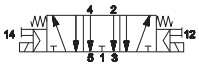


	size
BE12-3205	1
BE12-4205	2
BE12-5205	3

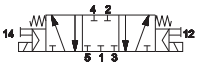
SPOOL SYSTEM



	size
BE12-3720	1
BE12-4720	2
BE12-5720	3



	size
BE12-3900	1
BE12-4900	2
BE12-5900	3



	size
BE12-3940	1
BE12-4940	2
BE12-5940	3

Single sub-base, side connections

ISO 1



BF-1060
G1/8

BF-1061
G1/4

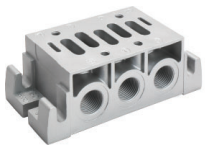
ISO 2



BF-1150
G1/4

BF-1151
G3/8

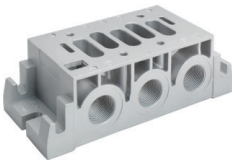
ISO 3



BF-3060
G1/2

BF-3061
G3/4

ISO 4



BF-4060
G3/4

BF-4061
G1

Single sub-base, bottom connections

ISO 1



BF-1062
G1/8

BF-1063
G1/4

ISO 2

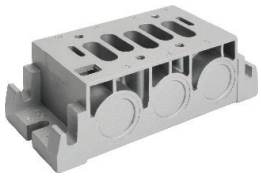


BF-1152
G1/4

BF-1153
G3/8

Single or Manifold with separate exhausts

ISO 4



BF-4062
G3/4

BF-4063
G1

Manifold universal system sub-base, bottom and side connections, conveyed exhaust

ISO 1



BF-1071
G1/8
BF-1072
G1/4
BF-1071S
G1/8
BF-1072S
G1/4

ISO 2



BF-1160
G1/4

BF-1161
G3/8

ISO 3



BF-3071
G1/2

BF-3072
G3/4

Manifold universal system inlet plate

ISO 1



BF-1065
G3/8
Upper connections

BF-1066
G3/8
Back connections



BF-1068
G3/8
In-line connections

ISO 2



BF-1154
G1/2
Side connections

BF-1155
G1/2
Back connections

ISO 3



BF-3064
G1
In-line connections

Manifold universal system diaphragm

ISO 1



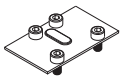
BF-1070

ISO 2



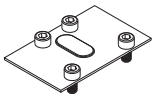
BF-1162

BF-1085



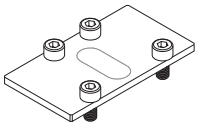
closing plate for ISO 1 sub-base

BF-1175



closing plate for ISO 2 sub-base 2

BF-3175



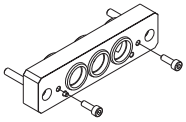
closing plate for ISO 3 sub-base 3

BF-3082



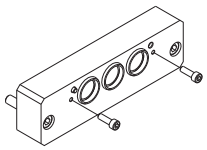
universal system plug for ISO 3 sub-base

BF-1190



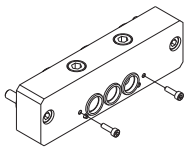
connecting interface for universal sub-bases size 1 - 2

BF-3190



connecting interface for universal sub-bases size 2 - 3

BF-3191

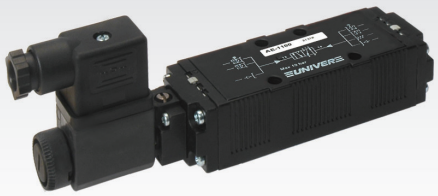


connecting interface for universal sub-bases size 1 - 3

Subject to change

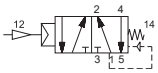
CHARACTERISTICS

Ambient temperature	-10 ÷ +50 °C	
Fluid	50 µm filtered air, with or without lubrication	
Commutation system	mixed	
Max pressure	10 bar	
Connections	BF series sub-bases	
	size 1	**size 2**
Nominal bore (mm)	8	10
Nominal flow rate (Nl/min)	1480	2300
Valve body	acetalic resin	
Seals	NBR, polyurethane	
Electropilot/Coil	AA series/U1	
Power consumption	3,5 W (DC) - 5 VA (AC)	
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC	
Connector	AM-5110	
Manual override	impulse screw - 2 positions	

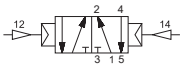


Single/double pneumatic impulse





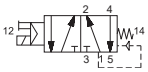
size
AE-1009 1
AE-1120 2



size
AE-1010 1
AE-1121 2

Single electrical impulse





size
AE-1000 1
AE-1100 2

Double electrical impulse



size
AE-1003 1
AE-1103 2

ISO 1 Sub-base and plate



BF-1060 G1/8 **BF-1061** G1/4



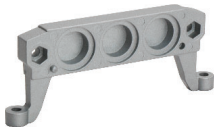
BF-1062 G1/8 **BF-1063** G1/4



BF-1071 G1/8 **BF-1071S** G1/8
BF-1072 G1/4 **BF-1072S** G1/4



BF-1065 On top
BF-1066 Rear
BF-1068 In line
G3/8



BF-1070

ISO 2 Sub-base and plate



BF-1150 G1/4 **BF-1151** G3/8



BF-1152 G1/4 **BF-1153** G3/8



BF-1160 G1/4 **BF-1161** G3/8



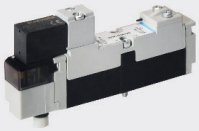
BF-1154 In line
BF-1155 Rear
G1/2



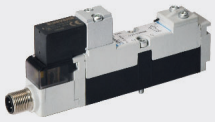
BF-1162

Solenoid valves are supplied without coil, connector and locking nuts
See ATEX Catalogue for types and versions

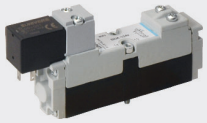
BDE
Integrated electrical connection (ISO 15407/2)



BDB
M12 connector (Automotive)



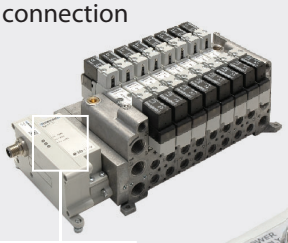
BDA
Single electrical connection (ISO 15407/1)



BDA
Pneumatic connection (ISO 15407/1)



Available with **IO-Link** connection



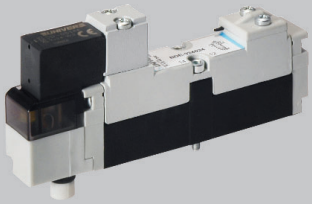




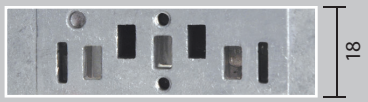
CANopen DeviceNet PROFINET PROFIBUS EtherNet/IP EtherCAT IO-Link

ISO 02

18 mm

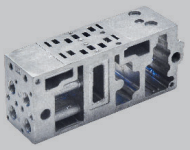


■ **ISO** Interface



■ **OVERSIZED** interface (UNIVER original)





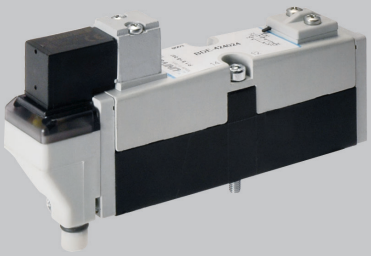
620 Nl/min



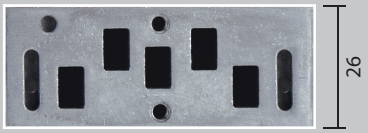
800 Nl/min

ISO 01

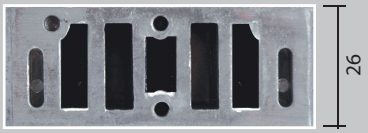
26 mm

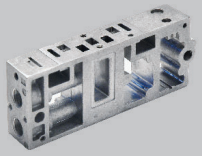


■ **ISO** Interface

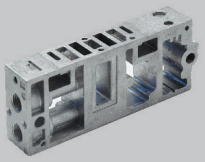


■ **OVERSIZED** interface (UNIVER original)





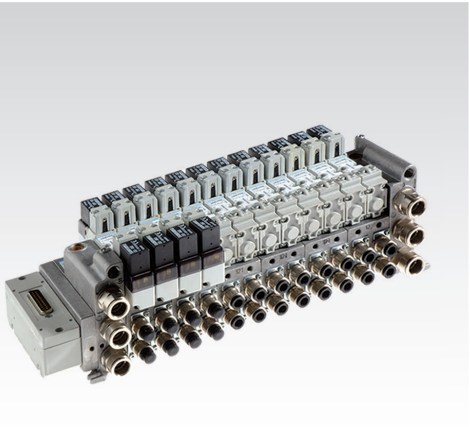
1250 Nl/min



1700 Nl/min

CHARACTERISTICS

Ambient temperature	-20 ÷ +50 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	spool
Max pressure	9 bar (electrical) 10 bar (pneumatic)
Connections	ISO 15407-1/2 interface
Nominal bore (mm)	6 (18 mm) 8 (26 mm)
Nominal flow rate (Nl/min)	see table below
Valve body	acetalic resin with aluminium cover
Seals	NBR
Spool	aluminium
Electropilot/Coil	A series/U05
Voltage	12 V DC - 24 V AC/DC - 48 V AC - 110 V AC - 230 V AC
Power consumption	2 W
Manual override	recessed button - 1 position
Protection degree	IP65



CODIFICATION KEY

B	D	E	-	3	3	4	4	2	4	
1		**2**	**3**	**4**	**5**	**6**				**7**

1 Series

BDE = Solenoid valves with integrated electrical connection 24 V DC

BDB = Solenoid valves with electrical connection 24 V DC, with connector M12

Coils and connectors included

2 Size

3 = 18 mm
4 = 26 mm

3 Type

2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

4 Control 14

4 = Electrical amplified

5 Return 12

0 = Pneumomechanical spring
1 = Mechanical spring
4 = Electrical amplified
7 = Electrical not amplified

6 Coil voltage

24 = 24 V DC (standard)
12 = 12 V DC (upon request)

7 Options

D = External pilot supply

B	D	A	-	3	3	4	4			
1		**2**	**3**	**4**	**5**	**6**	**7**			

1 Series

BDA = Valves and solenoid valves

Coils and connectors not included, to be purchased separately

2 Size

3 = 18 mm
4 = 26 mm

3 Type

2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

4 Control 14

3 = Pneumatic amplified
4 = Electrical amplified only DC
5 = Electrical amplified DC/AC

5 Return 12

0 = Pneumomechanical spring
1 = Mechanical spring
2 = Pneumatic not amplified
3 = Pneumatic amplified
4 = Electrical amplified only DC
5 = Electrical amplified DC/AC
7 = Electrical not amplified only DC
8 = Electrical not amplified DC/AC

6 Options

D = External pilot supply

7 ATEX option

X = Atex (upon request)

See ATEX Catalogue for types and versions

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

U05 Coils side 15 mm

Part No.	Nominal voltage		Frequency	Power consumption			
				DC W		AC VA	
	V DC	V AC	HZ	hold	speed-up	hold	speed-up
DD-040	-	24	50/60	-	-	2,3	3,2
DD-041	12	-	-	2	2	-	-
DD-050	-	48	50/60	-	-	2,3	3,2
DD-051	24	-	-	2	2	-	-
DD-060	-	110	50/60	-	-	2,3	3,2
DD-070	-	230	50/60	-	-	2,3	3,2

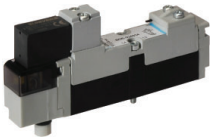
Nominal flow rate (Nl/min)

BD 18 mm	VDMA-ISO			Oversized		
	Ø4	Ø6	Ø8	Ø4	Ø6	Ø8
5/2	200	440	620	200	480	800
5/3	200	440	580	200	460	720
3/2+3/2	200	440	600	200	460	720

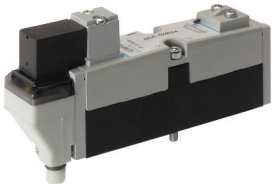
BD 26 mm	VDMA-ISO				Oversized			
	Ø6	Ø8	Ø10	Ø12	Ø6	Ø8	Ø10	Ø12
5/2	500	950	1200	1250	500	1050	1500	1700
5/3	500	900	1100	1150	500	1050	1300	1400
3/2+3/2	500	950	1150	1250	500	1050	1450	1650

BDE Electrical impulse - Solenoid valve with integrated electrical connection

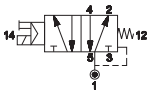
Single impulse



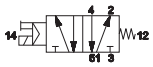
18 mm



26 mm

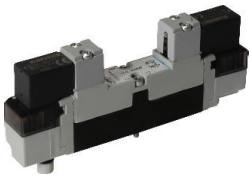


BDE-324024 18 mm
BDE-424024 26 mm

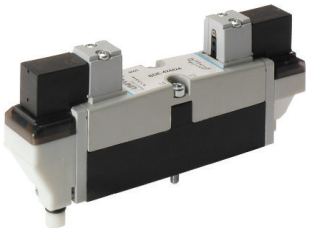


BDE-324124 18 mm
BDE-424124 26 mm

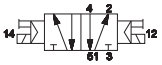
Double impulse



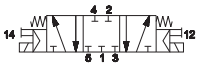
18 mm



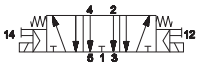
26 mm



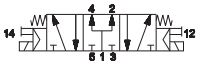
BDE-324424 18 mm
BDE-424424 26 mm



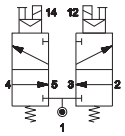
BDE-334424 18 mm
BDE-434424 26 mm



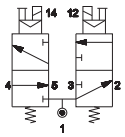
BDE-344424 18 mm
BDE-444424 26 mm



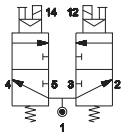
BDE-354424 18 mm
BDE-454424 26 mm



BDE-364424 18 mm
BDE-464424 26 mm



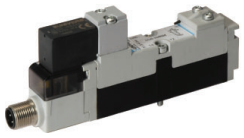
BDE-374424 18 mm
BDE-474424 26 mm



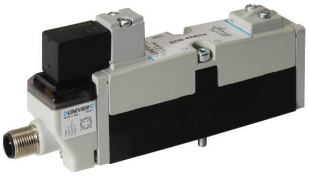
BDE-384424 18 mm
BDE-484424 26 mm

BDB Electrical impulse - Solenoid valve with connector M12

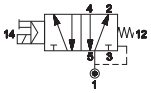
Single impulse



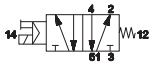
18 mm



26 mm

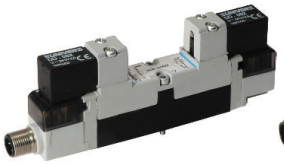


BDB-324024 18 mm
BDB-424024 26 mm

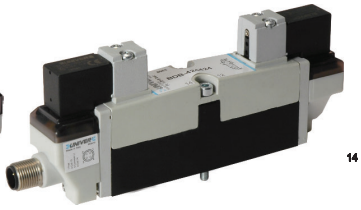


BDB-324124 18 mm
BDB-424124 26 mm

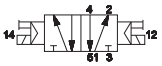
Double impulse



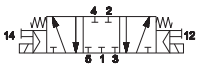
18 mm



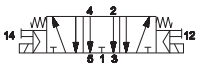
26 mm



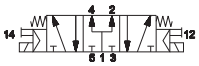
BDB-324424 18 mm
BDB-424424 26 mm



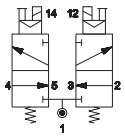
BDB-334424 18 mm
BDB-434424 26 mm



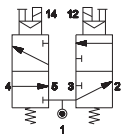
BDB-344424 18 mm
BDB-444424 26 mm



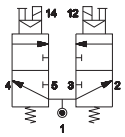
BDB-354424 18 mm
BDB-454424 26 mm



BDB-364424 18 mm
BDB-464424 26 mm



BDB-374424 18 mm
BDB-474424 26 mm



BDB-384424 18 mm
BDB-484424 26 mm

BDA Pneumatic impulse

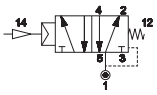
Single/double impulse



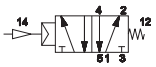
18 mm



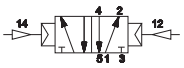
26 mm



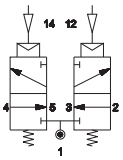
BDA-3230 18 mm
BDA-4230 26 mm



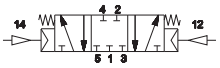
BDA-3231 18 mm
BDA-4231 26 mm



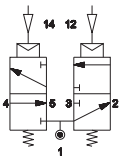
BDA-3233 18 mm
BDA-4233 26 mm



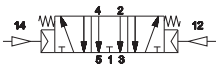
BDA-3633 18 mm
BDA-4633 26 mm



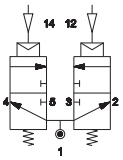
BDA-3333 18 mm
BDA-4333 26 mm



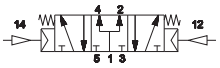
BDA-3733 18 mm
BDA-4733 26 mm



BDA-3433 18 mm
BDA-4433 26 mm



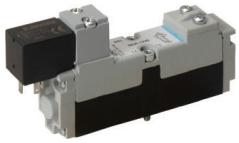
BDA-3833 18 mm
BDA-4833 26 mm



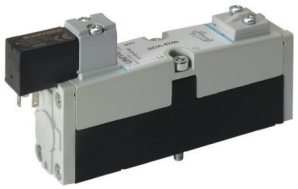
BDA-3533 18 mm
BDA-4533 26 mm

BDA Electrical impulse - External electrical connection

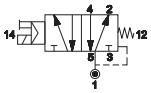
Single impulse



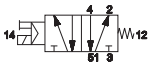
18 mm



26 mm

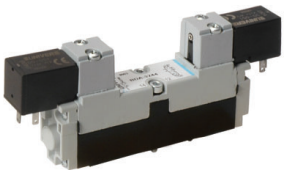


BDA-3240 18 mm
BDA-4240 26 mm

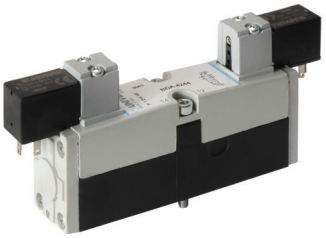


BDA-3241 18 mm
BDA-4241 26 mm

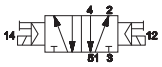
Double impulse



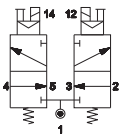
18 mm



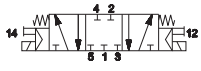
26 mm



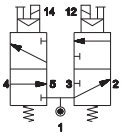
BDA-3244 18 mm
BDA-4244 26 mm



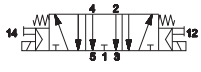
BDA-3644 18 mm
BDA-4644 26 mm



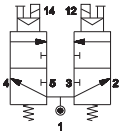
BDA-3344 18 mm
BDA-4344 26 mm



BDA-3744 18 mm
BDA-4744 26 mm



BDA-3444 18 mm
BDA-4444 26 mm



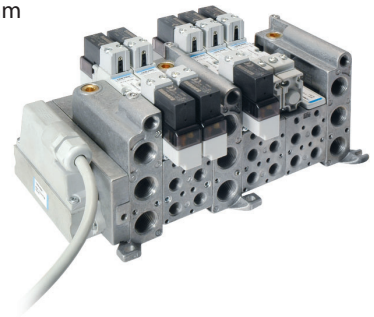
BDA-3844 18 mm
BDA-4844 26 mm



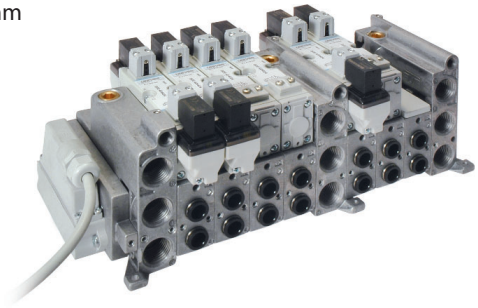
DIN C (8 mm)
For further information please contact our Sales Office.

BDE Manifold sub-bases - Integrated electrical connection

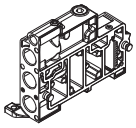
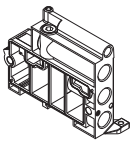
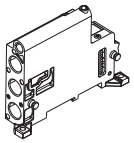
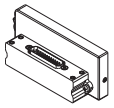
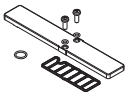
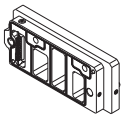
18 mm

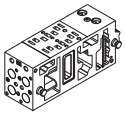
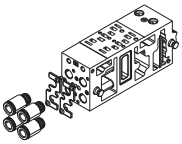
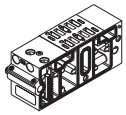
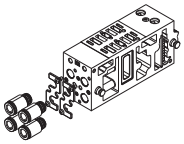


26 mm

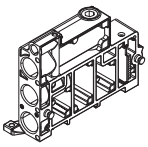
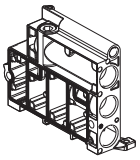
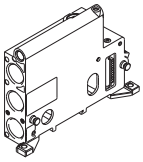
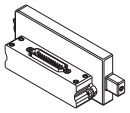
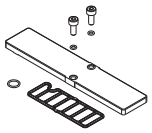


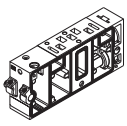
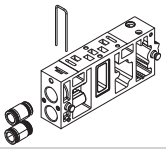
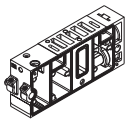
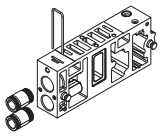
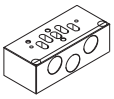
18 mm

BDF-3100	BDF-3115	BDF-3120	BDF-3140TIM	BDF-3180	BDF-3185	BDF-3190
						
left supply plate G3/8	right supply plate G3/8	intermediate supply plate G3/8	multipolar male connection module: 25 poles, type D	pressure separator	closing plate for unused valve place	connecting interface for valves side 18-26 mm

BDF-3210	BDF-3230 (a)	BDF-3310	BDF-3330 (a)	BDF-3400	GZR-100	GZR-V10004/06/08
						
two-place sub-base in compliance with VDMA-ISO flow rate 620 Nl/min G1/8 connections	two-place sub-base in compliance with VDMA-ISO flow rate 620 Nl/min fittings Ø 4-6-8 mm	two-place sub-base with increased flow rate 800 Nl/min G1/8 connections	two-place sub-base with increased flow rate 800 Nl/min fittings Ø 4-6-8 mm	single one-place sub-base with increased flow rate	blanking plug	UNIVER designed fittings **GZR-V10004** Ø4 mm **GZR-V10006** Ø6 mm **GZR-V10008** Ø8 mm

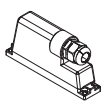
26 mm

BDF-4100	BDF-4115	BDF-4120	BDF-4140TIM	BDF-4180	BDF-4185
					
left supply plate G1/2	right supply plate G1/2	intermediate supply plate G1/2	multipolar male connection module: 25 poles, type D	plate for separating supply pressures	closing plate for unused valve place

BDF-4210/20	BDF-4230 (a)	BDF-4310/20	BDF-4330 (a)	BDF-4400	GZR-VV1006/08/10
					
one-place sub-base in compliance with VDMA-ISO flow rate 1250 Nl/min **BDF-4210** G1/4 connections **BDF-4220** G3/8 connections	one-place sub-base in compliance with VDMA-ISO flow rate 1250 Nl/min fittings Ø 6-8-10 mm	one-place sub-base with increased flow rate 1700 Nl/min **BDF-4310** G1/4 connections **BDF-4320** G3/8 connections	one-place sub-base with increased flow rate 1700 Nl/min fittings Ø 6-8-10 mm	single one-place sub-base with increased flow rate	UNIVER designed fittings **GZR-VV1006** Ø6 mm **GZR-VV1008** Ø8 mm **GZR-VV1010** Ø10 mm

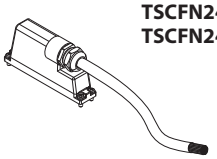
Electrical connections

TSCFN24S000



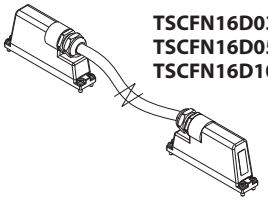
female connector 25 poles sub-D type no cable - M3x8 fixing screws

TSCFN24S0300
TSCFN24S0500
TSCFN24S1000



female connector: 25 poles, sub-D type, prewired for 26 coils (3-5-10m length) M3x8 fixing screws

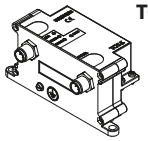
TSCFN16D0300
TSCFN16D0500
TSCFN16D1000



sub-D type male/female flying connector (upon request) prewired for 16 coils with cable Ø 8 mm (3-5-10 m length) suitable for dynamic laying - M3 x 8 fixing screws

IO-LINK connection

TCXLKA
TCXLKB

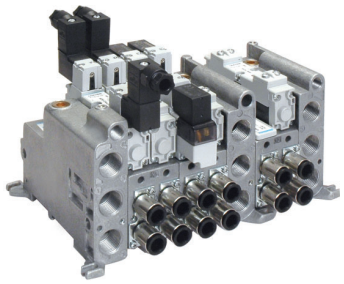


connection module IO-LINK (port class A/B)

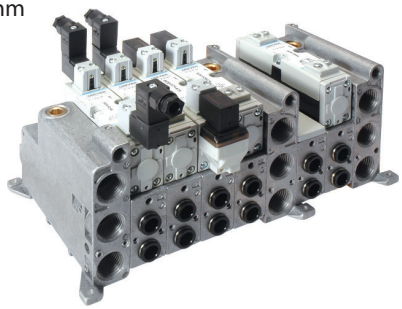
(a) = Sub-base including fixing plate for fittings (fittings excluded)

BDA/BDB Manifold sub-bases - Electrical connection with external connector

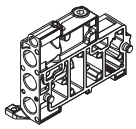
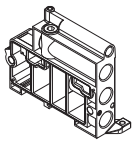
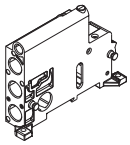
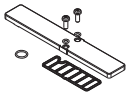
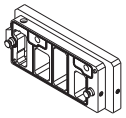
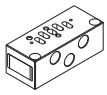
18 mm

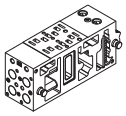
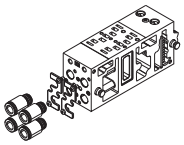
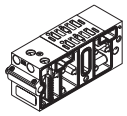
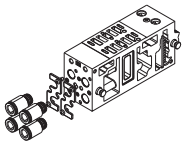
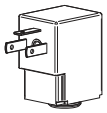


26 mm

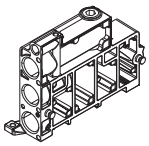
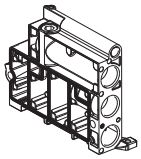
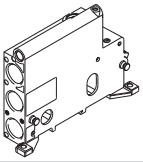
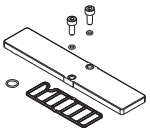
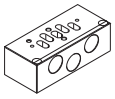


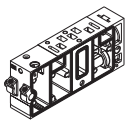
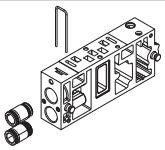
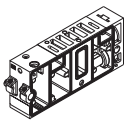
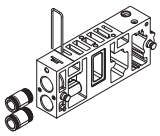
18 mm

BDF-3110	BDF-3115	BDF-3125	BDF-3180	BDF-3185	BDF-3191	BDF-3400
						
left supply plate G3/8	right supply plate G3/8	intermediate supply plate G3/8	pressure separator	closing plate for unused valve place	interface for connecting valves side 18-26 mm	single one-place sub-base with increased flow rate G1/8

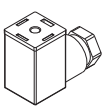
BDF-3211/2 (b)	BDF-3231/2 (a) - (b)	BDF-3311/2 (b)	BDF-3331/2 (a) - (b)	GZR-100	GZR-V10004/6/8	DD-...
						
two-place sub-base in compliance with VDMA-ISO flow rate 620 Nl/min G1/8 connections	two-place sub-base in compliance with VDMA-ISO flow rate 620 Nl/min fittings Ø 4-6-8 mm	two-place sub-base with increased flow rate 800 Nl/min G1/8 connections	two-place sub-base with increased flow rate 800 Nl/min fittings Ø 4-6-8 mm	blanking plug	UNIVER designed fittings **GZR-V10004** Ø4 mm **GZR-V10006** Ø6 mm **GZR-V10008** Ø8 mm	U05 coil side15 mm

26 mm

BDF-4110	BDF-4115	BDF-4125	BDF-4180	BDF-4185	BDF-4400
					
left supply plate G1/2	right supply plate G1/2	intermediate supply plate G1/2	pressure separator	closing plate for unused valve place	single one-place sub-base with increased flow rate G3/8

BDF-4211/.. (b)	BDF-4231/2 (a) - (b)	BDF-4311/.. (b)	BDF-4331/2 (a) - (b)	GZR-VV1006/8/10	DD-...
					
one-place sub-base in compliance with VDMA-ISO flow rate 1250 Nl/min G1/4 connect. G3/8 connect. **BDF-4211** **BDF-4221** **BDF-4212** **BDF-4222**	one-place sub-base in compliance with VDMA-ISO flow rate 1250 Nl/min fittings Ø 6-8-10 mm **BDF-4231** **BDF-4232**	one-place sub-base with increased flow rate 1700 Nl/min G1/4 connect. G3/8 connect. **BDF-4311** **BDF-4321** **BDF-4312** **BDF-4322**	one-place sub-base with increased flow rate 1700 Nl/min fittings Ø 6-8-10 mm	UNIVER designed fittings **GZR-VV1006** Ø6 mm **GZR-VV1008** Ø8 mm **GZR-VV1010** Ø10 mm	U05 coil side15 mm

Electrical connections



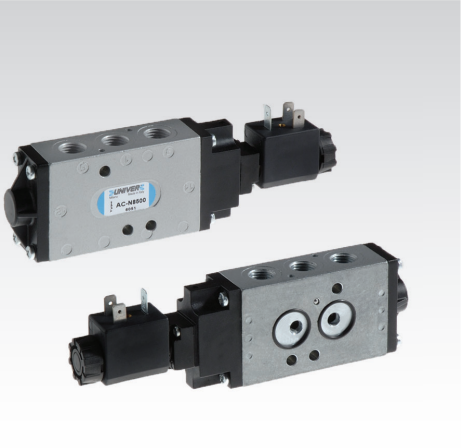
AM-5109

15 mm connector

(a) = Sub-base including fixing plate for fittings (fittings excluded)
(b) = Part No. ending: 1 = electrical non integrated 2 = only pneumatic

CHARACTERISTICS

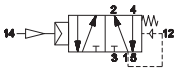
Ambient temperature	-10 ÷ +45 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	poppet mixed
Max pressure	10 bar
Connections	G1/4 (1-3-5), NAMUR interface (2-4)
Nominal bore (mm)	8
Nominal flow rate (Nl/min)	1200
Valve body	zamak
Seals	NBR, polyurethane
Spool	aluminium
Electropilot/Coil	AA series/U1-U3
Power consumption	3,5 W (DC), 5 VA (AC)
Connector	AM-5110
Voltage	2 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC
Manual override	impulse screw - 2 positions



Pneumatic impulse

Single impulse

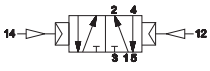




AC-N8100

Double impulse



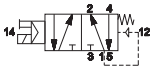


AC-N8120

Electrical impulse

Single impulse

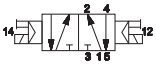




AC-N8500

Double impulse

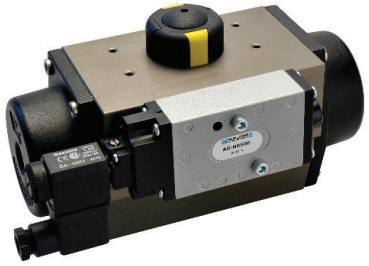




AC-N8520

Version 3/2: valves are supplied with proper flat plug for closing unused way
Solenoid valves are supplied without coil / connector / locking nut

AC-N8500 with YR2 actuator



See ATEX Catalogue for types and versions

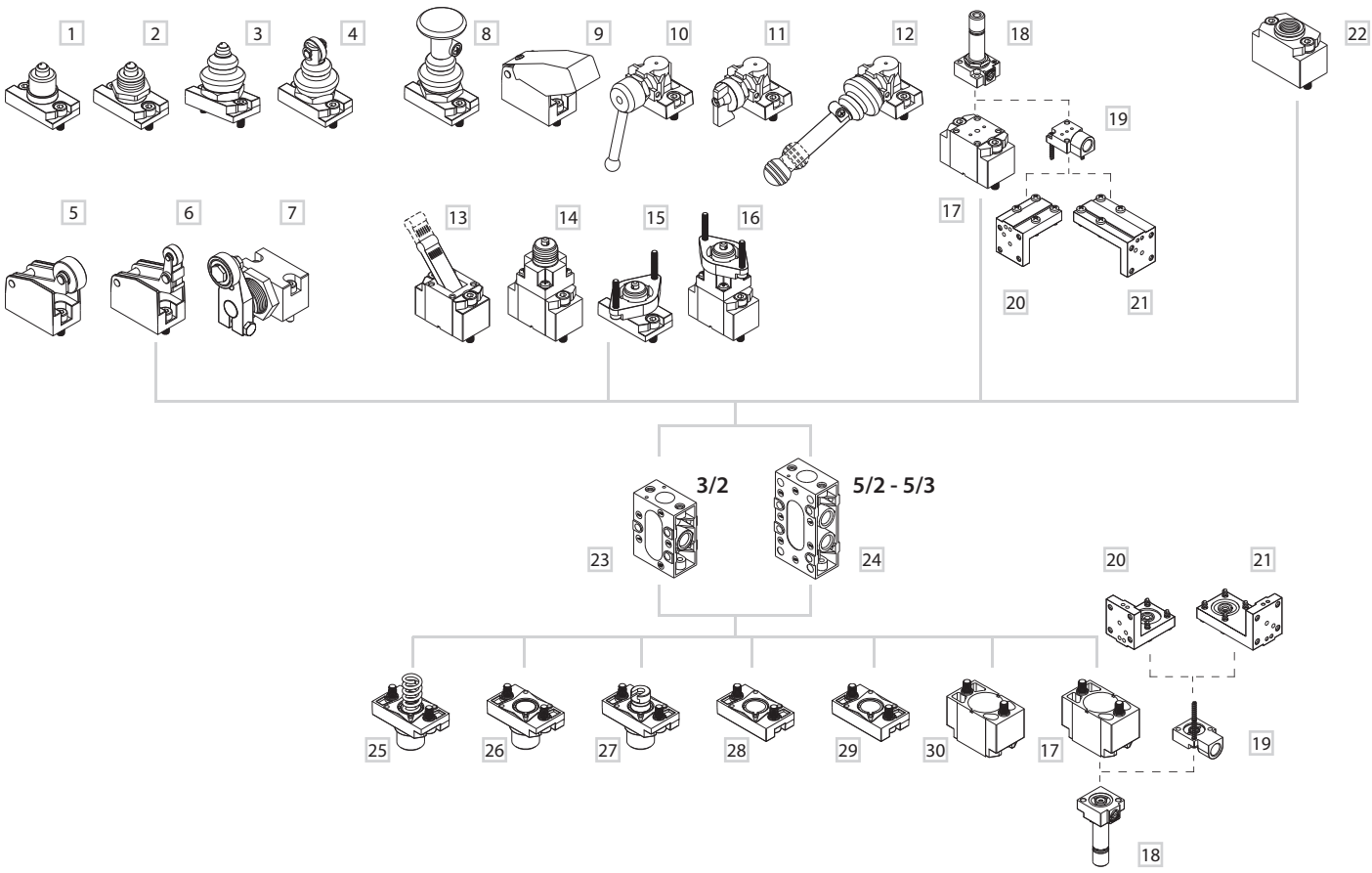
CHARACTERISTICS

Ambient temperature	-10 ÷ +45 °C	
Fluid	50 µm filtered air, with or without lubrication	
Commutation system	spool	
Max pressure	10 bar	
Connections	**G1/8**	**G1/4**
Nominal bore (mm)	6,5	8,5
Nominal flow rate (Nl/min)	890	1480
Valve body	die-cast zamak (G1/8), aluminium (G1/4)	
Seals	NBR	
Spool	aluminium	
Electropilot/Coil	AA series/U1-U3	
Power consumption	3,5 W (DC) - 5 VA (AC)	
Connector	AM-5110	
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC	
Manual override	impulse screw - 2 positions	



NOTE: some versions with high temperature seals are available upon request (for further information please contact our Sales Office)

UNIVERSAL Modular System



MECHANICAL CONTROL
- 1 Ball push
- 2 Ball push for screw panel mounting
- 3 Ball push with dust protection
- 4 Roller with dust protection
- 5 Roller lever
- 6 One-way roller lever
- 7 Two-way side roller lever

MANUAL CONTROL
- 8 Push-pull
- 9 Push button
- 10 Rotating lever
- 11 Selector
- 12 90° short/long lever
- 13 Short/long lever
- 14 Threaded indirect operation
- 15 Panel direct operation
- 16 Panel indirect operation

ELECTRICAL CONTROL
- 17 Electrical amplified
- 18 U1 electropilot
- 19 Plate for external pilot supply
- 20 Angle plate for "H" solenoid option
- 21 Angle plate for "P" solenoid option

PNEUMATIC CONTROL
- 22 Pneumatic amplified

BODY
- 23 3/2 body
- 24 5/2 body

RETURN
- 25 Mechanical spring
- 26 Pneumatic not amplified
- 27 Bottom plate - 2/3 positions
- 28 Bottom plate
- 29 Pneumatic spring
- 30 Pneumatic amplified

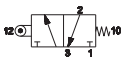
See ATEX Catalogue for types and versions

Valves **G1/8** with direct mechanical operation

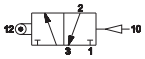
Roller lever



CL-100A

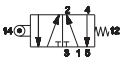


CL-100P

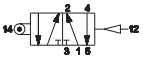




CM-400A



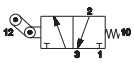
CM-400P



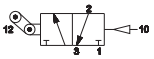
One-way roller lever



CL-101A

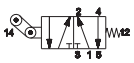


CL-101P

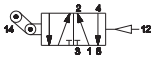




CM-401A



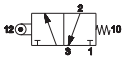
CM-401P



Two-way side roller lever

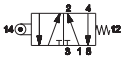


CL-106A





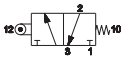
CM-406A



Adjustable two-way side roller lever

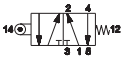


CL-106AL





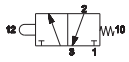
CM-406AL



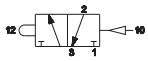
Ball-push



CL-102A

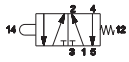


CL-102P

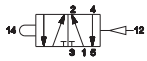




CM-402A



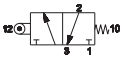
CM-402P



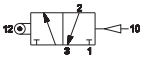
Roller with dust protection



CL-105A

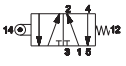


CL-105P

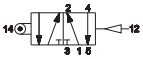




CM-405A



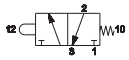
CM-405P



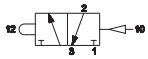
Ball push with dust protection



CL-104A

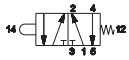


CL-104P

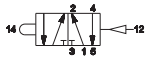




CM-404A



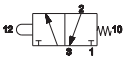
CM-404P



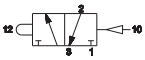
Ball push for screw panel mounting



CL-103A

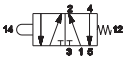


CL-103P

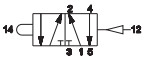




CM-403A



CM-403P

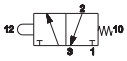


Valves **G1/4** with direct mechanical operation

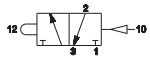
Ball push



CL-9102A

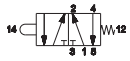


CL-9102P

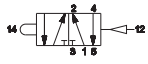




CM-9402A



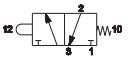
CM-9402P



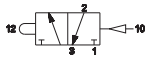
Ball push for screw panel mounting



CL-9103A

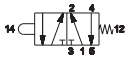


CL-9103P

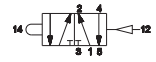




CM-9403A



CM-9403P



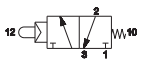
Subject to change

Valves **G1/8 - G1/4** with indirect mechanical operation for pneumatic and mechanical operators

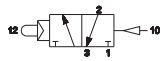
Ball push



CL-110A G 1/8
CL-9110A G 1/4

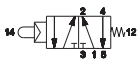


CL-110P G 1/8
CL-9110P G 1/4





CM-410A G 1/8
CM-9410A G 1/4



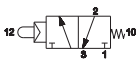
CM-410P G 1/8
CM-9410P G 1/4



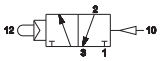
Sensible ball push



CL-111A G 1/8
CL-9111A G 1/4

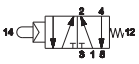


CL-111P G 1/8
CL-9111P G 1/4

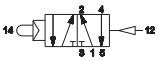


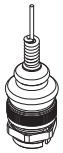
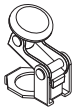
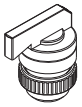
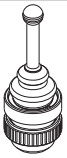


CM-411A G 1/8
CM-9411A G 1/4



CM-411P G 1/8
CM-9411P G 1/4



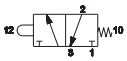
															
AI-3550	AI-3551	AI-3560	AI-3562	AI-3563	AI-3570	AI-3571	AI-3572	AI-3511 ■ AI-3512 ■ AI-3513 ■	AI-3514 ■ AI-3516 ■ AI-3514D ■ AI-3516D ■	AI-3515 ■ AI-3517 ■ AI-3519 ■	AI-3520 ■ AI-3521 ■	AI-3522 ■ (2 pos.) AI-3523 ■	AI-3524 ■	AI-3525 ■	AI-3526 ■

Valves **G1/8 - G1/4** with direct and indirect operation for panel operators

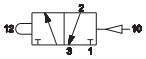
Ball push (direct operation)



CL-112A

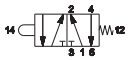


CL-112P

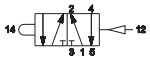




CM-412A



CM-412P

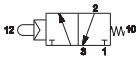


			
AI-3511Q ■ AI-3512Q ■ AI-3513Q ■	AI-3514Q ■ AI-3516Q ■ AI-3514QD ■ AI-3516QD ■	AI-3515Q ■ AI-3517Q ■ AI-3519Q ■	AI-3524Q ■

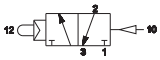
Ball push (indirect operation)



CL-113A G 1/8
CL-9113A G 1/4

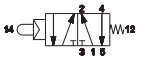


CL-113P G 1/8
CL-9113P G 1/4

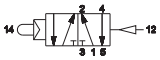


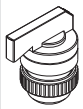
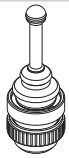


CM-413A G 1/8
CM-9413A G 1/4



CM-413P G 1/8
CM-9413P G 1/4



							
AI-3511Q ■ AI-3512Q ■ AI-3513Q ■	AI-3514Q ■ AI-3516Q ■ AI-3514QD ■ AI-3516QD ■	AI-3515Q ■ AI-3517Q ■ AI-3519Q ■	AI-3520Q ■ AI-3521Q ■	AI-3524Q ■	AI-3522Q ■ (2 pos.) AI-3523Q ■	AI-3525Q ■	AI-3526Q ■

Valves **G1/8** with manual operation

Push-pull

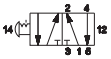


CL-120



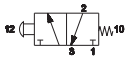


CM-420

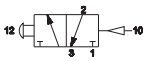




CL-120A



CL-120P

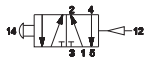




CM-420A



CM-420P



Valves are supplied without operator

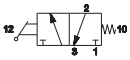


- YELLOW **CP-911G**
- RED **CP-911R**
- BLACK **CP-911N**
- GREEN **CP-911V**

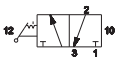
Long lever



CL-118R

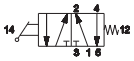


CL-121R

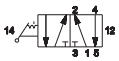




CM-418R



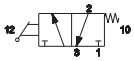
CM-421R



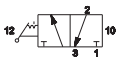
Short lever



CL-119R

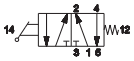


CL-122R

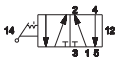




CM-419R



CM-422R



LONG LEVER

STANDARD
- RED

UPON REQUEST
- YELLOW
- BLACK

SHORT LEVER

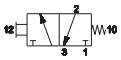
STANDARD
- RED

UPON REQUEST
- YELLOW
- BLACK
- GREEN

Button

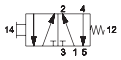


CL-126A





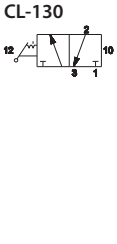
CM-426A



STANDARD
- RED

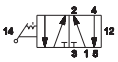
Rotating lever

CL-130



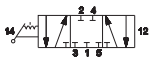


CM-430

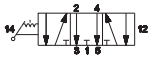




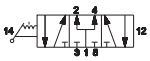
CM-430E



CM-435E



CM-440E



Valves are supplied without operator



- RED **CP-915R**

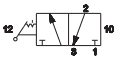


- RED **CP-916R**

90° Lever

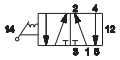


CL-123



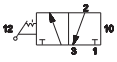


CM-423

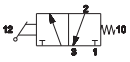




CL-123D

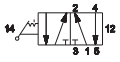


CL-123A

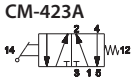




CM-423D

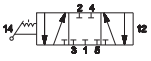


CM-423A

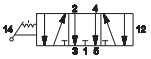




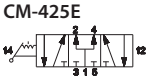
CM-423E



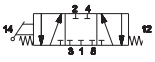
CM-424E



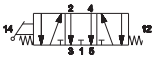
CM-425E



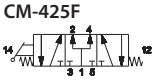
CM-423F



CM-424F



CM-425F



Valves are supplied without operator

LONG LEVER



- RED **CP-913R**

SHORT LEVER



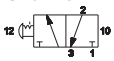
- YELLOW **CP-912G**
- RED **CP-912R**
- BLACK **CP-912N**

Valves **G1/4** with manual operation

Push-pull

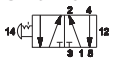


CL-9120



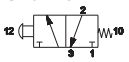


CM-9420

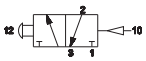




CL-9120A



CL-9120P

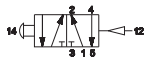




CM-9420A



CM-9420P



Valves are supplied without operator

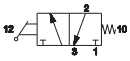


- YELLOW **CP-911G**
- RED **CP-911R**
- BLACK **CP-911N**
- GREEN **CP-911V**

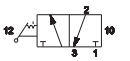
Long lever



CL-9118R

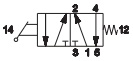


CL-9121R

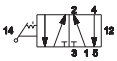




CM-9418R



CM-9421R



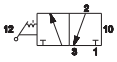
STANDARD
- RED

UPON REQUEST
- YELLOW
- BLACK

Rotating lever

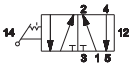


CL-9130



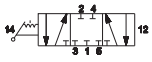


CM-9430

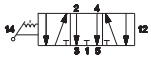




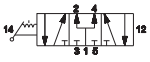
CM-9430E



CM-9435E



CM-9440E



Valves are supplied without operator



- RED **CP-915R**

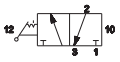


- RED **CP-916R**

90° Lever

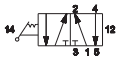


CL-9123



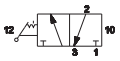


CM-9423

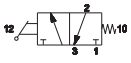




CL-9123D

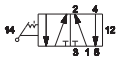


CL-9123A

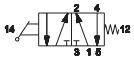


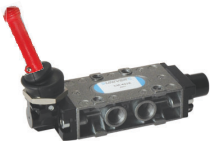


CM-9423D

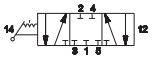


CM-9423A

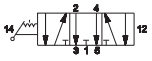




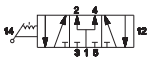
CM-9423E



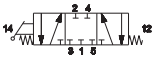
CM-9424E



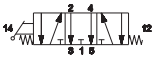
CM-9425E



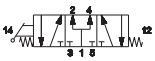
CM-9423F



CM-9424F



CM-9425F



Valves are supplied with long lever operator

LONG LEVER



- RED **CP-913R**

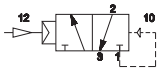
3

Valves **G1/8 - G1/4** with pneumatic operation

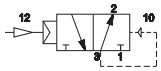
Single impulse



CL-200 G1/8
CL-9200 G1/4

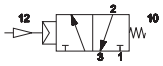


CL-203 G1/8 (NO)
CL-9203 G1/4 (NO)



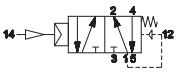


CL-200A G1/8
CL-9200A G1/4



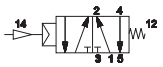


CM-500 G1/8
CM-9500 G1/4





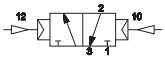
CM-500A G1/8
CM-9500A G1/4



Double impulse

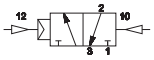


CL-220 G1/8
CL-9220 G1/4



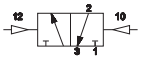


CL-221 G1/8
CL-9221 G1/4



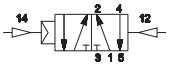


CL-224 G1/8
CL-9224 G1/4



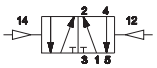


CM-521 G1/8
CM-9521 G1/4



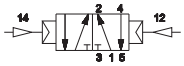


CM-524 G1/8
CM-9524 G1/4

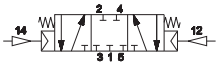




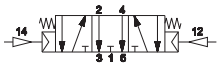
CM-520 G1/8
CM-9520 G1/4



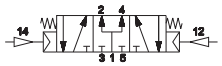
CM-580 G1/8
CM-9580 G1/4



CM-585 G1/8
CM-9585 G1/4



CM-590 G1/8
CM-9590 G1/4

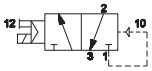


Valves **G1/8 - G1/4** with electrical operation

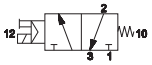
Single impulse



CL-300 G1/8
CL-9300 G1/4

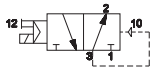


CL-302A G1/8
CL-9302A G1/4



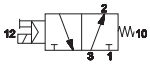


CL-301 G1/8
CL-9301 G1/4



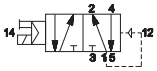


CL-303A G1/8 (NO)
CL-9303A G1/4 (NO)



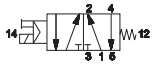


CM-600 G1/8
CM-9600 G1/4





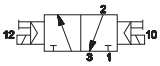
CM-602A G1/8
CM-9602A G1/4



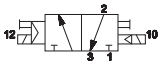
Double impulse



CL-320 G1/8
CL-9320 G1/4

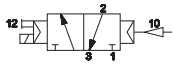


CL-321 G1/8
CL-9321 G1/4



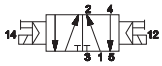


CL-322 G1/8
CL-9322 G1/4

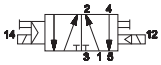




CM-620 G1/8
CM-9620 G1/4

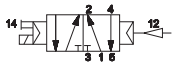


CM-621 G1/8
CM-9621 G1/4

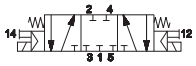




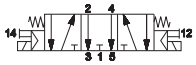
CM-622 G1/8
CM-9622 G1/4



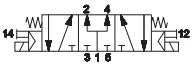
CM-680 G1/8
CM-9680 G1/4



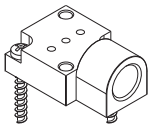
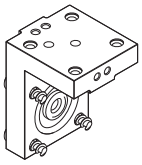
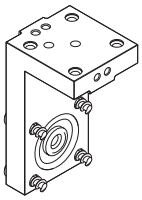
CM-685 G1/8
CM-9685 G1/4



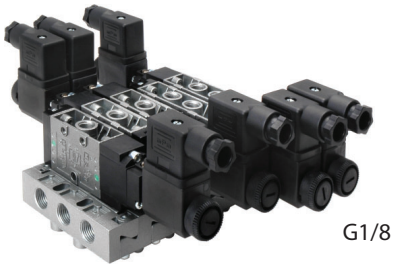
CM-690 G1/8
CM-9690 G1/4



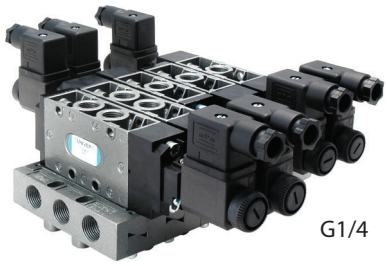
Solenoid valves are supplied without coil, connector and locking nut

AM-5148	AM-5151	AM-5152
		
Plate for external pilot supply	Angle plate for "H" solenoid option	Angle plate for "P" solenoid option

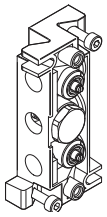
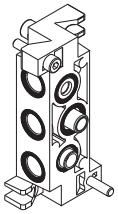
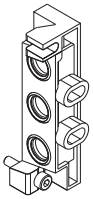
CLIPS Modular sub-base G1/8 - G1/4 for 3/2 - 5/2 - 5/3 valves

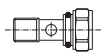


G1/8



G1/4

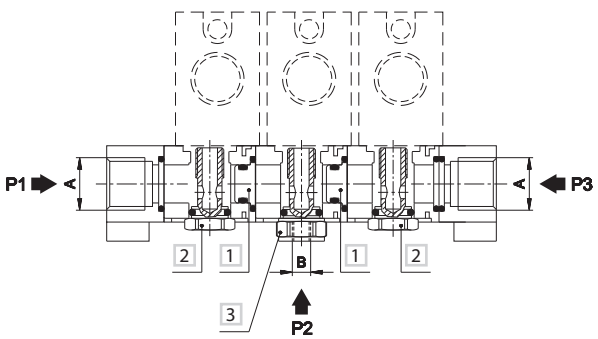
CP-100/CP-9100	CP-101/CP-9101	CP-105/CP-9105	CP-106
			
modular sub-base with adjustable and conveyed exhausts **CP-100** for G1/8, **CP-9100** for G1/4 material: zamak standard supplied: screws, seals, exhaust regulator and coupling for valve fixing	modular sub-base without adjustable exhausts **CP-101** for G1/8, **CP-9101** for G1/4 material: zamak standard supplied: screws, seals and coupling for valve fixing	side connection inlet plate **CP-105** G1/4, **CP-9105** G3/8 material: zamak standard supplied: screws and seals	closing plate for unused place bases G1/8 material: aluminium

CP-110/CP-9110	CP-111/CP-9111	CP-112/CP-9112	CP-113/CP-9113
			
coupling connections: **CP-110** G1/8, **CP-9110** G1/4 material: brass	pressure separator **CP-111** for G1/8, **CP-9111** for G1/4 material: aluminium	plug for 3/2 valve mounting **CP-112** for G1/8, **CP-9112** for G1/4 material: aluminium	adjustment needle **CP-113** for G1/8, **CP-9113** for G1/4 material: brass

For each additional pressure, one coupling and two separators are required

Plug for mounting 3/2 NC-NO valves on "CLIPS" sub-base to close unused way.
Sub-base with adjustment screw (screwdriver slot) standard supplied.
Upon request: adjustment needle with milled handle

Assembly Example
Manifold supplied by three different pressures



	A	B
G1/8	G1/4	G1/8
G1/4	G3/8	G1/4

1 Pressure separator **CP-111/CP-9111**
2 Fixing coupling for valve embodied in the sub-base
3 Coupling **CP-110/CP-9110**

CHARACTERISTICS

Ambient temperature	-10 ÷ +45 °C
Fluid	10 µm filtered air
Commutation system	spool
Max pressure	10 bar
Connections	M5, for sub-base
Nominal bore (mm)	2
Nominal flow rate (Nl/min)	150
Valve body	zamak
Seals	NBR
Electropilot/Coil	A series/U05
Voltage	24 V DC -12 V DC - 24 V AC - 110 V AC - 230 V AC



CODIFICATION KEY

E	-	0	2	2	4	
1		2		3	4	5

1 Series

E = COMPA 2 Miniature Valves

2 Type

02 = 5/2 Sub-base mounting
04 = 5/2 Threaded body M5
05 = 5/3 **c.c.** Sub-base mounting
06 = 5/3 **o.c.** Sub-base mounting
07 = 5/3 **p.c.** Sub-base mounting
08 = 5/3 **c.c.** Threaded body M5
09 = 5/3 **o.c.** Threaded body M5
10 = 5/3 **p.c.** Threaded body M5

3 Control 14

2 = Electrical DC
4 = Pneumatic
7 = Electrical DC/AC

4 Return 12

0 = Pneumomechanical spring
2 = Electrical DC
4 = Pneumatic impulse
7 = Electrical DC/AC

5 ATEX option

X = Atex (upon request)

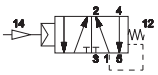
See ATEX Catalogue for types and versions

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

Pneumatic impulse

Single impulse

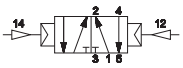




E-0240

Double impulse

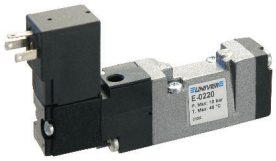


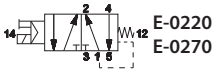


E-0244

Electrical impulse

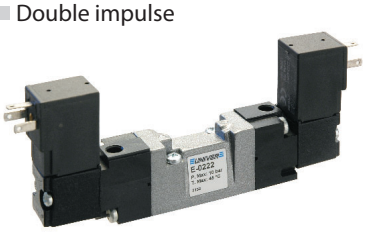
Single impulse

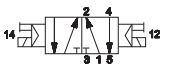




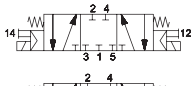
E-0220
E-0270

Double impulse

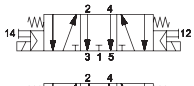




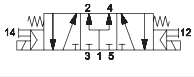
E-0222
E-0277



E-0522



E-0622



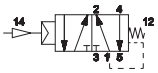
E-0722

Solenoid valves are supplied without coil and connector

Pneumatic impulse - 5/2 Valves M5

Single impulse

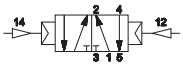




E-0440

Double impulse

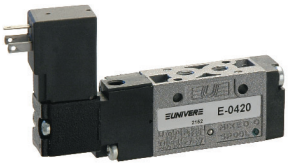


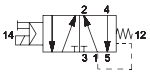


E-0444

Electrical impulse - 5/2 Valves M5

Single impulse

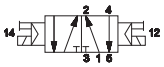




E-0420
E-0470

Double impulse



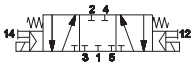


E-0422
E-0477

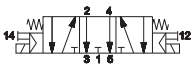
Electrical impulse - 5/3 Valves M5

Double impulse

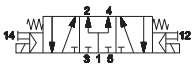




E-0822



E-0922

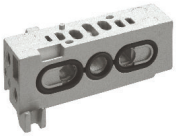


E-1022

Inlet plate G1/8 — Manifold sub-base, side connections M5



E-4500



E-4505



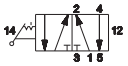
E-4600

Solenoid valves are supplied without coil and connector

5/2 Valves M5 - Mechanical and manual operation

Lever valve



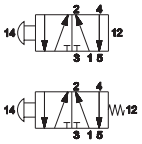


LEVER

E-15422G	YELLOW
E-15422N	BLACK
E-15422R	RED

Push-pull valve



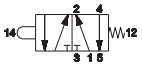


E-15420

E-15420A

Ball push valve

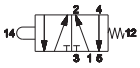




E-15402A

Ball push valve for mechanical screw operation

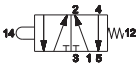




E-15403A

Ball push valve for mechanical panel operation





E-15412A



AI-3550



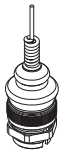
AI-3551



AI-3560



AI-3562



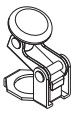
AI-3563



AI-3570



AI-3571



AI-3572



AI-3511Q ■
AI-3512Q ■
AI-3513Q ■



AI-3514Q ■
AI-3516Q ■
AI-3514QD ■
AI-3516QD ■



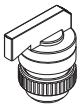
AI-3515Q ■
AI-3517Q ■
AI-3519Q ■



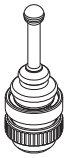
AI-3520Q ■
AI-3521Q ■



AI-3524Q ■



AI-3522Q ■
(2 pos.)
AI-3523Q ■



AI-3525Q ■



AI-3526Q ■



AI-3511 ■
AI-3512 ■
AI-3513 ■



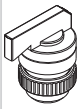
AI-3514 ■
AI-3516 ■
AI-3514D ■
AI-3516D ■



