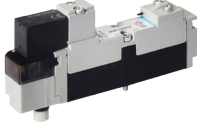


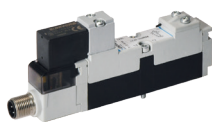
BDE

Integrated electrical connection



BDB

M12 connector (Automotive)



BDA

Single electrical connection



BDA

Pneumatic connection

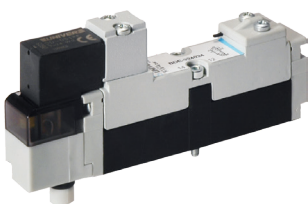


COMMUNICATION SYSTEMS

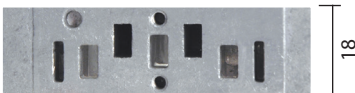


ISO 02

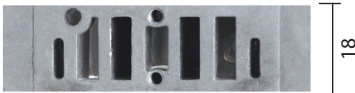
18 mm



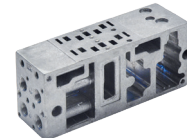
Interface ISO



OVERSIZED interface
(UNIVER original)



620 NI/min

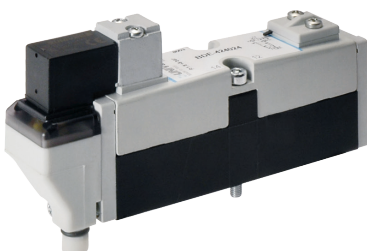


800 NI/min

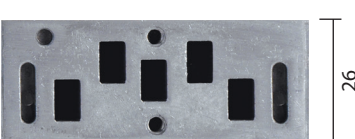


ISO 01

26 mm



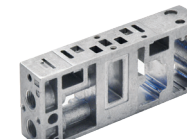
Interface ISO



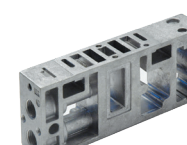
OVERSIZED interface
(UNIVER original)



1250 NI/min



1700 NI/min



SERIES BD -VALVES ISO 15407



ISO 15407-1/2 (VDMA 24563) valves

- BDE = electric spool valves with integrated electrical connection.
TC serial connections available for the BDE series
- BDB = electric spool valves with M12 electrical connection
- BDA = spool valves and electric spool valves with standard electrical connection
- ISO-VDMA modular sub-base
- Sub-base with increased flow capacity



Fluid	50 µm filtered air, with or without lubrication
Ambient temperature	-20 ÷ +50 °C
Fluid temperature	Max +50 °C
Commutation system	spool
Ways/Positions	3/2+3/2, 5/2, 5/3
Pressure	electric control = 9 bar max pneumatic control = 10 bar max
Control	indirect electro - pneumatic, pneumatic
Return	mechanical spring, pneumomechanical spring
Nominal Ø (mm)	ISO 02 18 mm = 6 ISO 01 26 mm = 8
Body valve	acetalic resin with aluminium cover
Seals	NBR
Sub-base	die-cast aluminium
Actuators	technopolymer
Spool	aluminium
Electropilot	series A
Coil	U05
Voltage	24 V DC (± 10%), 12 V DC upon request
Power consumption	2 W
Protection degree	IP65
Manual override	recessed button - 1 position

Nominal flow rate (NI/min) for valves and solenoid valves side 18 mm

manifold sub-base 2 valve places and end plates with side connections in aluminium and fixing plate for fittings standard supplied with sub-base.

	VDMA-ISO			Oversize Univer		
Raccordi	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

Nominal flow rate (NI/min) for valves and solenoid valves side 26 mm

manifold sub-base 1 valve place and end plates with side connections in aluminium and fixing plate for fittings standard supplied with sub-base.