AI-3515 ■
AI-3517 ■
AI-3519 ■



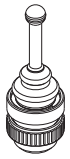
AI-3520 ■
AI-3521 ■



AI-3522 ■
(2 pos.)
AI-3523 ■



AI-3524 ■



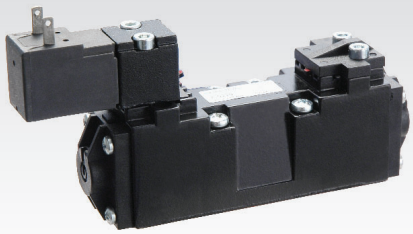
AI-3525 ■



AI-3526 ■

CHARACTERISTICS

Ambient temperature	-10 ÷ +45 °C
Fluid	10 µm filtered air
Commutation system	spool
Max pressure	10 bar
Connections	for sub-base
Nominal bore (mm)	4
Nominal flow rate (Nl/min)	390
Valve body	acetalic resin
Seals	NBR
Electropilot/Coil	A series/U05
Voltage	24 V DC -12 V DC - 24 V AC - 110 V AC - 230 V AC



CODIFICATION KEY

F	-	0	2	2	4	
1		2		3	4	5

1 Series
F = COMPA 4 Miniature Valves

2 Type
02 = 5/2 Sub-base mounting
05 = 5/3 **c.c.** Sub-base mounting
06 = 5/3 **o.c.** Sub-base mounting
07 = 5/3 **p.c.** Sub-base mounting

3 Control 14
2 = Electrical DC
4 = Pneumatic
7 = Electrical DC/AC

4 Return 12
0 = Pneumomechanical spring
2 = Electrical DC
4 = Pneumatic impulse
7 = Electrical DC/AC

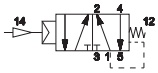
5 ATEX option
X = Atex (upon request)
See ATEX Catalogue for types and versions

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

Pneumatic impulse

Single impulse

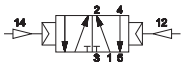




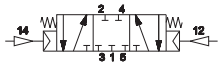
F-0240

Double impulse

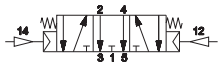




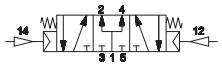
F-0244



F-0544



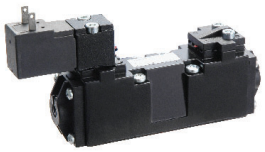
F-0644

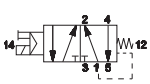


F-0744

Electrical impulse

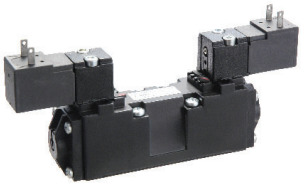
Single impulse

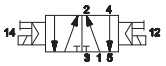




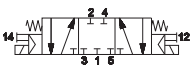
F-0220
F-0270

Double impulse

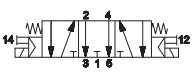




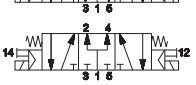
F-0222
F-0277



F-0522
F-0577



F-0622
F-0677



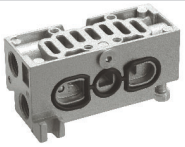
F-0722
F-0777

Inlet plate G1/8



F-4500

Manifold sub-base, threaded connections G1/8



F-4505

Solenoid valves are supplied without coil and connector

CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	spool
Pressure	1,5 ÷ 9 bar
Nominal bore (mm)	5
Nominal flow rate (Nl/min)	770 (5/2) 700 (5/3) 670 (3/2+3/2)
Connections	G1/8
Valve body	zamak
Seals	NBR
Spool	aluminium
Electropilot/Coil	A series/U05 - B series/U04
Voltage	24 V DC -12 V DC - 24 V AC - 110 V AC - 230 V AC (only for version with integrated electrical connection)
Power consumption	U05 = **2 W (DC) 2,3 VA (AC)** U04 = **1,2 W (DC)**
Manual override	recessed button – 1 position



CODIFICATION KEY

G	-	6	6	4	4		
		1	2	3	4	5	6

1 Series

G-6 = 20 mm - Valves and solenoid valves threaded body G1/8

2 Type

2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

3 Control 14

3 = Pneumatic amplified
4 = Electrical amplified DC
5 = Electrical amplified DC/AC
6 = Electrical amplified DC - B series 10 mm electropilot

4 Return 12

0 = Pneumomechanical spring
1 = Mechanical spring
3 = Pneumatic amplified
4 = Electrical amplified DC
5 = Electrical amplified DC/AC
6 = Electrical amplified DC (B series 10 mm electropilot)

5 Option

D = External pilot supply

6 ATEX option

X = Atex (upon request)

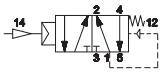
See ATEX Catalogue for types and versions

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

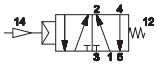
Pneumatic impulse

Single impulse





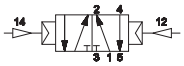
G-6230



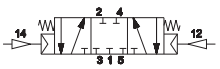
G-6231

Double impulse

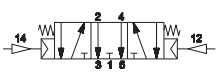




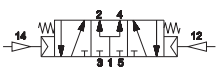
G-6233



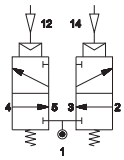
G-6333



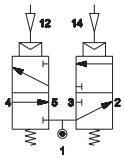
G-6433



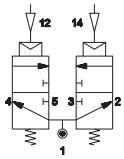
G-6533



G-6633



G-6733



G-6833

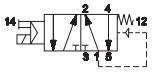
Solenoid valves are supplied without coil and connector

Subject to change

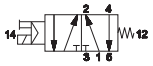
Electrical impulse - A series 15 mm Electropilot

Single impulse





G-6240 DC
G-6250 AC/DC



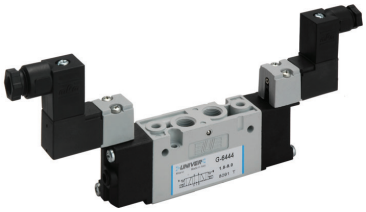
G-6241 DC
G-6251 AC/DC

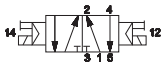


Coil with intergrated connector
for multipolar version
DD-051-2C 24 V DC
DD-040-2C 24 V AC

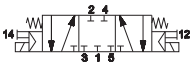
Single/double impulse

Double impulse

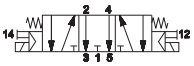




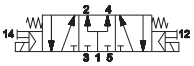
G-6244 DC
G-6255 AC/DC



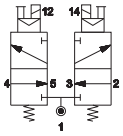
G-6344 DC
G-6355 AC/DC



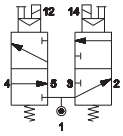
G-6444 DC
G-6455 AC/DC



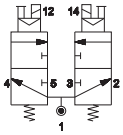
G-6544 DC
G-6555 AC/DC



G-6644 DC
G-6655 AC/DC



G-6744 DC
G-6755 AC/DC

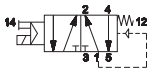


G-6844 DC
G-6855 AC/DC

Electrical impulse - B series 10 mm Electropilot

Single impulse

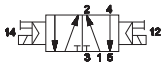




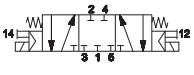
G-6260
G-6261

Double impulse

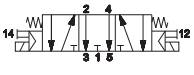




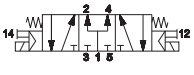
G-6266



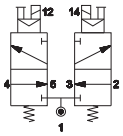
G-6366



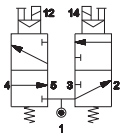
G-6466



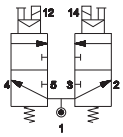
G-6566



G-6666



G-6766

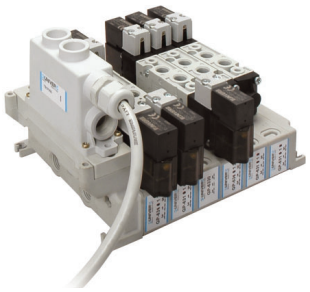


G-6866

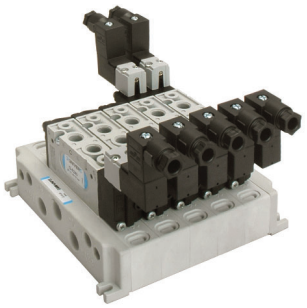
Solenoid valves are supplied without coil and connector

Electrical sub-base

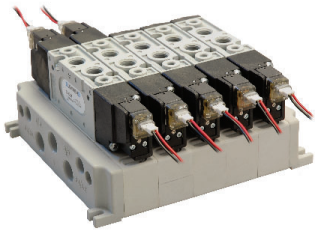
Multipolar connection



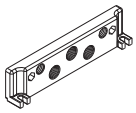
External connection



Connector with loose cables

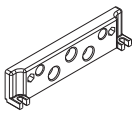


GP-6100



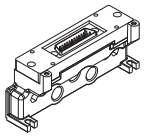
threaded end plate

GP-6110



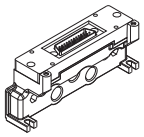
blank end plate

GP-611212



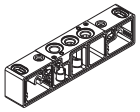
threaded end plate with
male connector
25 poles
12+12 coils control 12-14

GP-611806



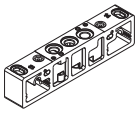
threaded end plate with
male connector
25 poles
18 coils control 14
6 coils control 12

GP-6310/1/2



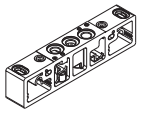
sub-base with
open diaphragms
GP-6310 without
electrical connection
GP-6311 monostable
GP-6312 bistable

GP-6320/1/2



sub-base with
closed diaphragms
GP-6320 without
electrical connection
GP-6321 monostable
GP-6322 bistable

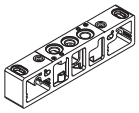
GP-6330/1/2



3 1 5

sub-base with
closed air supply and
open exhausts
GP-6330 without
electrical connection
GP-6331 mostable
GP-6332 bistable

GP-6340/1/2



3 1 5

sud-base with
open air supply and
closed exhausts
GP-6340 without
electrical connection
GP-6341 mostable
GP-6342 bistable

GP-6380



intermediate supply plate
(to be used only with
GP-63... sub-base)

GP-6385



closing plate for
unused valve place

GP-6400-1



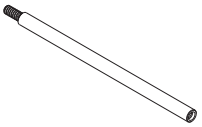
modular tie-rod
1 valve place

GP-6400-2



modular tie-rod
2 valve places

GP-6400-5



modular tie-rod
5 valve places

AZ4-SN004A
No. 100 hexagonal nuts M4

AZ4-VN0416
No. 100 allen screws M4x16 for tie rods

GP-6512-01/..MF



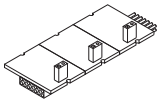
BUS connection card
control side 12 with 12 pins
GP-6512-01MF 1 place
GP-6512-02MF 2 places
GP-6512-03MF 3 places
GP-6512-05MF 5 places
GP-6512-06MF 6 places

GP-6514-01/..MF



BUS connection card
control side 14 with 12 pins
GP-6514-01MF 1 place
GP-6514-02MF 2 places
GP-6514-03MF 3 places
GP-6514-05MF 5 places
GP-6514-06MF 6 places

GP-651418



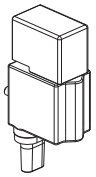
BUS connection card
control side 14 with 18 pins
(only12 places)
for manifolds with
control 14 and more than 12
coils (up to 18) use
GP-651418 card 12 places
and then **GP-6514-**...

DD-...



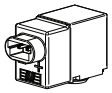
24 V DC 2 W coil
for single connection

DD-051-2C/DD-040-2C



24 V DC 2 W coil
with integrated connector
for multipolar version

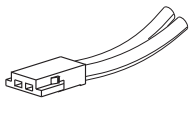
DE-652I



24 V DC 1,35 W coil
with in-line connector
with protection for a
complete tightness

Customized solutions up to 12 places available upon request

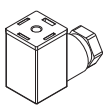
D-530-30/50/200



Miniature connector with loose cables

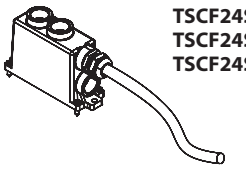
D-530-30 = wire length 300 mm
D-530-50 = wire length 500 mm
D-530-200 = wire length 2000 mm

Electrical connections



AM-5109

15 mm connector

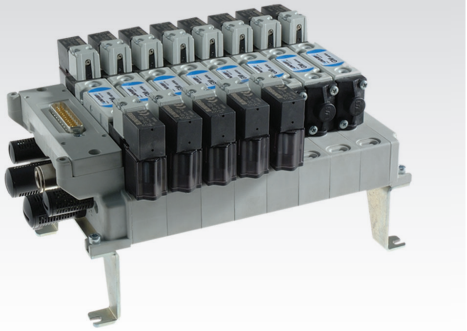


TSCF24S0300
TSCF24S0500
TSCF24S1000

sub-D flying female connector in compliance with
CEI 20-22 O.R. II prewired for 24 coils (3-5-10 length)
M3x12 fixing screws

CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	spool
Pressure	1,5 ÷ 9 bar
Connections	sub-base interface
Nominal bore (mm)	5
Nominal flow rate (Nl/min)	140 ÷ 740 (depending on the type of fittings)
Valve body	zamak
Seals	NBR
Spool	aluminium
Electropilot/Coil	A series/U05 - B series/U04
Voltage	24 V DC -12 V DC - 24 V AC - 110 V AC - 230 V AC (only version with external connection)
Power consumption	U05 = **2 W (DC) 2,3 VA (AC)** U04 = **1,2 W (DC)**
Manual override	recessed button - 1 position



CODIFICATION KEY

G	L	-	6	6	4	4		
	1		2	3	4	5	6	

1 Series
GL-6 = 20 mm - Valves and Solenoid Valves for sub-base mounting

2 Type
2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

3 Control 14
3 = Pneumatic amplified
4 = Electrical amplified DC
5 = Electrical amplified DC/AC
6 = Electrical amplified DC B series 10 mm electropilot

4 Return 12
0 = Pneumomechanical spring
1 = Mechanical spring
3 = Pneumatic amplified
4 = Electrical amplified DC
5 = Electrical amplified DC/AC
6 = Electrical amplified DC B series10 mm electropilot

5 Option
D = External pilot supply

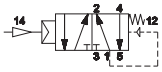
6 ATEX option
X = Atex (upon request)
See ATEX Catalogue for types and versions

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

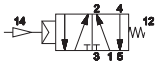
Pneumatic impulse

Single impulse





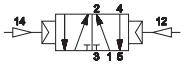
GL-6230



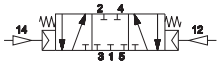
GL-6231

Double impulse

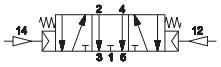




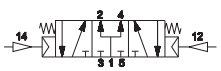
GL-6233



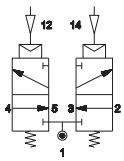
GL-6333



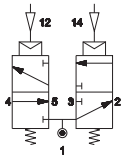
GL-6433



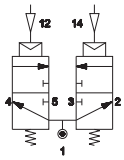
GL-6533



GL-6633



GL-6733



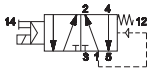
GL-6833

Solenoid valves are supplied without coil and connector

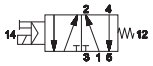
Electrical impulse - A series 15 mm Electropilot

Single impulse





GL-6240 DC
GL-6250 AC/DC



GL-6241 DC
GL-6251 AC/DC

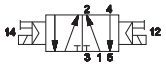


Coil with intergrated connector
for multipolar version
DD-051-2C 24 V DC
DD-040-2C 24 V AC

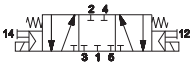
Single/double impulse

Double impulse

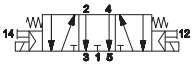




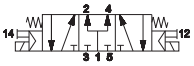
GL-6244 DC
GL-6255 AC/DC



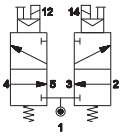
GL-6344 DC
GL-6355 AC/DC



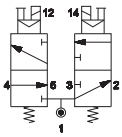
GL-6444 DC
GL-6455 AC/DC



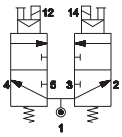
GL-6544 DC
GL-6555 AC/DC



GL-6644 DC
GL-6655 AC/DC



GL-6744 DC
GL-6755 AC/DC

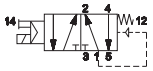


GL-6844 DC
GL-6855 AC/DC

Electrical impulse - B series 10 mm Electropilot

Single impulse

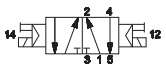




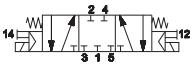
GL-6260
GL-6261

Double impulse

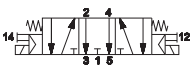




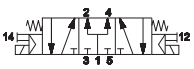
GL-6266



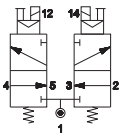
GL-6366



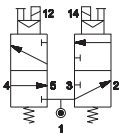
GL-6466



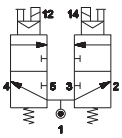
GL-6566



GL-6666



GL-6766

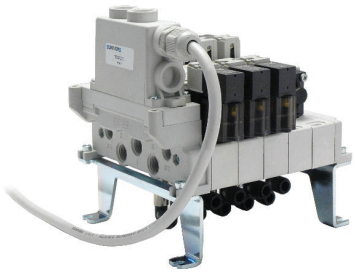


GL-6866

Solenoid valves are supplied without coil and connector

Electrical sub-base

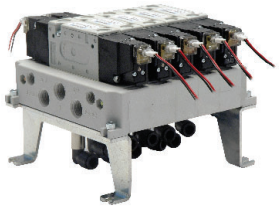
Multipolar connection



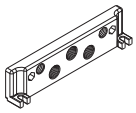
External connection



Connector with loose cables

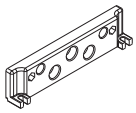


GP-6100



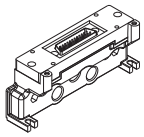
threaded end plate

GP-6110



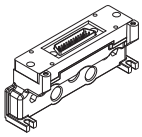
blank end plate

GP-611212



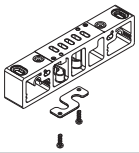
threaded end plate with
male connector
25 poles
12+12 coils control 12-14

GP-611806



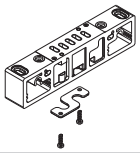
threaded end plate with
male connector
25 poles
18 coils control 14
6 coils control 12

GP-6210/1/2



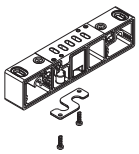
sub-base with
open diaphragms
GP-6210 without
electrical connection
GP-6211 monostable
GP-6212 bistable

GP-6220/1/2



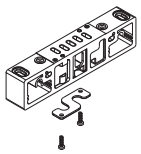
sub-base with
closed diaphragms
GP-6220 without
electrical connection
GP-6221 monostable
GP-6222 bistable

GP-6230/1/2



sub-base with
closed air supply and
open exhausts
GP-6230 without
electrical connection
GP-6231 mostable
GP-6232 bistable

GP-6240/1/2



sud-base with
open air supply and
closed exhausts
GP-6240 without
electrical connection
GP-6241 mostable
GP-6242 bistable

GP-6380



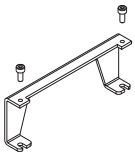
intermediate supply plate
(to be used only with
GP-63... sub-bases)

GP-6285



closing plate for
unused valve place

GP-6411



lifting bracket

GP-6400-1



modular tie-rod
1 valve place

AZ4-SN004A

No. 100 nuts M4 for tie-rods

AZ4-VN0416

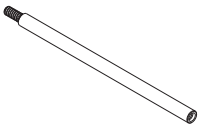
No. 100 screws M4x16 for tie-rods

GP-6400-2



modular tie-rod
2 valve places

GP-6400-5



modular tie-rod
5 valve places

GP-6512-01/..MF



BUS connection card
control side 12 with 12 pins
GP-6512-01MF 1 place
GP-6512-02MF 2 places
GP-6512-03MF 3 places
GP-6512-05MF 5 places
GP-6512-06MF 6 places

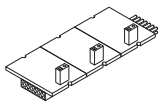
customized solutions up to 12 places available upon request

GP-6514-01/..MF



BUS connection card
control side 14 with 12 pins
GP-6514-01MF 1 place
GP-6514-02MF 2 places
GP-6514-03MF 3 places
GP-6514-05MF 5 places
GP-6514-06MF 6 places

GP-651418



BUS connection card
control side 14 with 18 pins
(only12 places)
for manifolds with control 14
with more than 12 coils
(up to 18) use **GP-651418**
card 12 places and then
GP-6514-...

GZR-100



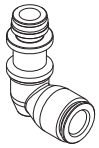
blanking plug

GZR-V10004/6/8



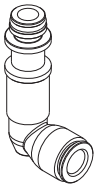
straight fitting
GZR-V10004 tube: 4 mm
GZR-V10006 tube: 6 mm
GZR-V10008 tube: 8 mm

GZR-V20004/6/8

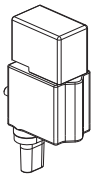
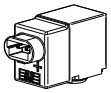
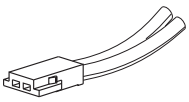


low elbow fitting
GZR-V20004 tube: 4 mm
GZR-V20006 tube: 6 mm
GZR-V20008 tube: 8 mm

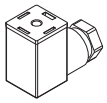
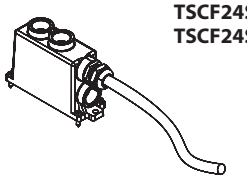
GZR-V20L004/6/8



high elbow fitting
GZR-V20L004 tube: 4 mm
GZR-V20L006 tube: 6 mm
GZR-V20L008 tube: 8 mm

DD-...	DD-051-2C/DD-040-2C	DE-652I	D-530-30/50/200
			
24 V DC 2 W coil for single connection	24 V DC 2 W coil with integrated connector for multipolar version	24 V DC 1,35 W coil with in-line connector with protection for a complete tightness	Miniature connector with loose cables **D-530-30** = wire length 300 mm **D-530-50** = wire length 500 mm **D-530-200** = wire length 2000 mm

Electrical connections

AM-5109	TSCF24S0300 TSCF24S0500 TSCF24S1000
	
15 mm connector	sub-D flying female connector in compliance with CEI 20-22 O.R. II prewired for 24 coils (3-5-10 m length) M3x12 fixing screws

Example of panel mounting

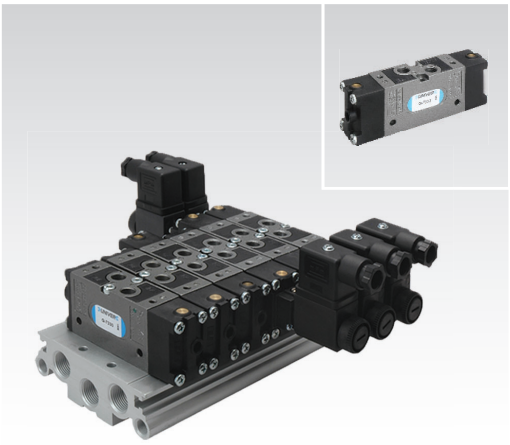




Subject to change

CHARACTERISTICS

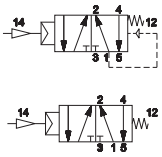
Ambient temperature	-10 ÷ +45 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	spool
Max pressure	10 bar
Nominal bore (mm)	6
Nominal flow rate (Nl/min)	860
Connector	G1/8
Valve body	zamak
Seals	NBR
Spool	aluminium
Electropilot/Coil	AA series/U1-U3
Power consumption	3,5 W (DC), 5 VA (AC)
Connector	AM-5110
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC
Manual override	impulse screw – 2 positions



Pneumatic impulse

Single impulse



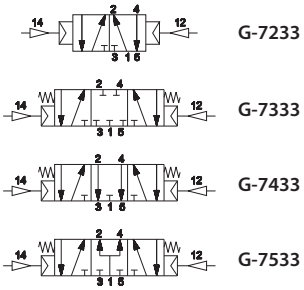


G-7230

G-7231

Double impulse





G-7233

G-7333

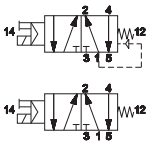
G-7433

G-7533

Electrical impulse

Single impulse



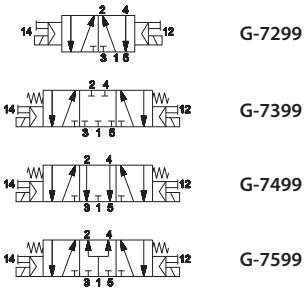


G-7290

G-7291

Double impulse





G-7299

G-7399

G-7499

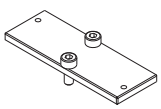
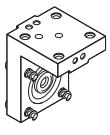
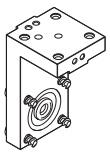
G-7599

The valve is supplied with two plugs to be fixed with sealants on unused connections 2-4
Solenoid valves are supplied without coil/connector/locking nut
See ATEX Catalogue for types and versions

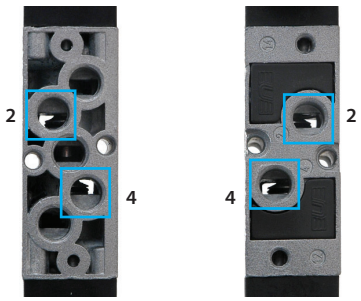
Multiple sub-base **G1/8**



	Places		Places
G-7900-02	2	G-7900-08	8
G-7900-03	3	G-7900-09	9
G-7900-04	4	G-7900-10	10
G-7900-05	5	G-7900-11	11
G-7900-06	6	G-7900-12	12
G-7900-07	7		

G-7885	AM-5151	AM-5152
		
Closing plate for sub-base place	Angle plate for "H" solenoid option	Angle plate for "P" solenoid option

Threaded connections **2** - **4** on both sides of the valve



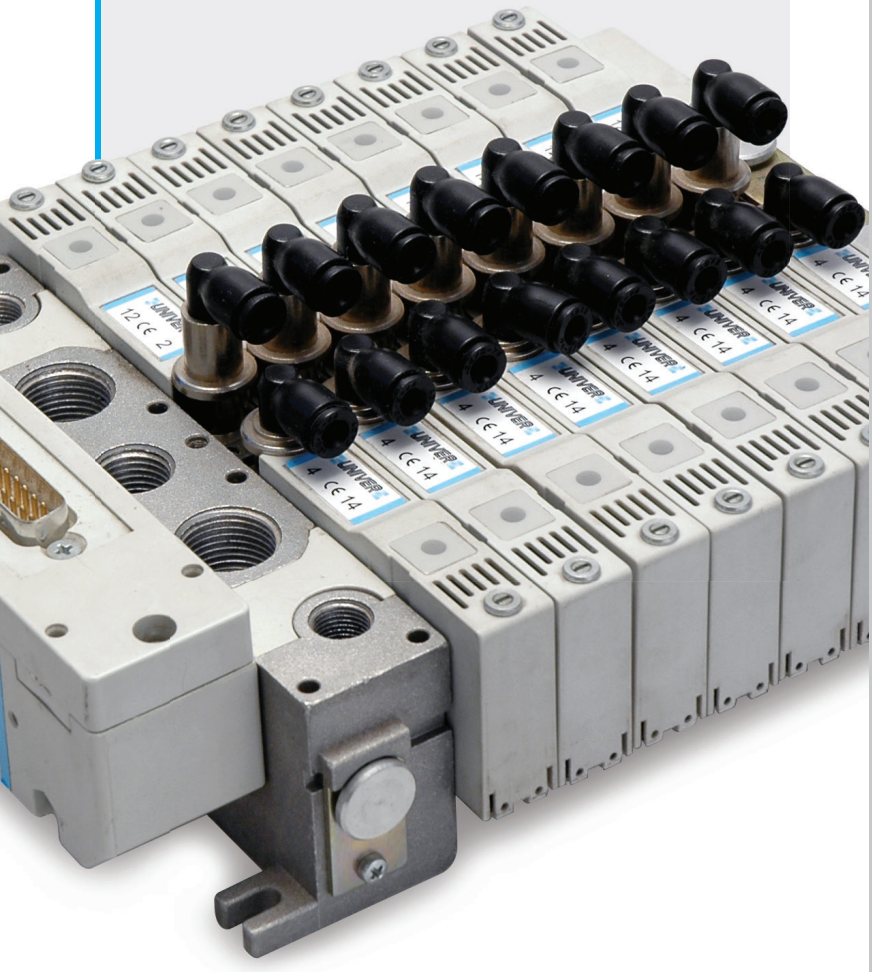
PS | COMBOBOX Valves

INTEGRATED SUB-BASE
MANIFOLD valve with no sub-base

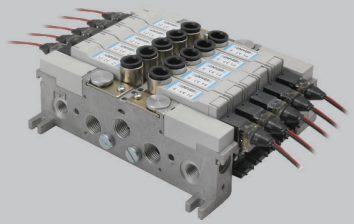
REDUCED DIMENSIONS
Space saving up to 30% in comparison with standard valve MANIFOLDS

HIGH FLOW RATE
830 Nl/min spool system **UNIVER Original**

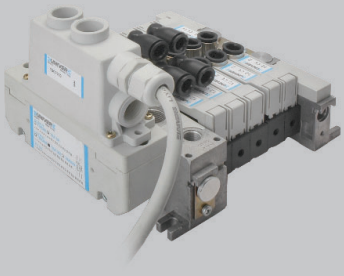
READY TO USE
Prewired configurations of 2 to 20 valves for a quick installation



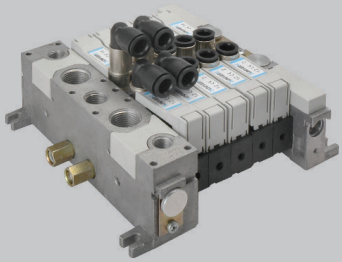
PSC
Single electrical connection



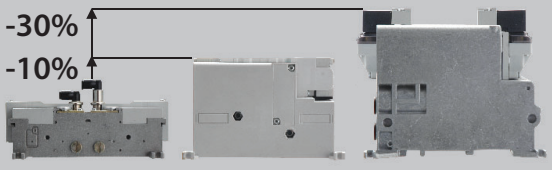
PSP
Multipolar connection



PSR
Pneumatic operation connection



REDUCED DIMENSIONS



COMBOBOX P15 BDE 3 (18 mm)

MANIFOLD VALVE without sub-base

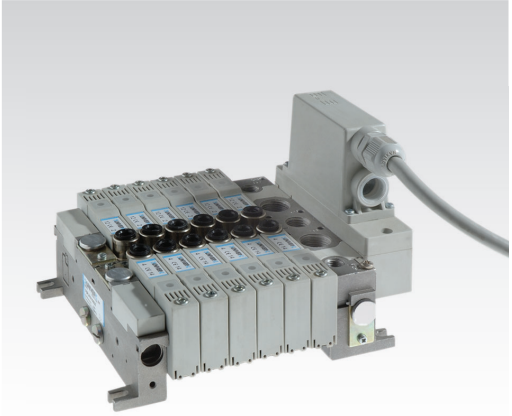


5/2 - 5/3
3/2+3/2

14,5 mm → 830 Nl/min

CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C (PSC-PSP), -15 ÷ +50 °C (PSR)
Fluid	10 µm filtered air, with or without lubrication
Commutation system	spool
Max pressure	9 bar (electrical control), 10 bar (pneumatic control)
Nominal bore (mm)	6
Nominal flow rate (Nl/min)	depending on the type of fittings (see table)*
Connections	tube Ø 4, 6, 8
Valve body	zamak
Seals	NBR
Spool	aluminium
Electropilot/Coil	B series/U04
Power consumption	1,35 W
Voltage	24 V DC (12 V DC upon request)
Protection degree	IP65
Manual override	recessed button - 1 position (PSC), impulse screw - 1-2 positions (PSP)



*

	Ø4	Ø6	Ø8
Straight fitting	200	510	830
Elbow fitting	140	370	700

CODIFICATION KEY

P	S	C	2	6	0	2	4	
1			**2**	**3**	**4**	**5**		**6**

1 Series

PSC = Separate wires
PSP = Plug-in
PSR = Pneumatic

2 Type

2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

3 Control 14

2 = PneumaticCamplified
6 = Electrical amplified

4 Return 12

0 = Pneumatic spring
1 = Mechanical spring
2 = Pneumatic amplified
3 = Pneumatic not amplified
6 = Electrical amplified
7 = Electrical not amplified

5 Voltage and coil

Only for PSC and PSP series, assembled coils with standard supplied led
24 = 24 V (standard)
12 = 12 V (upon request)

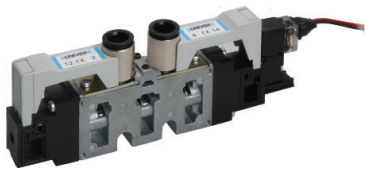
6 ATEX option

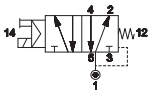
X = Atex (upon request)
See ATEX Catalogue for types and versions

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

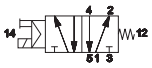
PSC Electrical impulse - Electrical connection with separate wires

Single impulse



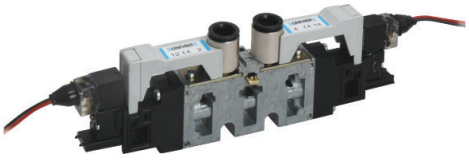


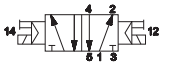
PSC26024



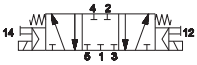
PSC26124

Double impulse

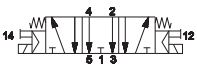




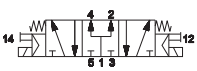
PSC26624



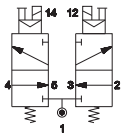
PSC36624



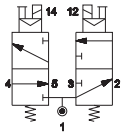
PSC46624



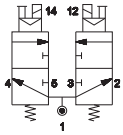
PSC56624



PSC66624



PSC76624

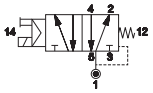


PSC86624

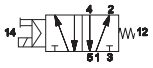
PSP Electrical impulse - Plug-in integrated electrical connection

Single impulse





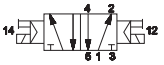
PSP26024



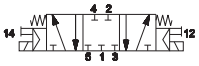
PSP26124

Double impulse

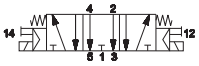




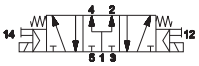
PSP26624



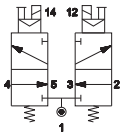
PSP36624



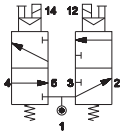
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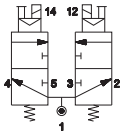
PSP56624



PSP66624



PSP76624

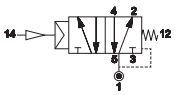


PSP86624

PSR Pneumatic impulse - Pneumatic operation

Single impulse





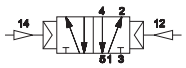
PSR220



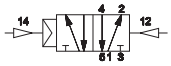
PSR221

Double impulse

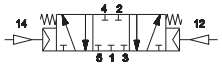




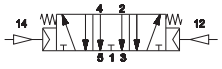
PSR222



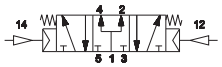
PSR223



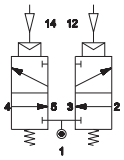
PSR322



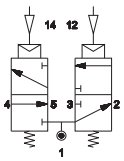
PSR422



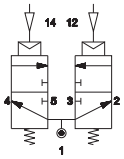
PSR522



PSR622



PSR722



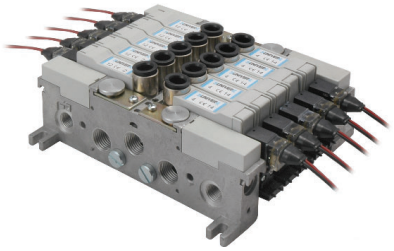
PSR822

PSC Manifold with single electrical connection

- With 26 mm inlet plate and 14,5 mm end plate with DIN rail (EN50022)



- With 14,5 mm inlet and end plate



PSP Manifold with multipolar connection

- With 26 mm inlet plate and 14,5 mm end plate with multipolar connector

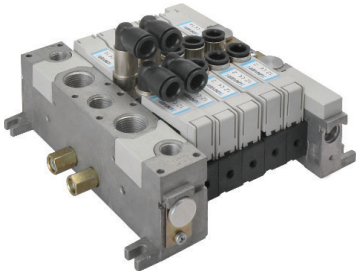


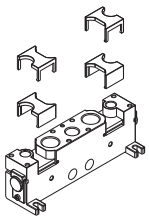
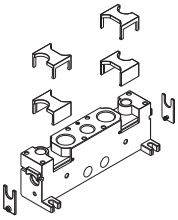
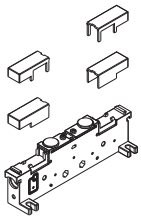
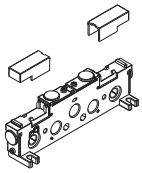
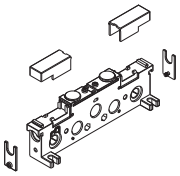
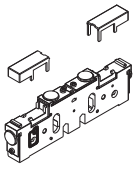
- With 26 mm inlet plate and 14,5 mm end plate with multipolar connector and intermediate plate



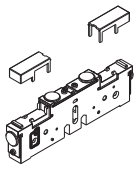
PSR Manifold with pneumatic operation

- With 26 mm inlet plate and 14,5 mm end plate



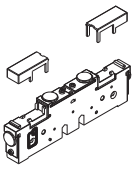
PS14100	**PS14200**	**PS15000**	**PS15100**	**PS15200**	**PS15300***
					
26 mm inlet plate internal pilot supply	26 mm inlet plate external pilot pupply	blank plate	14,5 mm inlet plate internal pilot supply	14,5 mm inlet plate external pilot supply	14,5 mm intermediate plate, closed air supply, open exhausts

PS15310*



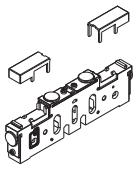
14,5 mm intermediate plate, open supply, closed exhausts

PS15320*



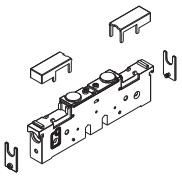
14,5 mm intermediate blank plate

PS15330*



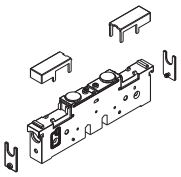
14,5 mm intermediate open plate

PS15340



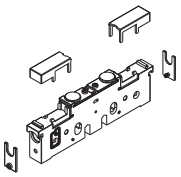
intermediate supply plate with closed exhausts and internal pilot supply

PS15350



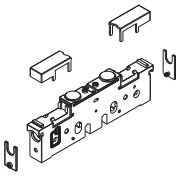
intermediate supply plate with closed exhausts and external pilot supply

PS15360



intermediate supply plate with open exhausts and internal pilot supply

PS15370

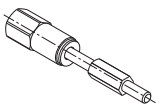


intermediate supply plate with open exhausts and external pilot supply

* = For intermediate plate with closed pilot supply ports add suffix 1 to part number.
The intermediate plate takes one valve place. This needs to be considered for a proper purchase of modular tie rods.

Electropilots are supplied through end plates for internal as well as external supply.
In case two different working pressures are applied to the end plates, it is possible to supply either all pilots with one of the two pressures (in general the higher one) or the pilots of each valve group with the working pressure of the same. This is made possible by means of a proper pressure separator.
This same principle applies also in presence of more than two different pressures: in this case it is necessary to use intermediate supply plates suitably coupled with pressure separators.

PSK100145



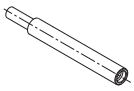
tie-rod with hexagonal ends

PSK200145



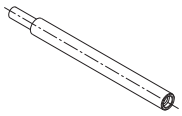
modular tie-rod
L1 = 14,5 mm for each place

PSK200290



modular tie-rod
L2 = 29 mm for 2 places

PSK200725



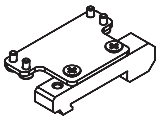
modular tie-rod
L5 = 72,5 mm for 5 places

PSK300145



counter tie-rod

PSK401



Fixing plate for DIN rail connection; with screws

GZR-100



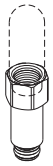
blanking plug

GZR-101



G1/8
Fitting seat reduction - gas thread for silencer mounting

GZR-102



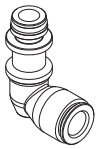
G1/4
Fitting seat reduction - gas thread for silencer mounting

GZR-V10004/6/8



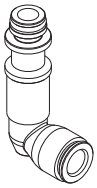
straight fitting
GZR-V10004 tube: 4 mm
GZR-V10006 tube: 6 mm
GZR-V10008 tube: 8 mm

GZR-V20004/6/8



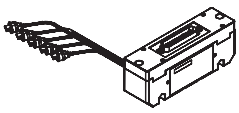
swivel low elbow fitting
GZR-V20004 tube: 4 mm
GZR-V20006 tube: 6 mm
GZR-V20008 tube: 8 mm

GZR-V20L004/6/8



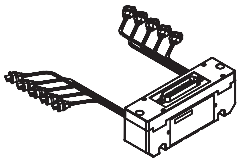
swivel high elbow fitting
GZR-V20L004 tube: 4 mm
GZR-V20L006 tube: 6 mm
GZR-V20L008 tube: 8 mm

TIM06M/10M/20M



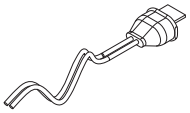
male connector 25 poles, prewired for monostable valves (M)
TIM06M (Max 6M)
TIM10M (Max 10M)
TIM20M (Max 20M)

TIM06B/10B



male connector 25 poles, prewired for bistable valves (B)
TIM06B (Max 6B)
TIM10B (Max 10B)

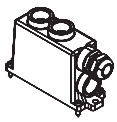
D-530C-100/200



miniature bipolar flying connector: stripped and tinned for protection
D-530C-100 (wire length 1000 mm)
D-530C-200 (wire length 2000 mm)

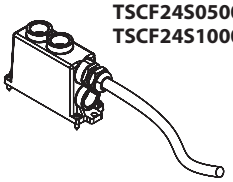
Electrical connections

TSCF000



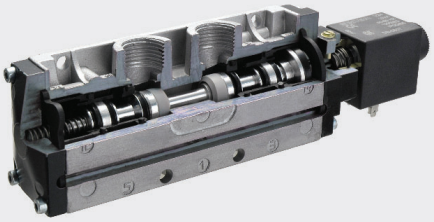
sub-D female connector 25 poles without cable

TSCF24S0300
TSCF24S0500
TSCF24S1000

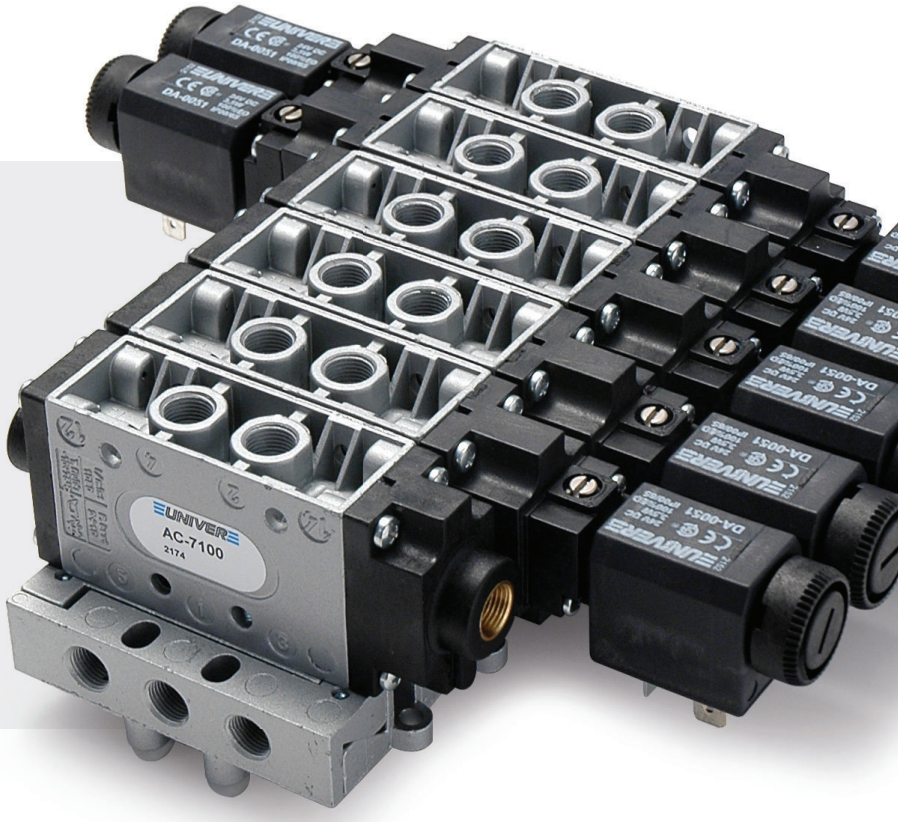


sub-D flying female connector in compliance with CEI 20-22 O.R. II prewired for 24 coils (3-5-10 m length)
M3x12 fixing screws

MIXED SYSTEM



For heavy applications
Fast commutation
Large number of cycles
High flow rate



AC 7

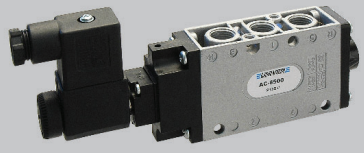
G1/8



1080
Nl/min

AC 8

G1/4



1600
Nl/min

AC 9

G1/2



4600
Nl/min

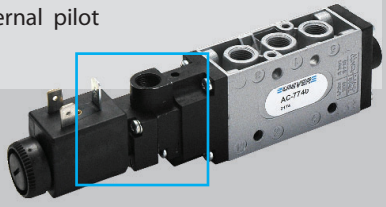
Angle plate for "H" solenoid option



Angle plate for "P" solenoid option



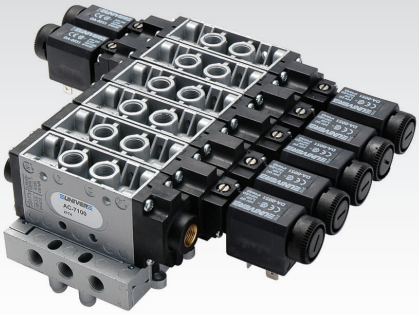
Plate for external pilot supply



3

CHARACTERISTICS

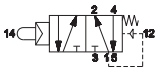
Ambient temperature	-10 ÷ +45 °C		
Fluid	50 µm filtered air, with or without lubrication		
Commutation system	poppet mixed system		
Max pressure	10 bar		
Connections	**G1/8**	**G1/4**	**G1/2**
Nominal bore (mm)	6	8	15
Nominal flow rate (Nl/min)	1080	1600	4600
Valve body	zamak	zamak	die-cast aluminium
Seals	NBR, polyurethane		
Spool	aluminium		
Electropilot	U1	U1	U2
Coil	DA	DA	DB
Power consumption	3,5 W (DC) - 5 VA (AC)	3,5 W (DC) - 5 VA (AC)	11 W (DC) - 10 VA (AC)
Connector	AM-5110	AM-5110	AM-5111
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC		
Manual override	impulse screw - 2 positions		



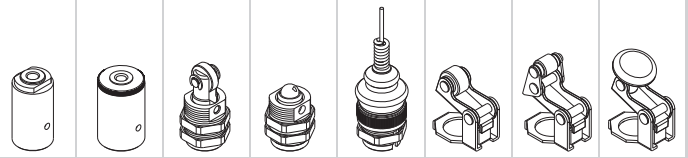
Indirect mechanical operation

Preset for pneumatic, mechanical and manual operators

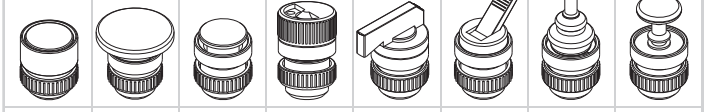




AC-7010 G1/8
AC-8010 G1/4
AC-9010 G1/2



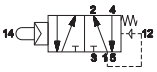
AI-3550 | **AI-3551** | **AI-3560** | **AI-3562** | **AI-3563** | **AI-3570** | **AI-3571** | **AI-3572**



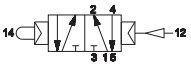
AI-3511 ■ **AI-3512** ■ **AI-3513** ■
AI-3514 ■ **AI-3516** ■ **AI-3514D** ■ **AI-3516D** ■
AI-3515 ■ **AI-3517** ■ **AI-3519** ■
AI-3520 ■ **AI-3521** ■
AI-3522 ■ (2 pos.) **AI-3523** ■
AI-3524 ■
AI-3525 ■
AI-3526 ■

Preset for panel operators Ø22

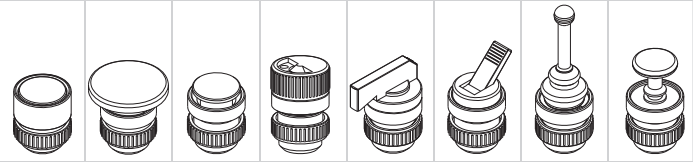




AC-7013 G1/8
AC-8013 G1/4
AC-9013 G1/2



AC-7013P G1/8
AC-8013P G1/4
AC-9013P G1/2

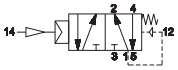


AI-3511Q ■ **AI-3512Q** ■ **AI-3513Q** ■
AI-3514Q ■ **AI-3516Q** ■ **AI-3514QD** ■ **AI-3516QD** ■
AI-3515Q ■ **AI-3517Q** ■ **AI-3519Q** ■
AI-3520Q ■ **AI-3521Q** ■
AI-3522Q ■ (2 pos.) **AI-3523Q** ■
AI-3524Q ■
AI-3525Q ■
AI-3526Q ■

Pneumatic impulse

Single impulse

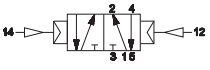




AC-7100 G1/8
AC-8100 G1/4
AC-9100 G1/2

Double impulse



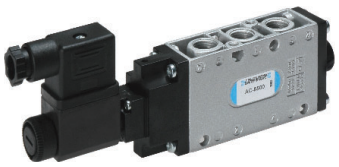


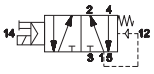
AC-7120 G1/8
AC-8120 G1/4
AC-9120 G1/2

See ATEX Catalogue for types and versions

Electrical impulse

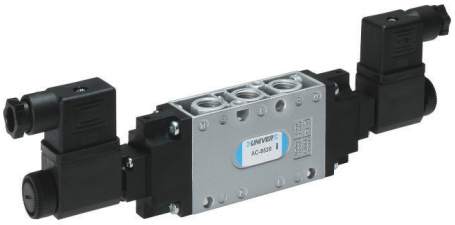
Single impulse

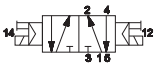




AC-7500 G1/8
AC-8500 G1/4
AC-9500 G1/2

Double impulse



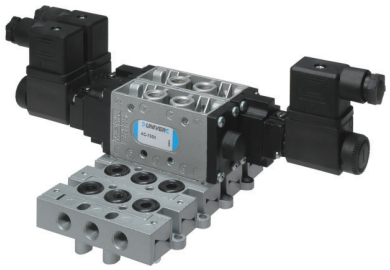


AC-7520 G1/8
AC-8520 G1/4
AC-9520 G1/2

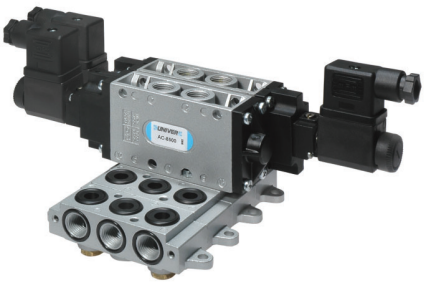
Solenoid valves are supplied without coil/connector/locking nut

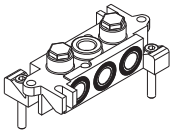
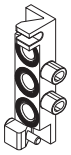
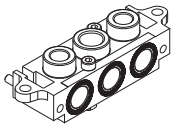
Modular sub-base

G1/8

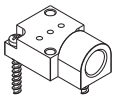
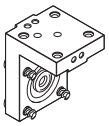
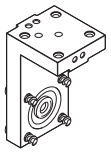


G1/4



AC-7900	AC-7905	AC-8900
		
Sub-base with connections **G1/8**	5/2 MIXED system inlet plate - G1/8	Sub-base with threaded connections **G1/4**

Sub-bases are supplied with fixing screws

AM-5148	AM-5151	AM-5152
		
Plate for external pilot supply G1/8 - G1/4	Angle plate for "H" solenoid option G1/8 - G1/4	Angle plate for "P" solenoid option G1/8 - G1/4

Solenoid valves are supplied without coil, connector and locking nut

3

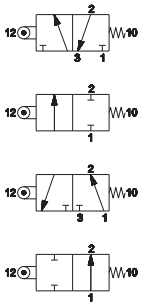
CHARACTERISTICS

Ambient temperature	-10 ÷ +45 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	poppet
Max pressure	10 bar
Connections	G1/8
Nominal bore (mm)	5
Nominal flow rate (Nl/min)	600 (NC), 550 (NO)
Valve body	zamak
Seals	NBR
Spool	nickel-plated brass



Roller lever - spring

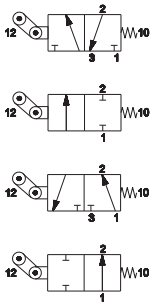




CH-250
CH-252
CH-254
CH-256

One-way roller lever - spring

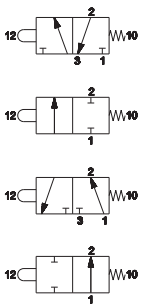




CH-260
CH-262
CH-264
CH-266

Ball push - spring

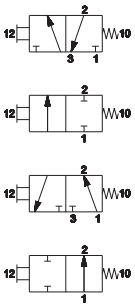




CH-270
CH-272
CH-274
CH-276

Button lever - spring





CH-280
CH-282
CH-284
CH-286

See ATEX Catalogue for types and versions

AF-AG

Poppet Valves G1/8 ÷ G1 1/2

WIDE RANGE

G1/8 ÷ G1 1/2

2/2 - 3/2 NC-NO

COMPRESSED AIR VERSION

VACUUM VERSION

Available also with external pilot vacuum supply

HIGH FLOW RATE

Up to **35000 Nl/min**

(G1 1/2)



	AF Nl/min Compressed air	AG m³/h Vacuum
 G1/8 (Ø 5,5)	580	1,5
 G1/4 (Ø 8)	1100	4
G3/8 (Ø 10)	1500	10
 G1/2 (Ø 15)	5400	20
G3/4 (Ø 19)	6500	35
 G1 (Ø 25)	13500	90
 G1 1/2 (Ø 39)	35000	180

Poppet system

UNIVER Original since 1973



CHARACTERISTICS

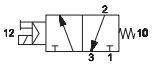
Ambient temperature							Max +50 °C
Fluid							50 µm filtered air, with or without lubrication
Commutation system							poppet
Max pressure							10 bar
Connections	**G1/8**	**G1/4**	**G3/8**	**G1/2**	**G3/4**	**G1**	**G1 1/2**
Nominal bore (mm)	5,5	8	10	15	19	25	39
Nominal flow rate (Nl/min)	580	1100	1500	5400	6500	13500	35000
Valve body							zamak (G1/8 ÷ G1), aluminium (G1 1/2)
Seals							polyurethane conical poppets and Vulkollan diaphragm
Spool							aluminium (G1/8 ÷ G3/8), steel + plastic (G1/2 ÷ G1 1/2)

	G1/8	**G1/4 ÷ G1 1/2**
Electropilot	U1	U2
Coil	DA	DB
Power consumption	3,5 W (DC) - 5 VA (AC)	11 W (DC) - 10 VA (AC)
Connector	AM-5110	AM-5111
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC	
Manual override	impulse screw - 2 positions	

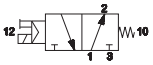


Solenoid valves **G1/8 ÷ G3/8**



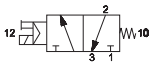


3/2 NC
AF-2500 G1/8 U1

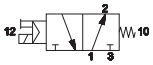


3/2 NO
AF-2501 G1/8 U1





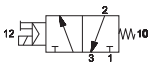
3/2 NC
AF-2510 G1/4 U1
AF-2517 G1/4 U2
AF-2520 G3/8 U1
AF-2524 G3/8 U2



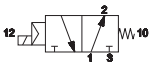
3/2 NO
AF-2511 G1/4 U1
AF-2518 G1/4 U2
AF-2521 G3/8 U1
AF-2525 G3/8 U2

Solenoid valves **G1/2 ÷ G1 1/2**



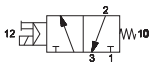


3/2 NC
AF-2530 G1/2 U2
AF-2540 G3/4 U2
AF-2545 G1 U2

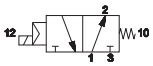


3/2 NO
AF-2531 G1/2 U2
AF-2541 G3/4 U2
AF-2546 G1 U2





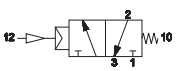
3/2 NC
AF-2565 G1 1/2 U2



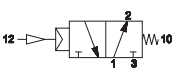
3/2 NO
AF-2561 G1 1/2 U2

Pneumatic valves with external operation **G1/8 ÷ G3/8**



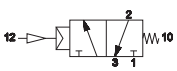


3/2 NC
AF-2600 G1/8

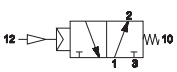


3/2 NO
AF-2700 G1/8





3/2 NC
AF-2601 G1/4
AF-2606 G3/8

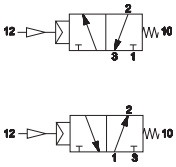


3/2 NO
AF-2701 G1/4
AF-2706 G3/8

Compressed air power-operated 2/2 version valves available upon request
Solenoid valves are supplied without coil, connector and locking nut
See ATEX Catalogue for types and versions

Pneumatic valves with external operation **G1/2 ÷ G1 1/2**

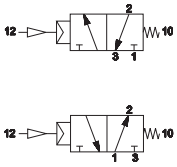




3/2 NC-NO

AF-2603 G1/2
AF-2610 G3/4
AF-2615 G1



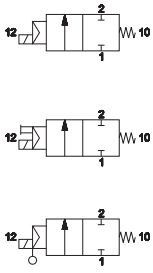


3/2 NC-NO

AF-2620 G1 1/2

2/2 Solenoid valve for blowing **G1**





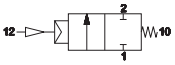
2/2 NC
AF-2550 G1

2/2 NC
AF-2551 G1

2/2 NC
AF-2552 G1

2/2 Pneumatic valve for blowing with ext. operation **G1**





2/2 NC
AF-2617 G1

Solenoid valves are supplied without coil/connector/locking nut

CHARACTERISTICS

Ambient temperature							Max +50 °C
Fluid							50 µm filtered air, with or without lubrication - vacuum
Commutation system							poppet
Max vacuum							759,5 mm Hg
Connections	**G1/8**	**G1/4**	**G3/8**	**G1/2**	**G3/4**	**G1**	**G1 1/2**
Nominal bore (mm)	5,5	8	10	15	19	25	39
Valve body							zamak (G1/8 ÷ G1), aluminium (G1 1/2)
Seals							polyurethane conical poppets and Vulkollan diaphragm[a] ; silicon poppets[b]
Spool							aluminium (G1/8 ÷ G3/8), steel + plastic (G1/2 ÷ G1 1/2)

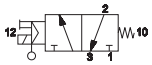
	G1/8	**G1/4 ÷ G1 1/2**
Electropilot	U1	U2
Coil	DA	DB
Power consumption	3,5 W (DC) - 5 VA (AC)	11 W (DC) - 10 VA (AC)
Connector	AM-5110	AM-5111
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC	
Manual override	impulse screw - 2 positions	

(a) = valve for vacuum with external air operation
(b) = valve for direct vacuum with external vacuum operation

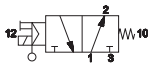


3/3 Solenoid valve for vacuum with external pilot air supply **G1/8 ÷ G3/8**



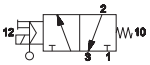


3/2 NC
AG-3001 G1/8

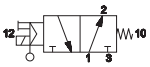


3/2 NO
AG-3002 G1/8





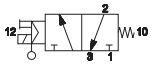
3/2 NC
AG-3009 G1/4
AG-3011 G3/8



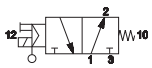
3/2 NO
AG-3010 G1/4
AG-3012 G3/8

3/2 Solenoid valve for vacuum with external pilot air supply **G1/2 ÷ G1 1/2**



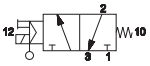


3/2 NC
AG-3020 G1/2
AG-3040 G3/4
AG-3050 G1

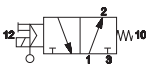


3/2 NO
AG-3021 G1/2
AG-3041 G3/4
AG-3051 G1





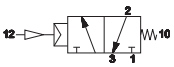
3/2 NC
AG-3062 G1 1/2



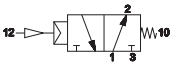
3/2 NO
AG-3063 G1 1/2

3/2 Pneumatic valve for vacuum with external air operation **G1/8 ÷ G3/8**



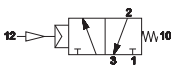


3/2 NC
AG-3071 G1/8

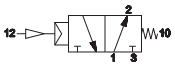


3/2 NO
AG-3072 G1/8





3/2 NC
AG-3073 G1/4
AG-3075 G3/8

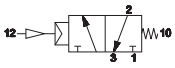


3/2 NO
AG-3074 G1/4
AG-3076 G3/8

2/2 NC-NO versions available upon request
Solenoid valves are supplied without coil/connector/locking nut
See ATEX Catalogue for types and versions

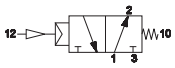
3/2 Pneumatic valve for vacuum with external air operation **G1/2 ÷ G1 1/2**





3/2 NC

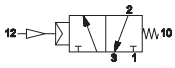
AG-3081 G1/2
AG-3091 G3/4
AG-3100 G1



3/2 NO

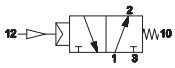
AG-3082 G1/2
AG-3092 G3/4
AG-3101 G1





3/2 NC

AG-3110 G1 1/2

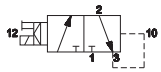


3/2 NO

AG-3111 G1 1/2

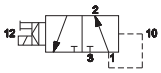
3/2 Solenoid valve for direct vacuum with pilot vacuum supply **G1/4 ÷ G1 1/2**





3/2 NC

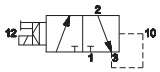
AG-3210 G1/4
AG-3214 G3/8



3/2 NO

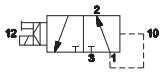
AG-3211 G1/4
AG-3215 G3/8





3/2 NC

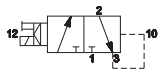
AG-3222 G1/2
AG-3232 G3/4
AG-3242 G1



3/2 NO

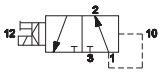
AG-3223 G1/2
AG-3233 G3/4
AG-3243 G1





3/2 NC

AG-3256 G1 1/2

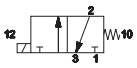


3/2 NO

AG-3257 G1 1/2

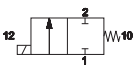
2/2 - 3/2 Solenoid valve for vacuum with direct operation **G1/4 - G1/2**





3/2 NC[(a)]

AG-3310 G1/4 Ø 3 mm
AG-3311 G1/4 Ø 4 mm
AG-3312 G1/4 Ø 5 mm
AG-3313 G1/4 Ø 6 mm

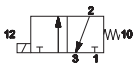


2/2 NC

AG-3300 G1/4 Ø 3 mm
AG-3301 G1/4 Ø 4 mm
AG-3302 G1/4 Ø 5 mm
AG-3303 G1/4 Ø 6 mm

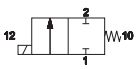
(a) = Fixed discharge Ø 3 mm





3/2 NC[(a)]

AG-3330 G1/2 Ø 8 mm
AG-3331 G1/2 Ø 10 mm
AG-3332 G1/2 Ø 11 mm



2/2 NC

AG-3320 G1/2 Ø 8 mm
AG-3321 G1/2 Ø 10 mm
AG-3322 G1/2 Ø 11 mm

(a) = Fixed discharge Ø 3 mm

U2 - 17 VA coil



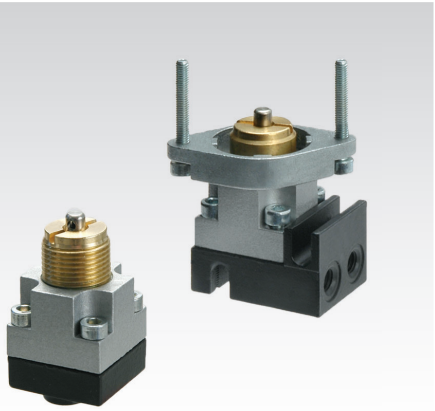
DB-0607 24V AC - 50/60 Hz
DB-0608 110V AC - 50/60 Hz
DB-0610 220V AC - 50/60 Hz

Solenoid valves are supplied without coil/connector/locking nut

3

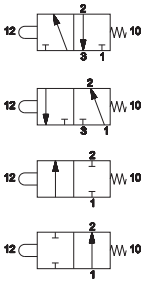
CHARACTERISTICS

Ambient temperature	-10 ÷ +90 °C	
Fluid	50 µm filtered air, with or without lubrication	
Commutation system	poppet	
Max pressure	10 bar	
Connections	interface for sub-base	
	standard	**sensible**
Nominal bore (mm)	2,3	1,5
Nominal flow rate (Nl/min)	110	55
Force (N)	5	4
Valve body	zamak	
Seals	NBR	
Spool	nickel-plated brass	



Mechanical push button - spring



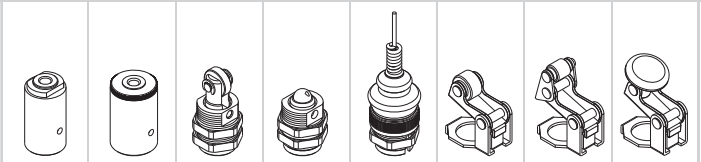


AI-3500 standard
AI-3500S sensible

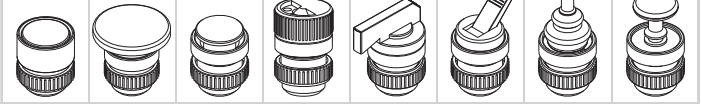
AI-3501 standard
AI-3501S sensible

AI-3502 standard

AI-3503 2/2 NO
Available upon request

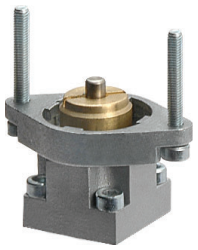


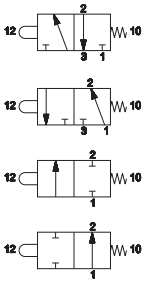
AI-3550 | **AI-3551** | **AI-3560** | **AI-3562** | **AI-3563** | **AI-3570** | **AI-3571** | **AI-3572**



AI-3511 ■ | **AI-3514** ■ | **AI-3515** ■ | **AI-3520** ■ | **AI-3522** ■ (2 pos.) | **AI-3524** ■ | **AI-3525** ■ | **AI-3526** ■
AI-3512 ■ | **AI-3516** ■ | **AI-3517** ■ | **AI-3521** ■ | **AI-3523** ■
AI-3513 ■ | **AI-3514D** ■ | **AI-3519** ■
AI-3516D ■

Mechanical push button for panel operation - spring





AI-3500Q standard
AI-3500SQ sensible

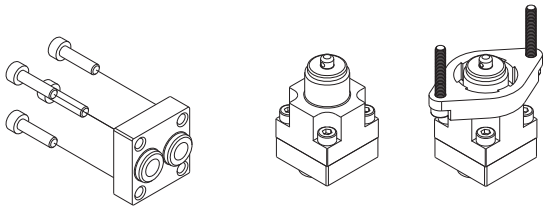
AI-3501Q standard
AI-3501SQ sensible

AI-3502Q standard

AI-3503Q 2/2 NO
Available upon request

AI-3511Q ■ | **AI-3514Q** ■ | **AI-3515Q** ■ | **AI-3520Q** ■ | **AI-3524Q** ■ | **AI-3522Q** ■ (2 pos.) | **AI-3525Q** ■ | **AI-3526Q** ■
AI-3512Q ■ | **AI-3516Q** ■ | **AI-3517Q** ■ | **AI-3521Q** ■ | **AI-3523Q** ■
AI-3513Q ■ | **AI-3514QD** ■ | **AI-3519Q** ■
AI-3516QD ■

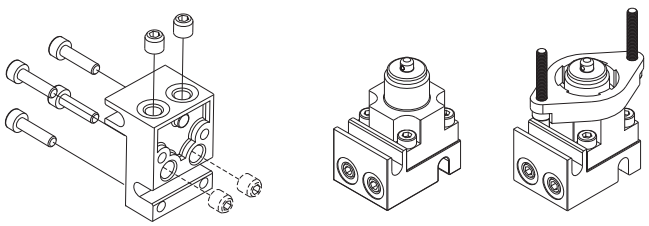
AI-3610



Sub-base with bottom connections M5

Sub-bases are supplied with M3x12 fixing screws (4 pcs) and M5x5 grub screws (2pcs) to close the unused ways.

AI-3612



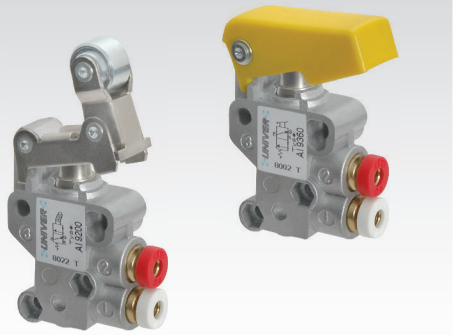
Sub-base with side or bottom connections M5

Grub screws must be fixed with sealing loctite (243 type), being sure that loctite does not obstruct the ports or sink inside the valve.
Grub screws must be screwed until reaching the base surface. Avoid screwing them completely.

See ATEX Catalogue for types and versions

CHARACTERISTICS

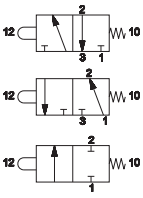
Ambient temperature	-10 ÷ +90 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	poppet
Max pressure	10 bar
Connections	M5, tube Ø4
Nominal bore (mm)	2,5
Nominal flow rate (Nl/min)	70
Valve body	zamak
Seals	NBR
Spool	nickel-plated brass



Ball push - spring

Tube Ø4

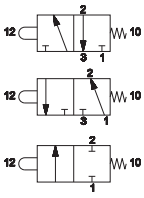




AI-9000
AI-9010
AI-9020

M5



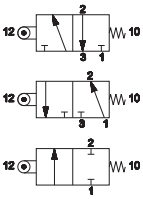


AI-9000M
AI-9010M
AI-9020M

Roller lever - spring

Tube Ø4

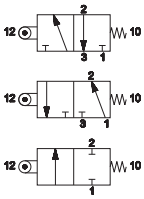




AI-9100
AI-9110
AI-9120

M5



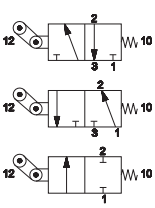


AI-9100M
AI-9110M
AI-9120M

One-way roller lever - spring

Tube Ø4

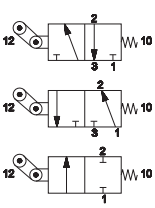




AI-9200
AI-9210
AI-9220

M5





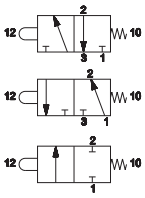
AI-9200M
AI-9210M
AI-9220M

See ATEX Catalogue for types and versions

Bulkhead mechanical push button - spring

Tube Ø4

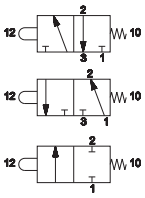




AI-9300
AI-9310
AI-9320

M5



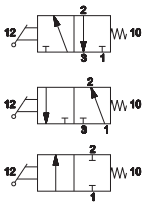


AI-9300M
AI-9310M
AI-9320M

Button lever - spring

Tube Ø4

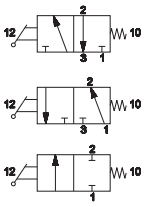




AI-9350
AI-9360
AI-9370

M5

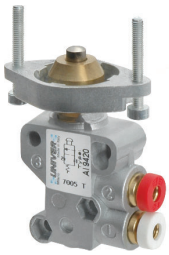


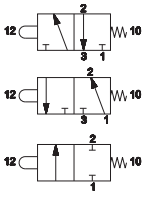


AI-9350M
AI-9360M
AI-9370M

Mechanical push button for panel operation - spring

Tube Ø4

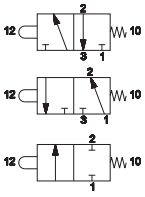




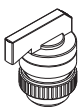
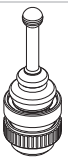
AI-9400
AI-9410
AI-9420

M5





AI-9400M
AI-9410M
AI-9420M

							
AI-3511Q ■ AI-3512Q ■ AI-3513Q ■	AI-3514Q ■ AI-3516Q ■ AI-3514QD ■ AI-3516QD ■	AI-3515Q ■ AI-3517Q ■ AI-3519Q ■	AI-3520Q ■ AI-3521Q ■	AI-3524Q ■	AI-3522Q ■ (2 pos.) AI-3523Q ■	AI-3525Q ■	AI-3526Q ■

CHARACTERISTICS

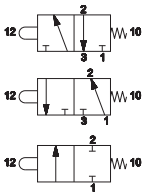
Ambient temperature	-10 ÷ +90 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	poppet
Max pressure	10 bar
Connections	M5, tube Ø4
Nominal bore (mm)	2,5
Nominal flow rate (Nl/min)	70
Valve body	zamak
Seals	NBR
Spool	nickel-plated brass



Mechanical push button for panel mounting

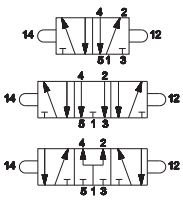
Tube Ø4





AI-9500B 3/2 NC
AI-9510B 3/2 NO
AI-9520B 2/2 NC

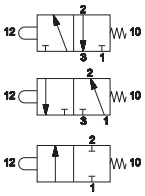




AI-9550B 5/2
AI-9560B 5/3 o.c.
AI-9570B 5/3 p.c.

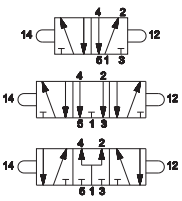
M5





AI-9500BM 3/2 NC
AI-9510BM 3/2 NO
AI-9520BM 2/2 NC





AI-9550BM 5/2
AI-9560BM 5/3 o.c.
AI-9570BM 5/3 p.c.

o.c. = open centres **p.c.** = pressurized centres

					
Recessed button **AI-35B10N** ■ **AI-35B10R** ■ **AI-35B10V** ■	**Protruding button** **AI-35B11N** ■ **AI-35B11R** ■ **AI-35B11V** ■	**Two-position head button** **AI-35B13N** ■ **AI-35B13R** ■	**Short lever selector** **AI-35B20** 2 steady positions **AI-35B21** 3 unsteady positions **AI-35B22** 3 steady positions	**Long lever selector** **AI-35B25** 2 steady positions **AI-35B26** 3 unsteady positions **AI-35B27** 3 steady positions	**Key selector** (extractable key) **AI-35B30** 2 steady positions **AI-35B31** 3 unsteady positions **AI-35B32** 3 steady positions

See ATEX Catalogue for types and versions

CHARACTERISTICS

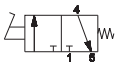
Ambient temperature	-10 ÷ +70 °C	
Fluid	filtered air 50 µm, with or without lubrication	
Commutation system	poppet	
Max pressure	10 bar	
Connections	**G1/8**	**G1/4**
Nominal bore (mm)	2,3	8
Nominal flow rate (Nl/min)	98	800
PNEUMATIC FOOT VALVE:		
Valve body	zamak	
Foot valve lever	aluminium	
Pedal body and protection	plastic material with reinforcing steel plate	
Seals	oil and wear resistant compound	
Spool	aluminium	
SOLENOID FOOT VALVE		
Valve body, foot valve lever, protection	dielectric plastic material	



Pneumatic foot valve **G1/4** with protection



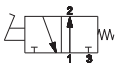
Spring return



AM-5000

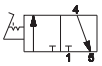


AM-5001

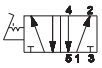


AM-5002

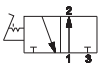
Bistable



AM-5003

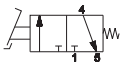


AM-5004

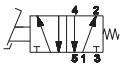


AM-5005

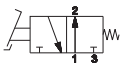
With safety control



AM-5015

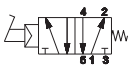


AM-5011



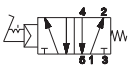
AM-5012

External operation - Spring return



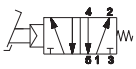
AM-5021

External operation - bistable



AM-5031

External operation with safety control

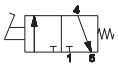


AM-5041

Pneumatic foot valve **G1/4** without protection



Spring return

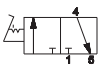


AM-5000A

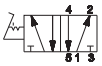


AM-5001A

Bistable



AM-5003A

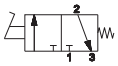


AM-5004A

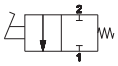
Pneumatic foot valve **G1/8** with protection



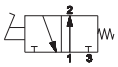
Spring return



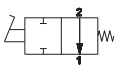
AM-5043



AM-5043B



AM-5043C

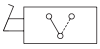


AM-5043D

Version without protection available upon request

Solenoid foot valve





AM-5050
No electrical microswitch
AM-5051
Electrical microswitch
AM-5052
Double electrical microswitch

See ATEX Catalogue for types and versions

HIGH FLOW RATE
310 Nl/min (UNIVER traditional spool technology)

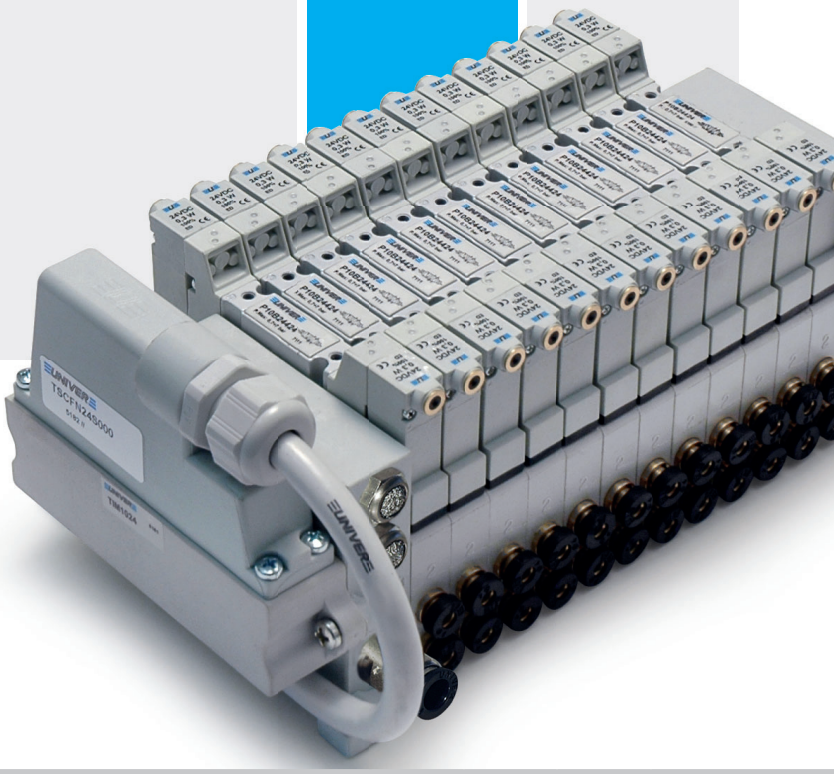
COMPACT SIZE: 10 mm
Highest reduction of overall dimensions

EASY INSTALLATION
All pneumatic connections on the same side

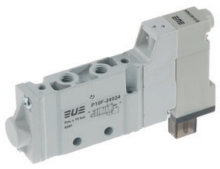
COMPLETE SOLUTION
Threaded body and body for sub-base mounting
5/2 - 5/3 - 3/2+3/2

1 W
Standard

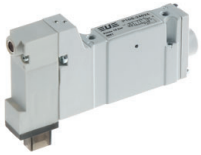
0,3 W
Low consumption



P10F



P10B



P10F
Threaded ports (M5)

Electrical connection with external connector



Integrated electrical connection



P10B
For sub-base (M5-M7-Tube 4)

Integrated electrical connection



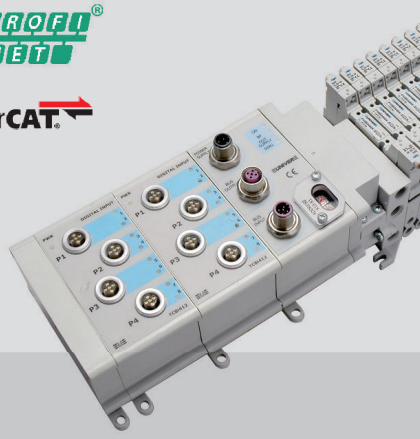
Available with IO-Link connection

IO-Link



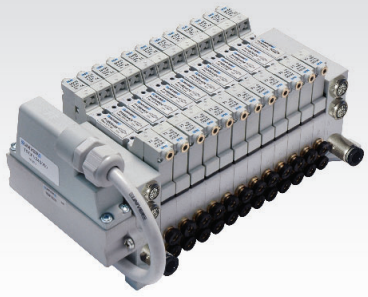
CANopen DeviceNet PROFINET PROFIBUS EtherNet/IP EtherCAT

TC Series
Connection to modular serial communication system



CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid	10 µm filtered air, with or without lubrication
Commutation system	spool
Max pressure	7 bar (electrical control)
	10 bar (pneumatic control)
Connections	M5 (P10F) - M5, M7, tube Ø 4 (P10B)
Nominal flow rate (Nl/min)	310 (5/2) 230 (5/3) 250 (3/2+3/2)
Valve body	zamak
Seals	NBR
Electropilot	B10 (0,3W) - B11 (1 W)
Spool	aluminium
Voltage	24 V DC (± 10%)
Power consumption	B10 = 0,3 W, Speed-up 1,3 W (25 ms) B11 = 1 W
Protection degree	IP65
Manual override	recessed button - 1 position



CODIFICATION KEY

P	1	0	F	2	4	4	2	4		
1				2	3	4	5		6	7

1 Series
P10F = Threaded body
P10B = Body for sub-base

2 Type
2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

3 Control 14
3 = Pneumatic amplified
4 = Electrical amplified 90° (0,3W)
6 = Electrical amplified 90° (1W)

4 Return 12
0 = Pneumomechanical spring
1 = Mechanical spring
3 = Pneumatic amplified
4 = Electrical amplified 90° (0,3W)
6 = Electrical amplified 90° (1W)

5 Voltage
24 = 24 V DC

6 Option
D = External pilot supply on valve body (**P10** = M3)

7 ATEX Option
X = Atex (upon request)

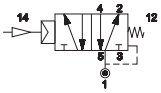
See ATEX Catalogue for types and versions

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

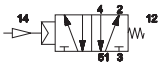
Pneumatic impulse - Threaded connections M5

Single impulse





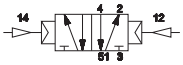
P10F230



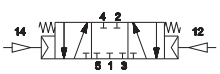
P10F231

Double impulse

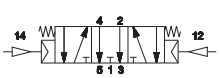




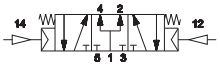
P10F233



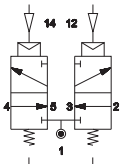
P10F333



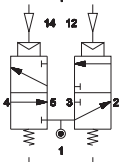
P10F433



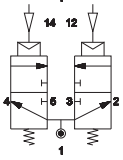
P10F533



P10F633



P10F733



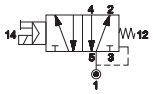
P10F833

Subject to change

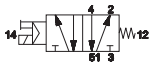
Electrical impulse - Threaded connections M5

Single impulse





P10F24024 0,3 W
P10F26024 1 W



P10F24124 0,3 W
P10F26124 1 W

B10



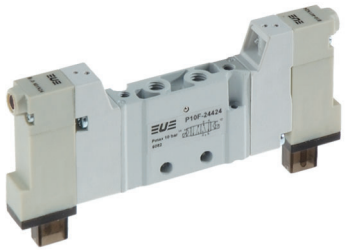
Low power consumption 0,3 W

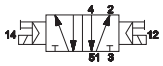
B11



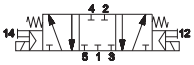
Standard 1 W

Double impulse

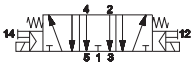




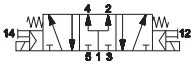
P10F24424 0,3 W
P10F26624 1 W



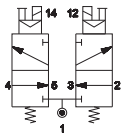
P10F34424 0,3 W
P10F36624 1 W



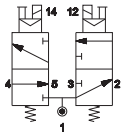
P10F44424 0,3 W
P10F46624 1 W



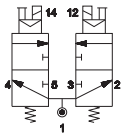
P10F54424 0,3 W
P10F56624 1 W



P10F64424 0,3 W
P10F66624 1 W

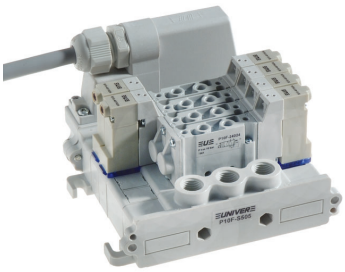


P10F74424 0,3 W
P10F76624 1 W



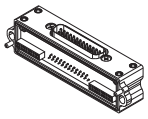
P10F84424 0,3 W
P10F86624 1 W

Integrated electrical connection - Threaded connections M5



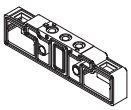
Configuration 25p conn.
max 12 bistable

TIM1024



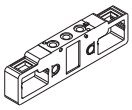
male connection module
25 poles, type sub-D

P10SF100



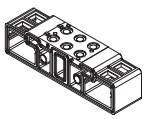
sub-base 1 place

P10SF110



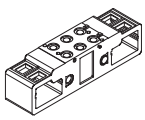
sub-base 1 place
1-3-5 closed

P10SF200



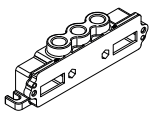
sub-base 2 places

P10SF210



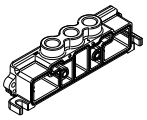
sub-base 2 places
1-3-5 closed

P10SF500



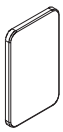
left supply plate G1/8
for TIM module

P10SF505



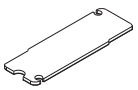
right supply plate G1/8

P10SF550



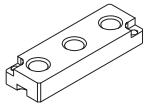
pressure separator

P10SF560



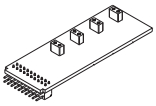
closing plate for unused valve place

P10SF570



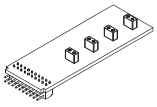
intermediate supply plate for threaded version

P10SS14**M



bus connection card,
side 14
** = 04, 06, 08, 10, 12 places

P10SS12**M



bus connection card,
side 12
** = 04, 06, 08, 10, 12 places

P10STR01



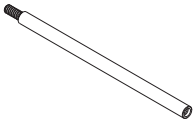
modular tie-rods
1 valve place

P10STR02



modular tie-rods
2 valve places

P10STR05



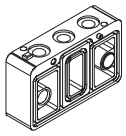
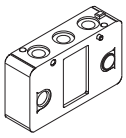
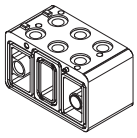
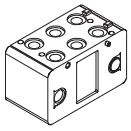
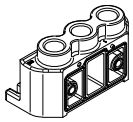
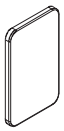
modular tie-rods
5 valve places

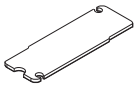
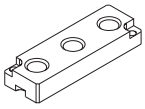
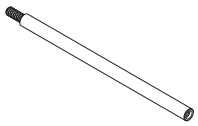
AZ4-SN003A
No. 100 nuts M3 for tie-rods

AZ4-VN0310
No. 100 screws M3x10 for tie-rods

Electrical connection with external connector - Threaded connections M5



P10SF300	P10SF310	P10SF400	P10SF410	P10SF515	P10SF550
					
sub-base 1 place	sub-base 1 place 1-3-5 closed	sub-base 2 places	sub-base 2 places 1-3-5 closed	right/left supply place G1/8	pressure separator

P10SF560	P10SF570	P10STR01	P10STR02	P10STR05
				
closing plate for unused valve place	intermediate supply plate for threaded version	modular tie-rods 1 valve place	modular tie-rods 2 valve places	modular tie-rods 5 valve places

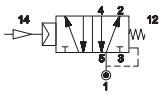
AZ4-SN003A
No. 100 nuts M3
for tie-rods

AZ4-VN0310
No. 100 screws M3x10
for tie-rods

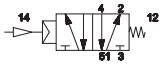
Pneumatic impulse - Body for sub-base mounting

Single impulse





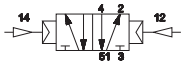
P10B230



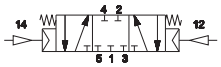
P10B231

Double impulse

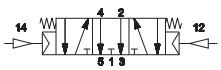




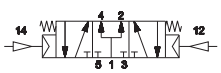
P10B233



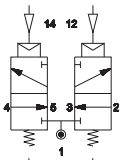
P10B333



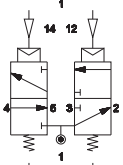
P10B433



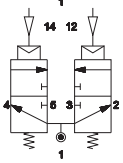
P10B533



P10B633



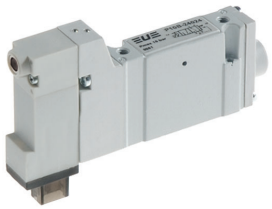
P10B733

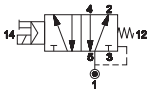


P10B833

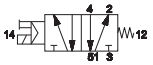
Electrical impulse - Body for sub-base mounting

Single impulse





P10B24024 0,3 W
P10B26024 1 W



P10B24124 0,3 W
P10B26124 1 W

B10



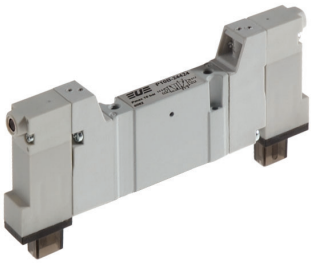
Low power consumption 0,3 W

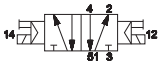
B11



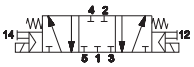
Standard 1 W

Double impulse

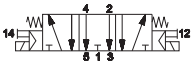




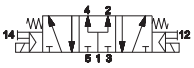
P10B24424 0,3 W
P10B26624 1 W



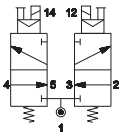
P10B34424 0,3 W
P10B36624 1 W



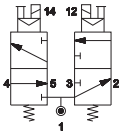
P10B44424 0,3 W
P10B46624 1 W



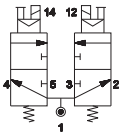
P10B54424 0,3 W
P10B56624 1 W



P10B64424 0,3 W
P10B66624 1 W

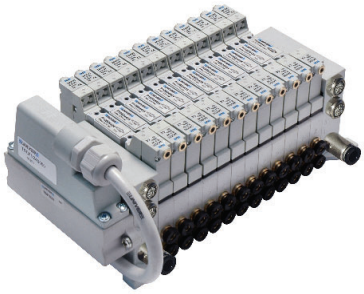


P10B74424 0,3 W
P10B76624 1 W



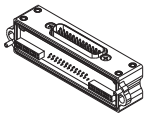
P10B84424 0,3 W
P10B86624 1 W

Integrated electrical connection - Body for sub-base mounting



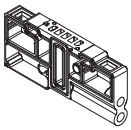
Configuration 25p conn.
max 12 bistable

TIM1024



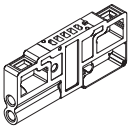
male connection module 25 poles, type sub-D

P10SB100/107



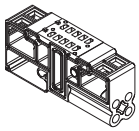
sub-base 1 place side outlets M5, M7

P10SB110/117



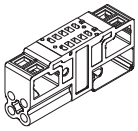
sub-base 1 place side outlets M5, M7 1-3-5 closed

P10SB200/207



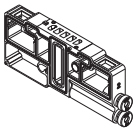
sub-base 2 places side outlets M5, M7

P10SB210/217



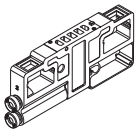
sub-base 2 places side outlets M5, M7 1-3-5 closed

P10SB304



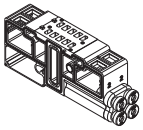
sub-base 1 place side outlets with push-in connections tube 4

P10SB314



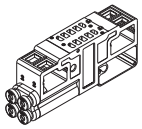
sub-base 1 place side outlets with push-in connections tube 4 1-3-5 closed

P10SB404



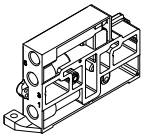
sub-base 2 places side outlets with push-in connections tube 4

P10SB414



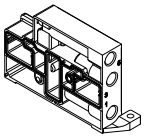
sub-base 2 places side outlets with push-in connections tube 4 1-3-5 closed

P10SB500



supply plate G1/8 for TIM module

P10SB505



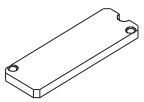
right supply plate G1/8

P10SB550



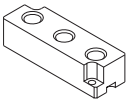
pressure separator

P10SB560

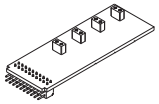
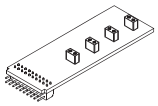
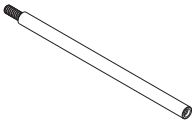


closing plate for unused valve place

P10SB570



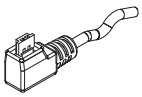
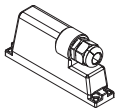
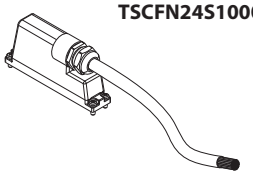
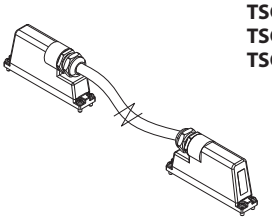
intermediate supply plate for sub-base version

P10SS14**M	P10SS12**M	P10STR01	P10STR02	P10STR05
				
bus connection card, side 14 ** = 04, 06, 08, 10, 12 places	bus connection card, side 12 ** = 04, 06, 08, 10, 12 places	modular tie-rods 1 valve place	modular tie-rods 2 valve places	modular tie-rods 5 valve places

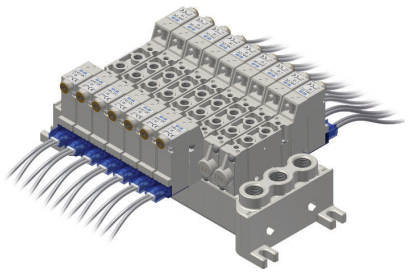
AZ4-SN003A
No. 100 nuts M3 for tie-rods

AZ4-VN0310
No. 100 screws M3x10 for tie-rods

Electrical connections

D-535U40300 D-535U40500	TSCFN24S000	TSCFN24S0300 TSCFN24S0500 TSCFN24S1000	TSCFN16D0300 TSCFN16D0500 TSCFN16D1000
			
single connector cable 3-5 m	female connector 25 poles, type sub-D, no cable M3x8 fixing screws	female connector 25 poles, type sub-D, prewired for 24 coils (3-5-10 m length) M3x8 fixing screws	sub-D male/female flying connector (upon request) prewired for 16 coils with cable Ø 8 mm (3-5-10 m length) suitable for dynamic laying - M3x8 fixing screws

In-line connections



IO-Link connection



TC series Serial Communication System



HIGH FLOW RATE
800 Nl/min (UNIVER traditional spool technology)

COMPACT SIZE: 15 mm
Highest reduction of overall dimensions

EASY INSTALLATION
All pneumatic connections on the same side

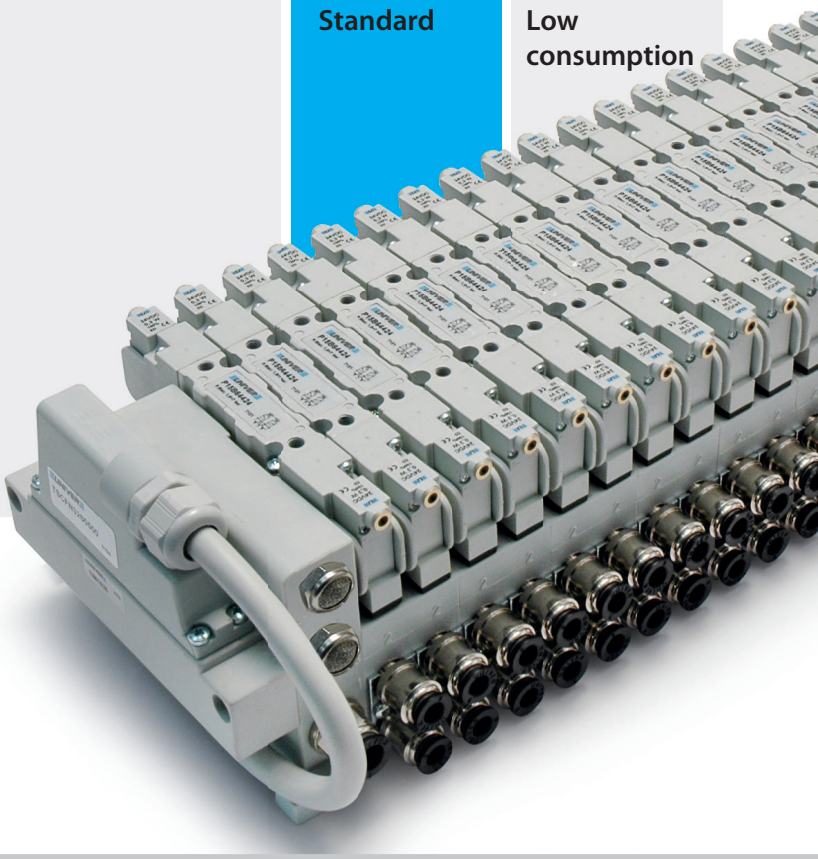
COMPLETE SOLUTION
Threaded body and body for sub-base mounting

5/2 - 5/3 - 3/2+3/2

NEW VERSION P15B
Up to 36 coils control upon request

1 W
Standard

0,3 W
Low consumption



P15F



P15B

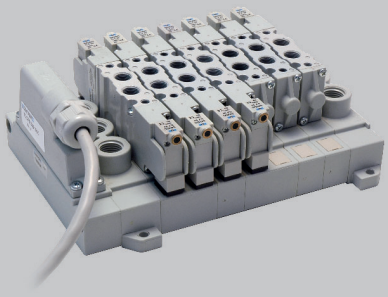


P15F
Threaded ports (G1/8)

Electrical connection with external connector

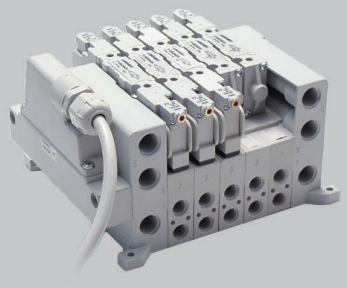


Integrated electrical connection



P15B
For sub-base (G1/8 - Tube 4-6-8)

Integrated electrical connection



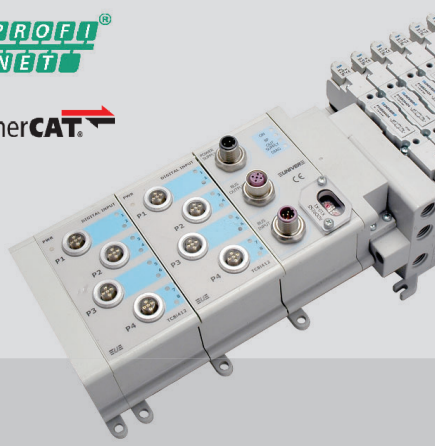
Available with IO-Link connection

IO-Link



CANopen DeviceNet PROFINET PROFIBUS EtherNet/IP EtherCAT

TC Series
Connection to modular serial communication system



3

CHARACTERISTICS

Ambient temperature	-5 ÷ 50 °C
Fluid	10 µm filtered air, with or without lubrication
Commutation system	spool
Max pressure	7 bar (electrical control)
	10 bar (pneumatic control)
Connections	G1/8 (P15F) - G1/8 - tube Ø 4-6-8 (P15B)
Nominal flow rate (Nl/min)	800 (5/2) 720 (5/3) 720 (3/2+3/2)
Valve body	zamak
Seals	NBR
Spool	aluminium
Electropilot	B10 (0,3W) - B11 (1 W)
Voltage	24 V DC (± 10%)
Power consumption	B10 = 0,3 W, speed -up 1,3 W (25 ms) B11 = 1 W
Protection degree	IP65
Manual override	recessed button - 1 position



CODIFICATION KEY

P	1	5	F	2	4	4	2	4		
1				2	3	4	5		6	7

1 Series
- **P15F** = Threaded body
- **P15B** = Body for sub-base
- **P15D** = Threaded body 15 mm connector

2 Type
- **2** = 5/2
- **3** = 5/3 **c.c.**
- **4** = 5/3 **o.c.**
- **5** = 5/3 **p.c.**
- **6** = 3/2+3/2 NC-NC
- **7** = 3/2+3/2 NC-NO
- **8** = 3/2+3/2 NO-NO

3 Control 14
- **3** = Pneumatic amplified
- **4** = Electrical amplified 90° (0,3W)
- **6** = Electrical amplified 90° (1W)

4 Return 12
- **0** = Pneumomechanical spring
- **1** = Mechanical spring
- **3** = Pneumatic amplified
- **4** = Electrical amplified 90° (0,3W)
- **6** = Electrical amplified 90° (1W)

5 Voltage
- **24** = 24 V DC

6 Option
- **D** = External pilot supply on valve body (**P15** = M5)

7 ATEX option
- **X** = Atex (upon request)

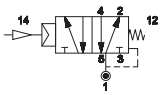
See ATEX Catalogue for types and versions

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

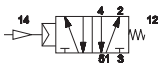
Pneumatic impulse - Threaded connections G1/8

Single impulse





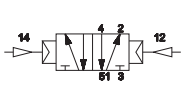
P15F230



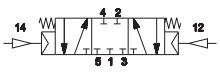
P15F231

Double impulse

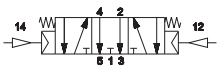




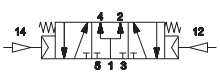
P15F233



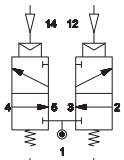
P15F333



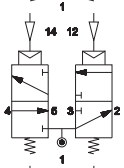
P15F433



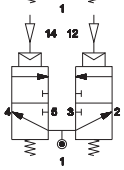
P15F533



P15F633



P15F733

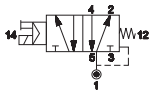


P15F833

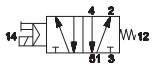
Electrical impulse - Threaded connections G1/8

Single impulse





P15F24024 0,3 W
P15F26024 1 W



P15F24124 0,3 W
P15F26124 1 W

B10



Low power consumption 0,3 W

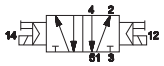
B11



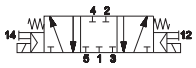
Standard 1 W

Double impulse

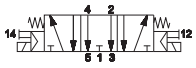




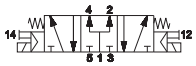
P15F24424 0,3 W
P15F26624 1 W



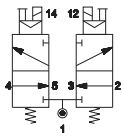
P15F34424 0,3 W
P15F36624 1 W



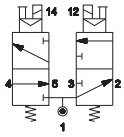
P15F44424 0,3 W
P15F46624 1 W



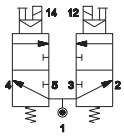
P15F54424 0,3 W
P15F56624 1 W



P15F64424 0,3 W
P15F66624 1 W



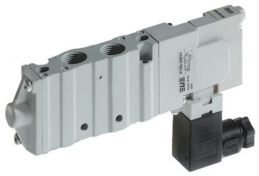
P15F74424 0,3 W
P15F76624 1 W

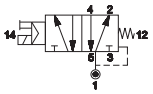


P15F84424 0,3 W
P15F86624 1 W

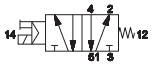
Electrical impulse - Threaded connections G1/8 - 15 mm connector

Single impulse



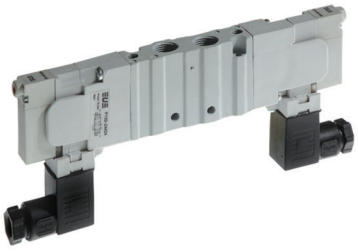


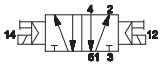
P15D24024 0,3 W
P15D26024 1 W



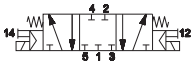
P15D24124 0,3 W
P15D26124 1 W

Double impulse

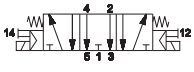




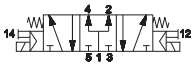
P15D24424 0,3 W
P15D26624 1 W



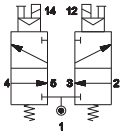
P15D34424 0,3 W
P15D36624 1 W



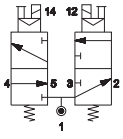
P15D44424 0,3 W
P15D46624 1 W



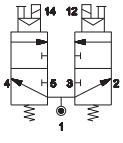
P15D54424 0,3 W
P15D56624 1 W



P15D64424 0,3 W
P15D66624 1 W

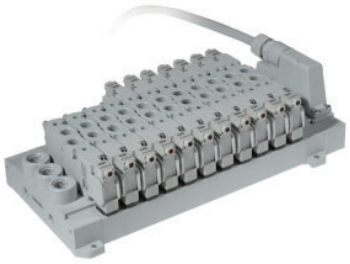


P15D74424 0,3 W
P15D76624 1 W



P15D84424 0,3 W
P15D86624 1 W

Integrated electrical connection - Threaded connections G1/8

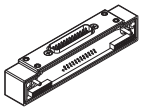


Configuration 25p conn.
max 12 bistable (TIM1524)
max 6 bistable + 12 monostable (TIM151806)

Configuration 37p conn.
max 16 bistable(TIM1536)

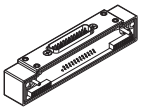
Configuration 37p conn. (upon request)
max 18 bistable
max 24 monostable
max 8 bistable + 16 monostable

TIM1524



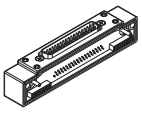
male connection module
25 poles
12+12 coils
type sub-D

TIM151806



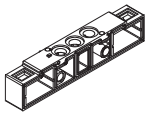
male connection module
25 poles
18 coils, side 14
6 coils, side 12
type sub-D

TIM1536



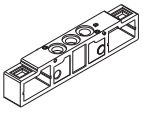
male connection module
37 poles
16+16 coils
type sub-D

P15SF100



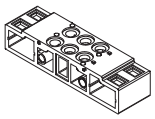
sub-base 1 place

P15SF110



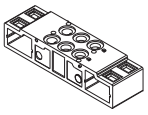
sub-base 1 place
1-3-5 closed

P15SF200



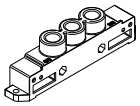
sub-base 2 places

P15SF210



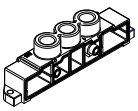
sub-base 2 places
1-3-5 closed

P15SF500



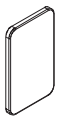
left supply plate G1/4
for TIM module

P15SF505



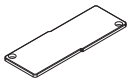
right supply plate G1/4

P15SF550



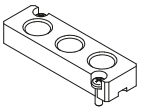
pressure separator

P15SF560



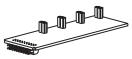
closing plate for
unused valve place

P15SF570



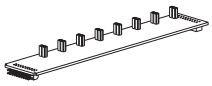
intermediate supply plate
for threaded version

P15SS..M**



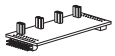
male bus connection card,
** = side 14 or 12
.. = 04, 06, 08 places

P15SS08MF**



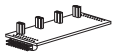
male/female bus
connection card
** = side 14 or 12
8 places

P15SS04MFP**



male/female bus
connection card
extension
** = side 14 o 12
4 places

P15SS04MP**



bus card extension
** = side 14 o 12
4 places

P15STR01



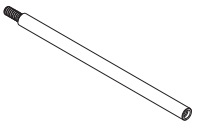
modular tie-rods
1 valve place

P15STR02



modular tie-rods
2 valve places

P15STR05



modular tie-rods
5 valve places

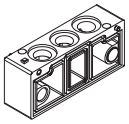
AZ4-SN004A
No. 100 nuts M4
for tie-rods

AZ4-VN0414
No. 100 screws M4x14
for tie-rods

Electrical connection with external connector

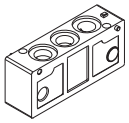


P15SF300



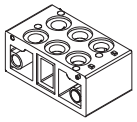
sub-base 1 place

P15SF310



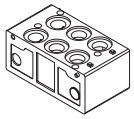
sub-base 1 place
1-3-5 closed

P15SF400



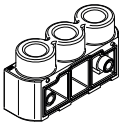
sub-base 2 places

P15SF410



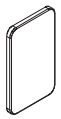
sub-base 2 places
1-3-5 closed

P15SF515



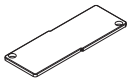
right/left supply plate
G1/4

P15SF550



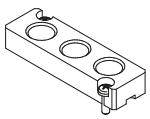
pressure separator

P15SF560



closing plate for unused
valve place

P15SF570



intermediate supply plate
for threaded version

P15STR01



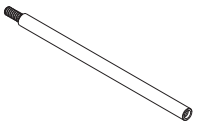
modular tie-rods
1 valve place

P15STR02



modular tie-rods
2 valve places

P15STR05



modular tie-rods
5 valve places

AZ4-SN004A
No. 100 nuts M4
for tie-rods

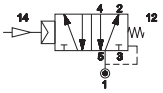
AZ4-VN0414
No. 100 screws M4x14
for tie-rods

Subject to change

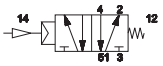
Pneumatic impulse - Body for sub-base mounting

Single impulse





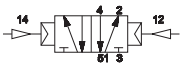
P15B230



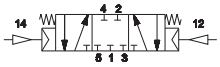
P15B231

Double impulse

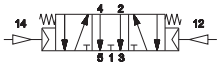




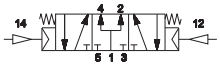
P15B233



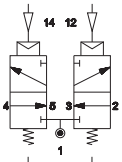
P15B333



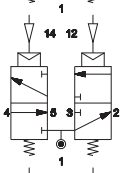
P15B433



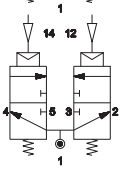
P15B533



P15B633



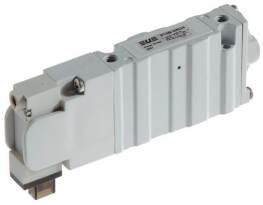
P15B733

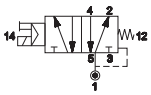


P15B833

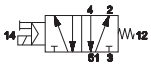
Electrical impulse - Body for sub-base mounting

Single impulse





P15B24024 0,3 W
P15B26024 1 W



P15B24124 0,3 W
P15B26124 1 W

B10



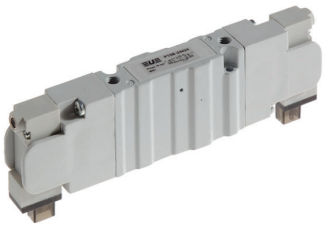
Low power consumption 0,3 W

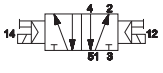
B11



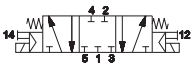
Standard 1 W

Double impulse

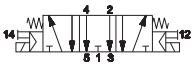




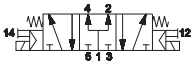
P15B24424 0,3 W
P15B26624 1 W



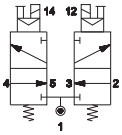
P15B34424 0,3 W
P15B36624 1 W



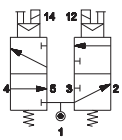
P15B44424 0,3 W
P15B46624 1 W



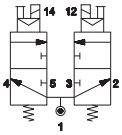
P15B54424 0,3 W
P15B56624 1 W



P15B64424 0,3 W
P15B66624 1 W



P15B74424 0,3 W
P15B76624 1 W



P15B84424 0,3 W
P15B86624 1 W

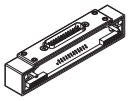
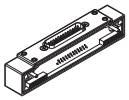
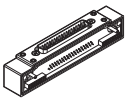
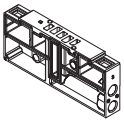
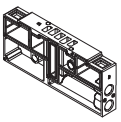
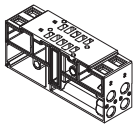
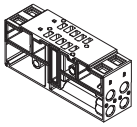
Integrated electrical connection - Body for sub-base mounting

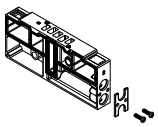
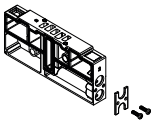
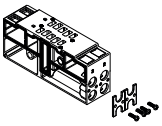
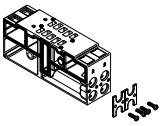
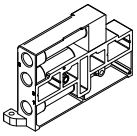
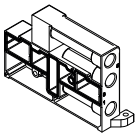


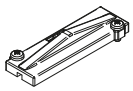
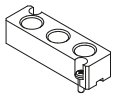
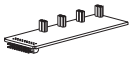
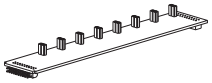
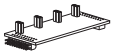
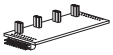
Configuration 25p conn.
max 12 bistable (TIM1524)
max 6 bistable + 12 monostable (TIM151806)

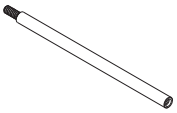
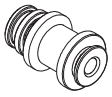
Configuration 37p conn.
max 16 bistable (TIM1536)

Configuration 37p conn. (upon request)
max 18 bistable
max 24 monostable
max 8 bistable + 16 monostable

TIM1524	TIM151806	TIM1536	P15SB100	P15SB110	P15SB200	P15SB210
						
male connection module 25 poles 12+12 coils type sub-D	male connection module 25 poles 18 coils side 14 6 coils side 12 type sub-D	male connection module 37 poles 16+16 coils type sub-D	sub-base 1 place side outlets G1/8	sub-base 1 place side outlets G1/8 1-3-5 closed	sub-base 2 places side outlets G1/8	sub-base 2 places side outlets G1/8 1-3-5 closed

P15SB300	P15SB310	P15SB400	P15SB410	P15SB500	P15SB505	P15SB550
						
sub-base 1 place side outlets for push-in fittings	sub-base 1 place side outlets for push-in fittings 1-3-5 closed	sub-base 2 places side outlets for push-in fittings	sub-base 2 places side outlets for push-in fittings 1-3-5 closed	left supply plate G1/4 for TIM module	right supply plate G1/4	pressure separator

P15SB560	P15SB570	P15SS**..M	P15SS**08MF	P15SS**04MFP	P15SS**04MP
					
closing plate for unused valve place	intermediate supply plate for sub-base	male bus connection card ** = side 14 or 12 .. = 04, 06, 08 places	male/female bus connection card ** = side 14 or 12 8 places	male/female bus connection card extension ** = side 14 or 12 4 places	bus card connection extension ** = side 14 or 12 4 places

P15STR01	P15STR02	P15STR05	GZR-V10004/06/08
			
modular tie-rods 1 valve place	modular tie-rods 2 valve places	modular tie-rods 5 valve places	straight fitting **GZR-V10004** = tube Ø4 mm **GZR-V10006** = tube Ø6 mm **GZR-V10008** = tube Ø8 mm

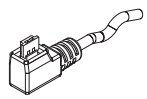
AZ4-SN004A
No. 100 nuts M4 for tie-rods

AZ4-VN0414
No. 100 screws M4x14 for tie-rods

Subject to change

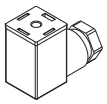
Electrical connections

D-535U40300
D-535U40500



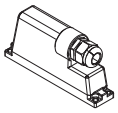
single connector
with cable 3-5 m

AM-5109



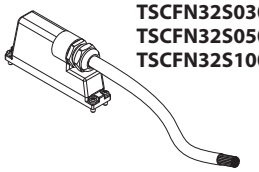
15 mm connector

TSCFN24S000
TSCFN36S000



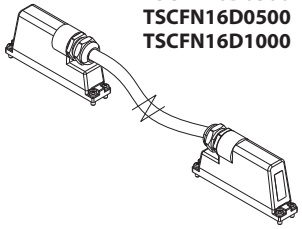
fermale connector
25/37 poles, type sub-D, no cable
M3x8 fixing screws

TSCFN24S0300
TSCFN24S0500
TSCFN24S1000
TSCFN32S0300
TSCFN32S0500
TSCFN32S1000



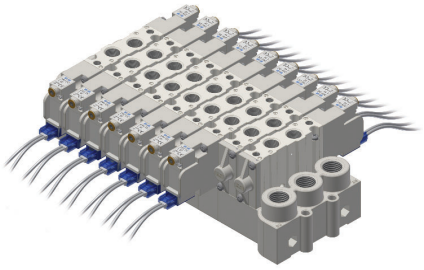
fermale connector
25/37 poles, type sub-D
with cable 3-5-10 m
M3x8 fixing screws

TSCFN16D0300
TSCFN16D0500
TSCFN16D1000

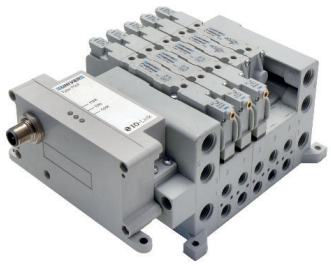


sub-D male/female flying connector
prewired for 16 coils with cable Ø 8 mm
(3-5-10 m length) suitable for dynamic laying
M3x8 fixing screws