	VDMA-ISO				Oversize Univer			
Raccordi	Ø6	Ø8	Ø10	Ø12	Ø6	Ø8	Ø10	Ø12
5/2	500	950	1200	1200	500	1050	1500	1700
5/3	500	900	1100	1100	500	1050	1300	1400
3/2+3/2	500	950	1150	1150	500	1050	1450	1650

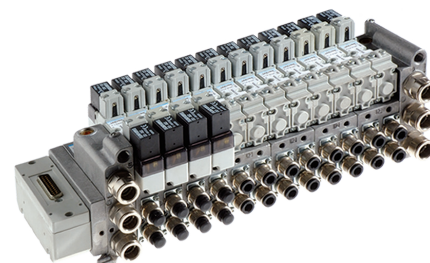


Reference Standard

II 2G Ex h IIC T5 Gb



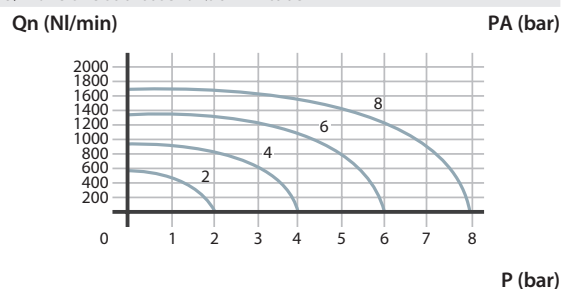
II 2D Ex h IIIC T100°C Db



FLOW RATE CHARACTERISTICS

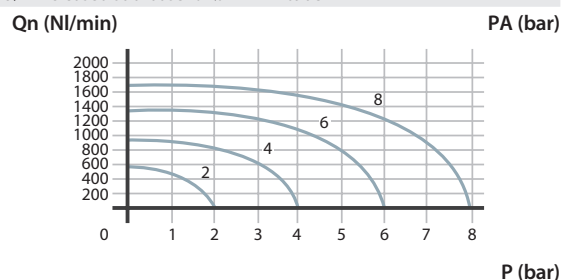
Valves and solenoid valves side 18 mm

5/2 Oversize sub-base for Ø8 mm tube



>> Valves and solenoid valves side 26 mm

5/2 Increased sub-base for Ø12 mm tube

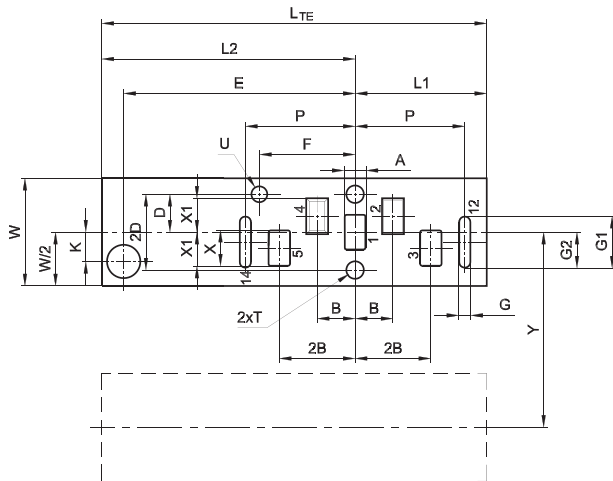


P = Working pressure
PA = Supply pressure
Qn = Nominal flow rate

ISO 15407 SPECIFICATIONS

They establish the dimensions of the bearing surface and the minimum distance between two valve places, guaranteeing the interchangeability and possibility to include any valve providing it complies with above specifications.

Dimensioning of the bearing surface according to ISO 15407-1/2 specification with integrated electric connector