In-line connections

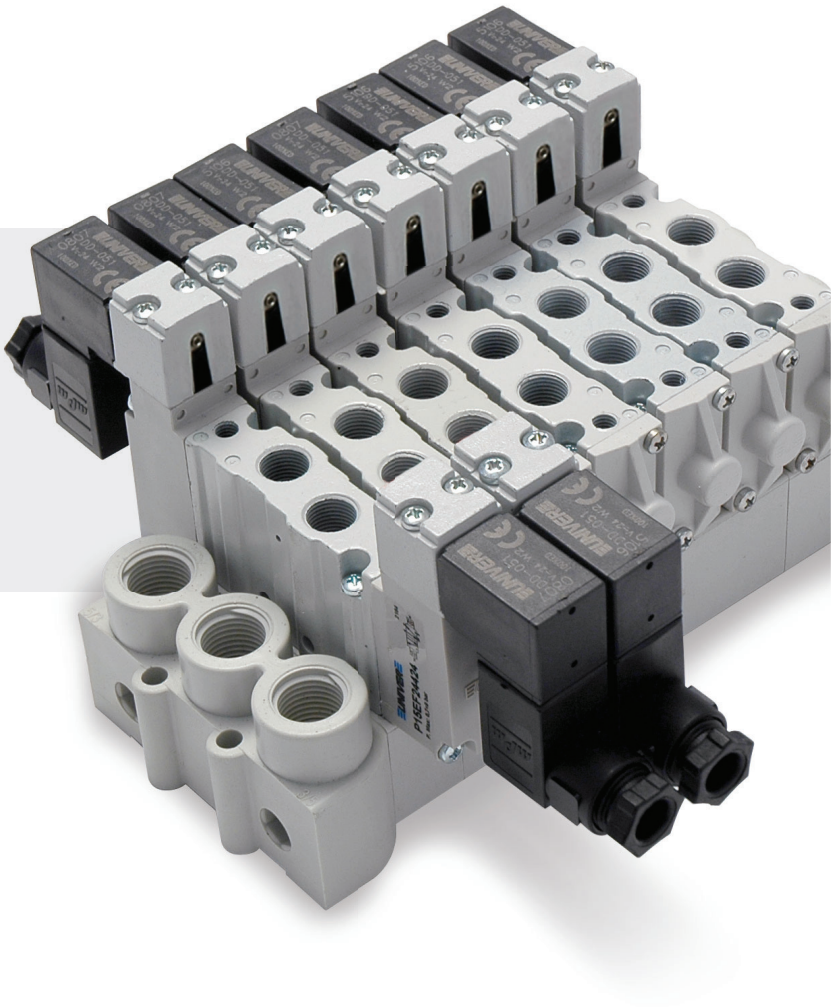


IO-Link connection



TC series Serial Communication System



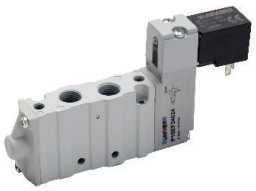


HIGH FLOW RATE
Flow rate higher than **800 Nl/min**

REDUCED DIMENSIONS
Body width **15 mm**

COMPLETE SOLUTION
Versions available **5/2 - 5/3 - 3/2+3/2**

P15EF

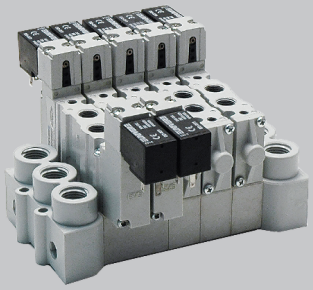


P15EB



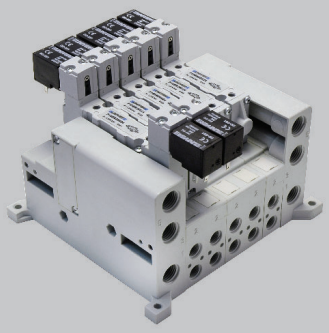
P15EF

Threaded ports (G1/8)



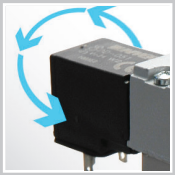
P15EB

For sub-base (G1/8 - Tube 4-6-8)

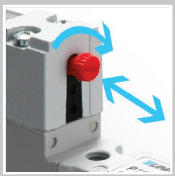




15 mm Electropilot - A series
UNIVER Original



Interchangeable coil - U05 type
90° x 90° revolvable
(12 - 24 V DC, 24 - 48 - 110 - 230 V AC)



Manual override (upon request)
Monostable + 2 positions



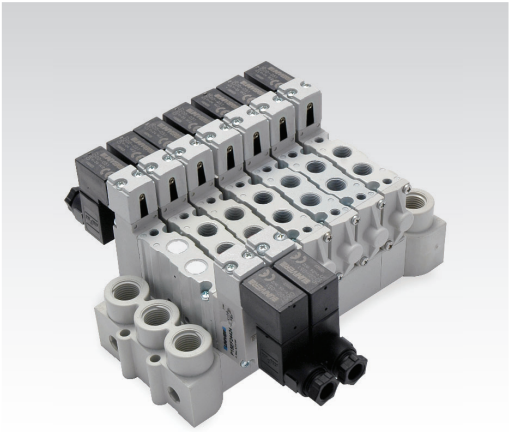
Sub-base mounting
Easy installation by means of 2 screws



Single mounting
Side holes on valve body

CHARACTERISTICS

Ambient temperature	-5 ÷ 50 °C
Fluid	10 µm filtered air, with or without lubrication
Commutation system	spool
Max pressure	9 bar
Connections	G1/8
Nominal flow rate (Nl/min)	800 (5/2) 720 (5/3) 720 (3/2+3/2)
Valve body	zamak
Seals	NBR
Spool	aluminium
Electropilot	A series (15 mm)
Coil	U05 series
Voltage	12 V DC - 24 V DC - 24 V AC - 48 V AC - 110 V AC - 230 V AC
Power consumption	2 W (DC) 2,3 VA (AC)
Protection degree	IP65
Manual override	impulse screw - 1-2 positions



CODIFICATION KEY

P	1	5	E	F	2	5	5	2	4	
1					2	3	4	5		6

1 Series
P15EF = COMPACT Valves - Threaded body G1/8
A series electropilot (15 mm)

2 Type
2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

3 Control 14
5 = Electrical amplified 15 mm

4 Return 12
0 = Pneumomechanical spring
1 = Mechanical spring
5 = Electrical amplified 15 mm

5 Voltage
12 = 12 V DC **48** = 48 V AC
24 = 24 V DC **11** = 110 V AC
34 = 24 V AC **23** = 230 V AC

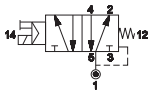
6 Option
C = 2-position manual override (upon request)
D = External pilot supply

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

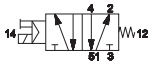
Electrical impulse - Threaded connection G1/8

Single impulse





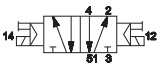
P15EF250**



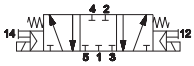
P15EF251**

Double impulse

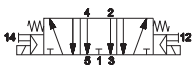




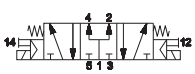
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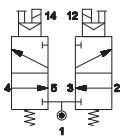
P15EF355**



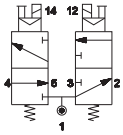
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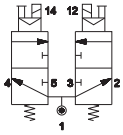
P15EF555**



P15EF655**



P15EF755**

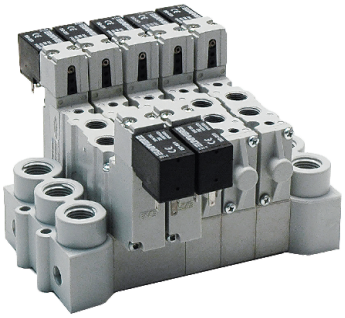


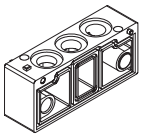
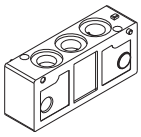
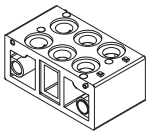
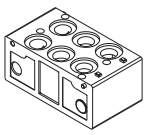
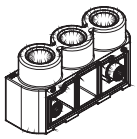
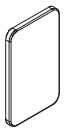
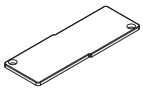
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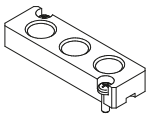
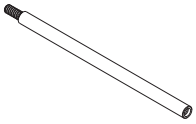
** = Voltage 12 V DC - 24 V DC - 24 V AC - 48 V AC - 110 V AC - 230 V AC (**Example: P15EF25024**)

Solenoid valves are supplied with coils, without connectors

Electrical connection with external connector



P15SF300	P15SF310	P15SF400	P15SF410	P15SF515	P15SF550	P15SF560
						
sub-base 1 place	sub-base 1 place 1-3-5 closed	sub-base 2 places	sub-base 2 places 1-3-5 closed	right/left supply plate G1/4	pressure separator	closing plate for unused valve place

P15SF570	P15SF01	P15STR02	P15STR05
			
intermediate supply plate for threaded version	modular tie-rods 1 valve place	modular tie-rods 2 valve places	modular tie-rods 5 valve places

AZ4-SN004A
No. 100 nuts M4 for tie-rods

AZ4-VN0414
No. 100 screws M4x14 for tie-rods

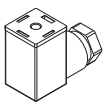
Pre-assembled sub-base



Part No.	Positions
P15SF499-02	2
P15SF499-03	3
P15SF499-04	4
P15SF499-05	5
P15SF499-06	6
P15SF499-07	7
P15SF499-08	8
P15SF499-09	9
P15SF499-10	10

Pre-assembled sub-bases include seals and screws for valve assembly

Electrical connections



AM-5109

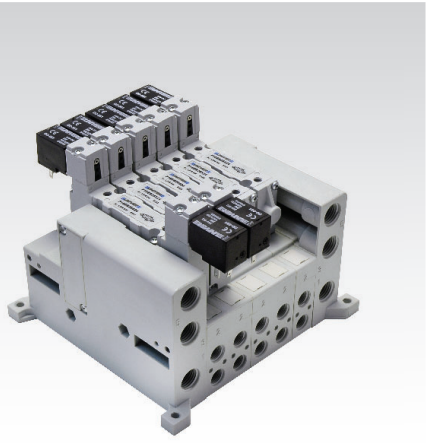
15 mm connector

P15EB

15 mm COMPACT Valves - 15 mm A series Electropilot
Body for sub-base mounting

CHARACTERISTICS

Ambient temperature	-5 ÷ 50 °C
Fluid	10 µm filtered air, with or without lubrication
Commutation system	spool
Max pressure	9 bar
Connections	G1/8
Nominal flow rate (Nl/min)	800 (5/2) 720 (5/3) 720 (3/2+3/2)
Valve body	zamak
Seals	NBR
Spool	aluminium
Electropilot	A series (15 mm)
Coil	U05 series
Voltage	12 V DC - 24 V DC - 24 V AC - 48 V AC - 110 V AC - 230 V AC
Power consumption	2 W (DC) 2,3 VA (AC)
Protection degree	IP65
Manual override	impulse screw - 1-2 positions



CODIFICATION KEY

P	1	5	E	B	2	5	5	2	4	
1					2	3	4	5		6

1 Series

P15EB = COMPACT Valves for sub-base mounting
A series electropilot (15 mm)

2 Type

2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

3 Control 14

5 = Electrical amplified 15 mm

4 Return 12

0 = Pneumomechanical spring
1 = Mechanical spring
5 = Electrical amplified 15 mm

5 Voltage

12 = 12 V DC **48** = 48 V AC
24 = 24 V DC **11** = 110 V AC
34 = 24 V AC **23** = 230 V AC

6 Variant

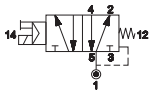
C = 2-position manual override (upon request)
D = External pilot supply

c.c. = closed centres **o.c.** = open centres **p.c.** = pressurized centres

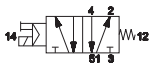
Electrical impulse - Body for sub-base mounting - 15 mm connector

Single impulse





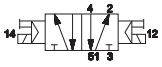
P15EB250**



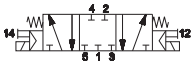
P15EB251**

Double impulse

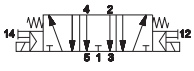




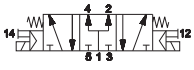
P15EB255**



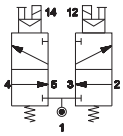
P15EB355**



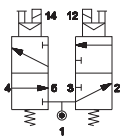
P15EB455**



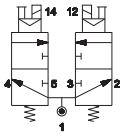
P15EB555**



P15EB655**



P15EB755**

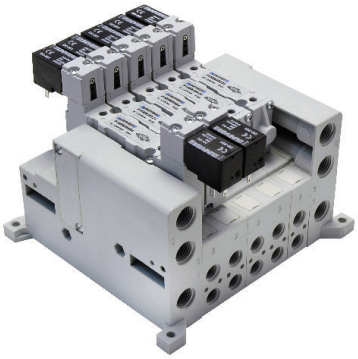


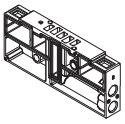
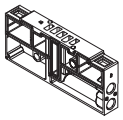
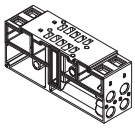
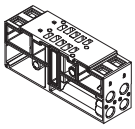
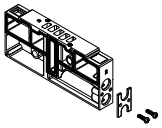
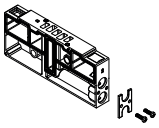
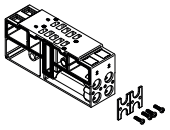
P15EB855**

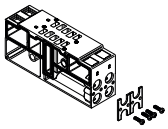
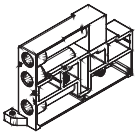
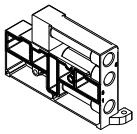
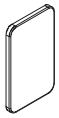
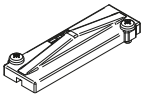
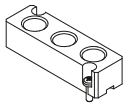
** = Voltage 12 V DC - 24 V DC - 24 V AC - 48 V AC - 110 V AC - 230 V AC (**Example: P15EB25024**)

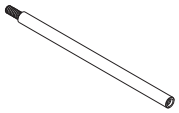
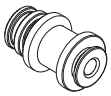
Solenoid valves are supplied with coils, without connectors

Electrical connection with external connector



P15SB100	P15SB110	P15SB200	P15SB210	P15SB300	P15SB310	P15SB400
						
sub-base 1 place side outlets G1/8	sub-base 1 place side outlets G1/8 1-3-5 closed	sub-base 2 places side outlets G1/8	sub-base 2 places side outlets G1/8 1-3-5 closed	sub-base 1 place side outlets for GZR push-in fittings	sub-base 1 place side outlets for GZR push-in fittings 1-3-5 closed	sub-base 2 places side outlets for GZR push-in fittings

P15SB410	P15SB502	P15SB505	P15SB550	P15SB560	P15SB570
					
sub-base 2 places side outlets for GZR push-in fittings 1-3-5 closed	left supply plate G1/4	right supply plate G1/4	pressure separator	closing plate for unused valve place	intermediate supply plate for sub-base

P15STR01	P15STR02	P15STR05	GZR-V10004/06/08
			
modular tie-rods 1 valve place	modular tie-rods 2 valve places	modular tie-rods 5 valve places	straight fitting **GZR-V10004** = tube Ø4 mm **GZR-V10006** = tube Ø6 mm **GZR-V10008** = tube Ø8 mm

AZ4-SN004A

No. 100 nuts M4 for tie-rods

AZ4-VN0414

No. 100 screws M4x14 for tie-rods

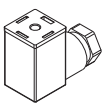
Pre-assembled sub-base



Part No.	Positions
P15SB499-02	2
P15SB499-03	3
P15SB499-04	4
P15SB499-05	5
P15SB499-06	6
P15SB499-07	7
P15SB499-08	8
P15SB499-09	9
P15SB499-10	10

Pre-assembled sub-bases include seals and screws for valve assembly

Electrical connections



AM-5109

15 mm connector

EL

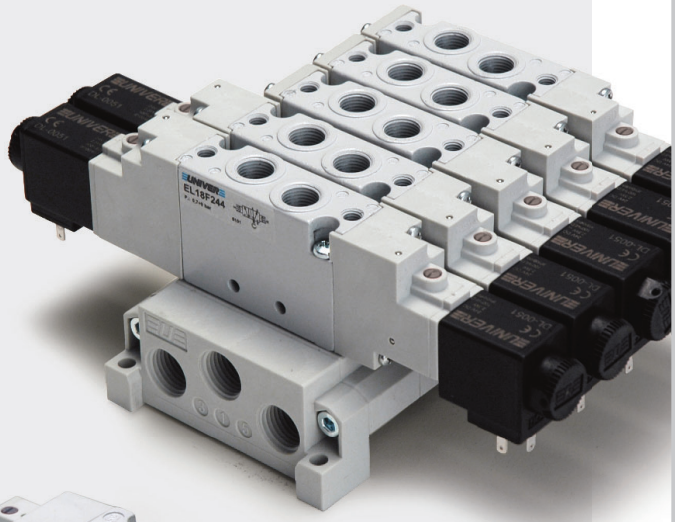
ESSENTIAL Valves

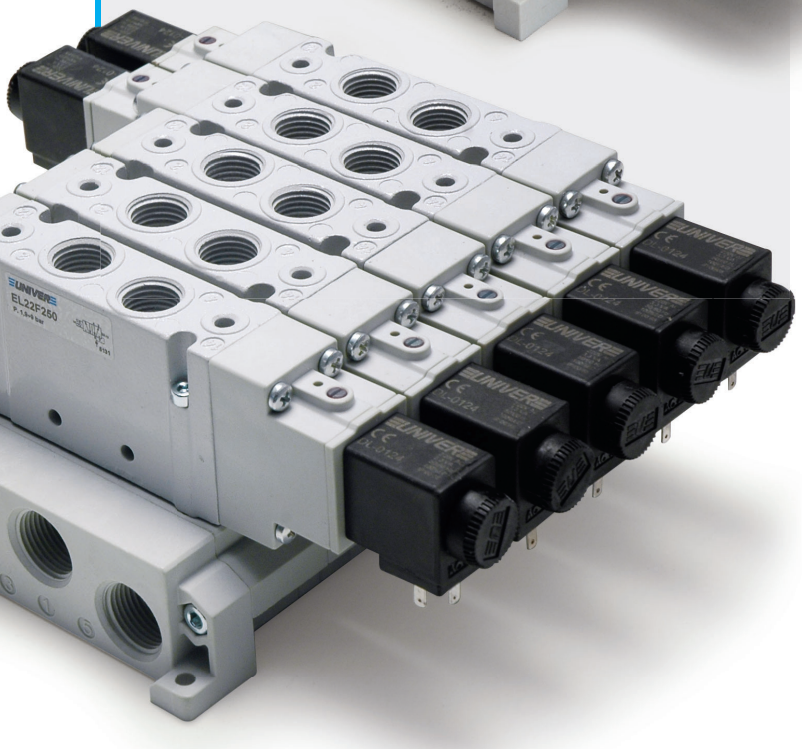
HIGH FLOW RATE
800 Nl/min (G1/8) **1700 Nl/min** (G1/4)

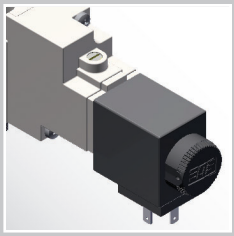
REDUCED DIMENSIONS
18 mm (G1/8) **22 mm** (G1/4)

COMPLETE SOLUTION
5/2 - 5/3 - 3/2 + 3/2

STRONG
Metallic body



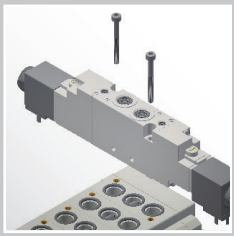




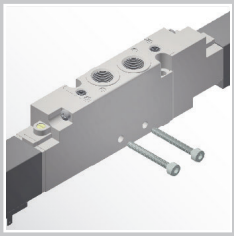
Interchangeable U06 coil
12 - 24 V DC
24 - 110 - 220 V AC



Manual override (standard)
1/2 position impulse



Sub-base mounting
Easy installation by means of 2 screws



Individual mounting
Side holes on valve body



Traditional UNIVER technology
The dynamic spool guarantees a long life and reliability



Modular sub-base in technopolymer

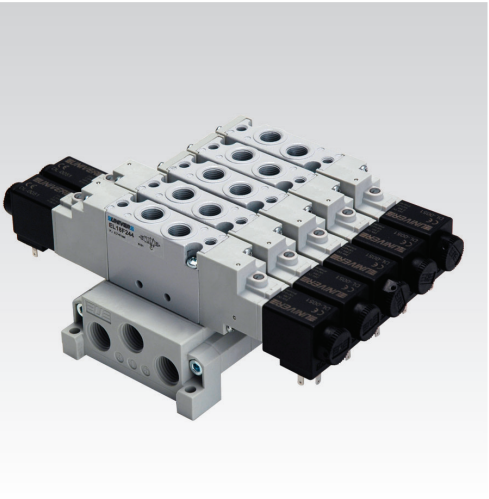


Aluminium sub-base

3

CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid	filtered air 10 µm, with or without lubrication
Commutation system	spool
Max pressure	8 bar (electrical override)
	10 bar (pneumatic override)
Connections	G1/8
Nominal flow rate (Nl/min)	800 (5/2) 720 (5/3) 720 (3/2+3/2)
Valve body	zamak
Seals	NBR
Electropilot/Coil	series U06/DL
Spool	aluminium
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC
Power consumption	2,5 W 5 VA
Protection degree	IP65
Manual override	impulse 1-2 positions



CODIFICATION KEY

E	L	1	8	F	2	5	0		
1					2	3	4	5	6

1 Series
EL18F = ESSENTIAL Valves 18 mm - G1/8

2 Type
2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

3 Control 14
3 = Pneumatic amplified
5 = Electrical amplified DC/AC

4 Return 12
0 = Pneumomechanical spring
1 = Mechanical spring
3 = Pneumatic amplified
5 = Electrical amplified DC/AC

5 Option
D = External pilot supply

6 ATEX option
X = Atex (upon request)

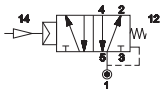
See ATEX Catalogue for types and versions

c.c. = closed centers **o.c.** = open centers **p.c.** = pressurized centers

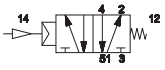
Pneumatic impulse

Single impulse





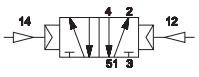
EL18F230



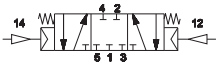
EL18F231

Double impulse

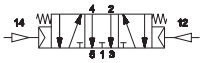




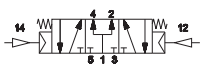
EL18F233



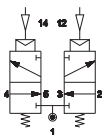
EL18F333



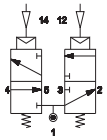
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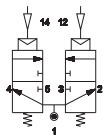
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EL18F633



EL18F733

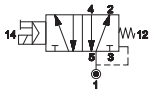


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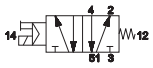
Electrical impulse

Single impulse





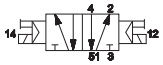
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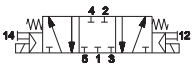
EL18F251

Double impulse

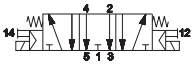




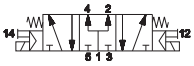
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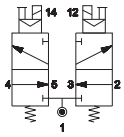
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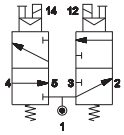
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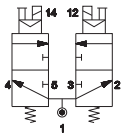
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EL18F655

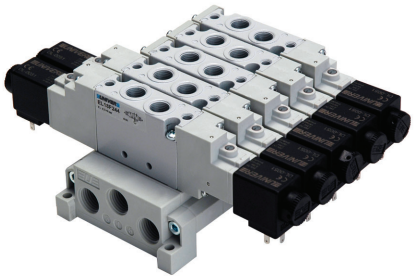


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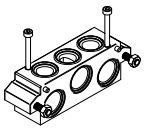


EL18F855

Modular sub-base in technopolymer

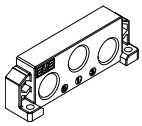


EL18SF300



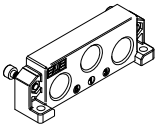
Sub-base 1 place
(screw and seals are included)

EL18SF515



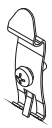
Left supply plate G1/4

EL18SF516



Right supply plate G1/4
(screws and seals are included)

EL18SF518



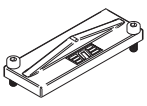
Fixing spring for DIN rail
(screws are included)

EL18SF550



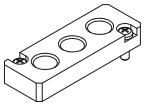
Pressure separator

EL18SF560



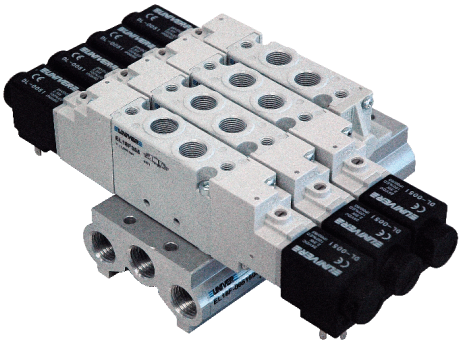
Closing plate for unused
valve place (screws are included)

EL18SF570



Intermediate supply plate
(screws are included)

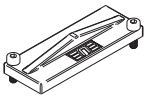
Aluminium sub-base





Part No.	No. positions
EL18SF900-02	2
EL18SF900-03	3
EL18SF900-04	4
EL18SF900-05	5
EL18SF900-06	6
EL18SF900-07	7
EL18SF900-08	8
EL18SF900-09	9
EL18SF900-10	10

EL18SF560



Closing plate for unused valve place (screws are included)

The sub-base includes gaskets and screws for mounting valves

Coil and connector

Coil





DL-0050 12 V DC 2,5 W
DL-0051 24 V DC 2,5 W
DL-0106 24 V AC 50/60 Hz 5 VA
DL-0108 110 V AC 50/60 Hz 5 VA
DL-0124 230 V AC 50/60 Hz 5 VA

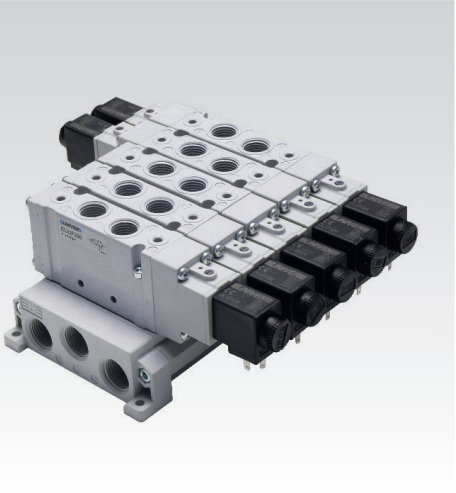
Connector



AM-5109

CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid	filtered air 10 µm, with or without lubrication
Commutation system	spool
Max pressure	8 bar (electrical control)
	10 bar (pneumatic control)
Connection	G1/4
Nominal flow rate (Nl/min)	1700 (5/2) 1450 (5/3) 1450 (3/2+3/2)
Valve body	aluminium
Seals	NBR
Electropilot/Coil	series U06/DL
Spool	aluminium
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC
Power consumption	2,5 W 5 VA
Protection degree	IP65
Manual override	impulse 1-2 positions



CODIFICATION KEY

E	L	2	2	F	2	5	0		
1					2	3	4	5	6

1 Series
EL22F = ESSENTIAL Valves 22 mm - G1/4

2 Type
2 = 5/2
3 = 5/3 **c.c.**
4 = 5/3 **o.c.**
5 = 5/3 **p.c.**
6 = 3/2+3/2 NC-NC
7 = 3/2+3/2 NC-NO
8 = 3/2+3/2 NO-NO

3 Control 14
3 = Pneumatic amplified
5 = Electrical amplified DC/AC

4 Return 12
0 = Pneumomechanical spring
1 = Mechanical spring
3 = Pneumatic amplified
5 = Electrical amplified DC/AC

5 Option
D = External pilot supply

6 ATEX option
X = Atex (upon request)

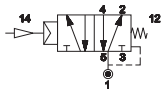
See ATEX Catalogue for types and versions

c.c. = closed centers **o.c.** = open centers **p.c.** = pressurized centers

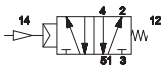
Pneumatic impulse

Single impulse





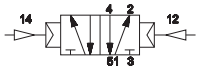
EL22F230



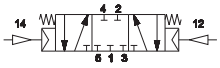
EL22F231

Double impulse

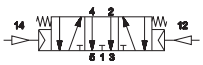




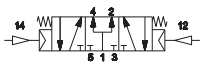
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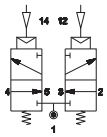
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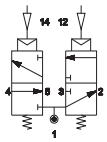
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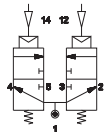
EL22F533



EL22F633



EL22F733

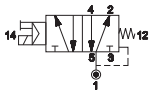


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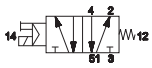
Electrical impulse

Single impulse





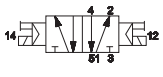
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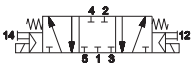
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Double impulse

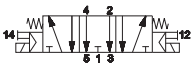




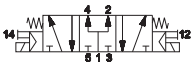
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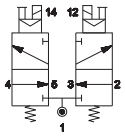
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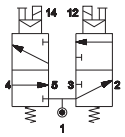
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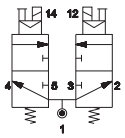
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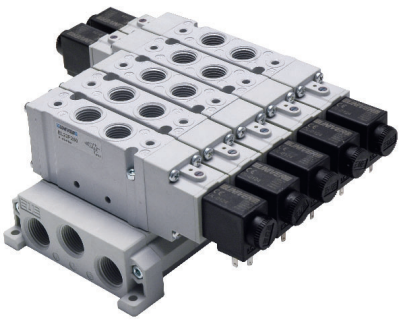


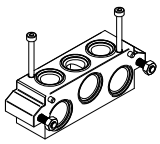
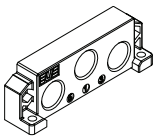
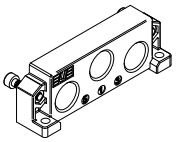
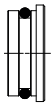
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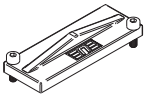
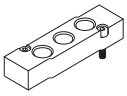


EL22F855

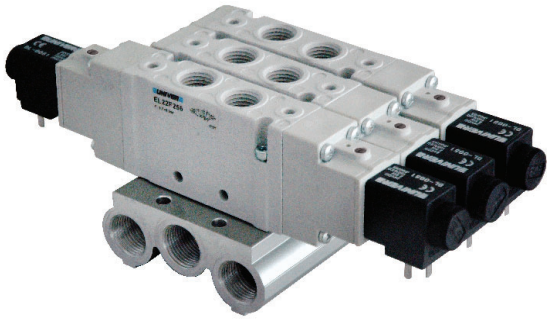
Modular sub-base in technopolymer



EL22SF300	EL22SF515	EL22SF516	EL18SF518	EL22SF550
				
Sub-base 1 place (screws and seals are included)	Left supply plate G1/4	Right supply plate G1/4 (screws and seals are included)	Fixing spring for DIN rail (screws are included)	Pressure separator

EL22SF560	EL22SF570
	
Closing plate for unused valve place (screws are included)	Intermediate supply plate (screws are included)

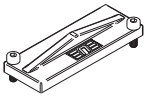
Aluminium sub-base





Part No.	No. positions
EL22SF900-02	2
EL22SF900-03	3
EL22SF900-04	4
EL22SF900-05	5
EL22SF900-06	6
EL22SF900-07	7
EL22SF900-08	8
EL22SF900-09	9
EL22SF900-10	10

EL22SF560



Closing plate for unused valve place (screws are included)

The sub-base includes gaskets and screws for mounting valves

Coil and connector

Coil





DL-0050 12 V DC 2,5 W
DL-0051 24 V DC 2,5 W
DL-0106 24 V AC 50/60 Hz 5 VA
DL-0108 110 V AC 50/60 Hz 5 VA
DL-0124 230 V AC 50/60 Hz 5 VA

Connector



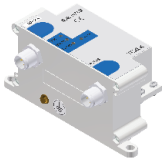
AM-5109

CHARACTERISTICS

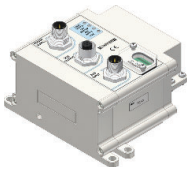
Controlled devices	Manifolds, Digital input M12/M8, Output M12
Handling capacity	Max 64 inputs + 64 outputs (PROFIBUS-DP, CANopen, DeviceNet)
	Max 64 inputs + 88 outputs (PROFINET, EtherNet/IP, EtherCAT)
	Max 24 coils (IO-Link)
Integrated configuration	BD series 18 - 26 mm
	P10 - P15 series (COMPACT)
Distributed configuration	Remote expansion modules for valve manifolds
	with sub-D 25 plug-in (NO IO-Link)
Protocols	IO-Link, CANopen, DeviceNet, PROFINET, PROFIBUS-DP, EtherNet/IP, EtherCAT



Communication systems

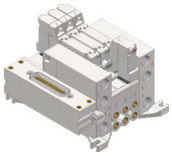


IO-Link module

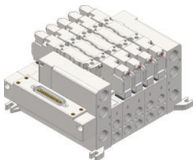


Serial module

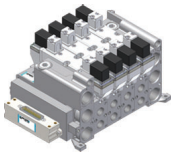
P10



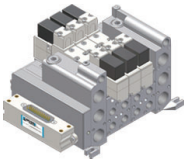
P15



BD18



BD26

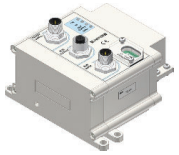


IO-Link



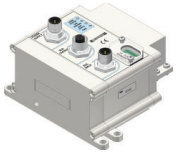
Part No.	**TCXLKA - TCXLKB**
Auxiliary power supply and Fieldbus	1 x M12 - 5 pins male (port class B)
Diagnostics	Optical, Primary, Extended
Capacity max I/O	24 coils

PROFIBUS-DP



Part No.	**TCXP**
Auxiliary power supply	1 x M12 - 4 pins male
Fieldbus	1 x M12 - 4 pins male B code
Connectors	1 x M12 - 4 pins female B code
Diagnostics	Optical, Primary, Extended
Capacity max I/O	64 In - 40 Out 24 coils

CANopen



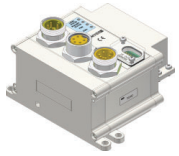
Part No.	**TCXC**
Auxiliary power supply	1 x M12 - 4 pins male
Fieldbus	1 x M12 - 5 pins male
Connectors	1 x M12 - 5 pins female
Diagnostics	Optical, Primary, Extended
Capacity max I/O	64 In - 40 Out 24 coils
LSS Slave	supported

EtherNet/IP



Part No.	**TCXEN**
Auxiliary power supply	1 x M12 - 4 pins male
Fieldbus Connectors	2 x M12 - 4 pins female D code
Diagnostics	Optical, Primary, Extended
Capacity max I/O	64 In - 64 Out 24 coils

DeviceNet



Part No.	**TCXD**
Auxiliary power supply	1 x 7/8" - 4 pins male
Fieldbus	1 x 7/8" - 5 pins male
Connectors	1 x 7/8" - 5 pins female
Diagnostics	Optical, Primary, Extended
Capacity max I/O	64 In - 40 Out 24 coils

EtherCAT



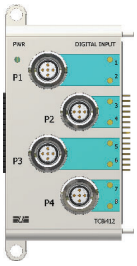
Part No.	**TCXEC**
Auxiliary power supply	1 x M12 - 4 pins male
Fieldbus Connectors	2 x M12 - 4 pins female D code
Diagnostics	Optical, Primary, Extended
Capacity max I/O	64 In - 64 Out 24 coils

PROFINET

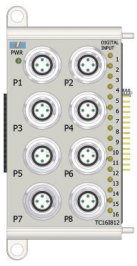


Part No.	**TCXPN**
Auxiliary power supply	1 x M12 - 4 pins male
Fieldbus Connectors	2 x M12 - 4 pins female D code
Diagnostics	Optical, Primary, Extended
Capacity max I/O	64 In - 64 Out 24 coils
FSU	supported

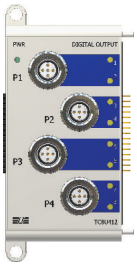
Expansion modules (not available for IO-Link)



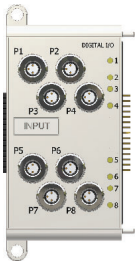
TC8I412
8 Digital inputs M12



TC16I812
16 Digital inputs M12



TC8U412
8 Digital outputs M12

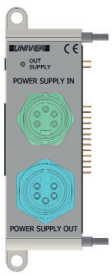


TC8I808
8 Digital inputs M8



TCR32ID
16+16 Digital inputs

TCR32UD
16+16 Digital outputs



TCXUS78
Auxiliary supply module 7/8"

Accessories for serial modules

TZ-F4M12



CANopen, ProfiBus, ProfiNet EtherNet/IP, EtherCat IO-Link port class A
Power Supply Connector M12 female 4 poles

TZ-F5M12



CANopen IO-Link port class A/B
Input Bus M12 female 5 poles

TZ-M5M12/T



TZ-M5M12
CANopen
Output Bus M12 male 5 poles

TZ-M5M12T
CANopen, Bus terminating connector M12 male 5 poles

TZ-F478



DeviceNet
Power Supply Connector 7/8 female 4 poles

TZ-F578



DeviceNet
Input Bus 7/8 female 5 poles

TZ-M578/T



TZ-M578
DeviceNet
Input Bus 7/8 male 5 poles

TZ-M578T
DeviceNet
Bus terminating connector 7/8 male 5 poles

TZ-F4M12-B



ProfiBus
Input Bus M12 female 5 poles B-code

TZ-M4M12-B/BT



TZ-M4M12-B
ProfiBus
Output Bus M12 male 4 poles B-code

TZ-M4M12-BT
ProfiBus
Bus terminating connector M12 male 4 poles B-code

TZ-M4M12-D



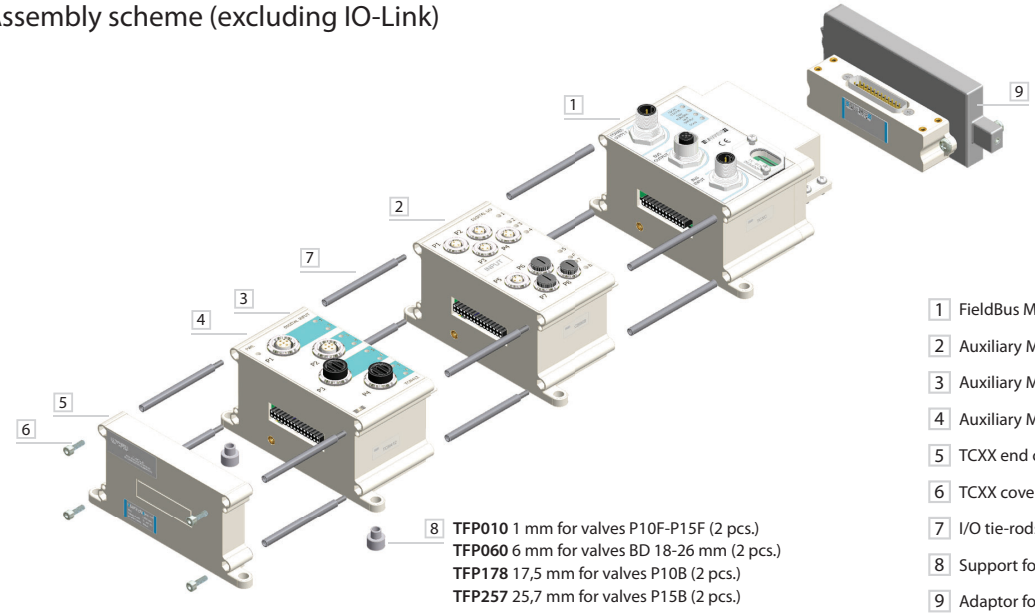
ProfiNet, EtherNet/IP, EtherCat
Input/Output Bus M12 male 4 poles D-code

TSCFN16...



TSCFN16D0300
Prewired cable,sub-D, 25 poles, 16 signals 3 m
TSCFN16D0500
Prewired cable, sub-D 25 poles, 16 signals 5 m
TSCFN16D1000
Prewired cable, sub-D 25 poles, 16 signals 10 m

Assembly scheme (excluding IO-Link)



TFP010 1 mm for valves P10F-P15F (2 pcs.)
TFP060 6 mm for valves BD 18-26 mm (2 pcs.)
TFP178 17,5 mm for valves P10B (2 pcs.)
TFP257 25,7 mm for valves P15B (2 pcs.)

1. FieldBus Module
2. Auxiliary Module - Inputs 8 x M8
3. Auxiliary Module - Inputs 4 x M12
4. Auxiliary Module - Outputs 4 x M12
5. TCXX end cover included (1 pc)
6. TCXX cover screws included (4 pcs.)
7. I/O tie-rods included (4 pcs.)
8. Support foot for modules
9. Adaptor for 18-26 mm VDMA Manifold

3

MATCHING TABLE
- COILS/ELECTROPILOTS
- ELECTROPILOTS/SOLENOID VALVES

			Electropilots						
			A (U05)	**B** (U04)	**AA** (U1)	**AA** (U3)		**AB** (U2)	
									
Coils	**U04**	10 mm		■					
	U05	15 mm	■						
	U1	22 mm			■				
	U2	30 mm						■	■
	U3	30 mm				■	■		
Solenoid valves	**BE**	ISO 1- ISO 2 ISO 3 - ISO 4	■ (a)				■		R
	AE	ISO 1 - ISO 2			■	■			
	BD	ISO 01 26 mm ISO 02 18 mm	■						
	AC-N	Interface NAMUR			■	■			
	CL **CM**	G1/8 G1/4			■	■			
	COMPA 2/4		■						
	G6 **GL6**	G1/8 sub-base	■	■					
	G7	G1/8	R		■	■			
	PS	tube Ø 4 tube Ø 6 tube Ø 8		■					
	AC	G1/8 - G1/4			■	■			
		G1/2			R	R		■	
	AF	G1/8			■	■			
		G1/4 - G3/8			■	■		■	
		G1/2 ÷ G1			R	R		■	
		G1 1/2							■
	AG	G1/8			■	■			
		G1/4 ÷ G1			R	R		■	
		G1 1/2							■
	P15E	G1/8	■						

■ = Standard R = Upon request (a) = Connector M12

Available ATEX version upon request
See ATEX Catalogue for types and versions

10 mm U04 Coils for B series electropilots

■ With integrated 90° upward connector



DE-352 24 V DC 1,2 W
DE-452 24 V DC 1,35 W
(with led)

DE-355 24 V DC 0,5 W

Connector:
D-500
D-530-...
D-535-...

■ With in-line connector

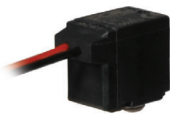


DE-552 24 V DC 1,2 W
DE-652 24 V DC 1,35 W
(with led)

DE-555 24 V DC 0,5 W

Connector:
D-500
D-530-...
D-535-...

■ With loose cables (length 300 mm)



DE-052L030 24 V DC 1,2 W

■ With in-line connector with protecting cover for complete tightness



DE-642I 12 V DC 1,35 W
DE-652I 24 V DC 1,35 W
(with led)

DE-655I 24 V DC 0,5 W

Connector:
D-530C-100
D-530C-200

15 mm U05 Coils for A series electropilot

- with integrated 90° upward connector



DD-351 24 V DC

Connector:
D-500
D-530-...
D-535-...

- with integrated 90° downward connector



DD-151 24 V DC

Connector:
D-500
D-530-...
D-535-...

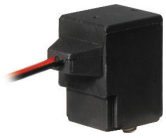
- with in-line connector



DD-551 24 V DC

Connector:
D-500
D-530-...
D-535-...

- with loose cables (300 mm)



DD-051L030 24 V DC 2 W
DD-052L030 24 V DC 2,5 W

- 15 mm - Faston



DD-013 230 V AC 50/60 Hz 3,5 VA
DD-040 24 V AC 50/60 Hz 2,3 VA
DD-041 12 V DC 2 W
DD-042 12 V DC 2,5 W
DD-050 48 V AC 50/60 Hz 2,3 VA

DD-051 24 V DC 2 W
DD-052 24 V DC 2,5 W
DD-060 110 V AC 50/60 Hz 2,3 VA
DD-070 230 V AC 50/60 Hz 2,3 VA

Connector:
AM-5109

Coil U06 15 mm for valves EL18/EL22

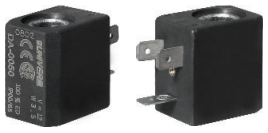
- 15 mm



DL-0050 12 V DC 2,5 W
DL-0051 24 V DC 2,5 W
DL-0106 24 V AC 50/60 Hz 5 VA
DL-0108 110 V AC 50/60 Hz 5 VA
DL-0124 230 V AC 50/60 Hz 5 VA

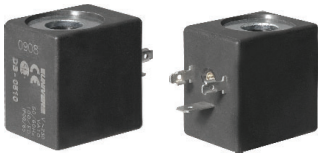
U1 - U2 - U3 Coil

- 22 mm (U1)



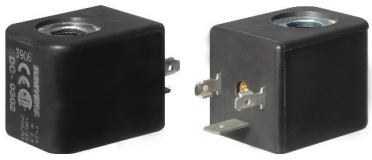
DA-0050 12 V DC 3,5 W
DA-0051 24 V DC 3,5 W
DA-0106 24 V AC 50/60 Hz 5 VA
DA-0108 110 V AC 50/60 Hz 5 VA
DA-0124 230 V AC 50/60 Hz 5 VA

- 30 mm (U2)



DB-0501 12 V DC 11 W
DB-0502 24 V DC 11 W
DB-0507 24 V AC 50/60 Hz 10 VA
DB-0509 110 V AC 50/60 Hz 10 VA
DB-0510 230 V AC 50/60 Hz 10 VA

- 30 mm (U3)



DC-0301 12 V DC 2,5 W
DC-0302 24 V DC 2,5 W
DC-0307 24 V AC 50/60 Hz 3,3 VA
DC-0309 110 V AC 50/60 Hz 3,3 VA
DC-0310 230 V AC 50/60 Hz 3,3 VA

For CSA-UL Certified coils see Certified Electropilot section

Connectors

- Miniature connector without wires



D-500

Coil:
U04/U05

- Miniature connector with loose cables



D-530-30
D-530-50
D-530-200

Coil:
U04/U05

- Miniature connector with cable



D-535-30
D-535-50
D-535-200

Coil:
U04/U05

- 15 mm Connector



AM-5109

Coil:
U05/U06

- 20 mm Connector



AM-5110

Coil:
U1

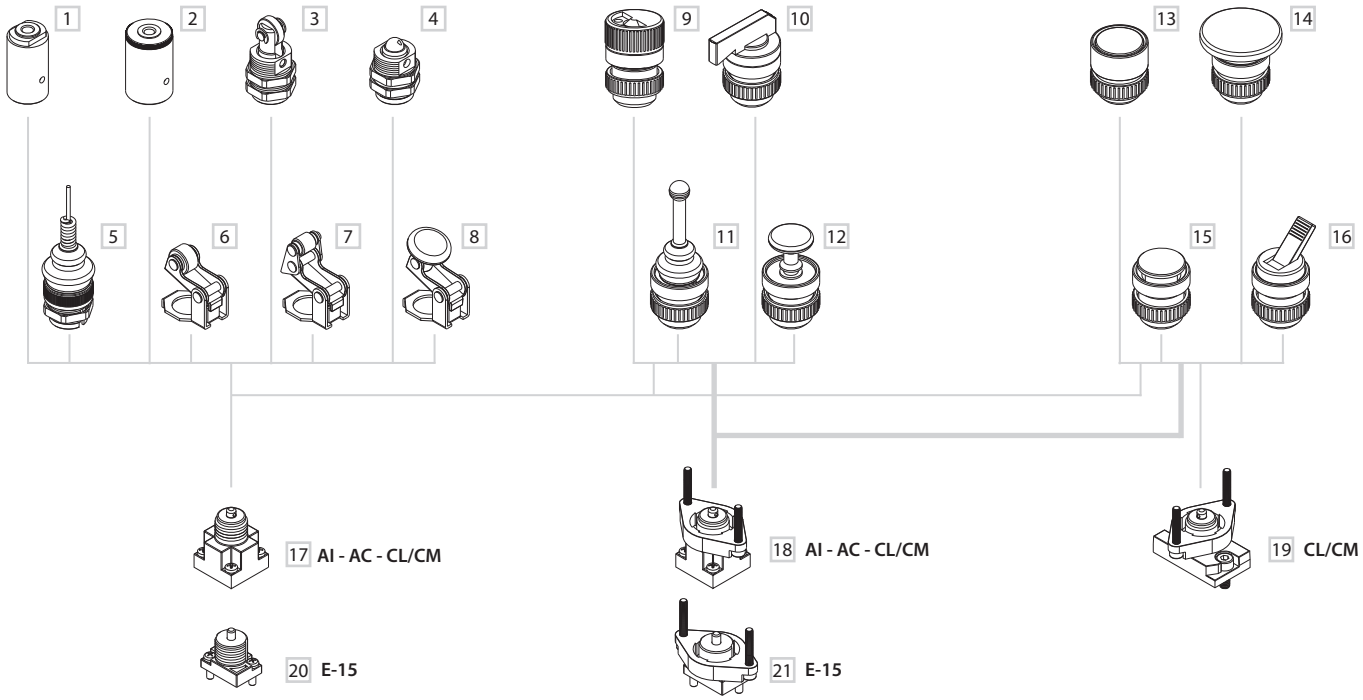
- 30 mm Connector



AM-5111

Coil:
U2/U3

Operator/button modularity



PNEUMATIC / MECHANICAL OPERATORS

1. Pneumatic operator
2. Amplified pneumatic operator
3. Roller operator 1 position
4. Ball-push operator 1 position
5. Omni-directional antenna 1 position
6. Roller lever operator 1 position
7. Articulated roller lever operator 1 position
8. Key operator 1 position

MANUAL OPERATORS

9. Rotating selector
10. Rotating lever selector
11. Omni-directional operator
12. Push-pull operator
13. Recessed button
14. Head button
15. Button
16. Lever

OVERRIDE

17. Threaded indirect operation
18. Indirect panel operation
19. Direct panel operation
20. Ball-push direct operation
21. Ball-push direct panel operation

Recessed button



1 Position

AI-3511	black
AI-3512	red
AI-3513	green

For panel mounting 1 Position

AI-3511Q	black
AI-3512Q	red
AI-3513Q	green

Head button



1 Position

AI-3514	red
AI-3516	black

For panel mounting 1 Position

AI-3514Q	red
AI-3516Q	black

2 Positions

AI-3514D	red
AI-3516D	black

For panel mounting 2 Positions

AI-3514QD	red
AI-3516QD	black

Button



1 Position

AI-3515	green
AI-3517	red
AI-3519	black

For panel mounting 1 Position

AI-3515Q	green
AI-3517Q	red
AI-3519Q	black

Lever



2 Positions

AI-3524	black

For panel mounting 2 Positions

AI-3524Q	black

Rotating selector for accident prevention



- With light 1 position
  AI-3521 black ■
- With light 2 positions
  AI-3520 black ■
- For panel mounting with light 1 position
  AI-3521Q black ■
- For panel mounting with light 2 positions
  AI-3520Q black ■

Rotating lever selector



- With light 1 position
  AI-3523 black ■
- With light 2 positions
  AI-3522 black ■
- For panel mounting with light 1 position
  AI-3523Q black ■
- For panel mounting with light 2 positions
  AI-3522Q black ■

Omni-directional lever



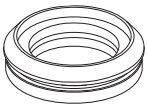
- With centre return 1 position
  AI-3525 black ■
- For panel mounting with centre return 1 position
  AI-3525Q black ■

Push-pull operator



- 2 positions
  AI-3526 black ■
- For panel mounting 2 positions
  AI-3526Q black ■

AI-3529



reducer for Ø 30,5 to Ø 22,5, to be used with AI-35..Q limit switches

Pneumatic and mechanical operators

- Pneumatic operator
  
  AI-3550
- Roller operator with dust protection
  
  AI-3560
- Omini-directional antenna 1 position with centre return
  
  AI-3563
- Roller lever 1 position
  
  AI-3570
- Articulated one-way roller lever 1 position
  
  AI-3571
- Amplified pneumatic operator
  
  AI-3551
- Ball operator with dust protection
  
  AI-3562
- Push button 1 position
  
  AI-3572

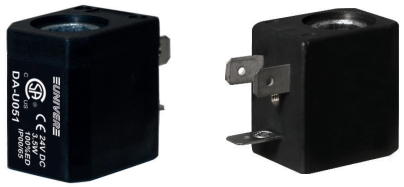
CHARACTERISTICS

Ambient temperature	-10°C + 45°C
Duty cicle ED [(a)]	100%
Tension tolerance	±10%



Products with this mark are certified by the Canadian CSA organization in compliance with the standards required by USA (US on the right of the logo) and Canada market (C on the left of the logo).
Certification N° 244884.
In compliance with:
CSA C22.2 No. 139-13
UL 429: 2013

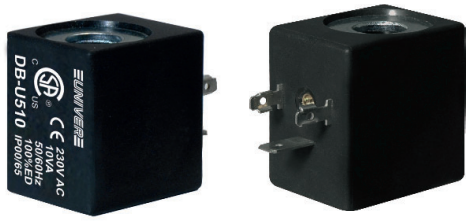
U1 22 mm coil to be used with U1 electropilot



Part No.	Power consumption W		Rated voltage	Weight (Kg)
	hold	inrush		
DA-U050	3,5	3,5	12 V DC	0,06
DA-U051	3,5	3,5	24 V DC	0,06
DA-U101	6	6	12 V DC*	0,06
DA-U102	6	6	24 V DC	0,06
DA-U103	6	6	48 V DC*	0,06
DA-U104	6	6	110 V DC*	0,06
DA-U106	5 VA (Max)	7,8 VA (Max)	24 V AC/50-60 HZ	0,06
DA-U108	5 VA (Max)	7,8 VA (Max)	110 V AC/50-60 HZ	0,06
DA-U124	5 VA (Max)	7,8 VA (Max)	230 V AC/50-60 HZ	0,06

(*) = upon request

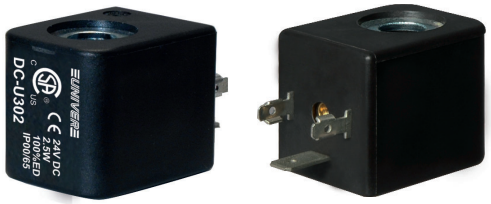
U2 30 mm coil to be used with U2 electropilot



Part No.	Power consumption W		Rated voltage	Weight (Kg)
	hold	inrush		
DB-U501	11	11	12 V DC	0,10
DB-U502	11	11	24 V DC	0,10
DB-U503	11	11	48 V DC*	0,10
DB-U504	11	11	110 V DC*	0,10
DB-U507	10 VA (Max)	16 VA (Max)	24 V AC/50-60 HZ	0,10
DB-U509	10 VA (Max)	16 VA (Max)	110 V AC/50-60 HZ	0,10
DB-U510	10 VA (Max)	16 VA (Max)	230 V AC/50-60 HZ	0,10

(*) = upon request

U3 30 mm coil to be used with U1 electropilot



Part No.	Power consumption W		Rated voltage	Weight (Kg)
	hold	inrush		
DC-U301	2,5	2,5	12 V DC	0,08
DC-U302	2,5	2,5	24 V DC	0,08
DC-U304	2,5	2,5	110 V DC*	0,08
DC-U307	3,3 VA (Max)	5 VA (Max)	24 V AC/50-60 HZ	0,08
DC-U309	3,3 VA (Max)	5 VA (Max)	110 V AC/50-60 HZ	0,08
DC-U310	3,3 VA (Max)	5 VA (Max)	230 V AC/50-60 HZ	0,08

(*) = upon request

(a) = Under continuons service maximum temperature will not compromise the functioning of the coil provided that the working position is ventilated

AM-5110



Connector for U1 coil
Protection according to IP 65. PG9 cable connection. 180° rotation on the coil
LED and moulded cable are available upon request.

AM-5111



DIN 43650 Connector for U2, U3 coil
Protection according to IP 65. PG9 cable connection. 360° rotation on the coil.
LED and moulded cable are available upon request.

Coils matching with electropilots/valves

AA U1 Miniature electropilots



AB U2 Miniature electropilots



BE ISO 5599/1 valves size 1-2-3-4



AE ISO 5599/1 light series valves size 1-2



AC-N NAMUR valves



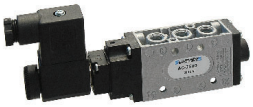
CL/CM UNIVERSAL valves G1/8 - G1/4



G7 26 mm - Valves and solenoid valves



AC MIXED valves G1/8 - G1/4 - G1/2



AF Poppet valves for compressed air G1/8 ÷ G1 1/2



AG Poppet valves for vacuum G1/8 ÷ G1 1/2



HZE1S Shut-off valves



For technical details on electropilots/valves refer to our technical catalogue

YR240 Brass ball valve 2 ways with rotary actuator

Double/single acting



Standard supplied ATEX version

Temperature: -20 ÷ 120 °C
Fluid: air, water, etc.
Working pressure: G1/4 ÷ 1 40 bar
G1 1/4 32 bar
G1 1/2 ÷ 2 1/2 30 bar
G3 ÷ 4 25 bar
(based on working temperature)

Double acting			Single acting		
Part No.	**Ø**	**DN**	**Part No.**	**Ø**	**DN**
YR240008DA	8	G1/4	**YR240008SR**	8	G1/4
YR240010DA	10	G3/8	**YR240010SR**	10	G3/8
YR240015DA	15	G1/2	**YR240015SR**	15	G1/2
YR240020DA	20	G3/4	**YR240020SR**	20	G3/4
YR240025DA	25	G1	**YR240025SR**	25	G1
YR240032DA	32	G1 1/4	**YR240032SR**	32	G1 1/4
YR240040DA	40	G1 1/2	**YR240040SR**	40	G1 1/2
YR240050DA	50	G2	**YR240050SR**	50	G2
YR240065DA	65	G2 1/2	**YR240065SR**	65	G2 1/2
YR240080DA	80	G3	**YR240080SR**	80	G3
YR240100DA	100	G4	**YR240100SR**	100	G4

YR250 Ball valve 2 ways AISI 316 with manual lever or rotary actuator

With manual lever



Part No.	**Ø**	**DN**
YR250008LM	8	G1/4
YR250010LM	10	G3/8
YR250015LM	15	G1/2
YR250020LM	20	G3/4
YR250025LM	25	G1
YR250032LM	32	G1 1/4
YR250040LM	40	G1 1/2
YR250050LM	50	G2
YR250065LM	65	G2 1/2
YR250080LM	80	G3

Double/single acting



Standard supplied ATEX version

Temperature: -25 ÷ 200 °C
Fluid: air, water, chemical agents, etc.
Working pressure: Max 63 bar
(based on working temperature)

Double acting			Single acting		
Part No.	**Ø**	**DN**	**Part No.**	**Ø**	**DN**
YR250008DA	8	G1/4	**YR250008SR**	8	G1/4
YR250010DA	10	G3/8	**YR250010SR**	10	G3/8
YR250015DA	15	G1/2	**YR250015SR**	15	G1/2
YR250020DA	20	G3/4	**YR250020SR**	20	G3/4
YR250025DA	25	G1	**YR250025SR**	25	G1
YR250032DA	32	G1 1/4	**YR250032SR**	32	G1 1/4
YR250040DA	40	G1 1/2	**YR250040SR**	40	G1 1/2
YR250050DA	50	G2	**YR250050SR**	50	G2
YR250065DA	65	G2 1/2	**YR250065SR**	65	G2 1/2
YR250080DA	80	G3	**YR250080SR**	80	G3

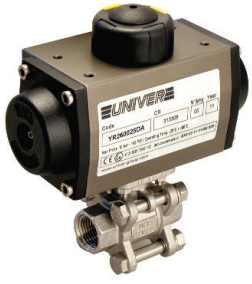
YR260 Ball valve 2 ways AISI 316 (3 pieces) with manual lever or rotary actuator

With manual lever



Part No.	**Ø**	**DN**
YR260008LM	8	G1/4
YR260010LM	10	G3/8
YR260015LM	15	G1/2
YR260020LM	20	G3/4
YR260025LM	25	G1
YR260032LM	32	G1 1/4
YR260040LM	40	G1 1/2
YR260050LM	50	G2
YR260065LM	65	G2 1/2
YR260080LM	80	G3

Double/single acting



Standard supplied ATEX version

Temperature: -25 ÷ 200 °C
Fluid: air, water, chemical agents, etc.
Working pressure: Max 63 bar
(based on working temperature)

Double acting			Single acting		
Part No.	**Ø**	**DN**	**Part No.**	**Ø**	**DN**
YR260008DA	8	G1/4	**YR260008SR**	8	G1/4
YR260010DA	10	G3/8	**YR260010SR**	10	G3/8
YR260015DA	15	G1/2	**YR260015SR**	15	G1/2
YR260020DA	20	G3/4	**YR260020SR**	20	G3/4
YR260025DA	25	G1	**YR260025SR**	25	G1
YR260032DA	32	G1 1/4	**YR260032SR**	32	G1 1/4
YR260040DA	40	G1 1/2	**YR260040SR**	40	G1 1/2
YR260050DA	50	G2	**YR260050SR**	50	G2
YR260065DA	65	G2 1/2	**YR260065SR**	65	G2 1/2
YR260080DA	80	G3	**YR260080SR**	80	G3

YR270 L-shaped ball valve 3 ways AISI 316 with manual lever or rotary actuator

With manual lever



Part No.	Ø	DN
YR270008LM	8	G1/4
YR270010LM	10	G3/8
YR270015LM	15	G1/2
YR270020LM	20	G3/4
YR270025LM	25	G1
YR270032LM	32	G1 1/4
YR270040LM	40	G1 1/2
YR270050LM	50	G2

Double/single acting



Standard supplied ATEX version

Temperature: -15 ÷ 230 °C

Fluid: air, water, chemical agents, etc.

Working pressure: Max 64 bar
(based on working temperature)

Double acting

Part No.	Ø	DN
YR270008DA	8	G1/4
YR270010DA	10	G3/8
YR270015DA	15	G1/2
YR270020DA	20	G3/4
YR270025DA	25	G1
YR270032DA	32	G1 1/4
YR270040DA	40	G1 1/2
YR270050DA	50	G2

Single acting

Part No.	Ø	DN
YR270008SR	8	G1/4
YR270010SR	10	G3/8
YR270015SR	15	G1/2
YR270020SR	20	G3/4
YR270025SR	25	G1
YR270032SR	32	G1 1/4
YR270040SR	40	G1 1/2
YR270050SR	50	G2

YR280 Brass L-shaped ball valve 3 ways with manual lever or rotary actuator

With manual lever



Part No.	Ø	DN
YR280008LM	8	G1/4
YR280010LM	10	G3/8
YR280015LM	15	G1/2
YR280020LM	20	G3/4
YR280025LM	25	G1
YR280032LM	32	G1 1/4
YR280040LM	40	G1 1/2
YR280050LM	50	G 2

Double/single acting



Standard supplied ATEX version

Temperature: -20 ÷ 160 °C

Fluid: air, water, chemical agents, etc.

Working pressure: G1/4 ÷ G3/4 30 bar, G1 16 bar, G1 1/4 ÷ G2 10 bar (based on working temperature)

Double acting

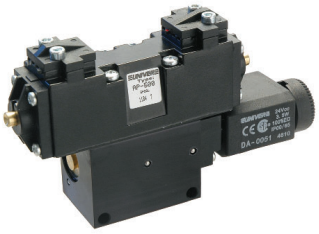
Part No.	Ø	DN
YR280008DA	8	G1/4
YR280010DA	10	G3/8
YR280015DA	15	G1/2
YR280020DA	20	G3/4
YR280025DA	25	G1
YR280032DA	32	G1 1/4
YR280040DA	40	G1 1/2
YR280050DA	50	G2

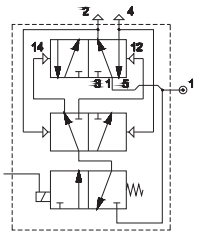
Single acting

Part No.	Ø	DN
YR280008SR	8	G1/4
YR280010SR	10	G3/8
YR280015SR	15	G1/2
YR280020SR	20	G3/4
YR280025SR	25	G1
YR280032SR	32	G1 1/4
YR280040SR	40	G1 1/2
YR280050SR	50	G2

Binary Counter (Flip Flop)

AP-500
Electrical override

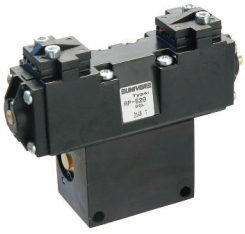


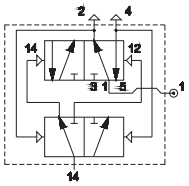


Working pressure: 10 bar
Energizing pressure: 3 bar
Ambient temperature: -30 ÷ +80 °C
Coil: U1 - DA series

Solenoid valves are supplied without coil/connector/locking nut

AP-520
Pneumatic override

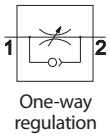




Flow control valve - metallic body

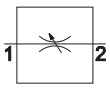
AM-50
One-way and two-way flow control valve
M5 - G1/8 - G1/4 - G3/8 - G1/2





One-way regulation

		Ø mm
AM-5060	M5	1
AM-5061	G1/8	1
AM-5062	G1/8	2,25
AM-5063	G1/8	3,5
AM-5064	G1/4	5
AM-5065	G1/4	6
AM-5066	G3/8	6
AM-5067	G1/2	9

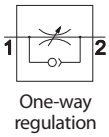


Two-way regulation

AM-5070	M5	1
AM-5071	G1/8	1
AM-5072	G1/8	2,25
AM-5074	G1/4	5
AM-5076	G3/8	6
AM-5077	G1/2	9

AM-50
One-way flow control valve G1/2 - G3/4 - G1





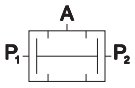
One-way regulation

		Ø mm
AM-5090	G1/2	9
AM-5091	G3/4	9
AM-5092	G1	12

Signal processing valve

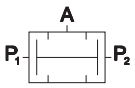
AM-51
Two-pressure valve "AND"





AM-5160
threaded body G1/8

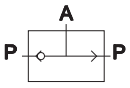




AM-5161
push-in fittings Ø4x2

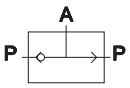
AM-51
Selector valve "OR"





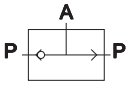
AM-5162
threaded body G1/8





AM-5163
push-in fittings Ø4x2





AM-5164
threaded body G1/4

Available ATEX version upon request

See ATEX Catalogue for types and versions

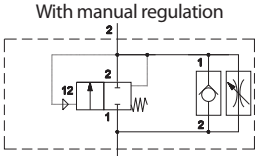
Subject to change

Gradual starter

AM-52
Gradual starter G1/8 ÷ G1

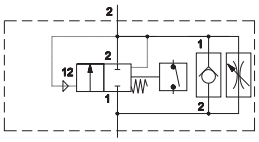


With manual regulation



		Ø mm
AM-5240	G1/8	6,5
AM-5241	G1/4	6,5
AM-5242	G1/4	9,5
AM-5243	G3/8	9,5

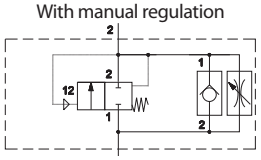
With electrical switch



		Ø mm
AM-5242E	G1/8	9,5
AM-5243E	G3/8	9,5

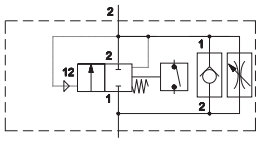


With manual regulation



		Ø mm
AM-5254	G1/2	15
AM-5255	G3/4	15
AM-5256	G1	24

With electrical switch

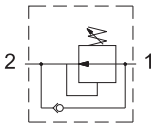


		Ø mm
AM-5259	G1/2	15
AM-5260	G3/4	15
AM-5261	G1	24

Economizer

AM-53
Economizer G1/8 ÷ G1



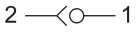


		Ø mm
AM-5350	G1/8	6,5
AM-5351	G1/4	6,5
AM-5352	G1/4	9,5
AM-5353	G3/8	9,5
AM-5354	G1/2	15
AM-5355	G3/4	15
AM-5356	G1	24

Check valve

AM-54
Check valve G1/2 - G3/4 - G1





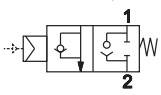
		Ø mm
AM-5400	G1/2	15
AM-5401	G3/4	15
AM-5402	G1	24

Blocking valve

AM-55
Blocking valve



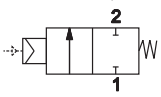
One-way



		Ø mm
AM-5500	G1/8	6,5
AM-5501	G1/4	6,5
AM-5502	G1/4	9,5
AM-5503	G3/8	9,5
AM-5504	G1/2	15



Two-way

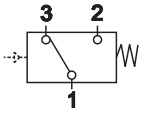


		Ø mm
AM-5510	G1/8	6,5
AM-5511	G1/4	6,5
AM-5512	G1/4	9,5
AM-5513	G3/8	9,5
AM-5514	G1/2	15

Transducer and pressure switch

AM-5200
Pneumoelectrical transducer

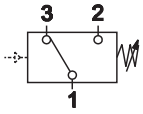




AM-5200

AM-5220
Adjustable pressure switch





AM-5220

Available ATEX version upon request

See ATEX Catalogue for types and versions

CHARACTERISTICS

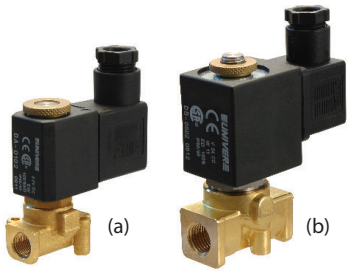
Ambient temperature	-20 ÷ +50 °C
Fluid temperature	-10 ÷ +95 °C
Fluid	water, air, non-corrosive gases
Valve body	brass
Seals	NBR
Coil	U1
	U2
Power consumption	see coil section
Voltage	24 V DC, 24 V AC, 110 V AC, 220 V AC 50/60 Hz

Other versions available upon request

- VITON, EPDM seals; EPM seals for food industry
- Nickel-plated brass or AISI 316 stainless steel body
- NO version
- G1 1/4 - G1 1/2 - G2



2 ways NC direct action



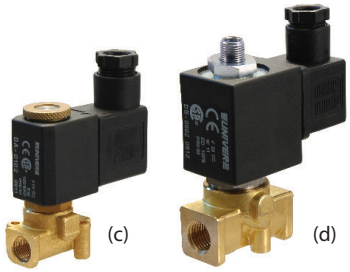
Part No.	Connections	Nom. bore (mm)	Pressure (bar)				Coil	KV (l/min)
			Nominal	min	Max AC	Max DC		
YF210061D (a)	G1/8	2	25	0	12	10	U1	1,5
YF210062D (b)	G1/8	2	25	0	22	20	U2	1,7
YF210082D (b)	G1/4	3,5	100	0	10	8	U2	5,4

2 ways NC servo-assisted diaphragm



Part No.	Connections	Nom. bore (mm)	Pressure (bar)				Coil	KV (l/min)
			Nominal	min	Max AC	Max DC		
YF210151S	G1/2	12,7	25	0,15	18	16	U1	40
YF210201S	G3/4	19	25	0,15	16	13	U1	90
YF210251S	G1	25	25	0,15	12	10	U1	176

3 ways NC direct action



Part No.	Connections	Nom. bore (mm)	Pressure (bar)				Coil	KV (l/min)
			Nominal	min	Max AC	Max DC		
YF310061D (c)	G1/8	1,5	10	0	10	10	U1	1
YF310082D (d)	G1/4	2,4	10	0	10	10	U2	2,3

Coils



U1

YFDA-0224	24 V AC - 50/60 Hz - 8 VA
YFDA-0211	110 V AC - 50/60 Hz - 8 VA
YFDA-0223	230 V AC - 50/60 Hz - 8 VA
DA-0102	24 V DC - 6 W



U2

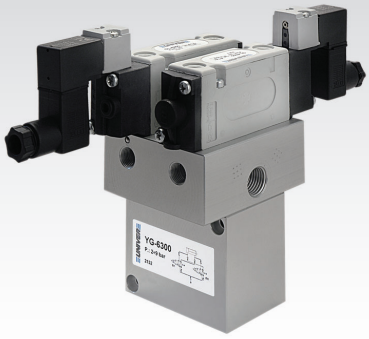
YFDB-0224	24 V AC - 50/60 Hz - 13 VA
YFDB-0211	110 V AC - 50/60 Hz - 13 VA
YFDB-0223	230 V AC - 50/60 Hz - 13 VA
DB-0502	24 V DC - 11 W

Solenoid valves are supplied with locking nut, without coil and connector

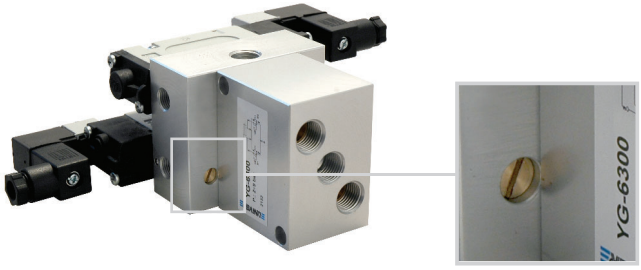
YG-6300
Positioning Device for Pneumatic Cylinders

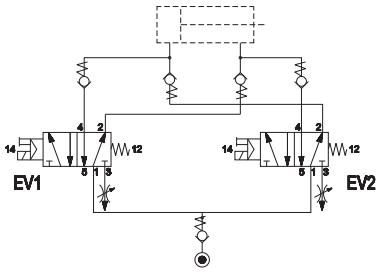
CHARACTERISTICS

Ambient temperature	-20 ÷ +50 °C
Fluid	50 µm filtered air, with or without lubrication
Pressure	1,5 ÷ 9 bar
Connections	G1/4
Pace regulators	embodied
Function	it allows cylinders to stop with highly precise position repeatability
Solenoid Valves	GL series
Commutation system	spool
Electropilot/Coil	A series/U05 series
Voltage	24 V DC - 12 V DC - 24 V AC - 110 V AC - 230 V AC (only version with external electrical connection)
Power consumption	U05 = 2 W (DC) 2,3 VA (AC)
Manual override	recessed button - 1 position

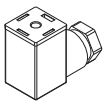


Embodied pace regulators



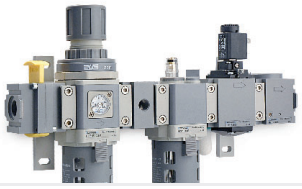


For further information please contact our Sales Office

DD- ...		AM-5109
	**DD-040** 24 V AC **DD-041** 12 V DC **DD-051** 24 V DC **DD-060** 110 V AC **DD-070** 230 V AC	
15 mm U05 Coil - Faston		15 mm Connectors

4

Air Treatment

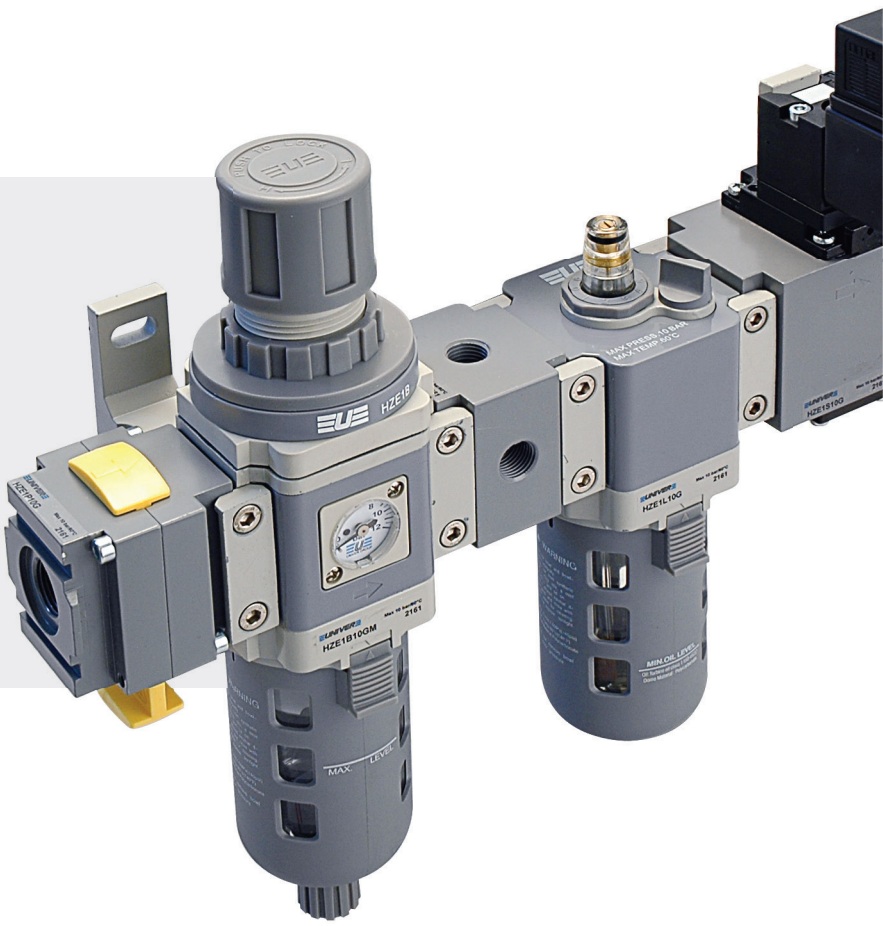


	Air Treatment Units	HZE0-05-1-2 HZE3	2 10
	Purifier filters Oil separator filters	HZE1G/2G HZE1GD/2GD	16 18
	Precision regulator	HZRP30	19
	Microregulators	HZRS	20
	Electropneumatic proportional regulator	HZRE	21

MODULAR
40 mm - HZE0
50 mm - HZE05
63 mm - HZE1
80 mm - HZE2

INTEGRATED GAUGE
Standard supplied

COMPLETE SOLUTION
Possibility of assembling combinations complete with accessories



G1/4
Size 0



FR+L

600 Nl/min

G1/4 - G3/8
Size 05



FR+L

1500 Nl/min

G3/8 - G1/2
Size 1



FR+L

2800 Nl/min

G1/2
Size 2



FR+L

4300 Nl/min



HZE-Y
Gradual starter



HZE-N
Diverter block



HZE-P
Lockable valve



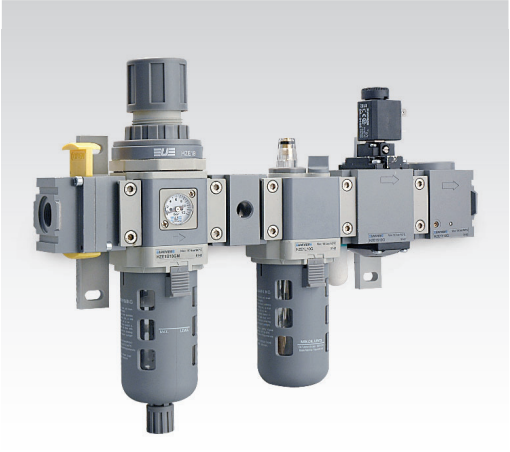
HZE-S
Shut-off valve



HZE-RL
Lockable regulator

CHARACTERISTICS

Ambient temperature	0 ÷ +60 °C
Fluid	filtered air, with or without lubrication
Working pressure	10 bar
Max pressure	15 bar
Size	0 - 05 - 1 - 2
Body	tecnopolymer with metal threaded elements (size 0)
	die-cast aluminium (size 05 - 1 - 2)
Knob	tecnopolymer
Ring nut	tecnopolymer
Bowl	polycarbonate
Bowl guard	tecnopolymer (size 05 - 1 - 2)
Filter element	polyethylene
Seals	NBR
Springs	steel
Diaphragm	fabric reinforced rubber



For round gauge mounting (HZ9P):
Size 0/05 = Replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8, to be ordered separately
Size 1-2 = Replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8 placed on the rear side of the regulator or filter regulator

CODIFICATION KEY

H	Z	E	0	B	0	8	G		M	
1			2	3	4			5	6	7

1 Series
HZE = Air treatment units with standard manual drain

2 Size
0 = Small (G1/4)
05 = Intermediate (G1/4 - G3/8)
1 = Medium (G3/8 - G1/2)
2 = Large (G1/2)

3 Model
F = Filter
R = Regulator
L = Lubricator
B = Filter regulator
D = Filter regulator+Lubricator (FR+L)
C = Filter+Regulator+Lubricator (F+R+L)

4 Thread
08G = G1/4 (sz. 0 - 05)
10G = G3/8 (sz. 05 - 1)
15G = G1/2 (sz. 1-2)
20G = G3/4 (sz. 2) *
25G = G1 (sz. 2) *

* = with threaded ends

5 Option
A = Automatic drain (except for size 0 - 05)
S = Semi-automatic drain

6 Pressure gauge
M = Integrated square pressure gauge (standard supplied)

Square adaptor G1/8 upon request

7 ATEX option
X = ATEX (upon request)

See ATEX Catalogue for types and versions

Filter









Size	0	05		1		2
Part No.	**HZE0F08G**	**HZE05F08G**	**HZE05F10G**	**HZE1F10G**	**HZE1F15G**	**HZE2F15G**
Connections	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Filtration rate (µm)	5	5		5		5
Nominal flow rate (Nl/min) (A)	1100	1500	2000	2300	2500	5000
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 - 1 - 145		10 - 1 - 145		10 - 1 - 145
Condensation drain capacity (cm^3)	12	40		45		80
Condensation drain	manual	manual		manual		manual

(A) = Inlet pressure 7 bar, Δp 0,5 bar

Regulator









Size	0	05		1		2
Part No.	**HZE0R08GM**	**HZE05R08GM**	**HZE05R10GM**	**HZE1R10GM**	**HZE1R15GM**	**HZE2R15GM**
Connections	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Nominal flow rate (Nl/min) (A)	1000	1900	2500	2800	3500	5000
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 - 1 - 145		10 - 1 - 145		10 - 1 - 145
Pressure adjustment-relieving version (bar)	0,5 ÷ 8,5	0,5 ÷ 8,5		0,5 ÷ 8,5		0,5 ÷ 8,5
Pressure gauge (standard supplied)	HZ9464G	HZ9464G		HZ9464G		HZ9464G
Pressure gauge adaptor	G1/8(B)	G1/8(B)		G1/8(C)		G1/8(C)

(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 1 bar
(B) = Upon request (replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8, to be ordered separately)
(C) = Standard supplied (replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8 placed on the rear side)

Other available versions

Without manometer size 0-05



Size	Part No.
0	**HZE0R08G**
05	**HZE05R08G - HZE05R10G**

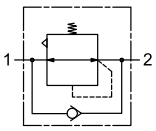
Lockable knob size 05-1-2



Size	Part No.
05	**HZE05RL08GM - HZE05RL10GM**
1	**HZE1RL10GM - HZE1RL15GM**
2	**HZE2RL15GM**

Check valve size 0-05-1-2

The check valve inside the regulator allows to relieve downstream pressure in a quick and effective way.





Size	Part No.
0	**HZE0R08GMV**
05	**HZE05R08GMV - HZE05R10GMV**
1	**HZE1R10GMV-HZE1R15GMV**
2	**HZE2R15GMV**

Regulator with integrated digital pressure switch **size 0-05-1-2**



Size	Part No.
0	**HZE0R08GQ**
05	**HZE05R08GQ - HZE05R10GQ**
1	**HZE1R10GQ-HZE1R15GQ**
2	**HZE2R15GQ**

For M8 pressure switch connection, add "T" at the end of the code

Lubricator





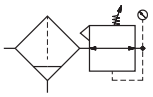




Size	0	05		1		2
Part No.	**HZE0L08G**	**HZE05L08G**	**HZE05L10G**	**HZE1L10G**	**HZE1L15G**	**HZE2L15G**
Connections	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Nominal flow rate (Nl/min) (A)	1400	1800	3800	4400		7000
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 - 1 - 145		10 - 1 - 145		10 - 1 - 145
Bowl capacity (cm^3)	20	70		85		170
Recommended oil	ISO VG 32	ISO VG 32		ISO VG 32		ISO VG 32
Min. working flow rate (Nl/min)	15	30		30		65

(A) = Inlet pressure 7 bar - Δp 0,5 bar

Filter regulator









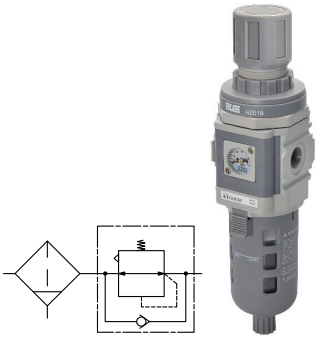
Size	0	05		1		2
Part No.	**HZE0B08GM**	**HZE05B08GM**	**HZE05B10GM**	**HZE1B10GM**	**HZE1B15GM**	**HZE2B15GM**
Connections	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Filtration rate (µm)	5	5		5		5
Nominal flow rate (Nl/min) (A)	600	1500	2000	2500	3000	4500
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 - 1 - 145		10 - 1 - 145		10 - 1 - 145
Pressure adjustment - relieving version (bar)	0,5 ÷ 8,5	0,5 ÷ 8,5		0,5 ÷ 8,5		0,5 ÷ 8,5
Pressure gauge (standard supplied)	HZ9464G	HZ9464G		HZ9464G		HZ9464G
Pressure gauge adaptor	G1/8(B)	G1/8(B)		G1/8(C)		G1/8(C)
Condensation drain capacity (cm^3)	12	40		45		80
Condensation drain	manual	manual		manual		manual

(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 1 bar
(B) = Upon request (replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8, to be ordered separately)
(C) = Standard supplied (replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8 placed on the rear side)

Other available versions

Check valve size 0-05-1-2

The check valve inside the filter regulator allows to relieve downstream pressure in a quick and effective way.



Size	Part No.
0	**HZE0B08GMV**
05	**HZE05B08GMV - HZE05B10GMV**
1	**HZE1B10GMV - HZE1B15GMV**
2	**HZE2B15GMV**

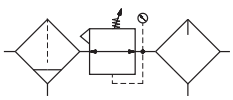
Filter regulator with integrated digital pressure switch size 0-05-1-2



Size	Part No.
0	**HZE0B08GQ**
05	**HZE05B08GQ - HZE05B10GQ**
1	**HZE1B10GQ - HZE1B15GQ**
2	**HZE2B15GQ**

For M8 pressure switch connection, add "T" at the end of the code

Filter regulator + Lubricator





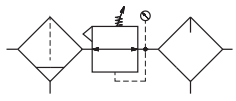




Size	0	05		1		2
Part No.	**HZE0D08GM**	**HZE05D08GM**	**HZE05D10GM**	**HZE1D10GM**	**HZE1D15GM**	**HZE2D15GM**
Connections	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Filtration rate (µm)	5	5		5		5
Nominal flow rate (Nl/min) (A)	600	1500	2000	2500	2800	4300
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 - 1 - 145		10 - 1 - 145		10 - 1 - 145
Fluid	compressed air	compressed air		compressed air		compressed air
Pressure adjustment - relieving version (bar)	0,5 ÷ 8,5	0,5 ÷ 8,5		0,5 ÷ 8,5		0,5 ÷ 8,5
Pressure gauge (standard supplied)	HZ9464G	HZ9464G		HZ9464G		HZ9464G
Pressure gauge adaptor	G1/8(B)	G1/8(B)		G1/8(C)		G1/8(C)
Condensation drain capacity (cm^3)	12	40		45		80
Condensation drain	manual	manual		manual		manual
Recommended oil	ISO VG 32	ISO VG 32		ISO VG 32		ISO VG 32
Min. working flow rate (Nl/min)	15	30		30		65

(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 1 bar
(B) = Upon request (replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8, to be ordered separately)
(C) = Standard supplied (replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8 placed on the rear side)

Filter + Regulator + Lubricator





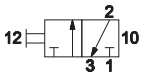




Size	0	05		1		2
Part No.	**HZE0C08GM**	**HZE05C08GM**	**HZE05C10GM**	**HZE1C10GM**	**HZE1C15GM**	**HZE2C15GM**
Connections	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Filtration rate (µm)	5	5		5		5
Nominal flow rate (Nl/min) (A)	550	1300	1500	1800	2000	3000
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 - 1 - 145		10 - 1 - 145		10 - 1 - 145
Fluid	compressed air	compressed air		compressed air		compressed air
Pressure adjustment - relieving version (bar)	0,5 ÷ 8,5	0,5 ÷ 8,5		0,5 ÷ 8,5		0,5 ÷ 8,5
Pressure gauge (standard supplied)	HZ9464G	HZ9464G		HZ9464G		HZ9464G
Pressure gauge adaptor	G1/8(B)	G1/8(B)		G1/8(C)		G1/8(C)
Condensation drain capacity (cm^3)	12	40		45		80
Condensation drain	manual	manual		manual		manual
Recommended oil	ISO VG 32	ISO VG 32		ISO VG 32		ISO VG 32
Min. working flow rate (Nl/min)	15	30		30		65

(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 1 bar
(B) = Upon request (replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8, to be ordered separately)
(C) = Standard supplied (replace **HZ9464G** gauge with **HZE7Z480** square adaptor G1/8 placed on the rear side)

Lockable Valve



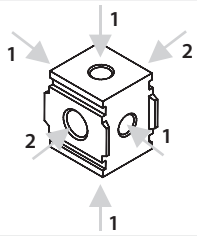




Size	**0**	**1**(B)	
Part No.	**HZE0P08G**	**HZE1P10G**	**HZE1P15G**
Connections	G1/4	G3/8	G1/2
Nominal flow rate (Nl/min) (A)	900	5000	
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 -1 - 145	
Fluid	compressed air	compressed air	

(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 1 bar
(B) = Also usable with sizes 05 and 2

Diverter Block



1 = Auxiliary
2 = In/Out





Size	**0**	**1**(B)	
Part No.	**HZE0N08G**	**HZE1N10G**	**HZE1N15G**
Connections	In/Out G1/4 Auxiliary G1/8	In/Out G3/8	In/Out G1/2 Auxiliary G1/4
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 - 1 - 145	
Fluid	compressed air	compressed air	

(B) = Also usable with sizes 05 and 2
Use blanking plugs to close unused ways (not included)

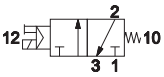
Intermediate Diverter block



Size	**1**(B)
Part No.	**HZE1N1006G**
Connections	Auxiliary G3/8 - G1/8
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145
Fluid	compressed air

(B) = Also usable with sizes 05 and 2
Use blanking plugs to close unused ways (not included)

Shut-off valve



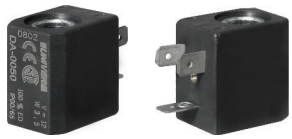




Size	**0**	**1**[B]	
Part No.	**HZE0S08G**	**HZE1S10G**	**HZE1S15G**
Connections	G1/4	G3/8	G1/2
Nominal flow rate (Nl/min) [A]	900	2800	
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 - 1 - 145	
Min. pressure (bar-MPa-psi)	2 - 0,16 - 23	2 - 0,2 - 29	
Fluid	compressed air	compressed air	
Commutation system	poppet	poppet	
Ways/Positions	3/2 NC	3/2 NC	
Control	indirect electropneumatic	indirect electropneumatic	
Nominal diameter (mm)	8	10	
Electropilot	U1 AA series	U1 AA series	
Coil	DA/DC	DA/DC	
Manual Override	two-position screw	two-position screw	

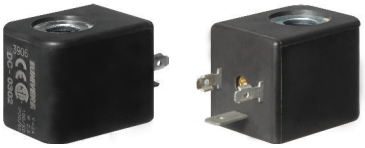
(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 1 bar
(B) = Also usable with sizes 05 and 2

Coils



- U1

DA-0050 12 V DC
DA-0051 24 V DC
DA-0106 24 V AC/50-60 Hz
DA-0108 110 V AC/50-60 Hz
DA-0124 230 V AC/50-60 Hz



- U3

DC-0301 12 V DC
DC-0302 24 V DC
DC-0307 24 V AC/50-60 Hz
DC-0309 110 V AC/50-60 Hz
DC-0310 230 V AC/50-60 Hz

Other available versions

- Size 0 **U05**



- Size 1 **U05**

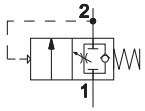


- Size 1 **U3 CNOMO**



Solenoid valves are supplied with locking nut, without coil

Gradual Starter







Size	**0**	**1**[B]	
Part No.	**HZE0Y08G**	**HZE1Y10G**	**HZE1Y15G**
Connections	G1/4	G3/8	G1/2
Nominal flow rate (Nl/min) [A]	900	2200	
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145	10 - 1 - 145	
Min. pressure (bar)	2	3,5	
Fluid	compressed air	compressed air	

(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 1 bar
(B) = Also usable with sizes 05 and 2

Subject to change

HZE0/05/1Z200



Assembly kit
Size 0 **HZE0Z200**
Size 05 **HZE05Z200**
Size 1-2 **HZE1Z200**

HZE0/05/1/2Z210



T-bracket assembly kit
Size 0 **HZE0Z210**
Size 05 **HZE05Z210**
Size 1 **HZE1Z210**
Size 2 **HZE2Z210**

HZE0/05/1/2Z300



C-bracket
Size 0 **HZE0Z300**
Size 05 **HZE05Z300**
Size 1 **HZE1Z300**
Size 2 **HZE2Z300**

HZE0/05/1/2Z310



Regulator L-bracket
Size 0 **HZE0Z310**
Size 05 **HZE05Z310**
Size 1 **HZE1Z310**
Size 2 **HZE2Z310**

HZE7Z480/90



Threaded adaptor for pressure gauge
Size 0-05-1-2
G1/8 **HZE7Z480**
G1/4 **HZE7Z490**
Screw torque:
Max 0,6 Nm

HZE2Z500/501



Threaded ends
Size 2
G3/4 **HZE2Z500**
G1 **HZE2Z501**

Filter and filter regulator accessories

HZE0/05/1/2Z600



Standard bowl with manual drain
Size 0 **HZE0Z600**
Size 05 **HZE05Z600**
Size 1 **HZE1Z600**
Size 2 **HZE2Z600**

HZE0/05/1/2Z600SS



Bowl with semi-automatic drain
Size 0 **HZE0Z600SS**
Size 05 **HZE05Z600SS**
Size 1 **HZE1Z600SS**
Size 2 **HZE2Z600SS**

HZE7Z400



Automatic drain
Size 1-2

HZE0/1Z401



Semi-automatic drain
Size 0 **HZE0Z401**
Size 05-1-2 **HZE1Z401**

HZE0/1Z402



Manual drain
Size 0 **HZE0Z402**
Size 05-1-2 **HZE1Z402**

HZE0/05/1/2Z660



Filter elements 5 µm
Size 0 **HZE0Z660**
Size 05 **HZE05Z660**
Size 1 **HZE1Z660**
Size 2 **HZE2Z660**
Other filter elements upon request

Regulator and filter regulator accessories

HZE0/05/1/2Z602



Knob
Size 0 **HZE0Z602**
Size 05 **HZE05Z602**
Size 1 **HZE1Z602**
Size 2 **HZE2Z602**

HZE05/1/2Z652/4/8



Regulator spring

Size 05	Pressure adjustment
HZE05Z658	0,5 ÷ 8,5
Size 1	
HZE1Z652	0,5 ÷ 1,7
HZE1Z654	0,5 ÷ 3,5
HZE1Z658	0,5 ÷ 8,5
Size 2	
HZE2Z652	0,5 ÷ 1,7
HZE2Z654	0,5 ÷ 3,5
HZE2Z658	0,5 ÷ 8,5

HZE0/05/1/2Z603



Ring nut for panel
Size 0 **HZE0Z603**
Size 05 **HZE05Z603**
Size 1 **HZE1Z603**
Size 2 **HZE2Z603**

HZE0/05/1/2Z610/1



Diaphragm kit
Size 0 **HZE0Z610** relieving
HZE0Z611 non-relieving
Size 05 **HZE05Z610** relieving
HZE05Z611 non-relieving
Size 1 **HZE1Z610** relieving
HZE1Z611 non-relieving
Size 2 **HZE2Z610** relieving
HZE2Z611 non-relieving

Lubricator accessories

HZE0/05/1/2Z601



Standard bowl
Size 0 **HZE0Z601**
Size 05 **HZE05Z601**
Size 1 **HZE1Z601**
Size 2 **HZE2Z601**

HZE7Z470



Lubricator transparent dome
Size 0-05-1-2 **HZE7Z470**

■ HZ9N ■ HZ9NP50 ■ HZ9N12



See **ACCESSORIES** chapter

4

CHARACTERISTICS

Ambient temperature	-5 ÷ 60 °C
Fluid	filtered compressed air, with or without lubrication
Working pressure	10 bar (pressure regulator 15 bar)
Max pressure	15 bar (pressure regulation 20 bar)
Body	die-cast aluminium (painted)
Knob	tecnopolymer
Ring nut	zinc-plated steel
Bowl	polycarbonate
Bowl guard	tecnopolymer
Filter element	polyethylene
Seals	NBR
Springs	steel
Diaphragm	fabric reinforced rubber



CODIFICATION KEY

H	Z	E	3	B	2	5	G	
1			2	3	4			5

1 Series

HZE = Ait treatment units with standard manual/semi-automatic drain

2 Size

3 = G1

3 Model

F = Filter
R = Regulator
L = Lubricator
B = Filter regulator (FR)
D = Filter regulator + Lubricator (FR+L)
C = Filter + Regulator + Lubricator (F+R+L)

4 Thread

25G = G1

5 Option

A = Automatic drain
S = Manual/semi-automatic drain (standard supplied)

Excluding regulator (R) and lubricator (L)

Filter





Part No.	**HZE3F25GS**
Connections	G1
Filtration rate (µm)	40
Nominal flow rate (Nl/min)(A)	10000
Max inlet pressure (bar-MPa-psi)	10-1-145
Working pressure (bar) with manual/semi-automatic drain	0,5-10
Working pressure (bar) with automatic drain	1,5-10
Fluid	compressed air
Temperature (°C)	-5 ÷ 60
Condensation drain capacity (cm³)	75
Condensation drain(B)	manual/semi-automatic
Weight (g)	1180
Mounting position	vertical

(A) = Inlet pressure 7 bar - Δp 0,5 bar
(B) = manual drain with semi-automatic function at < 0,5 bar pressure

Regulator





Part No.	HZE3R25G
Connections	G1
Nominal flow rate (Nl/min)(A)	10000
Max inlet pressure (bar-MPa-psi)	15 - 1,5 - 217
Pressure adjustment - relieving version (bar)	0,5 ÷ 8,5
Pressure gauge adaptor	G1/8
Fluid	filtered air
Temperature (°C)	-5 ÷ 60
Weight (g)	1460
Mounting position	any

(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 1 bar

HZE3Z310R L bracket standard supplied, ring nut for panel not included

Other available versions

- Regulator with integrated digital pressure switch size 3



Part No.
HZE3R25GQ
HZE3R25GT with M8 connector

Lubricator

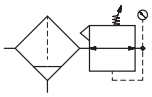




Part No.	HZE3L25G
Connections	G1
Nominal flow rate (Nl/min)(A)	10000
Max inlet pressure (bar-MPa-psi)	10-1-145
Working pressure (bar)	0,5-10
Fluid	filtered air
Temperature (°C)	-5 ÷ 60
Bowl capacity (cm^3)	200
Weight (g)	1260
Mounting position	vertical
Recommended oil	ISO VG 32
Min. working flow rate (Nl/min)	33

(A) = Inlet pressure 7 bar - Δp 0,2 bar

Filter regulator





Part No.	HZE3B25GS
Connections	G1
Filtration rate (µm)	40
Nominal flow rate (Nl/min)(A)	10000
Max inlet pressure (bar-MPa-psi)	10-1-145
Working pressure (bar) with manual/semi-automatic drain	0,5-10
Working pressure (bar) with automatic drain	1,5-10
Pressure adjustment - relieving version (bar)	0,5 ÷ 8,5
Pressure gauge adaptor	G1/8
Fluid	compressed air
Temperature (°C)	-5 ÷ 60
Condansation drain capacity (cm^3)	75
Drain capacity(B)	manual/semi-automatic
Weight (g)	1940
Mounting position	vertical

(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 2 bar
(B) = manual drain with semi-automatic function at < 0,5 bar pressure
HZE3Z310R L bracket standard supplied, ring nut for panel not included

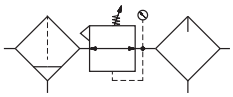
Other available versions

- Filter regulator with integrated digital pressure switch size 3



Part No.
HZE3B25GSQ
HZE3B25GST with M8 connector

Filter regulator + Lubricator

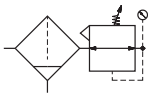




Part No.	**HZE3D25GS**
Connections	G1
Filtration rate (µm)	40
Nominal flow rate (Nl/min)[A]	10000
Max inlet pressure (bar-MPa-psi)	10-1-145
Working pressure (bar) with manual/semi-automatic drain	0,5-10
Working pressure (bar) with automatic drain	1,5-10
Pressure adjustment - relieving version (bar)	0,5 ÷ 8,5
Pressure gauge adaptor	G1/8
Fluid	compressed air
Temperature (°C)	-5 ÷ 60
Condansation drain capacity (cm^3)	75
Bowl capacity (cm^3)	200
Drain capacity[B]	manual/semi-automatic
Weight (g)	3480
Mounting position	vertical
Recommended oil	ISO VG 32
Min. working flow rate (Nl/min)	33

(A) = Inlet pressure 7 bar, outlet pressure 5 bar - Δp 2 bar
(B) = manual drain with semi-automatic function at < 0,5 bar pressure

Filter + Regulator + Lubricator





Part No.	**HZE3C25GS**
Connections	G1
Filtration rate (µm)	40
Nominal flow rate (Nl/min)[A]	10000
Max inlet pressure (bar-MPa-psi)	10-1-145
Pressure adjustment - relieving version (bar)	0,5 ÷ 8,5
Working pressure (bar) with manual/semi-automatic drain	0,5-10
Working pressure (bar) with automatic drain	1,5-10
Pressure gauge adaptor	G1/8
Fluid	compressed air
Temperature (°C)	-5 ÷ 60
Condansation drain capacity (cm³)	75
Bowl capacity (cm³)	200
Drain capacity[B]	manual/semi-automatic
Weight (g)	4200
Mounting position	vertical
Recommended oil	ISO VG 32
Min. working flow rate (Nl/min)	33

(A) = **Inlet pressure** 7 bar, outlet pressure 5 bar - Δp 1 bar
(B) = manual drain with semi-automatic function at < 0,5 bar pressure

Diverter Block



Size	**3**
Part No.	**HZE3N**
Connections	Auxiliary G1/2
Max inlet pressure (bar-MPa-psi)	10 - 1 - 145
Fluid	compressed air

HZE3Z200	HZE3Z210	HZE3Z310R	HZE3Z310F	HZE7Z490
				 G1/4
Assembly kit Size 3 **HZE3Z200**	**T-bracket assembly kit** Size 3 **HZE3Z210**	**L-bracket (standard supplied for regulator and filter regulator)** Size 3 **HZE3Z310R**	**L-bracket (for filter and lubricator)** Size 3 **HZE3Z310F**	**Threaded adaptor for pressure gauge** Size 3 G1/4 **HZE7Z490** Screw torque: Max 0,6 Nm

Filter regulator accessories

HZE3Z600SS	HZE3Z600SA	HZE3Z664
		
Bowl with semi-automatic drain Size 3 **HZE3Z600SS**	**Bowl with automatic drain** Size 3 **HZE3Z600SA**	**Filter element 40 µm** Size 3 **HZE3Z664**

Regulator and filter regulator accessories

HZE3Z602	HZE3Z658	HZE3Z603	HZE3Z610
			
Knob Size 3 **HZE3Z602**	**Regulator spring** Size 3 HZE3Z658 Pressure adjustment 0,5 ÷ 8,5	**Ring nut for panel** Size 3 HZE3Z603	**Diaphragm kit** Size 3 **HZE3Z610** with relieving

Lubricator accessories

HZE3Z601	HZE3Z470
	
Standard bowl Size 3 **HZE3Z601**	**Lubricator transparent dome** Size 3 **HZE3Z470**

■ HZ9N ■ HZ9NP50 ■ HZ9N12





See **ACCESSORIES** chapter

CHARACTERISTICS

Ambient temperature	2 ÷ 65°C
Fluid	filtered compressed air 5 µm
Working pressure	10 bar
Max pressure	15 bar
Sizes	1 - 2
Body	die-cast aluminium
Bowl	polycarbonate
Bowl guard	technopolymer
Filter element	high efficiency borosilicate glass microfiber filter
Condensation drain	manual (standard)
	semi-automatic/automatic (on request)
Mounting position	vertical, a 5 µm pre-filter is to be installed upstream

Filtration grades available:
- 0,3 µm and residual oil 0,1 mg/m³ (ISO 8573 - 1: 2010 class 2.7.2)
- 0,01 µm and residual oil 0,01 mg/m³ (ISO 8573 - 1: 2010 class 1.7.1)



CODIFICATION KEY

H	Z	E	1	G	1	0	G		B	
1			2	3	4			5	6	7

1 Series
HZE = Air treatment unit with standard manual drain

2 Size
1 = Size 1
2 = Size 2

3 Model
G = Coalescence

4 Thread
10G = G3/8 (Size 1)
15G = G1/2 (Size 1-2)

5 Option
A = Automatic drain
S = Semi-automatic drain

6 Version
B = Filter element 0,01 µm (red color)
C = Filter element 0,3 µm (green color)

7 ATEX option
X = Atex (upon request)
See ATEX Catalogue for types and versions

Coalescence purifier filter





Size	1		2	
Connections	3/8 - 1/2		1/2	
Filtration rate (µm)	0,3	0,01	0,3	0,01
Residual oil content (mg/m³)	0,1	0,01	0,1	0,01
Nominal flow rate with manual drain (Nl/min)(A)	600		1000	
Nominal flow rate with automatic drain (Nl/min)(A)	450		750	
Condensation drain capacity (cm³)	45		80	
Type of mounting	vertical		vertical	
Weight (Kg)	0,31		0,55	

(A) = Inlet pressure 7 bar

Note: Install a 5 µm pre-filter prior to the coalescence purifier filter.
It is recommended to replace the filter element when the pressure drop (ΔP) exceeds 0,7 bar

HZE1/2Z200



T-bracket assembly kit
Size 1 **HZE1Z210**
Size 2 **HZE2Z210**

HZE1/2Z300



C-bracket
Size 1 **HZE1Z300**
Size 2 **HZE2Z300**

HZE1/2Z600



Standard bowl with manual drain
Size 1 **HZE1Z600**
Size 2 **HZE2Z600**

HZE1/2Z600SS



Bowl with semi-automatic drain
Size 1 **HZE1Z600SS**
Size 2 **HZE2Z600SS**

HZE7Z400



Automatic drain
Size 1-2 **HZE7Z400**

HZE1/2Z673L



Filter element for manual and semi-automatic drain 0,3 µm
Size 1 **HZE1Z673L**
Size 2 **HZE2Z673L**

HZE1/2Z671L



Filter element for manual and semi-automatic drain 0,01 µm
Size 1 **HZE1Z671L**
Size 2 **HZE2Z671L**

HZE1/2Z673C



Filter element for automatic drain 0,3 µm
Size 1 **HZE1Z673C**
Size 2 **HZE2Z673C**

HZE1/2Z671C



Filter element for automatic drain 0,01 µm
Size 1 **HZE1Z671C**
Size 2 **HZE2Z671C**

HZE1GD/2GD
Oil separator filters with activated carbon

CHARACTERISTICS

Ambient temperature	2 ÷ 30°C
Fluid	filtered compressed and oil free air 0,01 µm
Working pressure	10 bar
Max pressure	15 bar
Sizes	1 - 2
Body	die-cast aluminium
Bowl	polycarbonate
Bowl guard	technopolymer
Filter element	activated carbon
Condensation drain	manual (standard)
Mounting position	vertical, 5 µm pre-filter and 0,01 µm coalescence purifier filter are to be installed upstream

Residual oil content 0,003 mg/m³ (ISO 8573 - 1: 2010 class 1.7.1)



CODIFICATION KEY

H	Z	E	1	G	D	1	0	G	
1		2	3		4				5

1 Series	2 Size	3 Model	4 Thread	5 ATEX option
HZE = Air treatment unit with standard manual drain	**1** = Size 1 **2** = Size 2	**GD** = Activated carbon	**10G** = G3/8 (Size 1) **15G** = G1/2 (Size 1-2)	**X** = Atex (upon request) **See ATEX Catalogue for types and versions**

Oil separator filter with activated carbon





Size	1	2
Connection	G3/8 - G1/2	G1/2
Residual oil content (mg/m³)	0,003	0,003
Nominal flow rate with manual drain (Nl/min)(A)	600	1000
Condensation drain capacity (cm³)	45	80
Type of mounting	vertical	vertical
Weight (Kg)	0,31	0,55

(A) = Inlet pressure 7 bar

Note: install a 5 µm pre-filter and a 0,01 µm coalescence purifier filter prior to the oil separator filter with activated carbon.
It is recommended to replace the filter element after every 1000 h of use.

HZE1Z200	HZE1/2Z210	HZE1/2Z300	HZE1/2Z600	HZE1/2Z674L
				
Assembly kit Size 1-2 **HZE1Z200**	**T-bracket assembly kit** Size 1 **HZE1Z210** Size 2 **HZE2Z210**	**C-bracket** Size 1 **HZE1Z300** Size 2 **HZE2Z300**	**Standard bowl with manual drain** Size 1 **HZE1Z600** Size 2 **HZE2Z600**	**Filter element with activated carbon** Size 1 **HZE1Z674L** Size 2 **HZE2Z674L**

CHARACTERISTICS

Ambient temperature	-5 ÷ +60 °C
Fluid	compressed dry air, filtered and oil free
Working pressure	Max 10 bar
Connection	G1/4
Flow rate	1200 Nl/min
Adjustment range	0,05 ÷ 2 bar
	0,05 ÷ 4 bar
	0,05 ÷ 8 bar
Sensitivity	≤ 0,2% (F.S.)
Repeatability	≤ 0,5% (F.S.)
Total air consumption	≤ 3 Nl/min (a 7 bar) ≤ 4 Nl/min (a 10 bar)
Pressure gauge connection	R1/8
Weight	regulator 310 g
	L-bracket 32 g
Body	aluminium
Membrane	NBR
Valve	stainless steel/brass

(F.S.) = Full-scale



CODIFICATION KEY

H	Z	R	P	3	0	0	8	G	A
1						2		3	

1 Series

HZRP30 = Precision regulator G1/4
(L-bracket standard supplied)

2 Connection

08G = G1/4

3 Adjusting field

A = 0,05 ÷ 2 bar
B = 0,05 ÷ 4 bar
C = 0,05 ÷ 8 bar

L-bracket



Standard supplied

HZ9P Pressure gauge



Connection R1/8
(to be ordered separately)

HZ9N Digital pressure switch



Connection R1/8
(to be ordered separately)

CHARACTERISTICS

Ambient temperature	-10 ÷ 50 °C
Fluid	filtered air, lubricated or not, neutral gases
Max pressure	10 bar
Pressure adjustment-relieving version	0,8 ÷ 8 bar
Connections	G1/4
Pressure gauge connection	R1/8
Nominal flow rate (Nl/min)	320 Nl/min
Body	aluminium
Knob	tecnopolymer
Bonnet	tecnopolymer
Spring	steel C85
Diaphragm	nitrile rubber and tecnopolymer



(A) = Different adjustment range upon request
(B) = Inlet pressure 6 bar, oulet pressure 5 bar, Δp 1 bar

CODIFICATION KEY

H	Z	R	S	0	8	G	-	
		1			2			3

1 Series

HZRS = Pressure Microregulators for air

2 Connections

08G = G1/4

3 Version

_ = standard 1 ÷ 8 bar
-2 = 0 ÷ 2 bar
-4 = 0 ÷ 4 bar
-6 = 0 ÷ 6 bar

HZE0Z603



Ring nut for panel
Technopolymer
(included)

HZE0Z310



Regulator L-bracket
Nickel-plated steel

HZRS65_



Regulator spring

Pressure adjustment
HZRS652 0÷2 bar
HZRS654 0÷4 bar
HZRS656 0÷6 bar

Special version:
Microregulator for high pressure
HZRH08G



CHARACTERISTICS

	HZRE31	HZRE32	HZRE33
Ambient temperature	0 ÷ 50 °C		
Fluid	filtered compressed air 5 µm, inert gas, with or without lubrication		
Adjusting range	0÷1 bar		
	0÷5 bar		
	0÷9 bar		
Max pressure	10 bar (2 bar adjusting range 0 ÷ 1 bar)		
Min pressure	controlled pressure +1 bar		
Connections	G1/8	G1/4	G1/2
Pressure gauge connection	G1/8		
Nominal flow rate (Nl/min)	300	1500	5000
Sensitivity	≤ ± 0,5% F.S.		
Linearity	≤ 1% F.S.		
Repeatability	≤ ± 0,5% F.S.		
Hysteresis	≤ 0,5% F.S.		
Weight	370 g	420 g	770 g

F.S. Full-span



CODIFICATION KEY

H	Z	R	E	3	2	0	8	G	C	B	B
1				2		3		4	5	6	

1 Series
HZRE = Electropneumatic proportional miniregulator

2 Type
31 = Size 1
32 = Size 2
33 = Size 3

3 Thread
06G = G1/8 (size 1)
08G = G1/4 (size 2)
15G = G1/2 (size 3)

4 Adjusting range
A = 0 ÷ 1 bar
B = 0 ÷ 5 bar
C = 0 ÷ 9 bar

5 Input signal
A = 4 ÷ 20 mA (0 ÷ 20 mA)
B = 0 ÷ 10 V DC (0 ÷ 5 V DC)
C = Preset 4 input[(b)]

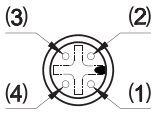
6 Output signal
A = 4 ÷ 20 mA
B = 1 ÷ 5 V DC
C = 24 V DC PNP
D = 24 V DC NPN

(b) = Not available with output signal
Support and connector not included

ELECTRICAL CHARACTERISTICS

Voltage		24 V DC ± 10%
Power consumption		< 6 W
Protection degree		IP65
Connections		M12A male connector 4 poles
Input signal	Current	4 ÷ 20 mA 0 ÷ 20 mA
	Voltage	0 ÷ 10 V DC 0 ÷ 5 V DC
	Preset	4 input
Output signal	Analog	4 ÷ 20 mA/1 ÷ 5 V DC
	Digital	24 V DC PNP/NPN

M12A connector electrical connections



Pin No.	Cable	Analog signal	Preset 4 input
1	Red/Brown	+24 V DC	+ 24 V DC
2	White	input signal	input 1
3	Blue	0 V	0 V
4	Black	output signal	input 2

HZRE30300	HZRE30310	HZREM12L03D	HZREM12L03L
			
Horizontal bracket	Wall bracket	M12 in-line connector 3 m cable	M12 90° connector 3 m cable

5

Accessories



	Push-in Fittings	HA HAR HB	2 5 6
	Fittings with pneumatic functions	HC	9
	Standard Fittings	HD	13
	Push-on Fittings	HGC	16
	Olive Fittings	HGO	18
	Quick Couplings	HGU	19
	Tubes	HE/HF	20
	Air/Oil reservoir	AM4	21
	Shock absorbers	YDA/YDR	22
	Pressure switch Vacuum switch	HZ9 HZ9N HZ9N_50 HZ9NP40 HZ9N12	23 24 25 26 27
	Magnetic and Electronic Sensors	DF/DH DF-T DF-RW DF-MS DF-MA	28/29 30 31 32 33

CHARACTERISTICS

Temperature	-10 ÷ 80 °C (based on the type of tube)
Fluid	compressed air, vacuum
Working pressure	-0,99 ÷ 10 bar
Body	technopolymer
Fixing elements	nickel-plated brass with O-ring in NBR for parallel thread version (standard)
	teflon coating for taper thread version (upon request)
Clamp	stainless steel
Release ring	technopolymer
Application fields	pneumatic circuits
Recommended hoses	polyamide PA 10.12, polyurethane Sh.A98, co-polyurethane Sh.55D

HA02
Smooth body straight parallel male



	Ø	connection
HA0204M5	4	M5
HA0206M5	6	M5
HA020418	4	G1/8
HA020618	6	G1/8
HA020818	8	G1/8
HA020414	4	G1/4
HA020614	6	G1/4
HA020814	8	G1/4
HA021014	10	G1/4
HA020838	8	G3/8
HA021038	10	G3/8
HA021238	12	G3/8
HA021012	10	G1/2
HA021212	12	G1/2

HA04
Straight parallel male



	Ø	connection
HA0404M5	4	M5
HA0406M5	6	M5
HA040418	4	G1/8
HA040618	6	G1/8
HA040818	8	G1/8
HA040414	4	G1/4
HA040614	6	G1/4
HA040814	8	G1/4
HA041014	10	G1/4
HA040838	8	G3/8
HA041038	10	G3/8
HA041238	12	G3/8
HA041012	10	G1/2
HA041212	12	G1/2

HA06
Plastic straight parallel male



	Ø	connection
HA060618	6	G1/8
HA060818	8	G1/8
HA060614	6	G1/4
HA060814	8	G1/4
HA061014	10	G1/4
HA060838	8	G3/8
HA061038	10	G3/8
HA061238	12	G3/8
HA061012	10	G1/2
HA061212	12	G1/2

HA07
Straight female



	Ø	connection
HA070418	4	G1/8
HA070618	6	G1/8
HA070818	8	G1/8
HA070614	6	G1/4
HA070814	8	G1/4
HA071014	10	G1/4
HA070838	8	G3/8
HA071038	10	G3/8
HA071238	12	G3/8
HA071212	12	G1/2

HA08
Swivel elbow female



	Ø	connection
HA080418	4	G1/8
HA080618	6	G1/8
HA080818	8	G1/8
HA080614	6	G1/4
HA080814	8	G1/4
HA081014	10	G1/4
HA080838	8	G3/8
HA081038	10	G3/8
HA081238	12	G3/8
HA081212	12	G1/2

HA10B
Low elbow



	Ø	connection
HA10B04M5	4	M5
HA10B06M5	6	M5
HA10B0418	4	G1/8
HA10B0618	6	G1/8
HA10B0818	8	G1/8
HA10B0414	4	G1/4
HA10B0614	6	G1/4
HA10B0814	8	G1/4
HA10B1014	10	G1/4
HA10B0838	8	G3/8
HA10B1038	10	G3/8
HA10B1238	12	G3/8
HA10B1012	10	G1/2
HA10B1212	12	G1/2

HA12B
Extended swivel low elbow parallel male



	Ø	connection
HA12B04M5	4	M5
HA12B06M5	6	M5
HA12B0418	4	G1/8
HA12B0618	6	G1/8
HA12B0818	8	G1/8
HA12B0414	4	G1/4
HA12B0614	6	G1/4
HA12B0814	8	G1/4
HA12B1014	10	G1/4
HA12B0638	6	G3/8
HA12B0838	8	G3/8
HA12B1038	10	G3/8
HA12B1238	12	G3/8
HA12B1012	10	G1/2
HA12B1212	12	G1/2

HA14B
Low lateral Tee male



	Ø	connection
HA14B04M5	4	M5
HA14B06M5	6	M5
HA14B0418	4	G1/8
HA14B0618	6	G1/8
HA14B0818	8	G1/8
HA14B0614	6	G1/4
HA14B0814	8	G1/4
HA14B1014	10	G1/4
HA14B0838	8	G3/8
HA14B1038	10	G3/8
HA14B1238	12	G3/8
HA14B1012	10	G1/2
HA14B1212	12	G1/2

HA16B
Low central Tee male



	Ø	connection
HA16B04M5	4	M5
HA16B06M5	6	M5
HA16B0418	4	G1/8
HA16B0618	6	G1/8
HA16B0818	8	G1/8
HA16B0614	6	G1/4
HA16B0814	8	G1/4
HA16B1014	10	G1/4
HA16B0838	8	G3/8
HA16B1038	10	G3/8
HA16B1238	12	G3/8
HA16B1012	10	G1/2
HA16B1212	12	G1/2

HA18
Y parallel male



	Ø	connection
HA1804M5	4	M5
HA1806M5	6	M5
HA180418	4	G1/8
HA180618	6	G1/8
HA180818	8	G1/8
HA180614	6	G1/4
HA180814	8	G1/4
HA181014	10	G1/4
HA180838	8	G3/8
HA181038	10	G3/8
HA181238	12	G3/8
HA181012	10	G1/2
HA181212	12	G1/2

HA19
Intermediate straight



	Ø1	Ø2
HA190400	4	4
HA190600	6	6
HA190604	6	4
HA190800	8	8
HA190806	8	6
HA191000	10	10
HA191008	10	8
HA191200	12	12
HA191210	12	10