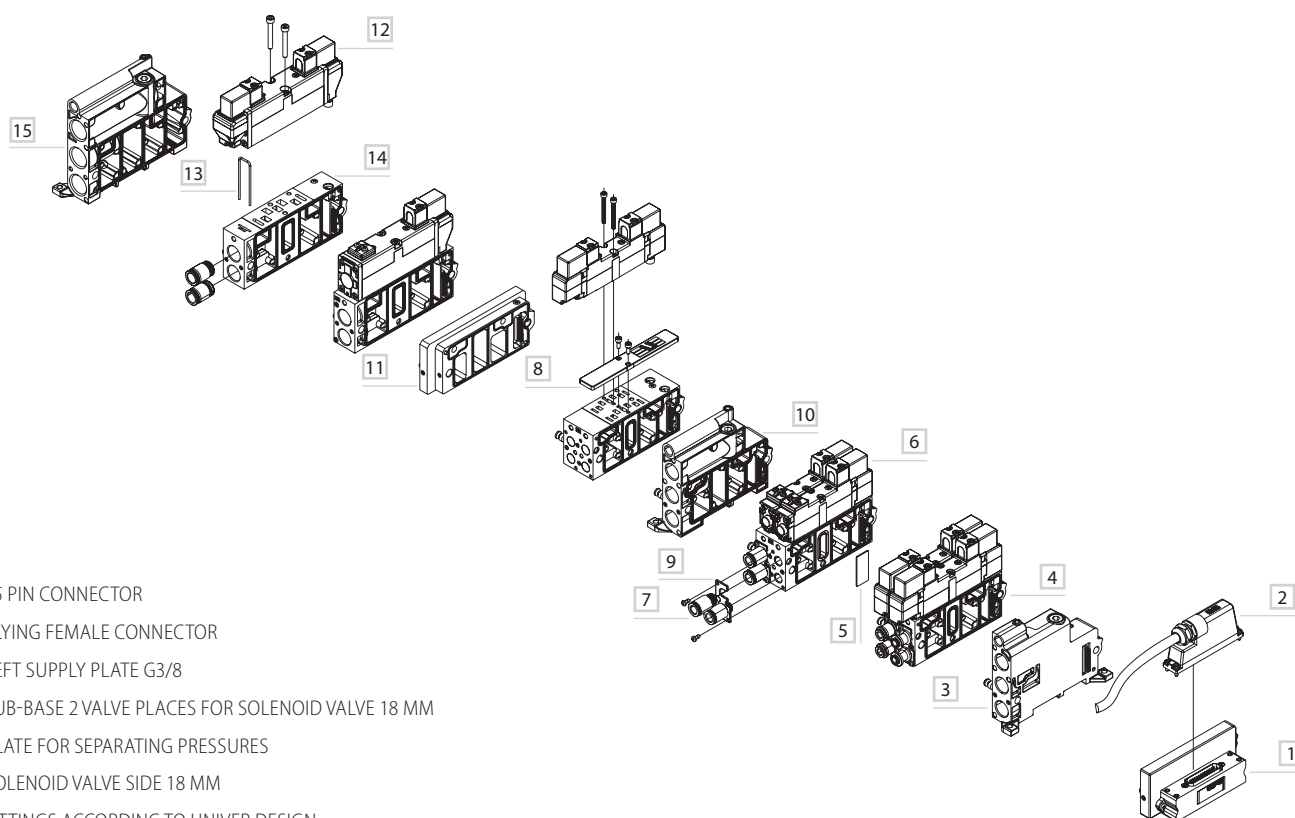


	18 mm	26 mm
A	3,5	5,5
B	7	9,5
D	6,25	9,5
E	50	58
F	17	24
G	2	3
G1	8	13
G2	6	9
K	3,35	7,35
L1	25	33
L2	55,5	63,5
LTE	80,5	96,5
P	20	27,5
T	M3	M4
U	3,2	3,2
V	4	4
W	18	26
X	6,5	9
X1	5,25	8,5
Y	19	27

Y = Min. distance between two interface axes of the same dimension mounting on the same manifolds