HA20
Intermediate elbow



	Ø
HA200400	4
HA200600	6
HA200800	8
HA201000	10
HA201200	12

Subject to change

HA21
Intermediate lateral Tee



	Ø1	Ø2
HA210400	4	4
HA210600	6	6
HA210800	8	8
HA211000	10	10
HA211200	12	12
HA211008	10	8
HA210810	8	10

HA22
Intermediate cross



	Ø
HA220400	4
HA220600	6
HA220800	8
HA221000	10
HA221200	12

HA23
Intermediate Y connector



	Ø1	Ø2
HA230404	4	4
HA230604	6	4
HA230606	6	6
HA230806	8	6
HA230808	8	8
HA231008	10	8
HA231010	10	10
HA231210	12	10
HA231212	12	12

HA24
Reducing stem



	Ø1	Ø2
HA240406	4	6
HA240408	4	8
HA240608	6	8
HA240610	6	10
HA240810	8	10
HA240812	8	12
HA241012	10	12

HA25
Y connector with male stem



	Ø
HA250400	4
HA250600	6
HA250800	8
HA251000	10
HA251200	12

HA26
Plug



	Ø
HA260400	4
HA260600	6
HA260800	8
HA261000	10
HA261200	12

HA27
Swivel banjo connector (parallel male thread) with wrench head



	Ø	connection
HA2704M5	4	M5
HA2706M5	6	M5
HA270418	4	G1/8
HA270618	6	G1/8
HA270818	8	G1/8
HA270614	6	G1/4
HA270814	8	G1/4
HA271014	10	G1/4
HA270838	8	G3/8
HA271038	10	G3/8
HA271238	12	G3/8
HA271012	10	G1/2
HA271212	12	G1/2

HA28
Swivel banjo connector parallel male-female



	Ø	connection
HA2804M5	4	M5
HA2806M5	6	M5
HA280418	4	G1/8
HA280618	6	G1/8
HA280818	8	G1/8
HA280614	6	G1/4
HA280814	8	G1/4
HA281014	10	G1/4
HA280838	8	G3/8
HA281038	10	G3/8
HA281238	12	G3/8
HA281012	10	G1/2
HA281212	12	G1/2

HA29
Triple branch lateral Tee



	Ø
HA290400	4
HA290600	6
HA290800	8

HA30
Triple branch lateral Tee



	Ø1	Ø2
HA300604	6	4
HA300804	8	4
HA300806	8	6
HA301006	10	6
HA301008	10	8

HA31
Triple branch lateral Tee male thread



	Ø1	Ø2	connection
HA314618	6	4	G1/8
HA314814	8	4	G1/4
HA316814	8	6	G1/4
HA318138	10	8	G3/8
HA318112	10	8	G1/2

HA32
Triple branch lateral Tee male thread



	Ø	connection
HA320418	4	G1/8
HA320618	6	G1/8
HA320818	8	G1/8
HA320414	4	G1/4
HA320614	6	G1/4
HA320814	8	G1/4
HA320638	6	G3/8
HA320838	8	G3/8

HA33
Bulkhead connector



	Ø
HA330004	4
HA330006	6
HA330008	8
HA330010	10
HA330012	12

HA34
Threaded bulkhead connector



	Ø	connection
HA340418	4	G1/8
HA340618	6	G1/8
HA340818	8	G1/8
HA340414	4	G1/4
HA340614	6	G1/4
HA340814	8	G1/4
HA341014	10	G1/4
HA340838	8	G3/8
HA341038	10	G3/8
HA341238	12	G3/8
HA341012	10	G1/2
HA341212	12	G1/2

HA35
Elbow bulkhead connector



	Ø
HA350004	4
HA350006	6
HA350008	8
HA350010	10
HA350012	12

HA38
Stem elbow



	Ø
HA380400	4
HA380600	6
HA380800	8
HA381000	10
HA381200	12

HA41
Swivel banjo connector (parallel thread) with allen head



	Ø	connection
HA410418	4	G1/8
HA410618	6	G1/8
HA410818	8	G1/8
HA410414	4	G1/4
HA410614	6	G1/4
HA410814	8	G1/4
HA411014	10	G1/4
HA411214	12	G1/4
HA410438	4	G3/8
HA410638	6	G3/8
HA410838	8	G3/8
HA411038	10	G3/8
HA411238	12	G3/8
HA411012	10	G1/2
HA411212	12	G1/2

HA42
Double banjo connector (parallel thread) with allen head



	Ø	connection
HA420418	4	G1/8
HA420618	6	G1/8
HA420818	8	G1/8
HA420414	4	G1/4
HA420614	6	G1/4
HA420814	8	G1/4
HA421014	10	G1/4
HA421214	12	G1/4
HA420438	4	G3/8
HA420638	6	G3/8
HA420838	8	G3/8
HA421038	10	G3/8
HA421238	12	G3/8
HA421012	10	G1/2
HA421212	12	G1/2

HA43
Triple banjo connector (parallel thread) with allen head



	Ø	connection
HA430418	4	G1/8
HA430618	6	G1/8
HA430818	8	G1/8
HA430414	4	G1/4
HA430614	6	G1/4
HA430814	8	G1/4
HA431014	10	G1/4
HA431214	12	G1/4
HA430438	4	G3/8
HA430638	6	G3/8
HA430838	8	G3/8
HA431038	10	G3/8
HA431238	12	G3/8
HA431012	10	G1/2
HA431212	12	G1/2

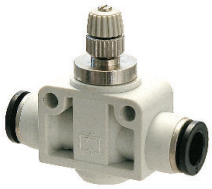
Teflon coated taper thread
(available upon request for all HA models)



HC01/HC02



HC04



HC01T/HC02T



HC01L/HC02L



Technopolymer flow regulators

CHARACTERISTICS

Temperature	-10 ÷ 80 °C
Fluid	compressed air, vacuum
Working pressure	-0,99 ÷9 bar
Body	technopolymer
Fixing elements	nickel-plated brass with O-ring in NBR
Clamp	stainless steel
Release ring	technopolymer
Application fields	pneumatic circuits
Recommended hoses	polyamide PA 10.12, polyurethane Sh.A98, co-polyurethane Sh.55D

HAR04
Miniature straight male



	Ø	connection
HAR0403M3	3	M3
HAR0404M3	4	M3
HAR0404M5	4	M5

HAR10B
Miniature swivel elbow male



	Ø	connection
HAR10B03M3	3	M3
HAR10B04M3	4	M3
HAR10B04M5	4	M5

HAR12B
Miniature extended swivel elbow male



	Ø	connection
HAR12B03M3	3	M3
HAR12B04M3	4	M3
HAR12B04M5	4	M5

HAR14B
Miniature low lateral Tee male



	Ø	connection
HAR14B03M3	3	M3
HAR14B04M3	4	M3
HAR14B04M5	4	M5

HAR16B
Miniature low central Tee male



	Ø	connection
HAR16B03M3	3	M3
HAR16B04M3	4	M3
HAR16B04M5	4	M5

HAR19
Miniature intermediate straight



	Ø
HAR190300	3
HAR190400	4

HAR20
Miniature intermediate elbow



	Ø
HAR200300	3
HAR200400	4

HAR21
Miniature intermediate Tee



	Ø
HAR210300	3
HAR210400	4

HAR23
Miniature intermediate Y



	Ø
HAR230300	3
HAR230400	4

CHARACTERISTICS

Temperature	-20 ÷ 80 °C
Fluid	compressed air, vacuum
Max pressure	16 bar (based on the type of tube)
Working pressure	-0,99 ÷ 10 bar
Body	nickel-plated brass
Fixing elements	nickel-plated brass with O-ring in NBR for parallel thread version (standard)
	Teflon coating for taper thread version (upon request)
Clamp	stainless steel AISI 316
Release ring	nickel-plated brass
Application fields	pneumatic circuits
Recommended hoses	polyamide PA 10.12, polyurethane Sh.A98, co-polyurethane Sh.55D

HB04
Straight parallel male



	Ø	connection		Ø	connection
HB0403M3	3	M3	**HB040514**	5	G1/4
HB0403M5	3	M5	**HB040414**	4	G1/4
HB0404M5	4	M5	**HB041438**	14	G3/8
HB0405M5	5	M5	**HB041238**	12	G3/8
HB0406M5	6	M5	**HB041038**	10	G3/8
HB041018	10	G1/8	**HB040838**	8	G3/8
HB040818	8	G1/8	**HB040638**	6	G3/8
HB040618	6	G1/8	**HB041412**	14	G1/2
HB040518	5	G1/8	**HB041212**	12	G1/2
HB040418	4	G1/8	**HB041012**	10	G1/2
HB041214	12	G1/4	**HB040812**	8	G1/2
HB041014	10	G1/4			
HB040814	8	G1/4			
HB040614	6	G1/4			

HB07
Straight female



	Ø	connection
HB0704M5	4	M5
HB070418	4	G1/8
HB070518	5	G1/8
HB070618	6	G1/8
HB070818	8	G1/8
HB071038	10	G3/8
HB070414	4	G1/4
HB070514	5	G1/4
HB070614	6	G1/4
HB070814	8	G1/4
HB071014	10	G1/4

HB08
Swivel elbow female



	Ø	connection
HB080418	4	G1/8
HB080618	6	G1/8
HB080818	8	G1/8
HB080414	4	G1/4
HB080614	6	G1/4
HB080814	8	G1/4

HB10
Swivel elbow male



	Ø	connection		Ø	connection
HB1004M5	4	M5	**HB100838**	8	G3/8
HB1005M5	5	M5	**HB101038**	10	G3/8
HB1006M5	6	M5	**HB101238**	12	G3/8
HB100418	4	G1/8	**HB101438**	14	G3/8
HB100518	5	G1/8	**HB101012**	10	G1/2
HB100618	6	G1/8	**HB101212**	12	G1/2
HB100818	8	G1/8	**HB101412**	14	G1/2
HB100414	4	G1/4			
HB100514	5	G1/4			
HB100614	6	G1/4			
HB100814	8	G1/4			
HB101014	10	G1/4			
HB101214	12	G1/4			
HB100638	6	G3/8			

HB12
Extended swivel elbow male



	Ø	connection
HB1204M5	4	M5
HB1206M5	6	M5
HB120418	4	G1/8
HB120618	6	G1/8
HB120818	8	G1/8
HB120414	4	G1/4
HB120614	6	G1/4
HB120814	8	G1/4
HB121014	10	G1/4

HB14
Lateral Tee parallel male



	Ø	connection
HB1404M5	4	M5
HB140418	4	G1/8
HB140618	6	G1/8
HB140818	8	G1/8
HB140414	4	G1/4
HB140614	6	G1/4
HB140814	8	G1/4
HB141014	10	G1/4
HB141214	12	G1/4
HB140838	8	G3/8
HB141038	10	G3/8
HB141238	12	G3/8
HB141412	14	G1/2

HB16
Central Tee male



	Ø	connection
HB1604M5	4	M5
HB160418	4	G1/8
HB160618	6	G1/8
HB160818	8	G1/8
HB160414	4	G1/4
HB160614	6	G1/4
HB160814	8	G1/4
HB161014	10	G1/4
HB161214	12	G1/4
HB160838	8	G3/8
HB161038	10	G3/8
HB161238	12	G3/8
HB161412	14	G1/2

HB19
Straight



	Ø1	Ø2
HB190303	3	3
HB190404	4	4
HB190505	5	5
HB190604	6	4
HB190606	6	6
HB190806	8	6
HB190808	8	8
HB191008	10	8
HB191010	10	10
HB191210	12	10
HB191212	12	12
HB191412	14	12
HB191414	14	14

HB20
Intermediate elbow



	Ø
HB200300	3
HB200400	4
HB200500	5
HB200600	6
HB200800	8
HB201000	10
HB201200	12
HB201400	14

HB21
Intermediate Tee



	Ø1	Ø2
HB210300	3	3
HB210400	4	4
HB210500	5	5
HB210600	6	6
HB210604	6	4
HB210800	8	8
HB210806	8	6
HB211000	10	10
HB211008	10	8
HB211200	12	12
HB211400	14	14

HB24
Reducing stem



	Ø1	Ø2		Ø1	Ø2
HB240405	4	5	HB240612	6	12
HB240406	4	6	HB240614	6	14
HB240408	4	8	HB240806	8	6
HB240412	4	12	HB240810	8	10
HB240414	4	14	HB240812	8	12
HB240506	5	6	HB240814	8	14
HB240508	5	8	HB241012	10	12
HB240604	6	4	HB241014	10	14
HB240608	6	8	HB241214	12	14
HB240610	6	10			

HB26
Plug



	Ø
HB260400	4
HB260500	5
HB260600	6
HB260800	8
HB261000	10
HB261200	12
HB261400	14

HB27
Swivel banjo connector (parallel thread) with allen head



	Ø	connection		Ø	connection
HB2703M3	3	M3	HB270614	6	G1/4
HB2703M5	3	M5	HB270814	8	G1/4
HB2704M5	4	M5	HB271014	10	G1/4
HB2705M5	5	M5	HB271214	12	G1/4
HB270418	4	G1/8	HB270838	8	G3/8
HB270518	5	G1/8	HB271038	10	G3/8
HB270618	6	G1/8	HB271238	12	G3/8
HB270818	8	G1/8			

HB33
Bulkhead connector



	Ø
HB330004	4
HB330005	5
HB330006	6
HB330008	8
HB330010	10
HB330012	12
HB330014	14

HB34
Threaded bulkhead connector



	Ø	connection
HB340418	4	G1/8
HB340618	6	G1/8
HB340818	8	G1/8
HB340614	6	G1/4
HB340814	8	G1/4

HB35
Elbow bulkhead connector



	Ø
HB350004	4
HB350006	6
HB350008	8
HB350010	10

HB38
Stem elbow



	Ø1	Ø2
HB380400	4	4
HB380406	4	6
HB380600	6	6
HB380608	6	8
HB380800	8	8
HB381000	10	10
HB381200	12	12

HB39
Extended stem elbow



	Ø1	Ø2
HB390400	4	4
HB390406	4	6
HB390600	6	6
HB390608	6	8
HB390800	8	8

HB40
Single banjo (without bolt)



	Ø	bolt
HB4004M5	4	M5
HB4005M5	5	M5
HB4006M5	6	M5
HB400418	4	G1/8
HB400518	5	G1/8
HB400618	6	G1/8
HB400818	8	G1/8
HB400614	6	G1/4
HB400814	8	G1/4
HB401014	10	G1/4
HB401214	12	G1/4
HB400838	8	G3/8
HB401038	10	G3/8
HB401238	12	G3/8

HB41
Double banjo (without bolt)



	Ø	bolt
HB4104M5	4	M5
HB4105M5	5	M5
HB410418	4	G1/8
HB410518	5	G1/8
HB410618	6	G1/8
HB410818	8	G1/8
HB410614	6	G1/4
HB410814	8	G1/4
HB411014	10	G1/4
HB410838	8	G3/8
HB411038	10	G3/8
HB411238	12	G3/8

HB42
Single banjo bolt



	connection
HB4200M5	M5
HB420018	G1/8
HB420014	G1/4
HB420038	G3/8

HB43
Double banjo bolt



	connection
HB430018	G1/8
HB430014	G1/4
HB430038	G3/8

HB44
Triple banjo bolt



	connection
HB440018	G1/8
HB440014	G1/4
HB440038	G3/8

HB45
Swivel banjo central Tee (parallel male) with allen head



	Ø	connection
HB4504M5	4	M5
HB4505M5	5	M5
HB450418	4	G1/8
HB450518	5	G1/8
HB450618	6	G1/8
HB450818	8	G1/8
HB450614	6	G1/4
HB450814	8	G1/4
HB451014	10	G1/4
HB450838	8	G3/8
HB451038	10	G3/8
HB451238	12	G3/8

HB47
Double swivel banjo connector (male thread) with allen head



	Ø	connection
HB470418	4	G1/8
HB470618	6	G1/8
HB470818	8	G1/8
HB470614	6	G1/4
HB470814	8	G1/4
HB471014	10	G1/4
HB471214	12	G1/4

HB48
Triple swivel banjo connector (parallel thread) with allen head



	Ø	connection
HB480418	4	G1/8
HB480618	6	G1/8
HB480818	8	G1/8
HB480614	6	G1/4
HB480814	8	G1/4
HB481014	10	G1/4
HB481214	12	G1/4

HB49
Double stem



	Ø
HB490400	4
HB490500	5
HB490600	6
HB490800	8
HB491000	10
HB491200	12
HB491400	14

HB51
Adaptor parallel male



	Ø	connection		Ø	connection
HB5104M5	4	M5	**HB510614**	6	G1/4
HB5105M5	5	M5	**HB510814**	8	G1/4
HB5106M5	6	M5	**HB511014**	10	G1/4
HB510418	4	G1/8	**HB511214**	12	G1/4
HB510518	5	G1/8	**HB510838**	8	G3/8
HB510618	6	G1/8	**HB511038**	10	G3/8
HB510818	8	G1/8	**HB511238**	12	G3/8
HB511018	10	G1/8	**HB511438**	14	G3/8
HB510414	4	G1/4	**HB511212**	12	G1/2
HB510514	5	G1/4	**HB511412**	14	G1/2

HB53
Fixed elbow taper male



	Ø	connection
HB530418	4	R1/8
HB530518	5	R1/8
HB530618	6	R1/8
HB530818	8	R1/8
HB530614	6	R1/4
HB530814	8	R1/4
HB531014	10	R1/4

CHARACTERISTICS

Temperature	-20 ÷ 80 °C
Fluid	compressed air
Max pressure	15 bar (based on the type of tube)
Working pressure	9 bar
Body	technopolymer
Fixing elements	nickel-plated brass with O-ring in NBR for parallel thread version (standard)
	Teflon coating for taper thread version (upon request)
Clamp	stainless steel
Release ring	technopolymer
Application fields	pneumatic circuits
Recommended hoses	polyamide PA 10.12, polyurethane Sh.A98, co-polyurethane Sh.55D

Flow regulators in technopolymer

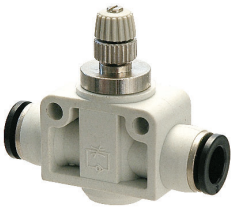
HC01/HC02
One-way banjo flow regulator

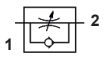




exhaust	supply	Ø	connection
HC0104M5	**HC0204M5**	4	M5
HC0106M5	**HC0206M5**	6	M5
HC010418	**HC020418**	4	G1/8
HC010618	**HC020618**	6	G1/8
HC010818	**HC020818**	8	G1/8
HC010414	**HC020414**	4	G1/4
HC010614	**HC020614**	6	G1/4
HC010814	**HC020814**	8	G1/4
HC011014	**HC021014**	10	G1/4
HC010838	**HC020838**	8	G3/8
HC011038	**HC021038**	10	G3/8
HC011238	**HC021238**	12	G3/8
HC011012	**HC021012**	10	G1/2
HC011212	**HC021212**	12	G1/2

HC04
One-way in-line intermediate flow regulator





Ø1
HC040404 4
HC040606 6
HC040808 8
HC041010 10
HC041212 12

HC01T/HC02T
One-way swivel banjo flow regulator - screwdriver slot





exhaust	supply	Ø	connection
HC01T0418	**HC02T0418**	4	G1/8
HC01T0618	**HC02T0618**	6	G1/8
HC01T0818	**HC02T0818**	8	G1/8
HC01T1018	**HC02T1018**	10	G1/8
HC01T1218	**HC02T1218**	12	G1/8
HC01T0614	**HC02T0614**	6	G1/4
HC01T0814	**HC02T0814**	8	G1/4
HC01T1014	**HC02T1014**	10	G1/4
HC01T1214	**HC02T1214**	12	G1/4
HC01T0638	**HC02T0638**	6	G3/8
HC01T0838	**HC02T0838**	8	G3/8
HC01T1038	**HC02T1038**	10	G3/8
HC01T1238	**HC02T1238**	12	G3/8

CHARACTERISTICS

Temperature	0 ÷ 70 °C
Fluid	compressed air
Max pressure	10 bar
Working pressure	0,3 ÷ 10 bar

Flow regulators with metallic body

HC21/HC22
One-way banjo flow regulator





exhaust	supply	Ø	connection
HC2104M5	**HC2204M5**	4	M5
HC210418	**HC220418**	4	G1/8
HC210618	**HC220618**	6	G1/8
HC210818	**HC220818**	8	G1/8
HC210614	**HC220614**	6	G1/4
HC210814	**HC220814**	8	G1/4
HC211014	**HC221014**	10	G1/4

HC18/HC19
One-way banjo flow regulator - screwdriver slot

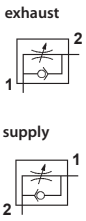




exhaust	supply	Ø	connection
HC1804M5	**HC1904M5**	4	M5
HC180418	**HC190418**	4	G1/8
HC180618	**HC190618**	6	G1/8
HC180818	**HC190818**	8	G1/8
HC180614	**HC190614**	6	G1/4
HC180814	**HC190814**	8	G1/4
HC181014	**HC191014**	10	G1/4

HC27/HC28
One-way threaded flow regulator male/female





exhaust	supply	connection
HC27M5M5	**HC28M5M5**	M5
HC271818	**HC281818**	G1/8
HC271414	**HC281414**	G1/4
HC273838	**HC283838**	G3/8
HC271212	**HC281212**	G1/2

Non-return valve

HC13
Non-return valve F-F





	connection
HC1300M5	M5
HC130018	G1/8
HC130014	G1/4
HC130038	G3/8
HC130012	G1/2

High temperature seals upon request

HC14
Non-return valve F-M





	connection
HC140018	G1/8
HC140014	G1/4

High temperature seals upon request

HC15
Non-return valve with push-in tube connections





	Ø
HC150004	4
HC150006	6
HC150008	8

HC17
Non-return valve threaded connection



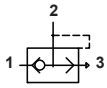


	Ø	connection
HC170418	4	G1/8
HC170618	6	G1/8
HC170818	8	G1/8
HC170614	6	G1/4
HC170814	8	G1/4
HC171038	10	G3/8
HC171238	12	G3/8
HC171012	10	G1/2
HC171212	12	G1/2

Quick exhaust valves

HC06
Quick exhaust valve





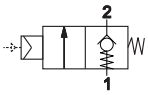
	connection	flow rate at 6 bar (Nl/min) 1→2	2→3
HC0600M5	M5	220	300
HC060018	G1/8	680	1100
HC060014	G1/4	1200	2100
HC060038	G3/8	2300	4800
HC060012	G1/2	3400	6100
HC060034	G3/4	3200	8750
HC060001	G1	2900	10.750

Blocking valve

HC34

	M	F	flow rate at 6 bar (Nl/min)
HC3418M5	G1/8	M5	400
HC3414M5	G1/4	M5	850
HC343818	G3/8	G1/8	1250





HB40 Single ring

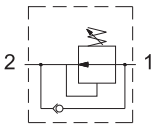


Miniature pressure regulator 0 ÷ 8 bar

HC35

	connection	flow rate at 6 bar (Nl/min)
HC350018	G1/8	580
HC350014	G1/4	750





HB40 Single ring

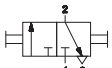


CHARACTERISTICS

Temperature	-25 ÷ 90 °C
	0 ÷ 60 °C (technopolymer HC11-12)
Fluid	compressed air, vacuum
Max pressure	15 bar
Working pressure	0 ÷ 10 bar

Line manual valve

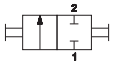
HC05
Slide valve





	connection
HC0500M5	M5
HC050018	G1/8
HC050014	G1/4
HC050038	G3/8
HC050012	G1/2
HC050034	G3/4

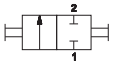
HC07
Ball valve F-F





	connection
HC070018	G1/8
HC070014	G1/4
HC070038	G3/8
HC070012	G1/2
HC070034	G3/4

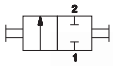
HC08
Ball valve M-F

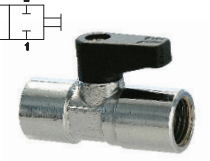




	connection
HC080018	G1/8
HC080014	G1/4
HC080038	G3/8
HC080012	G1/2
HC080034	G3/4

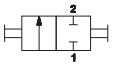
HC09
Miniature ball valve F-F with black handle





	connection
HC090018	G1/8
HC090014	G1/4

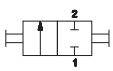
HC10
Miniature ball valve M-F with black handle

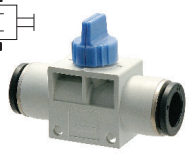




	connection
HC100018	G1/8
HC100014	G1/4

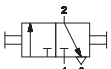
HC11
Manual 2/2 minivalve

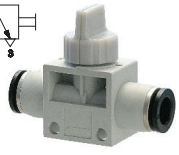




	ø
HC110606	6
HC110808	8
HC111010	10
HC111212	12

HC12
Manual 3/2 minivalve





	ø
HC120606	6
HC120808	8
HC121010	10
HC121212	12

Silencers

HC51
Sintered bronze flat silencer



	connection
HC5100M5	M5
HC510018	G1/8
HC510014	G1/4
HC510038	G3/8
HC510012	G1/2
HC510034	G3/4
HC510001	G1
HC510112	G1 1/2

HC52
Sintered bronze cone silencer



	connection
HC5200M5	M5
HC520018	G1/8
HC520014	G1/4
HC520038	G3/8
HC520012	G1/2
HC520034	G3/4
HC520001	G1

HC53
Sintered bronze cone silencer (with square wrench head)



	connection
HC5300M5	M5
HC530018	G1/8
HC530014	G1/4
HC530038	G3/8
HC530012	G1/2
HC530034	G3/4
HC530001	G1

HC54
Silencer with exhaust flow regulator (narrow)



	connection
HC5400M5	M5
HC540018	G1/8
HC540014	G1/4
HC540038	G3/8
HC540012	G1/2
HC540034	G3/4
HC540001	G1

HC55
Silencer with exhaust flow regulator



	connection
HC5500M5	M5
HC550018	G1/8
HC550014	G1/4
HC550038	G3/8
HC550012	G1/2
HC550034	G3/4
HC550001	G1

HC56
Technopolymer dynamic silencer



	connection
HC560018	G1/8
HC560014	G1/4
HC560038	G3/8
HC560012	G1/2
HC560034	G3/4
HC560001	G1

HC57
Polyethylene plastic silencer



	connection
HC5700M5	M5
HC570018	G1/8
HC570014	G1/4
HC570038	G3/8
HC570012	G1/2
HC570034	G3/4
HC570001	G1

HC58
Technopolymer silencer



	connection
HC580018	G1/8
HC580014	G1/4
HC580038	G3/8
HC580012	G1/2
HC580034	G3/4
HC580001	G1

HC59
Silencer with dome-shaped steel head



	connection
HC5900M5	M5
HC590018	G1/8
HC590014	G1/4
HC590038	G3/8
HC590012	G1/2
HC590034	G3/4
HC590001	G1

HC60
Cone silencer with hexagon nipple



	connection
HC6000M5	M5
HC600018	G1/8
HC600014	G1/4
HC600038	G3/8
HC600012	G1/2
HC600034	G3/4
HC600001	G1
HC600112	G1 1/2

HC61
Recessed silencer



	connection
HC6100M5	M5
HC610018	G1/8
HC610014	G1/4
HC610038	G3/8
HC610012	G1/2
HC610034	G3/4
HC610001	G1

CHARACTERISTICS

Temperature	-15 ÷ +80 °C
Max pressure	50 bar
Body	nickel-plated brass, aluminium, zinc-plated steel
Application fields	pneumatic circuits, low-pressure oleodynamic and hydraulic circuits, vacuum

HD01
Parallel nipple



	connection 1	connection 2	key
HD01M5M5	M5	M5	8
HD01M518	M5	G1/8	14
HD011818	G1/8	G1/8	14
HD011814	G1/8	G1/4	17
HD011838	G1/8	G3/8	19
HD011414	G1/4	G1/4	17
HD011438	G1/4	G3/8	19
HD011412	G1/4	G1/2	24
HD013838	G3/8	G3/8	19
HD013812	G3/8	G1/2	24
HD011212	G1/2	G1/2	24
HD011234	G1/2	G3/4	30
HD013434	G3/4	G3/4	30

HD02
Taper nipple



	connection 1	connection 2	key
HD021818	R1/8	R1/8	12
HD021814	R1/8	R1/4	14
HD021838	R1/8	R3/8	17
HD021414	R1/4	R1/4	14
HD021438	R1/4	R3/8	17
HD021412	R1/4	R1/2	22
HD023838	R3/8	R3/8	17
HD023812	R3/8	R1/2	22
HD021212	R1/2	R1/2	22
HD021234	R1/2	R3/4	27
HD023434	R3/4	R3/4	27
HD023401	R3/4	R1	34
HD020101	R1	R1	34

HD03
Female socket



	connection	key
HD0300M5	M5	8
HD030018	G1/8	14
HD030014	G1/4	17
HD030038	G3/8	22
HD030012	G1/2	26
HD030034	G3/4	32

HD04
Reduction M-F taper thread



	connection M	connection F	key
HD041814	R1/4	G1/8	14
HD041838	R3/8	G1/8	17
HD041812	R1/2	G1/8	22
HD041438	R3/8	G1/4	17
HD041412	R1/2	G1/4	22
HD043812	R1/2	G3/8	22
HD043834	R3/4	G3/8	27
HD041234	R3/4	G1/2	27

HD05
Reduction M-F parallel thread



	connection M	connection F	key
HD05M518	G1/8	M5	14
HD051814	G1/4	G1/8	17
HD051838	G3/8	G1/8	19
HD051812	G1/2	G1/8	24
HD051438	G3/8	G1/4	19
HD051412	G1/2	G1/4	24
HD053812	G1/2	G3/8	24
HD053834	G3/4	G3/8	30
HD051234	G3/4	G1/2	30

HD06
Extension M-F taper thread



	connection M	connection F	key
HD061818	R1/8	G1/8	14
HD061814	R1/8	G1/4	17
HD061838	R1/8	G3/8	22
HD061414	R1/4	G1/4	17
HD061438	R1/4	G3/8	22
HD061412	R1/4	G1/2	24
HD063838	R3/8	G3/8	22
HD063812	R3/8	G1/2	24
HD061212	R1/2	G1/2	26
HD061234	R1/2	G3/4	32

HD07
Extension M-F parallel thread



	connection M	connection F	key
HD07M518	M5	G1/8	14
HD071818	G1/8	G1/8	14
HD071814	G1/8	G1/4	17
HD071838	G1/8	G3/8	22
HD071414	G1/4	G1/4	17
HD071438	G1/4	G3/8	22
HD071412	G1/4	G1/2	24
HD073838	G3/8	G3/8	22
HD073812	G3/8	G1/2	24
HD071212	G1/2	G1/2	26

HD08
Extension M-F parallel thread



	connection M-F	key
HD081822	G1/8	14
HD081435	G1/4	17
HD081451	G1/4	17
HD081842	G1/8	14

HD09
Extension F-F



	connection 1	connection 2	key
HD091814	G1/8	G1/4	17
HD091838	G1/8	G3/8	22
HD091812	G1/8	G1/2	24
HD091438	G1/4	G3/8	22
HD091412	G1/4	G1/2	24
HD093812	G3/8	G1/2	24
HD091234	G1/2	G3/4	32

HD10
Male plug with hexagon wrench head



	connection	key
HD1000M5	M5	8
HD100018	G1/8	14
HD100014	G1/4	17
HD100038	G3/8	19
HD100012	G1/2	24
HD100034	G3/4	30
HD100001	G1	38

HD11
Male plug (taper thread) with allen head



	connection	key
HD110018	R1/8	5
HD110014	R1/4	6
HD110038	R3/8	8
HD110012	R1/2	10

HD12
Male plug with O-ring (allen head)



	connection	key
HD1200M5	M5	2,5
HD120018	G1/8	5
HD120014	G1/4	6
HD120038	G3/8	8
HD120012	G1/2	10

HD13
Female plug



	connection	key
HD130018	G1/8	14
HD130014	G1/4	17
HD130038	G3/8	20
HD130012	G1/2	24

HD14
Elbow connector F-F



	connection	key
HD1400M5	M5	8
HD140018	G1/8	10
HD140014	G1/4	13
HD140038	G3/8	17
HD140012	G1/2	21
HD140034	G3/4	25
HD140001	G1	30

HD15
Elbow connector M-F



	connection M	connection F	key
HD1500M5	M5	M5	9
HD150018	R1/8	G1/8	10
HD151814	R1/4	G1/8	10
HD150014	R1/4	G1/4	13
HD150038	R3/8	G3/8	17
HD150012	R1/2	G1/2	21
HD150034	R3/4	G3/4	25
HD150001	R1	G1	30

HD16
Elbow connector M-M (taper thread)



	connection 1	connection 2	key
HD1600M5	M5	M5	9
HD160018	R1/8	R1/8	10
HD161814	R1/8	R1/4	10
HD160014	R1/4	R1/4	13
HD160038	R3/8	R3/8	17
HD160012	R1/2	R1/2	21
HD160034	R3/4	R3/4	25
HD160001	R1	R1	30

HD17
Intermediate Tee F-F-F (parallel thread)



	connection	key
HD1700M5	M5	9
HD170018	G1/8	10
HD170014	G1/4	13
HD170038	G3/8	17
HD170012	G1/2	21
HD170034	G3/4	25
HD170001	G1	30

HD18
Central Tee M-F-F



	connection M	connection F	key
HD1800M5	M5	M5	9
HD180018	R1/8	G1/8	10
HD180014	R1/4	G1/4	13
HD180038	R3/8	G3/8	18
HD180012	R1/2	G1/2	21
HD180034	R3/4	G3/4	25
HD180001	R1	G1	30

HD19
Lateral Tee M-F-F



	connection M	connection F	key
HD1900M5	M5	M5	9
HD190018	R1/8	G1/8	10
HD190014	R1/4	G1/4	13
HD190038	R3/8	G3/8	18
HD190012	R1/2	G1/2	21
HD190034	R3/4	G3/4	25
HD190001	R1	G1	30

HD20
Intermediate Tee M-M-M (taper thread)



	connection	key
HD200018	R1/8	10
HD200014	R1/4	13
HD200038	R3/8	17
HD200012	R1/2	21
HD200034	R3/4	25
HD200001	R1	30

HD21
Lateral Tee M-F-M



	connection M	connection F	key
HD210018	R1/8	G1/8	10
HD210014	R1/4	G1/4	13
HD210038	R3/8	G3/8	17
HD210012	R1/2	G1/2	21
HD210034	R3/4	G3/4	25
HD210001	R1	G1	30

HD22
Cross F-F-F-F



	connection	key
HD220018	G1/8	10
HD220014	G1/4	13
HD220038	G3/8	17
HD220012	G1/2	21

HD24
Tube adaptor (parallel thread)



	Ø	connection	key
HD2404M5	4	M5	8
HD240618	6	G1/8	14
HD240718	7	G1/8	14
HD240818	8	G1/8	14
HD240918	9	G1/8	14
HD241018	10	G1/8	14
HD240614	6	G1/4	17
HD240714	7	G1/4	17
HD240814	8	G1/4	17
HD240914	9	G1/4	17
HD241014	10	G1/4	17
HD241214	12	G1/4	17
HD240938	9	G3/8	19
HD241038	10	G3/8	19

	Ø	connection	key
HD241238	12	G3/8	19
HD241438	14	G3/8	19
HD241738	17	G3/8	19
HD241212	12	G1/2	24
HD241412	14	G1/2	24
HD241712	17	G1/2	24
HD242012	20	G1/2	30
HD242034	20	G3/4	30

HD25
Y connector F-F-F



	connection	key
HD250018	G1/8	10
HD250014	G1/4	13
HD250038	G3/8	17
HD250012	G1/2	21

HD26
Y connector M-F-F



	connection M	connection F	key
HD260018	R1/8	G1/8	13
HD260014	R1/4	G1/4	17
HD260038	R3/8	G3/8	20
HD260012	R1/2	G1/2	25

HD27
Threaded bulkhead connector



	connection	key
HD2700M5	M5	14
HD270018	G1/8	19
HD270014	G1/4	24
HD270038	G3/8	30
HD270012	G1/2	32

HD32
Female single banjo



	connection
HD3200M5	M5
HD320018	G1/8
HD320014	G1/4

HD33
Taper nipple - 3 pieces



	connection	key
HD330018	R1/8	15
HD330014	R1/4	19
HD330038	R3/8	22
HD330012	R1/2	27
HD330034	R3/4	36
HD330001	R1	46

HD34
Nipple M-F 3 pieces



	connection M	connection F	key
HD340018	R1/8	G1/8	14
HD340014	R1/4	G1/4	17
HD340038	R3/8	G3/8	21
HD340012	R1/2	G1/2	25

HD42
Single banjo bolt

	connection	key
HD4200M5	M5	8
HD420018	R1/8	14
HD420014	R1/4	17
HD420038	R3/8	19
HD420012	R1/2	24



Washer to be used
HD46 2 pcs

HD43
Double banjo bolt

	connection	key
HD430018	R1/8	14
HD430014	R1/4	17
HD430038	R3/8	19
HD430012	R1/2	24



Washer to be used
HD46 3 pcs

HD44
Triple banjo bolt

	connection	key
HD440018	R1/8	14
HD440014	R1/4	17



Washer to be used
HD46 4 pcs

Subject to change

HD45
Aluminium washer



	connection	thickness (mm)
HD4500M5	M5	1
HD450018	G1/8	1,5
HD450014	G1/4	1,5
HD450038	G3/8	1,5
HD450012	G1/2	1,5

HD46
Indented nylon washer



	connection	thickness (mm)
HD4600M5	M5	1
HD460018	G1/8	1,6
HD460014	G1/4	1,6
HD460038	G3/8	1,8
HD460012	G1/2	2

Accessories

HD23
Cross block F-F-F-F



	connection
HD230018	G1/8
HD230014	G1/4
HD230038	G3/8
HD230012	G1/2

HD30
Distribution manifold (single outlets)



	In	Out	nr.
HD301803	G1/4	G1/8	3
HD301804	G1/4	G1/8	4
HD301805	G1/4	G1/8	5
HD301806	G1/4	G1/8	6
HD301403	G3/8	G1/4	3
HD301404	G3/8	G1/4	4
HD301405	G3/8	G1/4	5
HD301406	G3/8	G1/4	6
HD303803	G1/2	G3/8	3
HD303804	G1/2	G3/8	4
HD303805	G1/2	G3/8	5
HD303806	G1/2	G3/8	6

HD31
Distributors manifold (double outlets)



	In	Out	nr.
HD311803	G1/4	G1/8	3+3
HD311804	G1/4	G1/8	4+4
HD311805	G1/4	G1/8	5+5
HD311403	G3/8	G1/4	3+3
HD311404	G3/8	G1/4	4+4
HD311405	G3/8	G1/4	5+5

HD40
Reservoir (Max pressure 10 bar)



HD400100	lt 1
HD400250	lt 2,5
HD400500	lt 5
HD400700	lt 7
HD401200	lt 12

HD410000A
Stainless steel AISI 301 bracket



HD410000B
Reservoir extension



AM50



AM51



AM52



AM53



AM54



AM5200



AM5220



AM55



See **VALVES** chapter

CHARACTERISTICS

Temperature	-15 ÷ 80 °C
Fluid	compressed air, vacuum, liquid
Max pressure	16 bar
Working pressure	-0,99 ÷ 10 bar
Body	nickel-plated brass
Nut	nickel-plated brass
Seal	NBR
Application fields	pneumatic circuits
Recommended tube	polyamide PA 10.12, polyurethane Sh.A98, co-polyurethane Sh.55D

HGC03
Male straight taper thread



	Ø	connection
HGC030418	4 - 2,7	R1/8
HGC030518	5 - 3	R1/8
HGC030618	6 - 4	R1/8
HGC030818	8 - 6	R1/8
HGC031018	10 - 8	R1/8
HGC030614	6 - 4	R1/4
HGC030814	8 - 6	R1/4
HGC031014	10 - 8	R1/4
HGC030638	6 - 4	R3/8
HGC030838	8 - 6	R3/8
HGC031038	10 - 8	R3/8
HGC031238	12 - 10	R3/8
HGC030812	8 - 6	R1/2
HGC031012	10 - 8	R1/2
HGC031212	12 - 10	R1/2
HGC031512	15 - 12,5	R1/2

HGC04
Male straight parallel thread with O-Ring



	Ø	connection
HGC0404M5	4 - 2,7	M5
HGC0405M5	5 - 3	M5
HGC0406M5	6 - 4	M5
HGC040418	4 - 2,7	G1/8
HGC040618	6 - 4	G1/8
HGC040818	8 - 6	G1/8
HGC041018	10 - 8	G1/8
HGC040614	6 - 4	G1/4
HGC040814	8 - 6	G1/4
HGC041014	10 - 8	G1/4
HGC040838	8 - 6	G3/8
HGC041038	10 - 8	G3/8
HGC041238	12 - 10	G3/8
HGC041012	10 - 8	G1/2
HGC041212	12 - 10	G1/2

HGC07
Female straight



	Ø	connection
HGC070618	6 - 4	G1/8
HGC070818	8 - 6	G1/8
HGC070614	6 - 4	G1/4
HGC070814	8 - 6	G1/4
HGC071014	10 - 8	G1/4
HGC070838	8 - 6	G3/8
HGC071038	10 - 8	G3/8
HGC071238	12 - 10	G3/8

HGC08
Female elbow



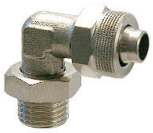
	Ø	connection
HGC080618	6 - 4	G1/8
HGC080614	6 - 4	G1/4
HGC080818	8 - 6	G1/8
HGC080814	8 - 6	G1/4
HGC080838	8 - 6	G3/8
HGC081014	10 - 8	G1/4
HGC081038	10 - 8	G3/8
HGC081238	12 - 10	G3/8

HGC09
Taper elbow connection male



	Ø	connection
HGC090418	4 - 2,7	R1/8
HGC090518	5 - 3	R1/8
HGC090618	6 - 4	R1/8
HGC090818	8 - 6	R1/8
HGC091018	10 - 8	R1/8
HGC090614	6 - 4	R1/4
HGC090814	8 - 6	R1/4
HGC091014	10 - 8	R1/4
HGC090638	6 - 4	R3/8
HGC090838	8 - 6	R3/8
HGC091038	10 - 8	R3/8
HGC091238	12 - 10	R3/8
HGC090812	8 - 6	R1/2
HGC091012	10 - 8	R1/2
HGC091212	12 - 10	R1/2
HGC091512	15 - 12,5	R1/2

HGC10
Swivel elbow with OR



	Ø	connection
HGC100618	6 - 4	G1/8
HGC100818	8 - 6	G1/8
HGC100614	6 - 4	G1/4
HGC100814	8 - 6	G1/4
HGC101014	10 - 8	G1/4
HGC100838	8 - 6	G3/8
HGC101038	10 - 8	G3/8
HGC101238	12 - 10	G3/8

HGC14
Male lateral Tee taper thread



	Ø	connection
HGC140618	6 - 4	R1/8
HGC140614	6 - 4	R1/4
HGC140818	8 - 6	R1/8
HGC140814	8 - 6	R1/4
HGC140838	8 - 6	R3/8
HGC141014	10 - 8	R1/4
HGC141038	10 - 8	R3/8
HGC141012	10 - 8	R1/2
HGC141238	12 - 10	R3/8
HGC141212	12 - 10	R1/2
HGC141512	15 - 12,5	R1/2

HGC16
Male central Tee taper thread



	Ø	connection
HGC160618	6 - 4	R1/8
HGC160614	6 - 4	R1/4
HGC160818	8 - 6	R1/8
HGC160814	8 - 6	R1/4
HGC160838	8 - 6	R3/8
HGC161014	10 - 8	R1/4
HGC161038	10 - 8	R3/8
HGC161012	10 - 8	R1/2
HGC161238	12 - 10	R3/8
HGC161212	12 - 10	R1/2
HGC161512	15 - 12,5	R1/2

HGC19
Intermediate straight



	Ø
HGC190600	6 - 4
HGC190800	8 - 6
HGC191000	10 - 8
HGC191200	12 - 10
HGC191500	15 - 12,5

HGC20
Intermediate elbow



	Ø
HGC200400	4 - 2,7
HGC200600	6 - 4
HGC200800	8 - 6
HGC201000	10 - 8
HGC201200	12 - 10
HGC201500	15 - 12,5

HGC21
Intermediate Tee



	Ø
HGC210400	4 - 2,7
HGC210600	6 - 4
HGC210800	8 - 6
HGC211000	10 - 8
HGC211200	12 - 10
HGC211500	15 - 12,5

HGC22
Intermediate cross



	Ø
HGC220600	6 - 4
HGC220800	8 - 6
HGC221000	10 - 8

HGC30
Nut



	Ø	thread
HGC300400	4 - 2	M7x0,75
HGC300600	6 - 4	M10x1
HGC300800	8 - 6	M12x1
HGC301000	10 - 8	M14x1
HGC301200	12 - 10	M16x1
HGC301500	15 - 12,5	M20x1

HGC33
Intermediate straight bulkhead connector



	Ø
HGC330610	6 - 4
HGC330812	8 - 6
HGC331014	10 - 8
HGC331216	12 - 10
HGC331520	15 - 12,5

HGC40
Single banjo



	Ø	connection
HGC4004M5	4 - 2	M5
HGC4005M5	5 - 3	M5
HGC4006M5	6 - 4	M5
HGC400618	6 - 4	G1/8
HGC400818	8 - 6	G1/8
HGC400614	6 - 4	G1/4
HGC400814	8 - 6	G1/4
HGC401014	10 - 8	G1/4
HGC400838	8 - 6	G3/8
HGC401038	10 - 8	G3/8

Bolt to be used:
HD42 - HD43 - HD44

CHARACTERISTICS

Temperature	-15 ÷ 80 °C
Fluid	compressed air, water, oil
Working pressure	130 bar (Ø4), 180 bar (Ø6), 150 bar (Ø8), 110 bar (Ø10), 75 bar (Ø12), 70 bar (Ø15)
Body	nickel-plated brass
Nut	nickel-plated brass
Seals	NBR
Application fields	pneumatic circuits
Recommended tube	copper alloy, brass, stainless steel, aluminum, plastic (reinforcing core)

HGO03
Male straight taper thread



	Ø	connection
HGO030418	4	R1/8
HGO030618	6	R1/8
HGO030818	8	R1/8
HGO030614	6	R1/4
HGO030814	8	R1/4
HGO031014	10	R1/4
HGO030838	8	R3/8
HGO031038	10	R3/8
HGO031238	12	R3/8
HGO031212	12	R1/2
HGO031512	15	R1/2

HGO04
Male straight parallel thread



	Ø	connection
HGO040418	4	G1/8
HGO040618	6	G1/8
HGO040818	8	G1/8
HGO040614	6	G1/4
HGO040814	8	G1/4
HGO041014	10	G1/4
HGO040838	8	G3/8
HGO041038	10	G3/8

HGO09
Male elbow taper thread



	Ø	connection
HGO090418	4	R1/8
HGO090618	6	R1/8
HGO090818	8	R1/8
HGO090614	6	R1/4
HGO090814	8	R1/4
HGO091014	10	R1/4
HGO090838	8	R3/8
HGO091038	10	R3/8
HGO091238	12	R3/8
HGO091212	12	R1/2
HGO091512	15	R1/2

HGO14
Male lateral Tee



	Ø	connection
HGO140418	4	R1/8
HGO140618	6	R1/8
HGO140818	8	R1/8
HGO140614	6	R1/4
HGO140814	8	R1/4
HGO141014	10	R1/4
HGO141038	10	R3/8
HGO141238	12	R3/8
HGO141212	12	R1/2

HGO16
Male central Tee taper thread



	Ø	connection		Ø	connection
HGO160418	4	R1/8	HGO161014	10	R1/4
HGO160618	6	R1/8	HGO161038	10	R3/8
HGO160818	8	R1/8	HGO161238	12	R3/8
HGO160614	6	R1/4	HGO161212	12	R1/2
HGO160814	8	R1/4	HGO161512	15	R1/2

HGO19
Intermediate straight



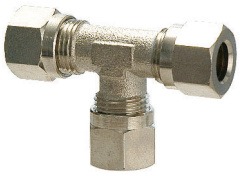
	Ø
HGO190400	4
HGO190600	6
HGO190800	8
HGO191000	10
HGO191200	12
HGO191500	15

HGO20
Intermediate elbow



	Ø
HGO200400	4
HGO200600	6
HGO200800	8
HGO201000	10
HGO201200	12

HGO21
Intermediate Tee



	Ø
HGO210400	4
HGO210600	6
HGO210800	8
HGO211000	10
HGO211200	12
HGO211500	15

HGO30
Nut



	Ø	thread	key
HGO300400	4	8x1	10
HGO300600	6	10x1	12
HGO300800	8	12x1	14
HGO301000	10	16x1	19
HGO301200	12	18x1	22
HGO301500	15	30x1	27

HGO31
Olive



	Ø
HGO310400	4
HGO310600	6
HGO310800	8
HGO311000	10
HGO311200	12
HGO311500	15

HGO32
Reinforcing core



	Ø
HGO320600	4
HGO320800	6
HGO321000	8
HGO321200	10
HGO321500	12,5

HGO33
Bulkhead connector



	Ø
HGO330600	6
HGO330800	8
HGO331000	10
HGO331200	12

HGO40
Single banjo



	Ø	connection
HGO400618	6	G1/8
HGO400818	8	G1/8
HGO400614	6	G1/4
HGO400814	8	G1/4

Bolt to be used:
HD42 - HD43 - HD44

CHARACTERISTICS

Temperature	-10 ÷ 80 °C
Fluid	compressed air
Working pressure	12 bar
Body	nickel-plated brass, zinc-plated steel
Ferrule	nickel-plated brass, zinc-plated steel
Seals	NBR
Spring	nickel-plated brass, zinc-plated steel

HGU2001M
Universal male socket



	connection
HGU2001M14	G1/4
HGU2001M38	G3/8
HGU2001M12	G1/2

HGU2001F
Universal female socket



	connection
HGU2001F14	G1/4
HGU2001F38	G3/8
HGU2001F12	G1/2

HGU2002M
Universal male plug



	connection
HGU2002M14	G1/4
HGU2002M38	G3/8

HGU2002F
Universal female plug



	connection
HGU2002F14	G1/4
HGU2002F38	G3/8

HGU1001M
Male mini socket



	connection
HGU1001M18	G1/8
HGU1001M14	G1/4

HGU1001F
Female mini socket



	connection
HGU1001F18	G1/8
HGU1001F14	G1/4

HGU1002M
Male mini plug



	connection
HGU1002M18	G1/8
HGU1002M14	G1/4

HGU1002F
Female mini plug



	connection
HGU1002F18	G1/8
HGU1002F14	G1/4

For further technical information contact our Sales Office

HE



HEA
Polyamide tubes PA10.12
Colors: neutral, black, blue, sky-blue

Part No.	Tube		
	Ø E	Ø I	R
HEA0420...	4	2	15
HEA0425...	4	2,5	20
HEA0604...	6	4	35
HEA0806...	8	6	40
HEA1008...	10	8	60
HEA1210...	12	10	85
HEA1412...	14	12	95

HEC
Polyurethane tubes Sh. A98
Colors: neutral, black, sky-blue

Part No.	Tube		
	Ø E	Ø I	R
HEC0420...	4	2	15
HEC0604...	6	4	20
HEC0806...	8	6	25
HEC1008...	10	8	35
HEC1209...	12	9	45

HED
Co-polyurethane tubes Sh. 55D
Colors: neutral, black, blue, sky-blue

Part No.	Tube		
	Ø E	Ø I	R
HED0420...	4	2,5	10
HED0604...	6	4	15
HED0806...	8	6	25
HED1008...	10	8	35
HED1209...	12	9	45

Ø E = External diameter (mm) **Ø I** = Internal diameter (mm) **R** = Bending radius (mm)

For color options, add the following suffixes to part no.:
NEU = Neutral **NER** = Black **BLU** = Blue **AZZ** = Sky-blue (example HEA0420NEU)

Min. package: 100 m coil

HF



HFA121015... and HFA121030...
available only blue and orange

HFA Rilsan® Spiral tubes
Polyamide Spiral Tubes PA10.12
Colors: neutral, blue, sky-blue, orange

Part No.	Tube			Spiral		
	Ø E	Ø I	Linear (mt)	Rest (mm)	Max Lenght (mt)	Ø I (mm)
HFA042010...	4	2	10	360	6	30
HFA042015...	4	2	15	550	9	30
HFA060415...	6	4	15	430	9	60
HFA060430...	6	4	30	870	17	60
HFA080615...	8	6	15	455	9	80
HFA080630...	8	6	30	910	17	80
HFA100815...	10	8	15	490	9	90
HFA100830...	10	8	30	990	17	90
HFA121015...	12	10	15	430	9	120
HFA121030...	12	10	30	870	17	120

HFC Elastollan® Spiral tubes with straight ends
Polyurethane Spiral Tubes (Sh.A98) with ends parallelling the spiral axis
Colors: neutral, sky-blue

Part No.	Tube			Spiral		
	Ø E	Ø I	Linear (mt)	Rest (mm)	Max Lenght (mt)	Ø I (mm)
HFC64C06...	6	4	6	380	4	25
HFC64C12...	6	4	12	760	8	25
HFC855C06...	8	5,5	6	310	4	40
HFC855C12...	8	5,5	12	640	8	40
HFC107C06...	10	7	6	330	4	50
HFC107C12...	10	7	12	680	8	50
HFC128C06	12	8	6	320	4	60
HFC128C12...	12	8	12	660	8	60

Ø E = External diameter (mm) **Ø I** = Internal diameter (mm) **End length 150 mm**

For color options, add the following suffixes to part no.:
NEU = Neutral **BLU** = Blue **AZZ** = Sky-blue **ARA** = Orange

HD28
Tube cutter



	Tube
HD280012	2÷12
HD280025	12÷25

CHARACTERISTICS

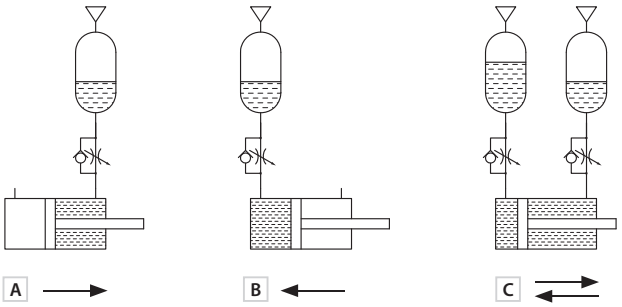
Ambient temperature	-20 ÷ 80 °C
Fluid	filtered air without lubrication, hydraulic oil
Working pressure	0 ÷8 bar
Size	100 mm
End-caps	technopolymer
Barrel	profiled and anodized aluminium
Piston	NBR

AM4



Part No.	Volume (dm3)	Weight (Kg)
AM41000060	0,6	1,1
AM41000080	0,8	1,3
AM41000120	1,2	1,7
AM41000160	1,6	2,2
AM41000200	2,0	2,6
AM41000240	2,4	3
AM41000280	2,8	3,4
AM41000320	3,2	3,9
AM41000360	3,6	4,3
AM41000400	4,0	4,7
AM41000440	4,4	5,1

OPERATING DIAGRAM



A-B-C = Regulation direction of piston rod's speed

- Fix the reservoir at a higher level than cylinder
- Reservoir's volume must be 20% bigger than cylinder's volume

Self-compensating

YDA



Part No.	Thread	Stroke (mm)	Max energy per cycle (Nm))	Max energy per hour (Nm)	Max effective mass (Kg)	Max impact speed (m/s)	Stop collar
YDA0806	M8 x 1	6	3	7000	6	0,3-2,5	**YDG08**
YDA1007	M10 x 1	7	6	12400	12	0,3-3,5	**YDG10**
YDA1210	M12 x 1	10	12	22500	22	0,3-4	**YDG12**
YDA1412	M14 x 1,5	12	20	33000	40	0,3-5	**YDG14**
YDA2015	M20 x 1,5	15	59	38000	120	0,3-5	**YDG20**
YDA2525	M25 x 1,5	25	80	60000	180	0,3-5	**YDG25**
YDA2725	M27 x 1,5	25	147	72000	270	0,3-5	**YDG27**

Special strokes upon request

Ambient temperature: -10 ÷ 85 °C
Body: steel
Piston rod: chromium-plated carbon steel
Piston: carbon steel

Adjustable

YDR



Part No.	Thread	Stroke (mm	Max energy per cycle (Nm)	Max energy per hour (Nm)	Max effective mass (Kg)	Max impact speed (m/s)	Stop collars
YDR1415	M14 x 1,5	15	22	26400	80	3	**YDG14**
YDR2025	M20 x 1,5	25	39	39000	312	3,5	**YDG20**
YDR2525	M25 x 1,5	25	85	51000	400	3,5	**YDG25**
YDR2540	M25 x 1,5	40	100	84000	700	3,5	**YDG25L**
YDR3625	M36 x 1,5	25	150	90000	1400	3,2	**YDG36**
YDR3650	M36 x 1,5	50	300	108000	1400	3,2	**YDG36**

Special strokes upon request

Ambient temperature: -10 ÷ 85 °C
Body: steel
Piston rod: chromium-plated carbon steel
Piston: carbon steel

Pressure gauge

HZ9P



Thread: brass, copper alloy
Body: technopolymer
Movement: brass
Indicator: aluminium, black painted
Dial: acrylic pressure mounted
Accuracy: EN 837 class 2,5. ASME B40.1 grade B
Protection: IP 43

Part No.	Ø	Scale		Thread
		Bar	MPa	
HZ9P400318	40	0 - 2,5	0 - 0,25	R1/8
HZ9P400618	40	0 - 6	0 - 0,6	R1/8
HZ9P401018	40	0 - 10	0 - 1	R1/8
HZ9P500314	50	0 - 2,5	0 - 0,25	R1/4
HZ9P500614	50	0 - 6	0 - 0,6	R1/4
HZ9P501014	50	0 - 10	0 - 1	R1/4
HZ9P630314	63	0 - 2,5	0 - 0,25	R1/4
HZ9P630614	63	0 - 6	0 - 0,6	R1/4
HZ9P631014	63	0 - 10	0 - 1	R1/4

Pressure gauge with flange for panel mounting

HZ9PB



Thread: brass, copper alloy
Body: metal, black painted
Assembly: chromium plated front flange with 3 holes
Movement: brass
Indicator: aluminium, black painted
Dial: acrylic
Accuracy: EN 837 class 2,5. ASME B40.1 grade B
Protection: IP 43

Part No.	Ø	Scale		Thread
		Bar	MPa	
HZ9PB400318	40	0 - 2,5	0 - 0,25	R1/8
HZ9PB400618	40	0 - 6	0 - 0,6	R1/8
HZ9PB401018	40	0 - 10	0 - 1	R1/8
HZ9PB500314	50	0 - 2,5	0 - 0,25	R1/4
HZ9PB500614	50	0 - 6	0 - 0,6	R1/4
HZ9PB501014	50	0 - 10	0 - 1	R1/4
HZ9PB630314	63	0 - 2,5	0 - 0,25	R1/4
HZ9PB630614	63	0 - 6	0 - 0,6	R1/4
HZ9PB631014	63	0 - 10	0 - 1	R1/4

Pressure gauge with bracket for panel mounting

HZ9PBS



Thread: brass, copper alloy
Body: metal, black painted
Assembly: border with rear bracket
Movement: brass
Indicator: aluminium, black painted
Dial: acrylic
Accuracy: EN 837 class 2,5. ASME B40.1 grade B
Protection: IP 43

Part No.	Ø	Scale		Thread
		Bar	MPa	
HZ9PBS400318	40	0 - 2,5	0 - 0,25	R1/8
HZ9PBS400618	40	0 - 6	0 - 0,6	R1/8
HZ9PBS401018	40	0 - 10	0 - 1	R1/8
HZ9PBS500314	50	0 - 2,5	0 - 0,25	R1/4
HZ9PBS500614	50	0 - 6	0 - 0,6	R1/4
HZ9PBS501014	50	0 - 10	0 - 1	R1/4
HZ9PBS630314	63	0 - 2,5	0 - 0,25	R1/4
HZ9PBS630614	63	0 - 6	0 - 0,6	R1/4
HZ9PBS631014	63	0 - 10	0 - 1	R1/4

Recessed pressure gauge

HZ9464G



Body: tecnopolymer
Assembly: HZE series regulator and filter regulator size 0-05-1-2
Scale: 0 ÷ 12 bar
Dial: polycarbonate
Accuracy: ± 3% full scale

The screws are not included

CHARACTERISTICS

		HZ9NC Vacuum switch	HZ9NP Pressure switch
Ambient temperature		0 ÷ 50 °C	
Fluid		filtered air, inert gases non-corrosive non-flammable	
Working pressure		-1 ÷ 1 bar	0 ÷ 10 bar
Pressure range		-1 ÷ 1 bar	-1 ÷ 10 bar
Max. pressure		3 bar	15 bar
Set pressure resolution	**kPa**	0,1	-
	MPa	-	0,001
	kgf/cm²	0,001	0,01
	bar	0,001	0,01
	psi	0,01	0,1
	InHg	0,1	-
	mmHg	1	-
Hysteresis		adjustable(A)	
Weight		about 80 g (with 2 mt lead wire), about 45g (with M8 connector)	

(A) = Hysteresis value is adjustable within 1 ÷ 8 digits for one point set mode and window comparator mode



CODIFICATION KEY

H	Z	9	N	P	0	4	M	0	8
1				2	3		4		

1 Series

HZ9N = Digital Pressure switch/Vacuum switch

Standard version 2 meters cable

2 Pressure range

C = Vacuum switch - Compound (-1 ÷ 1 bar)
P = Pressure switch - Positive (-1 ÷ 10 bar)
P40 = Pressure switch - Positive (0 ÷ 10 bar)
HZE regulator and filter-regulator assembly

3 Output signal

010 = 1 NPN output + 1 analog output (1-5V)
011 = 1 NPN output + 1 analog output (4-20mA)
02 = 2 NPN outputs
030 = 1 PNP output + 1 analog output (1-5V)
031 = 1 PNP output + 1 analog output (4-20mA)
04 = 2 PNP outputs

4 Options

M08 = M8 4 Pin male (Standard)
M12 = M12 4 Pin male (upon request)

ELECTRICAL CHARACTERISTICS

Power supply voltage		12 ÷ 24V DC ± 10%, ripple max ≤ 10%
Switch output	PNP/NPN	open collector 2 outputs
	Max. load current/supply voltage	125 mA/24 V DC
	Residual voltage	≤ 1,5 V
Repeatability (switch output)		≤ ± 0,2% F.S. ± 1 digit
Analog output (voltage output)	Voltage	1-5 V ≤ ± 2,5% F.S.
	Linearity	≤ ± 1% F.S.
	Output impedance	about 1k Ω
	Current	4 ÷ 20 mA ≤ ± 2,5% F.S.
Analog output (current output)	Linearity	≤ ± 1% F.S.
	Max./Min. load impedance	300 Ω a 12 V DC, 600 Ω a 24 V DC/50 Ω
Environment	Enclosure	IP40
	Storage temperature	-10 ÷ 60°C (no condensation or freezing)
	Humidity	35 ÷ 85% relative humidity (no condensation)
	Withstand voltage	1000 V AC in 1-min between case and lead wire
	Insulation resistance	≥ 50 MΩ (a 500 V DC, between case and lead wire)
	Vibration	total amplitude1,5 mm o 10G, 10Hz ÷ 150Hz, 10Hz for 1 minute, 2 hours direction X,Y and Z
	Shock	100m/s² (10G), 3 times direction X,Y and Z
Connections		R1/8 - M5F
Temperature characteristic		± 2% F.S. of detected pressure (25°C) at temperature range of 0-50°C

HZ9N1F	HZ9N2F	HZ9NM08-0200	DHF-...
			