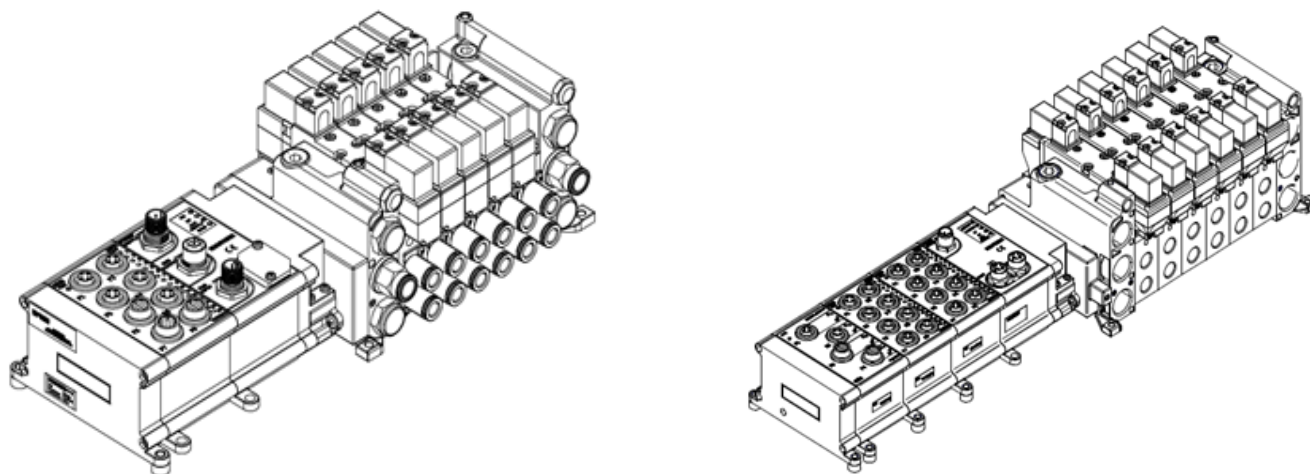
U = Position bore, depth **V**

LINE-UP OF DISTRIBUTORS - SERIES BD



- 1 25 PIN CONNECTOR
- 2 FLYING FEMALE CONNECTOR
- 3 LEFT SUPPLY PLATE G3/8
- 4 SUB-BASE 2 VALVE PLACES FOR SOLENOID VALVE 18 MM
- 5 PLATE FOR SEPARATING PRESSURES
- 6 SOLENOID VALVE SIDE 18 MM
- 7 FITTINGS ACCORDING TO UNIVER DESIGN
- 8 CLOSING PLATE
- 9 FIXING PLATE FOR FITTINGS STANDARD SUPPLIED WITH SUB-BASE
- 10 INTERMEDIATE SUPPLY PLATE G3/8
- 11 INTERFACE FOR CONNECTING VALVES SIDE 18/26 MM
- 12 SOLENOID VALVE SIDE 26 MM
- 13 CLAMPING FORK FOR FITTINGS
- 14 SUB-BASE 1 VALVE PLACE FOR SOLENOID VALVE 26 MM
- 15 RIGHT SUPPLY PLATE G1/2

EXAMPLES OF THE ASSEMBLED BATTERY



FOR MORE INFORMATION ABOUT THE SUPPLY OF THE ASSEMBLED BATTERY, PLEASE CONTACT THE SALES DEPARTMENT.



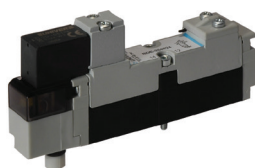
Ordering codes

- C.C. = closed centres
- O.C. = open centres
- P.C. = pressurized centres

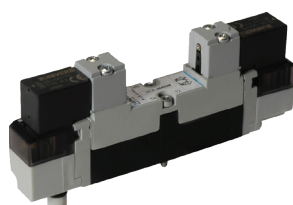
Series	Size	Type	Command 14	Return 12	Coil voltage	Variant
BDE	3	3	4	4	24 4	
BDE Electric solenoid valves with integrated 24 V DC power supply	3 18 mm 4 26 mm	2 5/2 3 5/3 C.C. 4 5/3 O.C. 5 5/3 P.C. 6 3/2 NC+3/2 NC 7 3/2 NC +3/2 NO 8 3/2 NO+3/2 NO	4 Amplified electric	0 Pneumatic-mechanical spring 1 Mechanical spring 4 Amplified electric 7 Unamplified electrical (differential)	24 4 V DC (on request) 12 12 V DC	D External pilot supply