Adapter for panel assembly + protection cap	Supports (2 pcs)	M8 Extension 2m Cable	In-line M12 connection 3m cable **DHF-033M12** In-line M12 connection 5m cable **DHF-053M12**

CHARACTERISTICS

		HZ9NC50 Vacuum switch	HZ9NP50 Pressure switch
Ambient temperature		0 ÷ 50 °C	
Fluid		filtered air, inert gases non-corrosive non-flammable	
Working pressure		-1 ÷ 1 bar	0 ÷ 10 bar
Pressure range		-1 ÷ 1 bar	-1 ÷ 10 bar
Max. pressure		3 bar	15 bar
Set pressure resolution	**kPa**	0,1	-
	MPa	-	0,001
	kgf/cm²	0,001	0,01
	bar	0,001	0,01
	psi	0,01	0,1
	InHg	0,1	-
Hysteresis		adjustable(A)	
Weight		about 86 g	



(A) = Hysteresis value is adjustable within 1 ÷ 8 digits for one point set mode and window comparator mode

CODIFICATION KEY

H	Z	9	N	P	5	0	0	1	0			
1				2	3		4			5		

1 Series

HZ9N = Digital Pressure switch/ Vacuum switch

Standard version 2 m cable

2 Pressure range

C = Vacuum switch - Compound (-1 ÷ 1 bar)
P = Pressure switch - Positive (0 ÷ 10 bar)

3 Type

50 = IP65

4 Output signal

010 = 2 NPN outputs + 1 analog output (1-5V)
011 = 2 NPN outputs + 1 analog output (4-20mA)
02 = 2 NPN outputs + copy function
030 = 2 PNP outputs + 1 analog output (1-5V)
031 = 2 PNP outputs + 1 analog output (4-20mA)
04 = 2 PNP outputs + copy function

5 Options

L05 = Cable 5 m

ELECTRICAL CHARACTERISTICS

Power supply voltage		12 ÷ 24V DC ± 10%, ripple max ≤ 10%
Switch output	PNP/NPN	open collector 2 outputs
	Max. load current/supply voltage	125 mA/24 V DC
	Residual voltage	≤ 1,5 V
Repeatability (switch output)		≤ ± 0,2% F.S. ± 1 digit
Analog output (voltage output)	Voltage	1-5 V ≤ ± 2,5% F.S.
	Linearity	≤ ± 1% F.S.
	Output impedance	about 1k Ω
	Current	4 ÷ 20 mA ≤ ± 2,5% F.S.
Analog output (current output)	Linearity	≤ ± 1% F.S.
	Max./Min. load impedance	250 Ω a 12 V DC, 600 Ω a 24 V DC/50 Ω
Environment	Enclosure	IP65
	Storage temperature	-10 ÷ 60°C (no condensation or freezing)
	Humidity	35 ÷ 85% relative humidity (no condensation)
	Withstand voltage	1000 V AC in 1-min between case and lead wire
	Insulation resistance	≥ 50 MΩ (a 500 V DC, between case and lead wire)
	Vibration	total amplitude1,5 mm o 10G, 10Hz ÷ 150Hz, 10Hz for 1 minute, 2 hours direction X,Y, Z
	Shock	100m/s² (10G), 3 times direction X,Y, and Z
Connections		R1/8 - M5F
Temperature characteristic		± 2,5% F.S. of detected pressure (25°C) at temperature range of 0-50°C

HZ9N1F-50	HZ9N2F-51	HZ9N2F-52
		
Adapter for panel assembly + protection cap	Support	Support

CHARACTERISTICS

Ambient temperature		0 ÷ 50 °C
Fluid		filtered air, inert gases non-corrosive non-flammable
Working pressure		0 ÷ 10 bar
Pressure range		-1 ÷ 10 bar
Max. pressure		15 bar
Set pressure resolution	**MPa**	0,001
	kgf/cm²	0,01
	bar	0,01
	psi	0,1
Hysteresis		adjustable(A)
Weight		about 80g (with 2 meters lead wire), about 45g (with M8 connector)



HZ9NP4004: 2m cable version
HZ9NP4004M8: M8 connection version including 2 meter extension cable

(A) = Hysteresis value is adjustable within 1 ÷ 8 digits for one point set mode and window comparator mode

ELECTRICAL CHARACTERISTICS

Power supply voltage		12 ÷ 24V DC ± 10%, ripple max ≤ 10%
Current consumption		≤ 40mA (with no load)
Switch output	PNP/NPN	open collector 1 output
	Max. load current	125 mA
	Max. supply voltage	24 V DC
	Residual voltage	≤ 1,5 V
Repeatability (switch output)		≤ ± 0,2% F.S. ± 1 digit
Response time		≤ 2,5 ms (chattering-proof function: 25ms, 100 ms, 250 ms, 500 ms, 1000 ms, 1500 ms selectable)
Output short circuit protection		yes
7 segment LCD display		main display digit $3^{1/2}$ two colors (red/green)
		secondary display digit $3^{1/2}$ orange (sampling rate: 5 volte/sec.)
Indicator accuracy		≤ ± 2% F.S. ± 1 digit (ambient temperature: 25 ± 3°C)
Switch ON indicator		orange output 1 and 2
Environment	Enclosure	IP40
	Storage temperature	-10 ÷ 60°C (no condensation or freezing)
	Humidity	35 ÷ 85% relative humidity (no condensation)
	Withstand voltage	1000 V AC in 1-min between case and lead wire
	Insulation resistance	≥ 50 MΩ (a 500 V DC, between case and lead wire)
	Vibration	total amplitude1,5 mm o 10G, 10Hz ÷ 150Hz, 10Hz for 1 minute, 2 hours direction X,Y and Z
	Shock	100m/s² (10G), 3 times direction X,Y and Z
Temperature characteristic		± 2% F.S. of detected pressure (25°C) at temperature range of 0-50°C
Lead wire		Oil-resistance cable (0,15 mm²)

HZ9N0M	HZ9N1M	DHF...M08
		
Adapter Size 0-05-3 Supplied with screws: M3x12 size 0-05 M2,5x12 size 3	Adapter Size 1-2 Supplied with screws: M3x20	In-line M08 connection 3m cable **DHF-033M08** In-line M08 connection 5m cable **DHF-053M08**

HZ9N12



Max pressure: 80 bar
Max temperature: -10 ÷ 120 °C
Max voltage: 250 V AC
Max current: 0,5 A
Body: brass

Version with NC - NC/NO contact upon request

Part No.	Adjustable range (bar)	Tolerance 20° C (bar)	Contact	Thread
HZ9N12110060	1 - 10	± 0,5	NO	R1/8
HZ9N12110080	1 - 10	± 0,5	NO	R1/4
HZ9N12111060	0,1 - 1	± 0,1	NO	R1/8
HZ9N12111080	0,1 - 1	± 0,1	NO	R1/4

ATEX

ATEX version available
For further information please contact our Sales Office

HZ9N12A	HZ9N12B	HZ9N12C
		
Protection cap IP54	Protection connector IP65	Protection connector IP65 DIN

DF



Other available versions (M08-M12)

DF-220M08 **DF-220M12**
DF-330M08 **DF-330M12**
DF-440M08 **DF-440M12**
DF-770M08 **DF-770M12**

With 5 meters cable
DF-220L5
DF-330L5

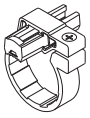
With 10 meters cable
DF-220L10
DF-330L10

Cable extensions
DHF-033 M08 = 3 m M08
DHF-033 M12 = 3 m M12
DHF-053 M08 = 5 m M08
DHF-053 M12 = 5 m M12

Type	ELECTROMECHANICAL REED			ELECTRONIC PNP
Part No.	**DF-220**	**DF-330***	**DF-440**	**DF-770**
Working voltage (V AC/DC)	5÷30 V AC/DC	5÷30 V AC/DC	5÷30 V AC/DC	5÷30 V DC
Max switching current (mA)	100	100	100	100
Max switching power (W/VA)	3	3	3	3
Max voltage drop (V AC/DC)	<3,5	0,1	0,1	0,7
Minimum magnetic field (gauss)	60	60	60	30
Opening response time (ms)	< 0,5	< 0,5	< 0,5	0,08
Closing response time (ms)	< 1	< 1	< 1	0,03
Electric life with resistive load (cycles)	$>10^7$	$>10^7$	$>10^7$	$>10^9$
State indicator (LED)	red	red	red	red
Cable number and section (mmq)	2x0,14	3x0,14	3x0,14	3x0,14
Cable length (mm)	3000	3000	3000	3000
Electric circuit	A	C	D	C
Protection degree (EN60529)	IP67			
Working temperature (°C)	-20 ÷ +80			

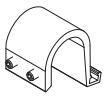
*: NPN upon request (**DF-330NPN** 3 meters cable)

Fixing elements



DH-M10DF **DH-M20DF**
DH-M12DF **DH-M25DF**
DH-M16DF

Fixing bracket for M series cylinders

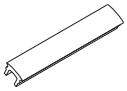


DH-K320DF

Fixing bracket for K320 series cylinders



DF-001
Cable clamping

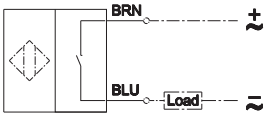


DHF-0020100
Covering strip

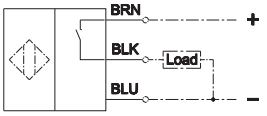
Electrical Circuit

Version with cable

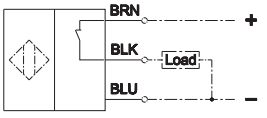
A AC/DC 2 wires **NO**



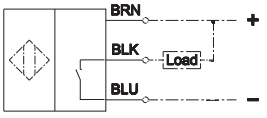
C DC 3 wires **PNP NO**



D DC 3 wires **PNP NC**



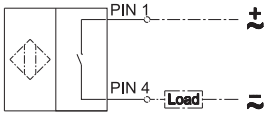
E DC 3 wires **PNP NC**



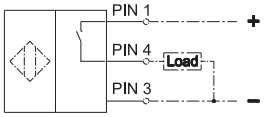
BRN = Brown
BLK = Black
BLU = Blue

Version with connector

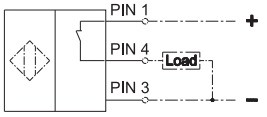
A AC/DC 2 wires **NO**



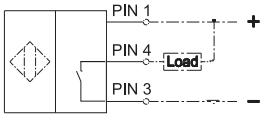
C DC 3 wires **PNP NO**



D DC 3 wires **PNP NC**

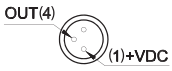


E DC 3 wires **PNP NC**



PIN 1 = Brown
PIN 2 = White
PIN 3 = Blue
PIN 4 = Black

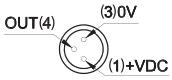
M08 2 wires



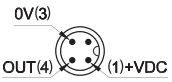
M12 2 wires



M08 3 wires

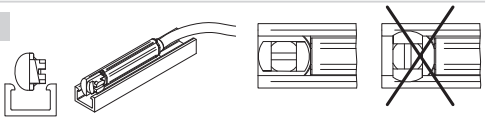


M12 3 wires



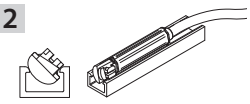
Assembly Scheme

1



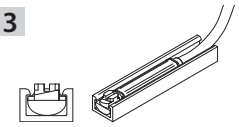
Put the sensor in the proper groove and make sure that the fastening plate has the slot for screwdriver along the sensor axis.

2



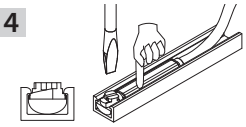
Put the sensor inside its groove and make sure that the fastening plate is on the open part of the groove.

3



Check the correct position of the sensor in the groove.
Turn it to the wished position for detection.

4



Keep the sensor in its position and screw the fastening plate to fix the sensor in the groove.
Max torque: 0,5 ÷ 1 Nm

Available ATEX version upon request
See ATEX Catalogue for types and versions

DH



Other available versions (M08-M12)

DH-200M08 **DH-200M12**
DH-500M08 **DH-500M12**
DH-700M08 **DH-700M12**

Cable extensions

DHF-033 M08 = 3 m M08 (max 60 V)
DHF-033 M12 = 3 m M12
DHF-053 M08 = 5 m M08 (max 60 V)
DHF-053 M12 = 5 m M12

Type	ELECTROMECHANICAL REED			ELECTRONIC PNP
Part No.	**KM-032000**	**DH-200**	**DH-500**	**DH-700**
Working voltage (V AC/DC)	5÷250 V AC/DC	5÷250 V AC/DC	5÷250 V AC/DC	10÷30 V DC
Max switching current (mA)	1000	200	200	200*
Max switching power (W/VA)	30	10	10	5
Max voltage drop (V AC/DC)	< 3,5	< 3,5	< 3,5	0,7
Minimum magnetic field (gauss)	85	85	60	30
Opening response time (ms)	< 0,5	< 0,5	< 0,5	0,08
Closing response time (ms)	< 1	< 1	< 1	0,03
Electric life with resistive load (cycles)	$>10^7$	$>10^7$	$>10^7$	$>10^9$
State indicator (LED)	red	red	red	red
Cable number and section (mmq)	2x0,25	2x0,25	2x0,25	3x0,25
Cable length (mm)	3000	3000	3000	3000
Electric circuit	A	A	A	C
Protection degree (EN60529)	IP65			
Working temperature (°C)	-20 ÷ +80			

* 100mA with working temperature > +50°C

With 5 meters cable
DH-200L5
DH-500L5
DH-700L5

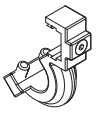
With 10 meters cable
DH-200L10
DH-500L10
DH-700L10

Fixing elements



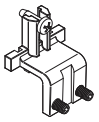
DH-M10 **DH-M20**
DH-M12 **DH-M25**
DH-M16

Fixing bracket for M series cylinders



DH-K032050
DH-K063125
DH-K160200
DH-K250

Fixing bracket for K series cylinders



KM-032050-1
KM-063100-1
KM-125000-1

Fixing bracket for KM sensors on ISO cylinders (upon request)



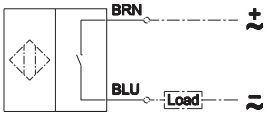
DH-S25
DH-S32
DH-S40
DH-S50

Fixing bracket for S1 series rodless cylinders

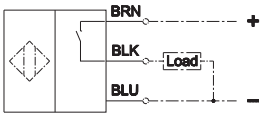
Electrical Circuit

Version with cable

A AC/DC 2 wires **NO**



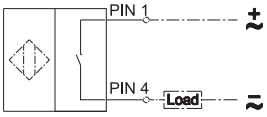
C DC 3 wires **PNP NO**



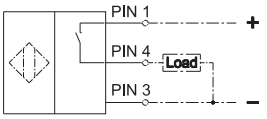
BRN = Brown
BLK = Black
BLU = Blue

Version with connector

A AC/DC 2 wires **NO**

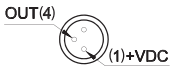


C DC 3 wires **PNP NO**



PIN 1 = Brown
PIN 2 = White
PIN 3 = Blue
PIN 4 = Black

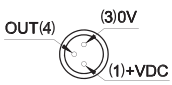
M08 2 wires



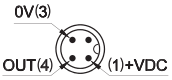
M12 2 wires



M08 3 wires



M12 3 wires



Available ATEX version upon request
See ATEX Catalogue for types and versions

DF-T



Type	ELECTROMECHANICAL REED		ELECTRONIC PNP	
Part No.	**DF-T200L03**	**DF-T200M08**	**DF-T700L03**	**DF-T700M08**
Working voltage (V AC/DC)	5÷120 V AC/DC	5÷120 V AC/DC	5÷30 V DC	5÷30 V DC
Max switching current (mA)	100	100	200	200
Max switching power (W/VA)	10	10	6	6
Working temperature (°C)	-10 ÷ +70			
Max voltage drop (V AC/DC)	2,5	2,5	1	1
Cable number and section (mmq)	2 x 2,8 (PUR)	2 x 2,8 (PUR)	3x2,8 (PUR)	3x2,8 (PUR)
Cable length (mm)	3000	300	3000	300
Contact	NO	NO	NO	NO
Max response time (ms)	1	1	1	1
State indicator (LED)	red	red	green	green
Electric circuit	A	-	C	-
Protection degree (NEMA 6)	IP67			
Shock resistance (G)	30	30	50	50

Cable extensions
DHF-033M08 = 3 m M08 (max 60 V)
DHF-053M08 = 5 m M08 (max 60 V)

Cylinder series
DF-T:
JX1, JX2, YMA20, YMP20, YMP30,YMP50 (Ø16÷25), JLE (Ø12), YR3

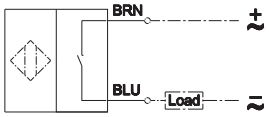
DF-T + DF-R002:
JTES, JTEV, YMA11, YMP40, YMP50 (Ø32÷63)

DF-T + DF-R003:
JLE (Ø16÷63)

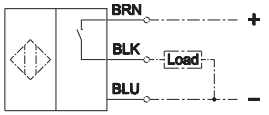
Electrical Circuit

Version with cable

A AC/DC 2 wires NO



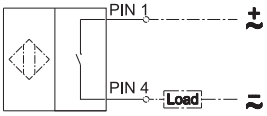
C DC 3 wires PNP NO



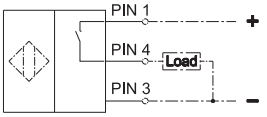
BRN = Brown
BLK = Black
BLU = Blue

Version with connector

A AC/DC 2 wires NO

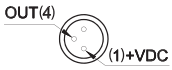


C DC 3 wires PNP NO



PIN 1 = Brown
PIN 2 = White
PIN 3 = Blue
PIN 4 = Black

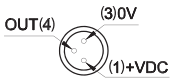
M08 2 wires



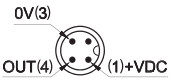
M12 2 wires



M08 3 wires



M12 3 wires



DF-RW



Cable extensions
DHF-033M12 = 3 m M12 (max 6 V)
DHF-053M12 = 5 m M12 (max 6 V)

Type	ELECTRONIC	
Part No.	**DF-RW700L03**	**DF-RW700M12**
Working voltage (V DC)	10÷28 V DC	10÷28 V DC
Max switching current (mA)	5÷50	5÷50
Max switching power (W)	1,5	1,5
Working temperature (°C)	-10 ÷ +60	
Max voltage drop (V AC/DC)	5	5
Cable number and section (mmq)	2x4,8 (PUC)	2x4,8 (PUC)
Cable length (mm)	3000	500
Contact	NO	NO
Max response time (ms)	50	50
State indicator (LED)	red (detection position)	
	verde (optimal detection position)	
Protection degree IEC 60529)	IP67	
Shock resistance (G)	50	50

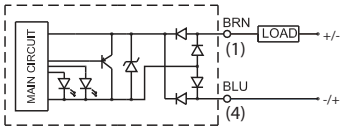
Cylinder series

DF-RW:
JX1, JX2, YMA20, YMP20, YMP30, YMP50 (Ø16÷25), JLES (Ø12), JLEV (Ø12), YR3 DF-T

DF-RW + DF-R002:
M, KE, KD, KL, RP, RO, RS, RQ, OV, R, W, JTES, JTEV, YMA11, YMP40, YMP50 (Ø32÷63)

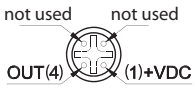
DF-RW + DF-R003:
JLE (Ø16÷63)

Electrical Circuit

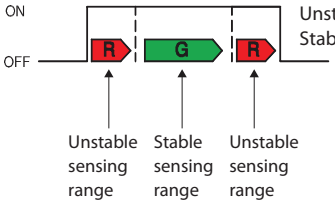


BRN = Brown
BLU = Blue

M12



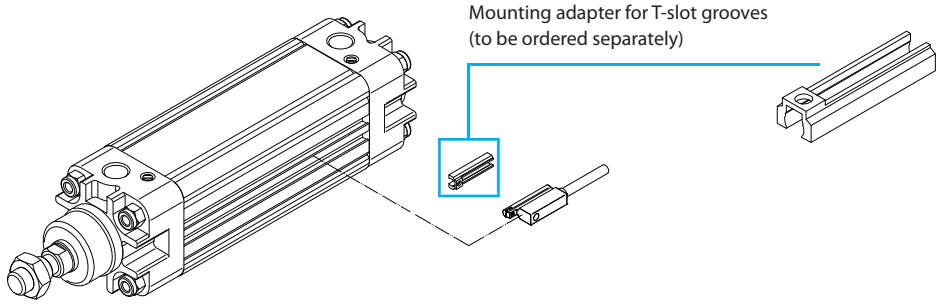
Two color indication



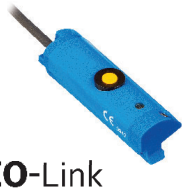
Unstable sensing range: red LED light on.
Stable sensing range: green LED light on.

Mounting scheme

DF-R002 Adapter
Mounting adapter for T-slot grooves
(to be ordered separately)



DF-MS



IO-Link

c UL US LISTED

Continuous detection sensor of the piston rod's position, for direct mounting on cylinders with T-slot fixing.

ISO 15552 - KE/KD/KL series
UNITOP - RP/RO series
ISO 21287 - RM/RN series
STRONG - RS/RQ series
OVAL - OV series
SHORT STROKE - W series
GUIDED COMPACT - JLE series

Available with analog exit or IO-LINK.

Button Teach-In for measuring range regulation.

Possibility of mounting on tie-rod cylinders or on round cylinders, with special brackets.

Type	ANALOG	IO-Link
Part no.	**DF-MS**	
Stroke measuring range (± 1 mm)	5÷256 mm depending on the model	
Voltage	15÷30 V DC ripple max ≤10% (24 V DC)	
Type of connection	M8 male 4P	
Sampling time	1 ms	
Resolution	0,03% FS (≥ 0,05 mm) (A)	
Linearity	0,3 mm	
Repeatability(B)	0,06% FS (≥ 0,1 mm) (A)	
Cylinder's traslation speed	< 3 m/s	
Exit function	analog	IO-LINK
	0-10 V	4-20 mA
Overload protection	YES	
Short circuit protection	YES	
Reverse polarity protection	YES	
Max. load resistance (output current)	≤ 500 Ω	
Min. load resistance (output voltage)	≥ 2 KΩ	
Power consumption (without loading)	22 mA	25 mA
Protection class	III	
Protection degree	IP67	
Electromagnetic compatibility	according EN 60947-5-2	
Shock	30g/11 ms	
Vibrations	10 … 55 Hz, 1 mm	
Ambient temperature	-20÷+70°C	
Container material	plastic	
LED, operating indication	yellow	

A) FS: Full-scale
B) T = 25 °C, 24 V DC

CODIFICATION KEY

D	F	-	M	S	0	3	2	M	0	8
1					2			3		

1 Series

DF-MS = Magnetic position sensor

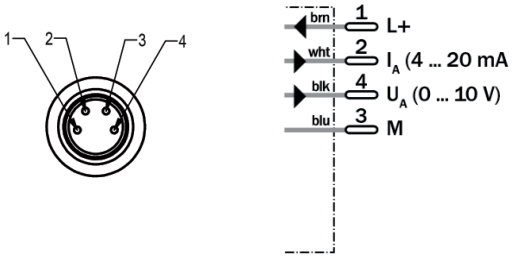
2 Measuring range

032 = 32 mm
064 = 64 mm
096 = 96 mm
128 = 128 mm
160 = 160 mm
192 = 192 mm
224 = 224 mm
256 = 256 mm

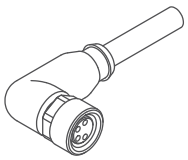
3 Connection

M08 = M8 connector analog and IO-Link exit

Electrical connections



No. Pin	Cable	Function
1	Brown	Supply port +
2	White	output current
3	Blue	Supply port -
4	Black	output current

DHF-P...	DHF-P...
	
DHF-P24M08 M8 in-line connector 2 meters cable	**DHF-P24M0890** M8 4pin-female 90° connector with 2 metres cable
DHF-P54M08 M8 in-line connector 5 meters cable	**DHF-P54M0890** M8 4pin-female 90° connector with 5 metres cable

DF-MA



CE
IO-Link
c UL US LISTED

Continuous detection sensor of the piston rod's position, for direct mounting on cylinders with T-slot fixing or tie rods with appropriate support brackets.

ISO 15552 - KE/KD/KL series
UNITOP - RP/RO series
ISO 21287 - RM/RN series
STRONG - RS/RQ series
OVALI - OV series
CORSA BREVE - W series

Analog and IO-Link exit standard supplied.

Integrated button for regulation measuring range and selection of analog exit.

Type	ANALOG/IO-LINK
Part no.	**DF-MA**
Stroke measuring range (± 1 mm)	287÷1007 mm depending on the model
Voltage	15÷30 V DC ripple max ≤10%
Type of connection	M8 male 4P
Sampling time	1,15 ms (C)
Resolution	0,03% FS (≥ 0,06 mm) (A)
Linearity	0,5 mm
Repeatability(B)	0,06% FSR (≥ 0,1 mm) (A)
Cylinder's traslation speed	< 3 m/s
Exit function	analog: 0÷10 V
	IO-Link : 4-20 mA
Overload protection	YES
Short circuit protection	YES
Reverse polarity protection	YES
Max. load resistance (output current)	≤500 Ω
Min. load resistance (output voltage)	≥2 KΩ
Power consumption (without loading)	35 mA
Protection class	III
Protection degree	IP65 a norma EN 60529, IP67, IP68
Electromagnetic compatibility	according EN 60947-5-7
Shock	30g/11 ms
Vibrations	total amplitude 1 mm, 10÷55 Hz
Ambient temperature	-20÷+70°C
Container material	aluminium, PA polyamide
LED, operating indication	yellow/red
LED, analog indication	voltage: green current: blue

A) FS: Full-scale
B) T = 25 °C, 24 V DC
C) Only during the standard functionning non IO-Link

CODIFICATION KEY

D	F	-	M	A	0	2	8	7	M	0	8
1					2				3		

1 Series

DF-MA = Magnetic position sensor

2 Measuring range

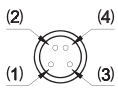
0287 = 287 mm
0323 = 323 mm
0359 = 359 mm
0395 = 395 mm
0431 = 431 mm
0467 = 467 mm
0503 = 503 mm
0539 = 539 mm
0575 = 575 mm
0611 = 611 mm
0647 = 647 mm
0683 = 683 mm
0719 = 719 mm
0755 = 755 mm
0791 = 791 mm
0827 = 827 mm
0863 = 863 mm
0899 = 899 mm
0935 = 935 mm
0971 = 971 mm
1007 = 1007 mm

3 Connection

M08 = M8 connector analog exit and IO-Link

Electrical connections

M08



No. Pin	Cable	Analog exit M8/IO-Link connector
1	Brown	15÷30 V DC
2	White	4-20 mA
3	Blue	0 V
4	Black	0÷10 V IO-LINK

DHF-P2/54M08



DHF-P24M08
M8 in-line connector 2 meters cable

DHF-P54M08
M8 in-line connector 5 meters cable

DF-MAF12T



Sensor mounting bracket on cylinders with T-slot fixing

Detection area:
287÷431 mm (3pcs)
467÷647 mm (4pcs)
683÷791 mm (5pcs)
827÷1007 mm (6pcs)

DF-MAF12TR



Sensor mounting bracket for cylinders series K (Ø160÷320 mm)

Automotive

6

Clamping Technology



	Pneumatic and Manual Power clamps	UCBP UCBT UCBM UCDP UCBH UCBL UCBQ UCNP UCIP UCNM UCIM	4
	Pneumatic Power clamps	UABP UABM UANP UANM	5
	Retractable locating pin units	ULB ULO ULP ULZ ULR ULY ULM ULT ULL ULX ULA	5/6
	Pin clamps	USP UST USS USP50U USSL LUP USC USL USR	7
	Gripper units	UGP UGM UGPS	7
	Power pivots	UAGP	8
	Marking units	UPD UPR	8
	Electrical units	LAE LNE LCE LGE LAGE UAEP	9
	Accessories	TC-E UBK UBF CLAMPING ARMS DF-K/DF-S	9/10

UNIVER®



STEPLESS ADJUSTMENT
Opening angle adjustment 0 ÷ 135°

LIGHT-WEIGHT
Clamping arm and clamp housing in aluminium alloy

UNIVER ORIGINAL LINKAGE DESIGN
Ensures positional repeatability

UNIVER ORIGINAL METAL SENSOR
Metal case
M12 swivel connector

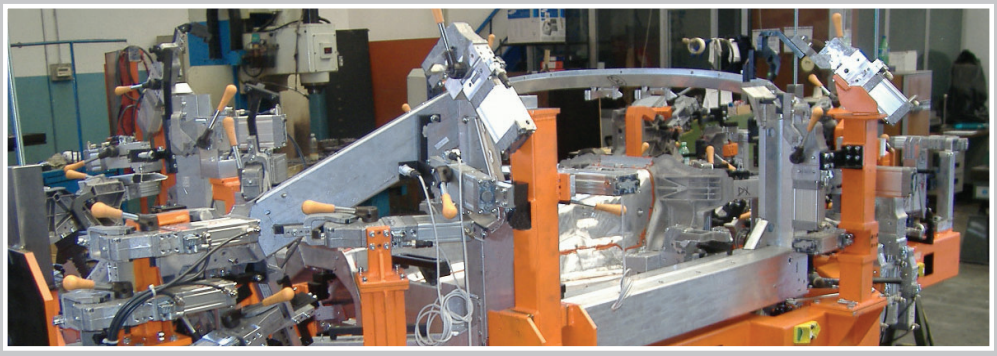
UNIVER Power Clamps meet the requirements of the Automotive and sheet metal industries; they are mostly used for sheet metal handling, BIW applications and welding fixtures production.



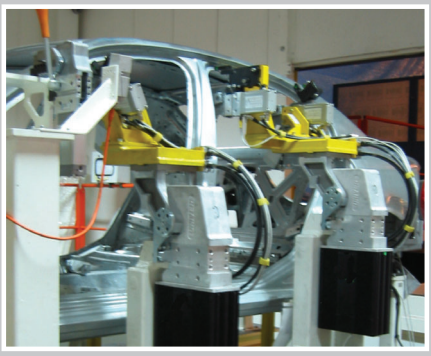
CNOMO clamps' applications

Alfa Romeo · Chrysler · Dodge · Lancia · Peugeot · Citroën · Opel · Fiat · Jeep
Mahindra · Hyundai · GAC Group · Mercedes-Benz · Volkswagen · Renault · gm · Porsche · Ford
Volvo · Geely · BMW · Honda · SAIC Motor · BYD · NIO 蔚来 · snop · Fontana group
OMR · voestalpine · COMAU · KUKA · YASKAWA Motoman Robotics · FANUC · Wooshin Safety Systems · bertrandt · EDAG
Chropynska · Actemium · Applied Robotics · VDL · walther präzision · ATI Industrial Automation · PM Polmotors · ingemat Engineering Solutions · MB Sistemas





Pneumatic power clamps' applications



Electric power pivots' applications

Our customers

Pneumatic and Manual power clamps **UNICLAMP**

UCBP
Pneumatic power clamp miniclamp Ø 25 - 32



Ø Cylinder mm: 25 - 32
Fully adjustable opening angle

UCBM
Pneumatic power clamp miniclamp Ø 25 - 32 with hand lever



Ø Cylinder mm: 25 - 32
Fully adjustable opening angle

UCBP/UCBH
Pneumatic power clamp Ø 40 - 50 - 63 - 80



Ø Cylinder mm: 40 - 50 - 63 - 80
Fully adjustable opening angle

UCBM/UCBQ
Pneumatic power clamp Ø 40 - 50 - 63 - 80 with hand lever



Ø Cylinder mm: 40 - 50 - 63 -80
Fully adjustable opening angle

UCIP
Pneumatic power clamp Ø 40 interchangeable with size 50/63 mm



Ø Cylinder mm: 40
Fully adjustable opening angle

UCIM
Pneumatic power clamp Ø 40 interchangeable with size 50/63 mm with hand lever



Ø Cylinder mm: 40
Fully adjustable opening angle

UCBT
Pneumatic power clamp Ø 40 with central hand lever



Ø Cylinder mm: 40
Fully adjustable opening angle

UCDP
Pneumatic power clamp Ø 40 - 63 with 2 arms



Ø Cylinder mm: 40 - 63
Fully adjustable opening angle

UCBL
Manual power clamp size 50/63 with adjustable angle



UCNP
Pneumatic power clamp Ø 50 - 63 - 80
N.A.A.M.S. standard



Ø Cylinder mm: 50 - 63 - 80
Fully adjustable opening angle

UCNM
Pneumatic power clamp Ø 50 - 63 - 80
N.A.A.M.S. standard with hand lever



Ø Cylinder mm: 50 - 63 - 80
Fully adjustable opening angle

Pneumatic Power clamps **BLUECLAMP** - air saving

UABP
Pneumatic power clamp size 32 - 40 - 50 - 63 - 80



Ø Cylinder mm: 25 - 32 - 40 - 50 - 63
Fully adjustable opening angle

UABM
Pneumatic power clamp
size 40 - 50 - 63 - 80 with hand lever



Ø Cylinder mm: 32 - 40 - 50 - 63
Fully adjustable opening angle

UANP
Pneumatic power clamp size 50 - 63 - 80
N.A.A.M.S. standard



Ø Cylinder mm: 40 - 50 - 63
Fully adjustable opening angle

UANM
Pneumatic power clamp size 50 - 63 - 80
N.A.A.M.S. standard with hand lever



Ø Cylinder mm: 40 - 50 - 63
Fully adjustable opening angle

Pneumatic and manual retractable locating pin units, single rod **UNICLAMP**

ULB
Compact pneumatic retractable locating pin unit
size 32 with double guide, rear sensor



Stroke mm: 20 - 40

ULP
Pneumatic retractable locating pin unit Ø 32 - 50 - 63







Ø Cylinder mm: 32 - 50 - 63
Stroke mm: 20 - 40 **(Ø32)** 15 - 25 - 40 - 50 - 60 - 75 - 100 - 110 **(Ø50)** 15 - 25 - 40 - 50 - 60 **(Ø63)**

ULR
Compact pneumatic retractable locating pin unit
Ø 50 - 63



Ø Cylinder mm: 50 - 63
Stroke mm: 15 - 25 - 40 - 50 - 60

ULM
Pneumatic retractable locating pin unit Ø 50
with hand lever



Ø Cylinder mm: 50
Stroke mm: 20 - 40 - 50 - 60

ULL
Manual Retractable locating pin unit size 50



Stroke mm: 15 - 25 - 40 - 50 - 60

Pneumatic retractable locating pin units, double rod **UNICLAMP**

ULA
Pneumatic retractable locating pin unit Ø 40 - 63



Ø Cylinder mm: 40 - 63
Stroke mm: 20 - 40 (Ø40) 25 - 40 - 50 - 60 - 75
100 - 110 (Ø63)

ULO
Pneumatic retractable locating pin unit Ø50
with hand lever



Ø Cylinder mm: 50
Stroke mm: 40

Irreversible pneumatic retractable locating pin unit **UNICLAMP**

ULZ
Pneumatic retractable locating pin unit size 40
single rod



Stroke mm: 40

ULY
Pneumatic retractable locating pin unit size 40
single rod with hand lever



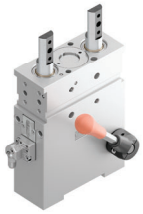
Stroke mm: 40

ULT
Pneumatic retractable locating pin unit size 50
double rod



Stroke mm: 40

ULX
Pneumatic retractable locating pin unit size 50
double rod with hand lever



Stroke mm: 40

Pneumatic pin clamps **UNICLAMP**

USP
Pneumatic pin clamp Ø 32 - 50



Ø Cylinder mm: 32 - 50

USS
Pneumatic pin clamp Ø 50 - 63, orientable hook




Ø Cylinder mm: 50 - 63
Ø63 HIGH COMPENSATION

USSL
Pneumatic pin clamp Ø 50 for laser beam applications



Ø Cylinder mm: 50

USC/USR
Pneumatic compact pin clamp Ø 40



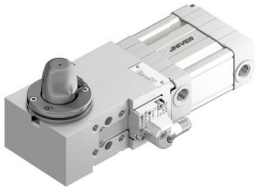

Ø Cylinder mm: 40

UST
Pneumatic pin clamp Ø 50 with vanishing hook



Ø Cylinder mm: 50

USP50U
Pneumatic pin clamp- horizontal shape Ø 50



Ø Cylinder mm: 50

LUP
Pneumatic pin clamp Ø 63 with vanishing hook and pin



Ø Cylinder mm: 63

USL
Manual Pin clamp Ø 50



Gripper units **UNICLAMP**

UGP
Pneumatic gripper units Ø 40



Ø Cylinder mm: 40
Versions: single and double jaws movement
Fully adjustable opening angle

UGM
Pneumatic gripper unit Ø 40 with hand lever



Ø Cylinder mm: 40
Versions: single and double jaws movement
Fully adjustable opening angle

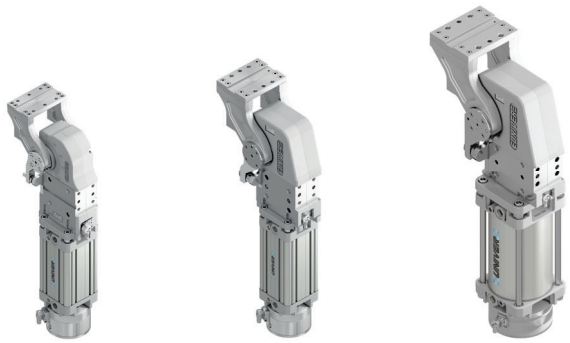
UGPS
Pneumatic gripper Ø 32 - 40




Ø Cylinder mm: 32 - 40
Versions: single and double jaws movement

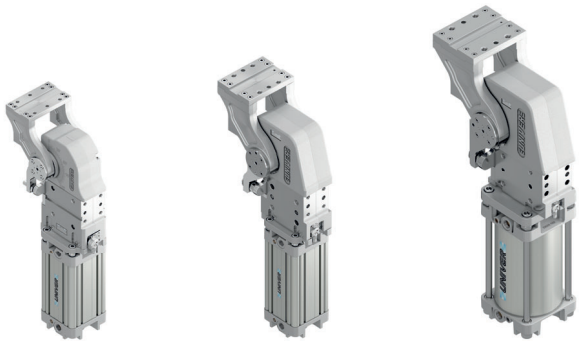
Pneumatic power pivot **UNICLAMP**

UAGP_B
Pneumatic power pivot with brake, small - medium - large size



Small size: 16 - 60 - 110 - 170 Nm
Medium size: 75 - 120 - 300 Nm
Large size: 210 - 350 - 600 Nm

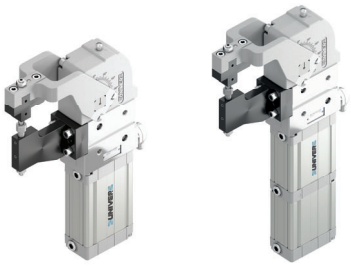
UAGP_W
Pneumatic power pivot without brake, small - medium - large size



Small size: 16 - 60 - 110 - 170 Nm
Medium size: 75 - 120 - 300 Nm
Large size: 210 - 350 - 600 Nm

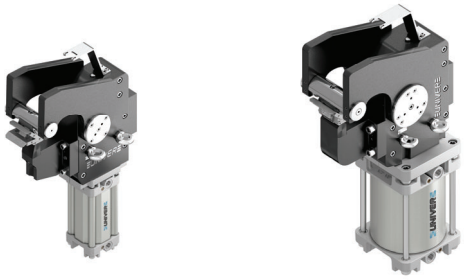
Pneumatic marking unit **UNICLAMP**

UPD
Pneumatic marking unit 250 Nm/500 Nm



Ø Cylinder mm: 63
Version: single letter/number

UPR
Pneumatic marking unit with marking head 5000 Nm/12000 Nm



Ø Cylinder mm: 100
Version: up to 7 letters/numbers

Ø Cylinder mm: 200
Version: up to 8 letters/numbers

The marking head can be mounted on the lower mounting surface or on the upper moving arms

Electric unit **eCLAMP - ePIVOT**

LAE
Electric power clamps eCLAMP



Size: 140 - 225 - 350
Adjustable opening angle
Built in "obstruction" detection

LNE
Electric power clamps eCLAMP, N.A.A.M.S. standard



Size: 225 - 350
Adjustable opening angle
Built in "obstruction" detection

LCE
Electric retractable locating pin unit eCLAMP



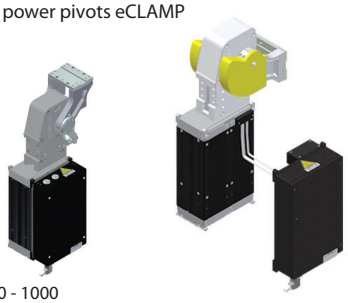
Size: 350
Adjustable stroke

LGE
Electric gripper units eCLAMP



Size: 140
Adjustable opening angle
Built in "obstruction" detection

LAGE
Electric power pivots eCLAMP



Size: 500 - 1000
Control module can be mounted remotely at 20 mt
The Integrated brake maintains the position any time power is lost

UAEP
Electric power pivot ePIVOT



Modular Control System

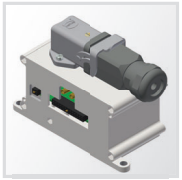
TC-E
Modular Control System for electric clamping units



SERIAL COMMUNICATION SYSTEM



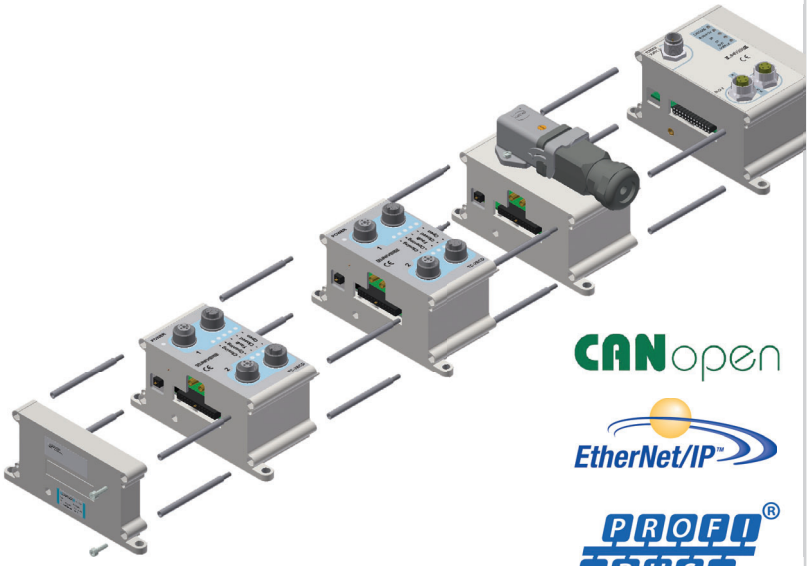
ELECTRIC UNIT DRIVER
Control module for 2 clamping units
Max 8 electric devices



POWER UNIT
EFFICIENT power management



FLEXIBLE
Compatible with I/O modules
and valve manifolds



CANopen
EtherNet/IP™
PROFIBUS®
PROFINET®
EtherCAT®

Accessories

UBK
Self-holding spring for open position



UBF
Ergonomic Handlevers



LKP/UKP/IKP/UP Clamping arms
Wishbone/Blade Arms conforming to the DIN or N.A.A.M.S. Standard



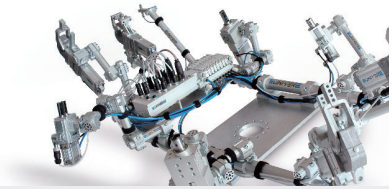
Offset mm: 0 - 15 - 25 - 45 - 50 - 70 - 75 - 105 - 120

DF-K/DF-S
Electronic sensor



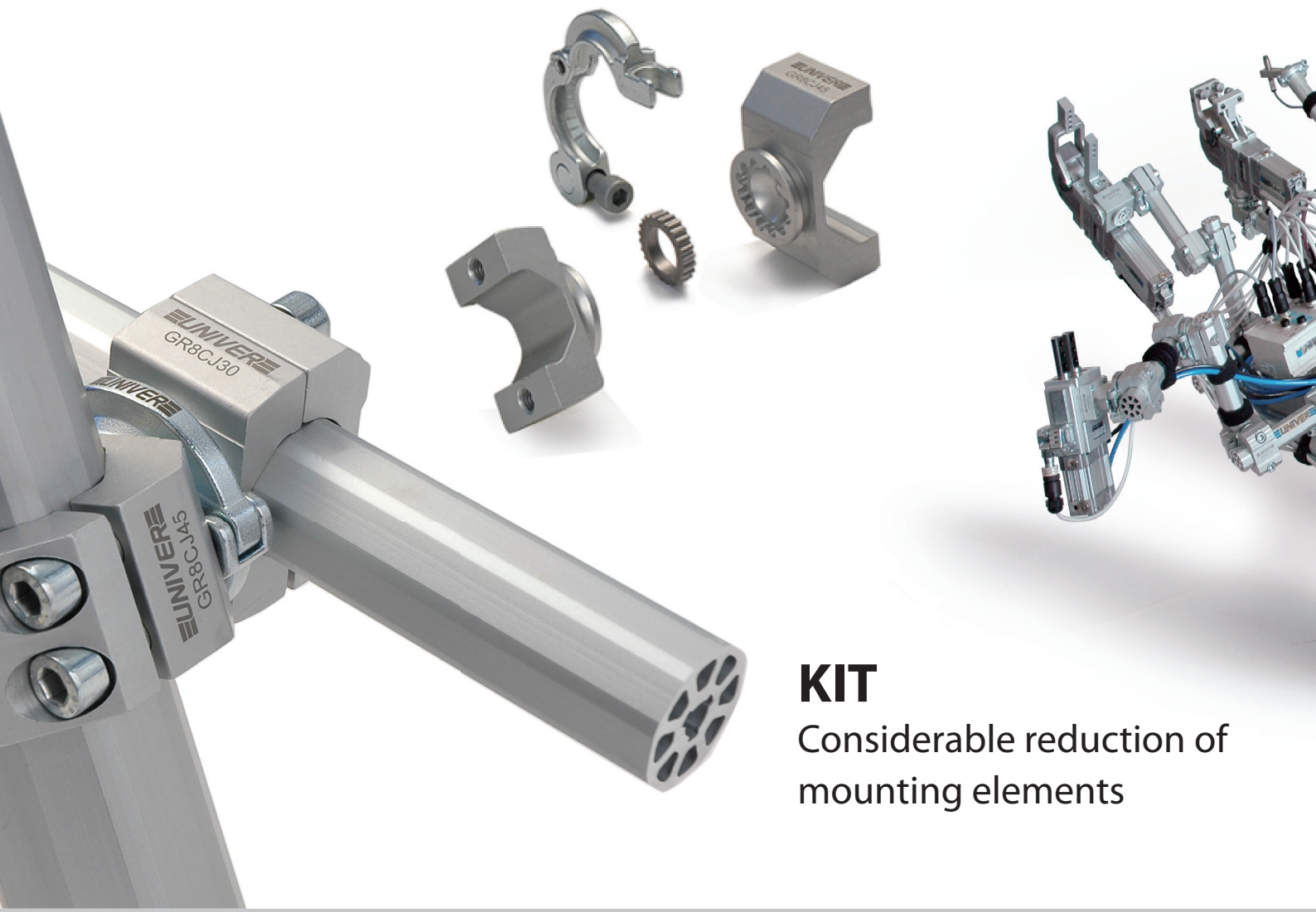
7

GR8 Tooling





GR8 Tooling GR8 2

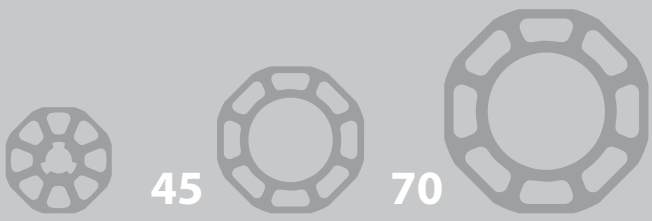


KIT

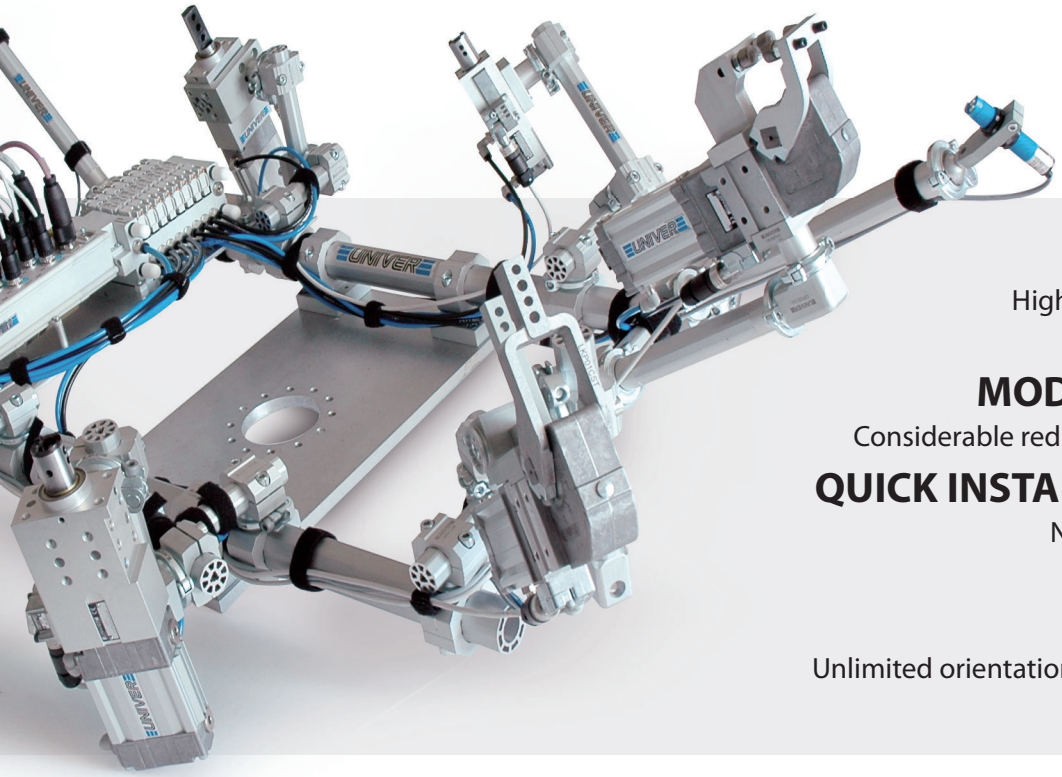
Considerable reduction of mounting elements

Ø 30 - 45 - 70 mm booms

Maximum stiffness and minimun weight



MODULAR TOOLING SYSTEM



HIGH PRECISION

High level of positional repeatability;
low deflection

MODULAR COMPONENTS

Considerable reduction of mounting components

QUICK INSTALLATION AND SET UP

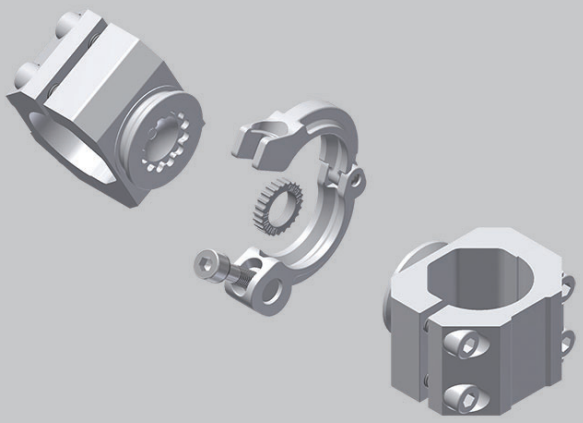
No welding or doweling required,
easily replaceable components

FULLY ADJUSTABLE

Unlimited orientation in space and free configuration

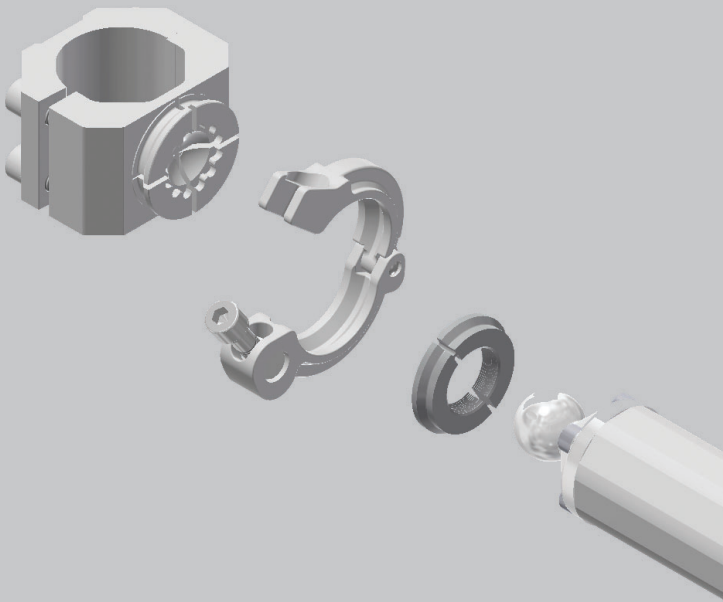
Locking ring

Precise and efficient system to guarantee a high level of positional accuracy



Ball mounting

Unlimited swivel rotation



Booms and boom adapters

GR8B30S6000
Octagonal boom
Ø30 mm



GR8B456000
Octagonal boom
Ø45 mm



GR8B706000
Octagonal boom
Ø70 mm



GR8C30
Boom end-cap
Ø30 mm



GR8C45
Boom end-cap
Ø45 mm



GR8C70
Boom end-cap
Ø70 mm



GR8LH
Locking ring



GR8LHD
Locking ring D



GR8IK
Interlocking key insert



GR8SCI30C
Interlocking end 30
for ball mounting



GR8SCI30D
Interlocking end 30 D



200 Nm

GR8ECI45C
Interlocking end 45
for ball mounting



GR8ECI45D
Interlocking end 45 D



200 Nm

Frame components

GR8BB30
Base plate 30



GR8BB30A
Joint 30 without base



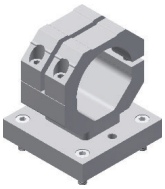
GR8BB45
Base plate 45



GR8BB45A
Joint 45 without base



GR8BB70
Base plate 70



GR8BB70A
Joint 70 without base



GR8HD4530V
Joint 45-30



GR8HD4545V
Joint 45-45



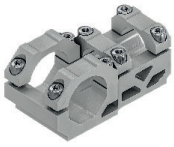
GR8HD7045
Joint 70-45



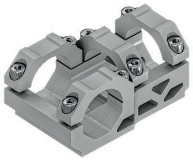
GR8HD7070
Joint 70-70



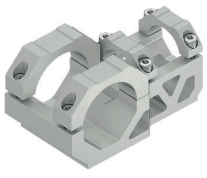
GR8CM4530
Coplanar mount 45-30



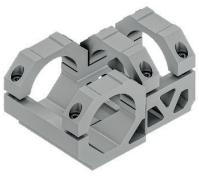
GR8CM4545
Coplanar mount 45-45



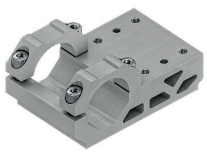
GR8CM7045
Coplanar mount 70-45



GR8CM7070
Coplanar mount 70-70

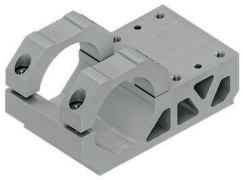


GR8BL45
Base linear plate 45

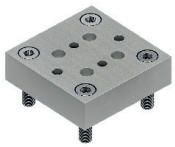


Max static load 200 Nm

GR8BL70
Base linear plate 70



GR8BB4530B
Plate



Joint

GR8BC30
Base connector 30



GR8BC45
Base connector 45



GR8BC70
Base connector 70



GR8CJ30C
Cross joint 30
for ball mounting



GR8CJ30D
Cross joint 30 D



200 Nm

GR8CJ45C
Cross joint 45
for ball mounting

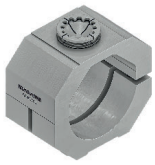


GR8CJ45D
Cross joint 45 D



200 Nm

GR8CJ70C
Cross joint 70
for ball mounting



GR8CJ70D
Cross joint 70 D



200 Nm

GR8CJD30C
Double cross joint 30
for ball mounting



GR8CJD30D
Double cross joint 30 D



200 Nm

GR8CJD45C
Double cross joint 45
for ball mounting



GR8CJD45D
Double cross joint 45 D



200 Nm

GR8RJ30C
Round joint 30
for ball mounting



GR8RJ30D
Round joint 30 D



200 Nm

GR8RJ45C
Round joint 45
for ball mounting

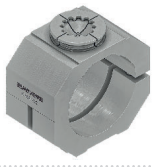


GR8RJ45D
Round joint 45 D



200 Nm

GR8RJ70C
Round joint 70
for ball mounting



GR8RJ70D
Round joint 70 D



200 Nm

GR8R3025
Adapter octagon 30 to
round 25



GR8R4540
Adapter octagon 45 to
round 40



Max static load 200 Nm

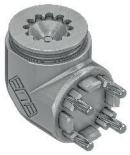
Angle adapters

GR8A30D
Edge mount orientable side for 30 mm boom D



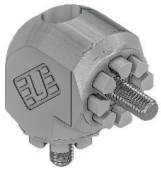
200 Nm

GR8A45D
Edge mount orientable side for 45 mm boom D

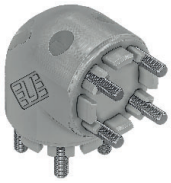


200 Nm

GR8SM3030
Edge mounting 30-30



GR8SM4545
Edge mounting 45-45



Ball adapters

GR8MP12
Proximity mount 12 mm



GR8MP18
Proximity mount 18 mm



GR8MP30
Proximity mount 30 mm



GR8MP19
Vacuum cup adapter



GR8SCB30
Ball mount 30



GR8SCB45
Ball mount 45



Front mount plates

GR8MF40D
Front mount plate D for clamps size 40



200 Nm

GR8RMF4050AD
Interlocking adapter for GR8MF40D, GR8MF50D and GR8MFGLD



GR8MF40PD
Mount plate for GR8MF40D



GR8RMF40C
Mount flange angle for GR8MF40D



GR8MF50D
Front mount plate D for clamps size 50/63



200 Nm

GR8MF50PD
Mount plate for GR8MF50D



GR8RMF50C
Mount flange angle for GR8MF50D



GR8MFGLD
Front mount plate D for UGP



GR8MFGLC
Counter mount for GR8MFGLD



Max static load 200 Nm

Rear mount plates

GR8SR40
Rear mount plate
for clamps size 40



GR8SR40D
Rear mount plate D
for clamps size 40



GR8SR50
Rear mount plate
for LCP50



GR8SR50D
Rear mount plate D
for LCP50



GR8SR50M8
Rear mount plate with M8
threads for clamps size 50/63



GR8SR50M8D
Rear mount plate D with
M8 threads for clamps size
50/63



GR8SB4530
Rear mount plate



GR8SB4530M8
Rear mount plate
with M8 threads



GR8SSLC
Flange mount for LCP



GR8SSLCM8
Flange mount for LCP
with M8 threads



LGPS adapters

LGP32MO25
Orbital mount 360°,
ball Ø25 mm for LGPS32



LGP32MO30
Orbital mount 360°,
ball Ø30 mm for LGPS32



LGP32MP
Middle flange mount
for LGPS32



LGP40MO25
Orbital mount 360°,
ball Ø25 mm for LGPS40



LGP40MO30
Orbital mount 360°,
ball Ø30 mm for LGPS40



LGP40MO40
Orbital mount 360°,
ball Ø40 mm for LGPS40



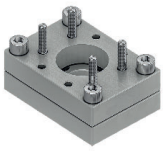
LGP40MO45
Orbital mount 360°,
ball Ø45 mm for LGPS40



LGP40MP
Middle flange mount
for LGPS40



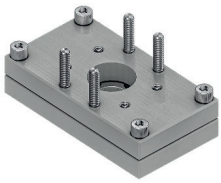
LGP32PT070
Rear flange mount 70 mm
for LGPS32



LGP40PT080
Rear flange mount 80 mm
for LGPS40



LGP40PT110
Rear flange mount 110 mm
for LGPS40



Risers

GR8SK30
Riser size 30



GR8SK45
Riser size 45



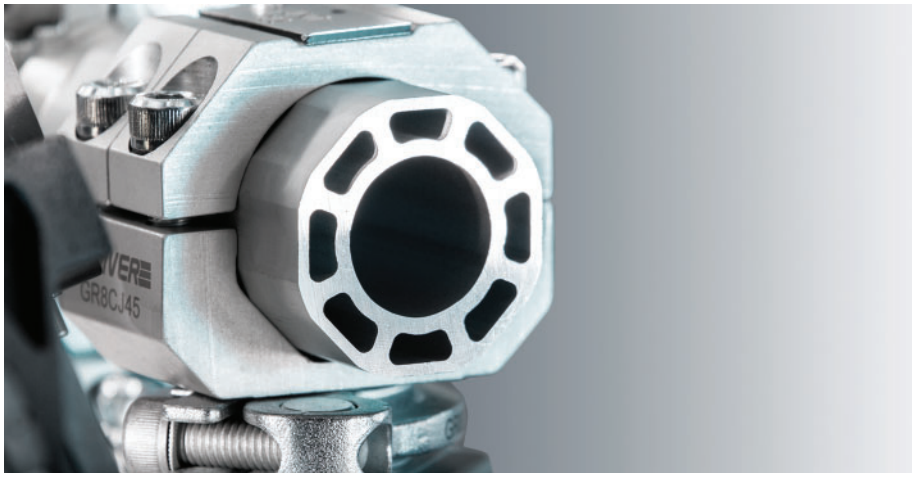
GR8SK70
Riser size 70



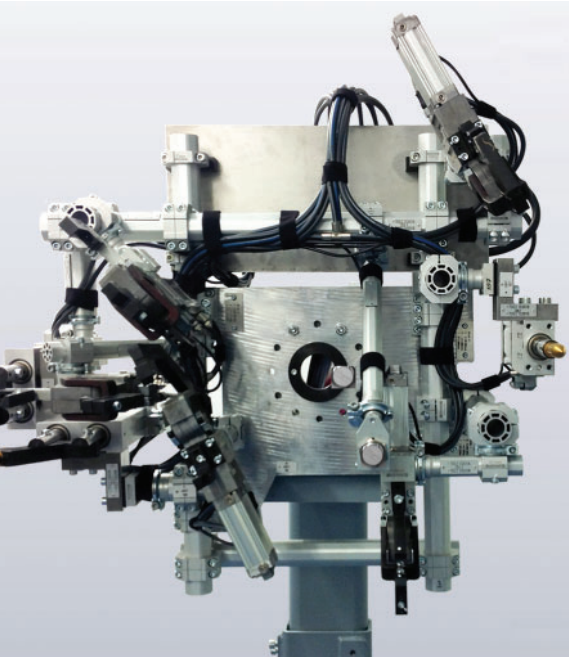
Max static load 200 Nm

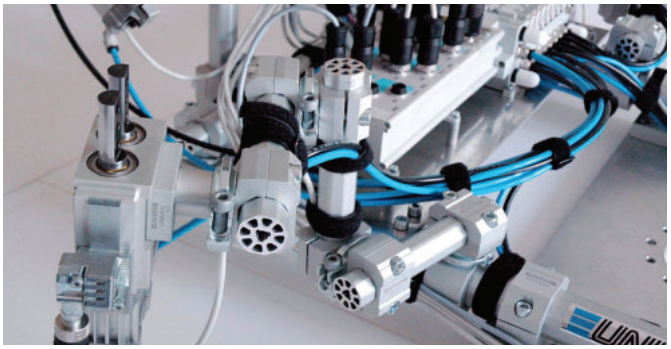
GR8

GR8 application examples



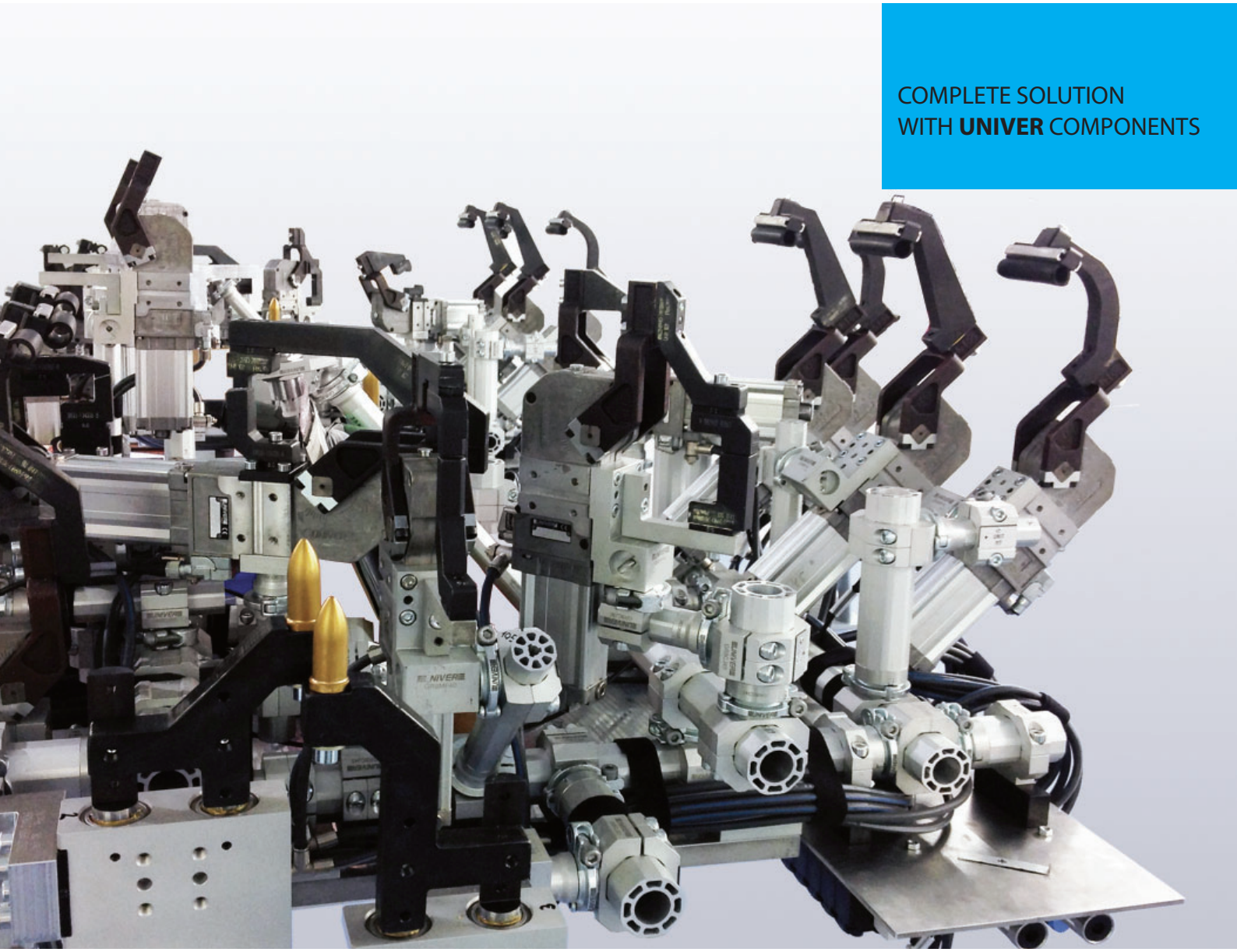


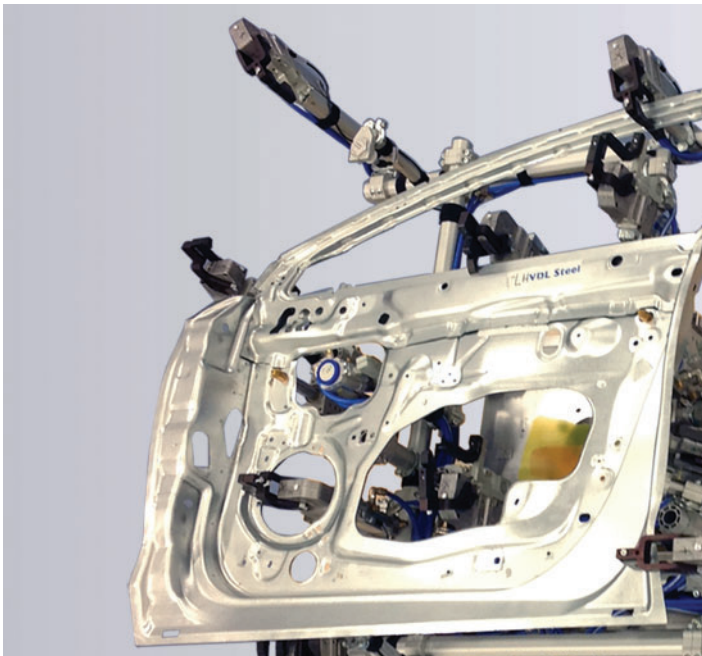




Unlimited and complex configurations
Weight-optimized standard components and brackets
Quick installation and adjustment

COMPLETE SOLUTION
WITH **UNIVER** COMPONENTS





Compliance with International Standards

DIRECTIVE 2014/34 UE "ATEX"	Directive that specifies the safety requirements for equipment/components for use in potentially explosive atmospheres
DIRECTIVE 2011/65/EU "ROHS" **DIRECTIVE 2012/19/EU "WEEE"**	Directive which regulates the use and disposal of hazardous substances in electrical and electronic equipment.
DIRECTIVE "REACH"	CE 1907/2006 of the European Parliament and the Council concerning the Registration, Evaluation, Authorisation and Restriction of chemicals subsance
DIRECTIVE 97/23/CE "PED"	Directive applies to the design, manufacture and conformity assessment of pressure equipment and assemblies with a maximum allowable pressure greater than 0.5 bar.
DIRECTIVE 2006/42/CE "MACHINERY"	Directive defining essential health and safety requirements for the design, construction, installation and maintenance of machinery.
PRODUCT CERTIFICATION "CSA/UL"	Nr. 24 48884 Nr. LR 113373-1 Product Safety certification for the North American market (Unite States – Canada)
ISO 9001:2015 **"QUALITY MANAGEMENT SYSTEM"**	Standard specifying Quality Management System requirements.

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CH-256	3.50	CL-9111P	3.25	CM-440E	3.26	CP-112	3.29	DC-U307	3.92
CH-260	3.50	CL-9113A	3.25	CM-500	3.28	CP-113	3.29	DC-U309	3.92
CH-262	3.50	CL-9113P	3.25	CM-500A	3.28	CP-9100	3.29	DC-U310	3.92
CH-264	3.50	CL-9118R	3.27	CM-520	3.28	CP-9101	3.29	DD-013	3.89
CH-266	3.50	CL-9120	3.27	CM-521	3.28	CP-9105	3.29	DD-040	3.89
CH-270	3.50	CL-9120A	3.27	CM-524	3.28	CP-9110	3.29	DD-040-2C	3.36
CH-272	3.50	CL-9120P	3.27	CM-580	3.28	CP-9111	3.29	DD-041	3.89
CH-274	3.50	CL-9121R	3.27	CM-585	3.28	CP-9112	3.29	DD-042	3.89
CH-276	3.50	CL-9123	3.27	CM-590	3.28	CP-9113	3.29	DD-050	3.89
CH-280	3.50	CL-9123A	3.27	CM-600	3.28	CP-911G	3.26/27	DD-051	3.89
CH-282	3.50	CL-9123D	3.27	CM-602A	3.28	CP-911N	3.26/27	DD-051-2C	3.36
CH-284	3.50	CL-9130	3.27	CM-620	3.28	CP-911R	3.26/27	DD-051L030	3.89
CH-286	3.50	CL-9200	3.28	CM-621	3.28	CP-911V	3.26/27	DD-052	3.89
CL-100A	3.24	CL-9200A	3.28	CM-622	3.28	CP-912G	3.26	DD-052L030	3.89
CL-100P	3.24	CL-9203	3.28	CM-680	3.28	CP-912N	3.26	DD-060	3.89
CL-101A	3.24	CL-9220	3.28	CM-685	3.28	CP-912R	3.26	DD-070	3.89
CL-101P	3.24	CL-9221	3.28	CM-690	3.28	CP-913R	3.26/27	DD-151	3.89
CL-102A	3.24	CL-9224	3.28	CM-9402A	3.24	CP-915R	3.26/27	DD-351	3.89
CL-102P	3.24	CL-9300	3.28	CM-9402P	3.24	CP-916R	3.26/27	DD-551	3.89
CL-103A	3.24	CL-9301	3.28	CM-9403A	3.24	D-500	3.89	DE-052L030	3.88
CL-103P	3.24	CL-9302A	3.28	CM-9403P	3.24	D-530-200	3.89	DE-352	3.88
CL-104A	3.24	CL-9303A	3.28	CM-9410A	3.25	D-530-30	3.89	DE-355	3.88
CL-104P	3.24	CL-9320	3.28	CM-9410P	3.25	D-530-50	3.89	DE-452	3.88
CL-105A	3.24	CL-9321	3.28	CM-9411A	3.25	D-530C-100	3.88	DE-552	3.88
CL-105P	3.24	CL-9322	3.28	CM-9411P	3.25	D-530C-200	3.88	DE-642I	3.88
CL-106A	3.24	CM-400A	3.24	CM-9413A	3.25	D-535-200	3.89	DE-652	3.88
CL-106AL	3.24	CM-400P	3.24	CM-9413P	3.25	D-535-30	3.89	DE-652I	3.88
CL-110A	3.25	CM-401A	3.24	CM-9418R	3.27	D-535-50	3.89	DF-001	5.28
CL-110P	3.25	CM-401P	3.24	CM-9420	3.27	D-535U40300	3.3	DF-003	1.28
CL-111A	3.25	CM-402A	3.24	CM-9420A	3.27	D-535U40500	3.3	DF-004	1.28
CL-111P	3.25	CM-402P	3.24	CM-9420P	3.27	DA-0050	3.89	DF-220	5.28
CL-112A	3.25	CM-403A	3.24	CM-9421R	3.27	DA-0051	3.89	DF-220L10	5.28
CL-112P	3.25	CM-403P	3.24	CM-9423	3.27	DA-0106	3.89	DF-220L5	5.28
CL-113A	3.25	CM-404A	3.24	CM-9423A	3.27	DA-0108	3.89	DF-220M08	5.28
CL-113P	3.25	CM-404P	3.24	CM-9423D	3.27	DA-0124	3.89	DF-220M12	5.28
CL-118R	3.26	CM-405A	3.24	CM-9423E	3.27	DA-U050	3.92	DF-330	5.28
CL-119R	3.26	CM-405P	3.24	CM-9423F	3.27	DA-U051	3.92	DF-330L10	5.28
CL-120	3.26	CM-406A	3.24	CM-9424E	3.27	DA-U101	3.92	DF-330L5	5.28
CL-120A	3.26	CM-406AL	3.24	CM-9424F	3.27	DA-U102	3.92	DF-330M08	5.28
CL-120P	3.26	CM-410A	3.25	CM-9425E	3.27	DA-U103	3.92	DF-330M12	5.28
CL-121R	3.26	CM-410P	3.25	CM-9425F	3.27	DA-U104	3.92	DF-440	5.28
CL-122R	3.26	CM-411A	3.25	CM-9430	3.27	DA-U106	3.92	DF-440M08	5.28
CL-123	3.26	CM-411P	3.25	CM-9430E	3.27	DA-U108	3.92	DF-440M12	5.28
CL-123A	3.26	CM-412A	3.25	CM-9435E	3.27	DA-U124	3.92	DF-770	5.28
CL-123D	3.26	CM-412P	3.25	CM-9440E	3.27	DB-0501	3.89	DF-770M08	5.28
CL-126A	3.26	CM-413A	3.25	CM-9500	3.28	DB-0502	3.89	DF-770M12	5.28
CL-130	3.26	CM-413P	3.25	CM-9500A	3.28	DB-0507	3.89	DF-K	6.10
CL-200	3.28	CM-418R	3.26	CM-9520	3.28	DB-0509	3.89	DF-MA	5.33
CL-200A	3.28	CM-419R	3.26	CM-9521	3.28	DB-0510	3.89	DF-MAF12T	5.33
CL-203	3.28	CM-420	3.26	CM-9524	3.28	DB-0607	3.55	DF-MAF12TR	5.33
CL-220	3.28	CM-420A	3.26	CM-9580	3.28	DB-0608	3.55	DF-MS	5.32
CL-221	3.28	CM-420P	3.26	CM-9585	3.28	DB-0610	3.55	DF-P700L06	1.19
CL-224	3.28	CM-421R	3.26	CM-9590	3.28	DB-U501	3.92	DF-R002	5.30
CL-300	3.28	CM-422R	3.26	CM-9600	3.28	DB-U502	3.92	DF-R003	5.30
CL-301	3.28	CM-423	3.26	CM-9602A	3.28	DB-U503	3.92	DF-RW700L03	5.31
CL-302A	3.28	CM-423A	3.26	CM-9620	3.28	DB-U504	3.92	DF-RW700M12	5.31
CL-303A	3.28	CM-423D	3.26	CM-9621	3.28	DB-U507	3.92	DF-S	6.10

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DF-T200M08	5.30	E-0422	3.31	EL22F555	3.84	G-6666	3.35	GL-6855	3.38
DF-T700L03	5.30	E-0440	3.31	EL22F633	3.83	G-6733	3.34	GL-6866	3.38
DF-T700M08	5.30	E-0444	3.31	EL22F655	3.84	G-6744	3.35	GP-6100	3.36/39
DH-200	5.29	E-0470	3.31	EL22F733	3.83	G-6755	3.35	GP-6110	3.36/39
DH-200L05	5.29	E-0477	3.31	EL22F755	3.84	G-6766	3.35	GP-611212	3.36/39
DH-200L10	5.29	E-0522	3.30	EL22F833	3.83	G-6833	3.34	GP-611806	3.36/39
DH-200M08	5.29	E-0622	3.30	EL22F855	3.84	G-6844	3.35	GP-6210	3.39
DH-200M12	5.29	E-0722	3.30	EL22SF300	3.84	G-6855	3.35	GP-6211	3.39
DH-500	5.29	E-0822	3.31	EL22SF515	3.84	G-6866	3.35	GP-6212	3.39
DH-500L10	5.29	E-0922	3.31	EL22SF516	3.84	G-7230	3.41	GP-6220	3.39
DH-500L5	5.29	E-1022	3.31	EL22SF518	3.84	G-7231	3.41	GP-6221	3.39
DH-500M08	5.29	E-15402A	3.32	EL22SF550	3.84	G-7233	3.41	GP-6222	3.39
DH-500M12	5.29	E-15403A	3.32	EL22SF560	3.84	G-7290	3.41	GP-6230	3.39
DH-700	5.29	E-15412A	3.32	EL22SF570	3.84	G-7291	3.41	GP-6231	3.39
DH-700L10	5.29	E-15420	3.32	EL22SF900-02	3.85	G-7299	3.41	GP-6232	3.39
DH-700L5	5.29	E-15420A	3.32	EL22SF900-03	3.85	G-7333	3.41	GP-6240	3.39
DH-700M08	5.29	E-15422G	3.32	EL22SF900-04	3.85	G-7399	3.41	GP-6241	3.39
DH-700M12	5.29	E-15422N	3.32	EL22SF900-05	3.85	G-7433	3.41	GP-6242	3.39
DHF-0020100	5.28	E-15422R	3.32	EL22SF900-06	3.85	G-7499	3.41	GP-6285	3.39
DHF-033M08	5.28	E-4500	3.31	EL22SF900-07	3.85	G-7533	3.41	GP-6310	3.36
DHF-033M12	5.28	E-4505	3.31	EL22SF900-08	3.85	G-7599	3.41	GP-6311	3.36
DHF-053M08	5.28	E-4600	3.31	EL22SF900-09	3.85	G-7885	3.41	GP-6312	3.36
DHF-053M12	5.28	EL18F230	3.80	EL22SF900-10	3.85	G-7900-02	3.41	GP-6320	3.36
DHF-P24M08	5.32	EL18F231	3.80	F-0220	3.33	G-7900-03	3.41	GP-6321	3.36
DHF-P24M0890	5.32	EL18F233	3.80	F-0222	3.33	G-7900-04	3.41	GP-6322	3.36
DHF-P54M08	5.32	EL18F250	3.81	F-0240	3.33	G-7900-05	3.41	GP-6330	3.36
DHF-P54M0890	5.32	EL18F251	3.81	F-0244	3.33	G-7900-06	3.41	GP-6331	3.36
DH-K032050	5.29	EL18F255	3.81	F-0270	3.33	G-7900-07	3.41	GP-6332	3.36
DH-K063125	5.29	EL18F333	3.80	F-0277	3.33	G-7900-08	3.41	GP-6340	3.36
DH-K160200	5.29	EL18F355	3.81	F-0522	3.33	G-7900-09	3.41	GP-6341	3.36
DH-K250	5.29	EL18F433	3.80	F-0544	3.33	G-7900-10	3.41	GP-6342	3.36
DH-K320DF	5.28	EL18F455	3.81	F-0577	3.33	G-7900-11	3.41	GP-6380	3.36/39
DH-M10	5.29	EL18F533	3.80	F-0622	3.33	G-7900-12	3.41	GP-6385	3.36
DH-M10DF	5.28	EL18F555	3.81	F-0644	3.33	GL-6230	3.37	GP-6400-1	3.36/39
DH-M12	5.29	EL18F633	3.80	F-0677	3.33	GL-6231	3.37	GP-6400-2	3.36/39
DH-M12DF	5.28	EL18F655	3.81	F-0722	3.33	GL-6233	3.37	GP-6400-5	3.36/39
DH-M16	5.29	EL18F733	3.80	F-0744	3.33	GL-6240	3.38	GP-6411	3.39
DH-M16DF	5.28	EL18F755	3.81	F-0777	3.33	GL-6241	3.38	GP-6512-01MF	3.36/39
DH-M20	5.29	EL18F833	3.80	F-4500	3.33	GL-6244	3.38	GP-6512-02MF	3.36/39
DH-M20DF	5.28	EL18F855	3.81	F-4505	3.33	GL-6250	3.38	GP-6512-03MF	3.36/39
DH-M25	5.29	EL18SF300	3.81	G-6230	3.34	GL-6251	3.38	GP-6512-05MF	3.36/39
DH-M25DF	5.28	EL18SF515	3.81	G-6231	3.34	GL-6255	3.38	GP-6512-06MF	3.36/39
DH-P016020DFI	1.19	EL18SF516	3.81	G-6233	3.34	GL-6260	3.38	GP-6514-01MF	3.36/39
DH-P020DFI	1.22	EL18SF518	3.81	G-6240	3.35	GL-6261	3.38	GP-6514-02MF	3.36/39
DH-P025032DFI	1.19	EL18SF550	3.81	G-6241	3.35	GL-6266	3.38	GP-6514-03MF	3.36/39
DH-P040DFI	1.21	EL18SF560	3.81	G-6244	3.35	GL-6333	3.37	GP-6514-05MF	3.36/39
DH-P050DFI	1.21	EL18SF570	3.81	G-6250	3.35	GL-6344	3.38	GP-6514-06MF	3.36/39
DH-P063DFI	1.21	EL18SF900-02	3.82	G-6251	3.35	GL-6355	3.38	GP-651418	3.36/39
DH-P080DFI	1.21	EL18SF900-03	3.82	G-6255	3.35	GL-6366	3.38	GR8A30D	7.6
DH-P100DFI	1.21	EL18SF900-04	3.82	G-6260	3.35	GL-6433	3.37	GR8A45D	7.6
DH-P125DFI	1.21	EL18SF900-05	3.82	G-6261	3.35	GL-6444	3.38	GR8B30S6000	7.4
DH-S25	5.29	EL18SF900-06	3.82	G-6266	3.35	GL-6455	3.38	GR8B456000	7.4
DH-S32	5.29	EL18SF900-07	3.82	G-6333	3.34	GL-6466	3.38	GR8B706000	7.4
DH-S40	5.29	EL18SF900-08	3.82	G-6344	3.35	GL-6533	3.37	GR8BB30	7.4
DH-S50	5.29	EL18SF900-09	3.82	G-6355	3.35	GL-6544	3.38	GR8BB30A	7.4
DL-0050	3.89	EL18SF900-10	3.82	G-6366	3.35	GL-6555	3.38	GR8BB45	7.4
DL-0051	3.89	EL22F230	3.83	G-6433	3.34	GL-6566	3.38	GR8BB45A	7.4
DL-0106	3.89	EL22F231	3.83	G-6444	3.35	GL-6633	3.37	GR8BB4530B	7.5
DL-0108	3.89	EL22F233	3.83	G-6455	3.35	GL-6644	3.38	GR8BB70	7.4
DL-0124	3.89	EL22F250	3.84	G-6466	3.35	GL-6655	3.38	GR8BB70A	7.4
E-0220	3.30	EL22F251	3.84	G-6533	3.34	GL-6666	3.38	GR8BC30	7.5
E-0222	3.30	EL22F255	3.84	G-6544	3.35	GL-6733	3.37	GR8BC45	7.5
E-0240	3.30	EL22F333	3.83	G-6555	3.35	GL-6744	3.38	GR8BC70	7.5
E-0244	3.30	EL22F355	3.84	G-6566	3.35	GL-6755	3.38	GR8BL45	7.4
E-0270	3.30	EL22F433	3.83	G-6633	3.34	GL-6766	3.38	GR8BL70	7.5
E-0277	3.30	EL22F455	3.84	G-6644	3.35	GL-6833	3.37	GR8C30	7.4

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GR8C70	7.4	GZR-V10004	3.20	HZ9PBS400318	5.23	HZE05Z600SS	4.9	HZE2D15GM	4.6
GR8CJ30C	7.5	GZR-V10006	3.20	HZ9PBS400618	5.23	HZE05Z601	4.9	HZE2F15G	4.3
GR8CJ30D	7.5	GZR-V10008	3.20	HZ9PBS401018	5.23	HZE05Z602	4.9	HZE2G	4.16
GR8CJ45C	7.5	GZR-V20004	3.39	HZ9PBS500314	5.23	HZE05Z603	4.9	HZE2GD	4.18
GR8CJ45D	7.5	GZR-V20006	3.39	HZ9PBS500614	5.23	HZE05Z610	4.9	HZE2L15G	4.4
GR8CJ70C	7.5	GZR-V20008	3.39	HZ9PBS501014	5.23	HZE05Z611	4.9	HZE2R15GM	4.4
GR8CJ70D	7.5	GZR-V20L004	3.39	HZ9PBS630314	5.23	HZE05Z658	4.9	HZE2R15GMV	4.4
GR8CJD30C	7.5	GZR-V20L006	3.39	HZ9PBS630614	5.23	HZE05Z660	4.9	HZE2R15GQ	4.4
GR8CJD30D	7.5	GZR-V20L008	3.39	HZ9PBS631014	5.23	HZE1B10GM	4.5	HZE2RL15GM	4.4
GR8CJD45C	7.5	GZR-VV1006	3.20	HZE0B08GM	4.5	HZE1B10GMV	4.5	HZE2Z210	4.9
GR8CJD45D	7.5	GZR-VV1008	3.20	HZE0B08GMV	4.5	HZE1B10GQ	4.5	HZE2Z300	4.9
GR8CM4530	7.4	GZR-VV1010	3.20	HZE0B08GQ	4.5	HZE1B15GM	4.5	HZE2Z310	4.9
GR8CM4545	7.4	HA	5.2	HZE0C08GM	4.6	HZE1B15GMV	4.5	HZE2Z500	4.9
GR8CM7045	7.4	HAR	5.5	HZE0D08GM	4.6	HZE1B15GQ	4.5	HZE2Z501	4.9
GR8CM7070	7.4	HB	5.6	HZE0F08G	4.3	HZE1C10GM	4.6	HZE2Z600	4.9
GR8ECI45C	7.4	HC	5.9	HZE0L08G	4.4	HZE1C15GM	4.6	HZE2Z600SS	4.9
GR8ECI45D	7.4	HD	5.13	HZE0N08G	4.7	HZE1D10GM	4.6	HZE2Z601	4.9
GR8HD4530V	7.4	HD28	5.20	HZE0P08G	4.7	HZE1D15GM	4.6	HZE2Z602	4.9
GR8HD4545V	7.4	HEA	5.20	HZE0R08G	4.4	HZE1F10G	4.3	HZE2Z603	4.9
GR8HD7045	7.4	HEC	5.20	HZE0R08GM	4.4	HZE1F15G	4.3	HZE2Z610	4.9
GR8HD7070	7.4	HED	5.20	HZE0R08GMV	4.4	HZE1G	4.16	HZE2Z611	4.9
GR8IK	7.4	HFA	5.20	HZE0R08GQ	4.4	HZE1GD	4.18	HZE2Z652	4.9
GR8LH	7.4	HFC	5.20	HZE0S08G	4.8	HZE1L10G	4.4	HZE2Z654	4.9
GR8LHD	7.4	HGC	5.16	HZE0Y08G	4.8	HZE1L15G	4.4	HZE2Z658	4.9
GR8MF40D	7.6	HGO	5.18	HZE0Z200	4.9	HZE1N10G	4.7	HZE2Z660	4.9
GR8MF50D	7.6	HGU	5.19	HZE0Z210	4.9	HZE1N1006G	4.7	HZE2Z671C	4.17
GR8MF40PD	7.6	HZ9464G	5.23	HZE0Z300	4.9	HZE1N15G	4.7	HZE2Z671L	4.17
GR8MF50PD	7.6	HZ9N0M	5.26	HZE0Z310	4.9	HZE1P10G	4.7	HZE2Z673C	4.17
GR8MFGLC	7.6	HZ9N12110060	5.27	HZE0Z401	4.9	HZE1P15G	4.7	HZE2Z673L	4.17
GR8MFGLD	7.6	HZ9N12110080	5.27	HZE0Z402	4.9	HZE1R10GM	4.4	HZE2Z674L	4.18
GR8MP12	7.6	HZ9N12111060	5.27	HZE0Z600	4.9	HZE1R10GMV	4.4	HZE3B25GS	4.12
GR8MP18	7.6	HZ9N12111080	5.27	HZE0Z600SS	4.9	HZE1R10GQ	4.4	HZE3B25GSQ	4.12
GR8MP19	7.6	HZ9N12A	5.27	HZE0Z601	4.9	HZE1R15GM	4.4	HZE3B25GST	4.12
GR8MP30	7.6	HZ9N12B	5.27	HZE0Z602	4.9	HZE1R15GMV	4.4	HZE3C25GS	4.14
GR8R3025	7.5	HZ9N12C	5.27	HZE0Z603	4.9	HZE1R15GQ	4.4	HZE3D25GS	4.13
GR8R4540	7.5	HZ9N1F	5.24	HZE0Z610	4.9	HZE1RL10GM	4.4	HZE3F25GS	4.10
GR8RJ30C	7.5	HZ9N1F-50	5.25	HZE0Z611	4.9	HZE1RL15GM	4.4	HZE3L25G	4.11
GR8RJ30D	7.5	HZ9N1M	5.26	HZE0Z660	4.9	HZE1S10G	4.8	HZE3N	4.14
GR8RJ45C	7.5	HZ9N2F	5.24	HZE05B08GM	4.5	HZE1S15G	4.8	HZE3R25G	4.11
GR8RJ45D	7.5	HZ9N2F-51	5.25	HZE05B08GMV	4.5	HZE1Y10G	4.8	HZE3R25GQ	4.11
GR8RJ70C	7.5	HZ9N2F-52	5.25	HZE05B08GQ	4.5	HZE1Y15G	4.8	HZE3R25GT	4.11
GR8RJ70D	7.5	HZ9NC	5.24	HZE05B10GM	4.5	HZE1Z200	4.9	HZE3Z200	4.15
GR8RMF4050AD	7.6	HZ9NC50	5.25	HZE05B10GMV	4.5	HZE1Z210	4.9	HZE3Z210	4.15
GR8RMF40C	7.6	HZ9NM08-0200	5.24	HZE05B10GQ	4.5	HZE1Z300	4.9	HZE3Z310F	4.15
GR8RMF50C	7.6	HZ9NP	5.24	HZE05C08GM	4.6	HZE1Z310	4.9	HZE3Z310R	4.15
GR8SB4530	7.7	HZ9NP40	5.24	HZE05C10GM	4.6	HZE1Z401	4.9	HZE3Z470	4.15
GR8SB4530M8	7.7	HZ9NP4004	5.26	HZE05D08G	4.6	HZE1Z402	4.9	HZE3Z600SA	4.15
GR8SCB30	7.6	HZ9NP4004M8	5.26	HZE05D10G	4.6	HZE1Z600	4.9	HZE3Z600SS	4.15
GR8SCB45	7.4	HZ9NP50	5.25	HZE05F08G	4.3	HZE1Z600SS	4.9	HZE3Z601	4.15
GR8SCI30C	7.4	HZ9P400318	5.23	HZE05F10G	4.3	HZE1Z601	4.9	HZE3Z602	4.15
GR8SCI30D	7.4	HZ9P400618	5.23	HZE05L08G	4.4	HZE1Z602	4.9	HZE3Z603	4.15
GR8SK30	7.7	HZ9P401018	5.23	HZE05L10G	4.4	HZE1Z603	4.9	HZE3Z610	4.15
GR8SK45	7.7	HZ9P500314	5.23	HZE05R08G	4.4	HZE1Z610	4.9	HZE3Z658	4.15
GR8SK70	7.6	HZ9P500614	5.23	HZE05R08GM	4.4	HZE1Z611	4.9	HZE3Z664	4.15
GR8SM3030	7.6	HZ9P501014	5.23	HZE05R08GMV	4.4	HZE1Z652	4.9	HZE7Z400	4.9
GR8SM4545	7.7	HZ9P630314	5.23	HZE05R08GQ	4.4	HZE1Z654	4.9	HZE7Z470	4.9
GR8SR40	7.7	HZ9P630614	5.23	HZE05R10G	4.4	HZE1Z658	4.9	HZE7Z480	4.9
GR8SR40D	7.7	HZ9P631014	5.23	HZE05R10GM	4.4	HZE1Z660	4.9	HZE7Z490	4.9
GR8SR50	7.7	HZ9PB400318	5.23	HZE05R10GMV	4.4	HZE1Z671C	4.17	HZRE31	4.21
GR8SR50D	7.7	HZ9PB400618	5.23	HZE05R10GQ	4.4	HZE1Z671L	4.17	HZRE32	4.21
GR8SR50M8	7.7	HZ9PB401018	5.23	HZE05RL08GM	4.4	HZE1Z673C	4.17	HZRE33	4.21
GR8SR50M8D	7.7	HZ9PB500314	5.23	HZE05RL10GM	4.4	HZE1Z673L	4.17	HZRE30300	4.21
GR8SSLC	7.7	HZ9PB500614	5.23	HZE05Z200	4.9	HZE1Z674L	4.18	HZRE30310	4.21
GR8SSLCM8	7.7	HZ9PB501014	5.23	HZE05Z210	4.9	HZE2B15GM	4.5	HZREM12L03D	4.21
GZR-100	3.20	HZ9PB630314	5.23	HZE05Z300	4.9	HZE2B15GMV	4.5	HZREM12L03L	4.21
GZR-101	3.46	HZ9PB630614	5.23	HZE05Z310	4.9	HZE2B15GQ	4.5	HZRH08G	4.20

PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE
HZRP3008GA	4.19	KF-10032ASI	1.21	KF-12040	1.4	KF-16050I	1.21	KF-41040050I	1.21
HZRP3008GB	4.19	KF-10040A	1.4	KF-12040I	1.21	KF-16080I	1.21	KF-41063080	1.4
HZRP3008GC	4.19	KF-10040AI	1.21	KF-12050	1.4	KF-16125I	1.21	KF-41063080I	1.21
HZRS08G-2	4.20	KF-10040AS	1.4	KF-12050I	1.21	KF-17032	1.4	KF-41100125	1.4
HZRS08G-4	4.20	KF-10040ASI	1.21	KF-12063	1.4	KF-17032I	1.21	KF-41100125I	1.21
HZRS08G-6	4.20	KF-10050A	1.4	KF-12063I	1.21	KF-17040	1.4	KF-41160200	1.8
HZRS652	4.20	KF-10050AI	1.21	KF-12080	1.4	KF-17040I	1.21	KL	1.4
HZRS654	4.20	KF-10050AS	1.4	KF-12080I	1.21	KF-17050	1.4	KLF-14032	1.4
HZRS656	4.20	KF-10050ASI	1.21	KF-12100	1.4	KF-17050I	1.21	KLF-14040	1.4
IKP	6.10	KF-10063A	1.4	KF-12100I	1.21	KF-17080	1.4	KLF-14050	1.4
J1	1.34	KF-10063AI	1.21	KF-12125	1.4	KF-17080I	1.21	KLF-14063	1.4
J3	1.35	KF-10063AS	1.4	KF-12125I	1.21	KF-17125	1.4	KLF-14080	1.4
J64RS	1.35	KF-10063ASI	1.21	KF-12160	1.8	KF-17125I	1.21	KLF-14100	1.4
J64RT2	1.36	KF-10080A	1.4	KF-12200	1.8	KF-17160	1.8	KLF-14125	1.4
J65	1.36	KF-10080AI	1.21	KF-12250	1.9	KF-17250	1.9	KM-032000	5.29
JF-13016	1.34	KF-10080AS	1.4	KF-12320	1.9	KF-17320	1.9	KM-032050-1	5.29
JF-13025	1.34	KF-10080ASI	1.21	KF-13032	1.4	KF-18250	1.9	KM-063100-1	5.29
JF-13032	1.34	KF-10100A	1.4	KF-13032I	1.21	KF-18320	1.9	KM-125000-1	5.29
JF-13040	1.34	KF-10100AI	1.21	KF-13040	1.4	KF-19032	1.4	L1-N	2.3
JF-13050	1.34	KF-10100AS	1.4	KF-13040I	1.21	KF-19032CN	1.4	L6	2.4
JF-13063	1.34	KF-10100ASI	1.21	KF-13050	1.4	KF-19032CTA	1.4	LAE	6.9
JF-13080	1.34	KF-10125A	1.4	KF-13050I	1.21	KF-19032CTAI	1.21	LAGE	6.9
JF-13100	1.34	KF-10125AI	1.21	KF-13063	1.4	KF-19032SC	1.4	LCE	6.9
JF-14016	1.34	KF-10125AS	1.4	KF-13063I	1.21	KF-19040	1.4	LGE	6.9
JF-14025	1.34	KF-10125ASI	1.21	KF-13080	1.4	KF-19040050CN	1.4	LGP32MO25	7.7
JF-14032	1.34	KF-10160A	1.8	KF-13080I	1.21	KF-19040CTA	1.4	LGP32MO30	7.7
JF-14040	1.34	KF-10160AS	1.8	KF-13100	1.4	KF-19040CTAI	1.21	LGP32MP	7.7
JF-14050	1.34	KF-10200A	1.8	KF-13100I	1.21	KF-19040SC	1.4	LGP32PT070	7.7
JF-14063	1.34	KF-10200AS	1.8	KF-13125	1.4	KF-19050	1.4	LGP40MO25	7.7
JF-14100	1.34	KF-10250A	1.9	KF-13125I	1.21	KF-19050CTA	1.4	LGP40MO30	7.7
JF-42016	1.34	KF-10320A	1.9	KF-13160	1.8	KF-19050CTAI	1.21	LGP40MO40	7.7
JF-42025	1.34	KF-11032	1.4	KF-13200	1.8	KF-19050SC	1.4	LGP40MO45	7.7
JF-42040	1.34	KF-11032I	1.21	KF-14032AP	1.4	KF-19063	1.4	LGP40MP	7.7
JF-42050	1.34	KF-11032S	1.4	KF-14032TI	1.21	KF-19063080CN	1.4	LGP40PT080	7.7
JF-42063	1.34	KF-11032SI	1.21	KF-14040AP	1.4	KF-19063CTA	1.4	LGP40PT110	7.7
JF-42100	1.34	KF-11040	1.4	KF-14040TI	1.21	KF-19063CTAI	1.21	LKP	6.10
JF-43016	1.34	KF-11040I	1.21	KF-14050AP	1.4	KF-19063SC	1.4	LNE	6.9
JF-43025	1.34	KF-11040S	1.4	KF-14050TI	1.21	KF-19080	1.4	LUP	6.7
JF-43040	1.34	KF-11040SI	1.21	KF-14063AP	1.4	KF-19080CTA	1.4	M	1.2
JF-43050	1.34	KF-11050	1.4	KF-14063TI	1.21	KF-19080CTAI	1.21	MF-12008	1.2
JF-43063	1.34	KF-11050I	1.21	KF-14080AP	1.4	KF-19080SC	1.4	MF-12012	1.2
JF-43100	1.34	KF-11050S	1.4	KF-14080TI	1.21	KF-19100	1.4	MF-12012I	1.19
JF-601016	1.34	KF-11050SI	1.21	KF-14100AP	1.4	KF-19100125CN	1.4	MF-12020	1.2
JF-601025	1.34	KF-11063I	1.21	KF-14100TI	1.21	KF-19100CTA	1.4	MF-12020I	1.19
JF-601032	1.34	KF-11063	1.4	KF-14125AP	1.4	KF-19100CTAI	1.21	MF-13008	1.2
JF-601040	1.34	KF-11063S	1.4	KF-14125TI	1.21	KF-19100SC	1.4	MF-13012	1.2
JF-601050	1.34	KF-11063SI	1.21	KF-14160	1.8	KF-19125CTA	1.4	MF-13012I	1.19
JF-601063	1.34	KF-11080	1.4	KF-14160AP	1.8	KF-19125CTAI	1.21	MF-13020	1.2
JF-601080	1.34	KF-11080I	1.21	KF-14200	1.8	KF-19125SC	1.4	MF-13020I	1.19
JF-601100	1.34	KF-11080S	1.4	KF-14200AP	1.8	KF-19160CTA	1.8	MF-13032I	1.20
JLE	1.37	KF-11080SI	1.21	KF-14250	1.9	KF-19200CTA	1.8	MF-13040I	1.20
JTE	1.38	KF-11100	1.4	KF-14320	1.9	KF-22025	1.4	MF-13050I	1.20
JX1	1.38	KF-11100I	1.21	KF-15032	1.4	KF-22040	1.4	MF-13063I	1.20
JX2	1.38	KF-11100S	1.4	KF-15032PI	1.21	KF-22050	1.4	MF-15008	1.2
K	1.8/9	KF-11100SI	1.21	KF-15040	1.4	KF-22080	1.4	MF-15012	1.2
KD	1.7	KF-11125	1.4	KF-15040PI	1.21	KF-23025	1.4	MF-15012PI	1.19
KDF-14032	1.7	KF-11125I	1.21	KF-15050	1.4	KF-23040	1.4	MF-15020	1.2
KDF-14040	1.7	KF-11125S	1.4	KF-15050PI	1.21	KF-23050	1.4	MF-15020PI	1.19
KDF-14050	1.7	KF-11125SI	1.21	KF-15080	1.4	KF-23080	1.4	MF-16012I	1.19
KDF-14063	1.7	KF-11160	1.8	KF-15080PI	1.21	KF-24020	1.24	MF-16020I	1.19
KDF-14080	1.7	KF-11160S	1.8	KF-15125	1.4	KF-24032	1.4	MF-17008	1.2
KDF-14100	1.7	KF-11200	1.8	KF-15125PI	1.21	KF-24040	1.4	MF-17012	1.2
KDF-14125	1.7	KF-11200S	1.8	KF-15160	1.8	KF-24050	1.4	MF-17012I	1.19
KE	1.6	KF-11250	1.9	KF-15250	1.9	KF-24080	1.4	MF-17020	1.2
KF-10032A	1.4	KF-11320	1.9	KF-15320	1.9	KF-41032	1.4	MF-17020I	1.19
KF-10032AI	1.21	KF-12032	1.4	KF-16032I	1.21	KF-41032I	1.21	MF-18032I	1.20
KF-10032AS	1.4	KF-12032I	1.21	KF-16040I	1.21	KF-41040050	1.4	MF-18040I	1.20

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MF-18050I	1.20	P10B34424	3.65	P10SF400	3.64	P15EB251**	3.77	P15SF100	3.70
MF-18063I	1.20	P10B36624	3.65	P10SF410	3.64	P15EB255**	3.77	P15SF110	3.70
MF-20008	1.2	P10B433	3.64	P10SF500	3.63	P15EB355**	3.77	P15SF200	3.70
MF-20012	1.2	P10B44424	3.65	P10SF505	3.63	P15EB455**	3.77	P15SF210	3.70
MF-20012I	1.19	P10B46624	3.65	P10SF515	3.64	P15EB555**	3.77	P15SF300	3.70
MF-20020	1.2	P10B533	3.64	P10SF550	3.63/64	P15EB655**	3.77	P15SF310	3.70
MF-20020I	1.19	P10B54424	3.65	P10SF560	3.63/64	P15EB755**	3.77	P15SF400	3.70
MF-20032I	1.20	P10B56624	3.65	P10SF570	3.63/64	P15EB855**	3.77	P15SF410	3.70
MF-20040I	1.20	P10B633	3.64	P10SS1204M	3.63/66	P15EF250**	3.75	P15SF499-02	3.76
MF-20050I	1.20	P10B64424	3.65	P10SS1206M	3.63/66	P15EF251**	3.75	P15SF499-03	3.76
MF-20063I	1.20	P10B66624	3.65	P10SS1208M	3.63/66	P15EF255**	3.75	P15SF499-04	3.76
MF-21008	1.2	P10B733	3.64	P10SS1210M	3.63/66	P15EF355**	3.75	P15SF499-05	3.76
MF-21012	1.2	P10B74424	3.65	P10SS1212M	3.63/66	P15EF455**	3.75	P15SF499-06	3.76
MF-21012I	1.19	P10B76624	3.65	P10SS1404M	3.63/66	P15EF555**	3.75	P15SF499-07	3.76
MF-21020	1.2	P10B833	3.64	P10SS1406M	3.63/66	P15EF655**	3.75	P15SF499-08	3.76
MF-21020I	1.19	P10B84424	3.65	P10SS1408M	3.63/66	P15EF755**	3.75	P15SF499-09	3.76
MF-21032I	1.20	P10B86624	3.65	P10SS1410M	3.63/66	P15EF855**	3.75	P15SF499-10	3.76
MF-21040I	1.20	P10F230	3.62	P10SS1412M	3.63/66	P15F230	3.68	P15SF500	3.70
MF-21050I	1.20	P10F231	3.62	P10STR01	3.63	P15F231	3.68	P15SF505	3.70
MF-21063I	1.20	P10F233	3.62	P10STR02	3.63	P15F233	3.68	P15SF515	3.70
MF-22016	1.2	P10F24024	3.63	P10STR05	3.63	P15F24024	3.69	P15SF550	3.70
MF-22020	1.2	P10F24124	3.63	P15B230	3.71	P15F24124	3.69	P15SF560	3.70
MF-23012	1.2	P10F24424	3.63	P15B231	3.71	P15F24424	3.69	P15SF570	3.70
MF-23020	1.2	P10F26024	3.63	P15B233	3.71	P15F26024	3.69	P15SS1204M	3.70
MF-24012	1.2	P10F26124	3.63	P15B24024	3.71	P15F26124	3.69	P15SS1204MFP	3.70
MF-24020	1.2	P10F26624	3.63	P15B24124	3.71	P15F26624	3.69	P15SS1204MP	3.70
MP	1.39	P10F333	3.62	P15B24424	3.71	P15F333	3.68	P15SS1206M	3.70
MPF-300035A	1.39	P10F34424	3.63	P15B26024	3.71	P15F34424	3.69	P15SS1208M	3.70
MPF-300035N	1.39	P10F36624	3.63	P15B26124	3.71	P15F36624	3.69	P15SS1208MF	3.70
MPF-300035T	1.39	P10F433	3.62	P15B26624	3.71	P15F433	3.68	P15SS1404M	3.70
MPF-310035C	1.39	P10F44424	3.63	P15B333	3.71	P15F44424	3.69	P15SS1404MFP	3.70
MPF-310035L	1.39	P10F46624	3.63	P15B34424	3.71	P15F46624	3.69	P15SS1404MP	3.70
NFZ	2.9	P10F533	3.62	P15B36624	3.71	P15F533	3.68	P15SS1406M	3.70
NQZ	2.8	P10F54424	3.63	P15B433	3.71	P15F54424	3.69	P15SS1408M	3.70
NTZ	2.8	P10F56624	3.63	P15B44424	3.71	P15F56624	3.69	P15SS1408MF	3.70
OV	1.24	P10F633	3.62	P15B46624	3.71	P15F633	3.68	P15STR01	3.70
OVF-11018	1.24	P10F64424	3.63	P15B533	3.71	P15F64424	3.69	P15STR02	3.70
OVF-11025	1.24	P10F66624	3.63	P15B54424	3.71	P15F66624	3.69	P15STR05	3.70
OVF-11032	1.24	P10F733	3.62	P15B56624	3.71	P15F733	3.68	PK	1.21
OVF-11040	1.24	P10F74424	3.63	P15B633	3.71	P15F74424	3.69	PM	1.19/20
OVF-11050	1.24	P10F76624	3.63	P15B64424	3.71	P15F76624	3.69	PRM	1.22
OVF-11063	1.24	P10F833	3.62	P15B66624	3.71	P15F833	3.68	PS14100	3.45
OVF-11080	1.24	P10F84424	3.63	P15B733	3.71	P15F84424	3.69	PS14200	3.45
OVF-12018	1.24	P10F86624	3.63	P15B74424	3.71	P15F86624	3.69	PS15000	3.45
OVF-12025	1.24	P10SB100	3.65	P15B76624	3.71	P15SB100	3.72	PS15100	3.45
OVF-12032	1.24	P10SB107	3.65	P15B833	3.71	P15SB110	3.72	PS15200	3.45
OVF-12040	1.24	P10SB110	3.65	P15B84424	3.71	P15SB200	3.72	PS15300	3.45
OVF-12050	1.24	P10SB117	3.65	P15B86624	3.71	P15SB210	3.72	PS15310	3.46
OVF-12063	1.24	P10SB200	3.65	P15D24024	3.69	P15SB300	3.72	PS15320	3.46
OVF-12080	1.24	P10SB207	3.65	P15D24124	3.69	P15SB310	3.72	PS15330	3.46
OVF-13018	1.24	P10SB210	3.65	P15D24424	3.69	P15SB400	3.72	PS15340	3.46
OVF-13025	1.24	P10SB217	3.65	P15D26024	3.69	P15SB410	3.72	PS15350	3.46
OVF-13032	1.24	P10SB304	3.65	P15D26124	3.69	P15SB499-02	3.78	PS15360	3.46
OVF-13040	1.24	P10SB314	3.65	P15D26624	3.69	P15SB499-03	3.78	PS15370	3.46
OVF-13050	1.24	P10SB404	3.65	P15D34424	3.69	P15SB499-04	3.78	PSC26024	3.43
OVF-13063	1.24	P10SB414	3.65	P15D36624	3.69	P15SB499-05	3.78	PSC26124	3.43
OVF-13080	1.24	P10SB500	3.65	P15D44424	3.69	P15SB499-06	3.78	PSC26624	3.43
P10B230	3.64	P10SB505	3.65	P15D46624	3.69	P15SB499-07	3.78	PSC36624	3.43
P10B231	3.64	P10SB550	3.65	P15D54424	3.69	P15SB499-08	3.78	PSC46624	3.43
P10B233	3.64	P10SB560	3.65	P15D56624	3.69	P15SB499-09	3.78	PSC56624	3.43
P10B24024	3.65	P10SB570	3.65	P15D64424	3.69	P15SB499-10	3.78	PSC66624	3.43
P10B24124	3.65	P10SF100	3.63	P15D66624	3.69	P15SB500	3.72	PSC76624	3.43
P10B24424	3.65	P10SF110	3.63	P15D74424	3.69	P15SB502	3.78	PSC86624	3.43
P10B26024	3.65	P10SF200	3.63	P15D76624	3.69	P15SB505	3.72	PSK100145	3.46
P10B26124	3.65	P10SF210	3.63	P15D84424	3.69	P15SB550	3.72	PSK200145	3.46
P10B26624	3.65	P10SF300	3.64	P15D86624	3.69	P15SB560	3.72	PSK200290	3.46
P10B333	3.64	P10SF310	3.64	P15EB250**	3.77	P15SB570	3.72	PSK200725	3.46

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PSK401	3.46	RTF-13063	2.6	TSCFN32S1000	3.73	YDA1007	5.22
PSP26024	3.44	S1	1.30	TZ-F478	3.87	YDA1210	5.22
PSP26124	3.44	S5	1.31	TZ-F4M12	3.87	YDA1412	5.22
PSP26624	3.44	SF-12016	1.30	TZ-F578	3.87	YDA2015	5.22
PSP36624	3.44	SF-12025	1.30	TZ-F5M12	3.87	YDA2525	5.22
PSP46624	3.44	SF-12032	1.30	TZ-F4M12-B	3.87	YDA2725	5.22
PSP56624	3.44	SF-12040	1.30	TZ-M4M12-B	3.87	YDR1415	5.22
PSP66624	3.44	SF-12050	1.30	TZ-M4M12-BT	3.87	YDR2025	5.22
PSP76624	3.44	SF-13016	1.30	TZ-M4M12-D	3.87	YDR2525	5.22
PSP86624	3.44	SF-13025	1.30	TZ-M578	3.87	YDR2540	5.22
PSR220	3.44	SF-13032	1.30	TZ-M578T	3.87	YDR3625	5.22
PSR221	3.44	SF-13040	1.30	TZ-M5M12	3.87	YDR3650	5.22
PSR222	3.44	SF-13050	1.30	TZ-M5M12T	3.87	YF210061D	3.98
PSR223	3.44	SF-24016	1.30	UABM	6.5	YF210062D	3.98
PSR322	3.44	SF-24025	1.30	UABP	6.5	YF210082D	3.98
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PSR522	3.44	SF-26016	1.30	UAGP	6.8	YF210201S	3.98
PSR622	3.44	SF-26025	1.30	UANM	6.5	YF210251S	3.98
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R	1.26	SF-27025	1.30	UBK	6.10	YFDA-0211	3.98
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RO	1.13	SF-28025	1.30	UCBM	6.4	YFDB-0211	3.98
RP	1.11	SF-28032	1.30	UCBP	6.4	YFDB-0223	3.98
RPF-10040A	1.11	TC16I812	3.87	UCBQ	6.4	YFDB-0224	3.98
RPF-10050A	1.11	TC8I412	3.87	UCBT	6.4	YG-6300	3.99
RPF-10063A	1.11	TC8I808	3.87	UCDP	6.4	YMA	2.10
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RPF-12016	1.11	TCR32UD	3.87	UCNP	6.4	YR250	3.94
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RPF-12040	1.11	TCXEC	3.86	UGPS	6.7	YR280	3.95
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RSF-09063	1.16	TSCFN16D0300	3.87	W	1.25		
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RSF-09100	1.16	TSCFN16D1000	3.87	WF-50020	1.25		
RT	2.6	TSCFN24S000	3.20	WF-50032	1.25		
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RTF-12050	2.6	TSCFN24S0500	3.20	WF-50050	1.25		
RTF-12063	2.6	TSCFN24S1000	3.20	WF-50063	1.25		
RTF-13025	2.6	TSCFN32S0300	3.73	WF-50080	1.25		

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