BDE SOLENOID VALVES WITH INTEGRATED ELECTRIC CONNECTION

	Code	Way	ISO mm	Control 12	Return 14	Pressure bar	Resp. Time (ms) En. De-en.	Weight kg	
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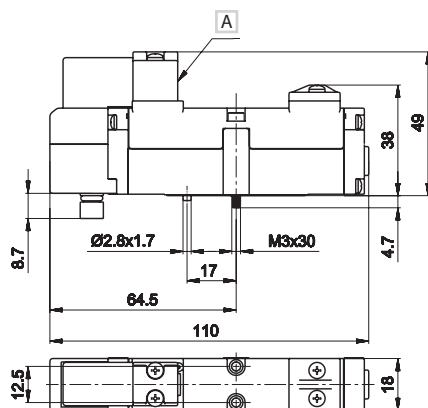
SINGLE ELECTRIC IMPULSE


BDE-324024	5/2	18	electric amplified	pneumatic + spring	1,8÷9	15	25	0,112	
BDE-324124	5/2	18	electric amplified	mechanical spring	2,5÷9	14	37	0,112	

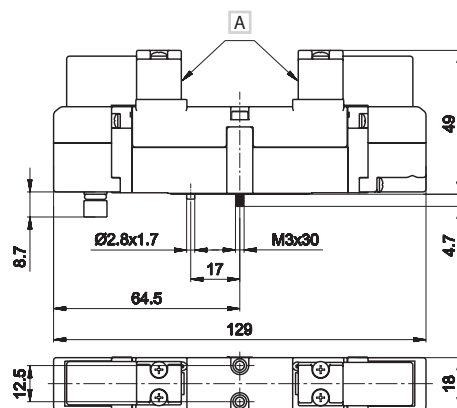
BISTABLE ELECTRIC IMPULSE


BDE-324424	5/2	18	electric amplified	electric amplified	0,8÷9	16	16	0,131	
BDE-334424	5/3 C.C.	18	electric amplified	electric amplified	2,1÷9	14	31	0,131	
BDE-344424	5/3 O.C.	18	electric amplified	electric amplified	2,1÷9	14	31	0,131	
BDE-354424	5/3 P.C.	18	electric amplified	electric amplified	2,1÷9	31	14	0,131	
BDE-364424	3/2 NC + 3/2 NC	18	electric amplified	electric amplified	1,8÷9	17	22	0,131	
BDE-374424	3/2 NC + 3/2 NO	18	electric amplified	electric amplified	1,8÷9	17	22	0,131	
BDE-384424	3/2 NO + 3/2 NO	18	electric amplified	electric amplified	1,8÷9	17	22	0,131	

C.C. = closed centres O.C. = open centres P.C. = pressurized centres

SINGLE ELECTRIC IMPULSE


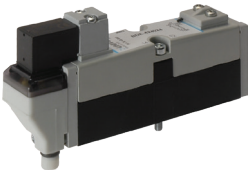
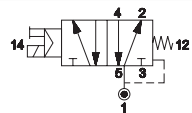
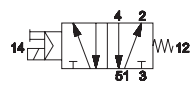
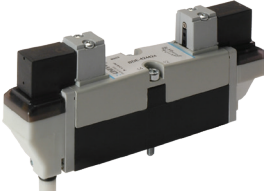
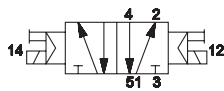
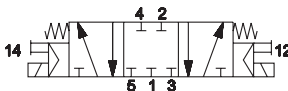
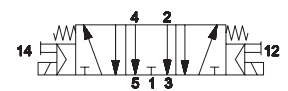
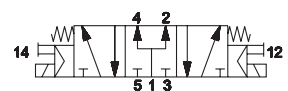
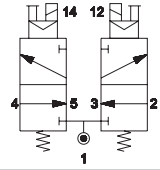
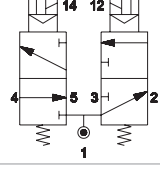
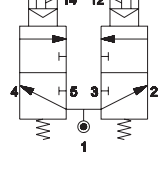
A Manual override

BISTABLE ELECTRIC IMPULSE


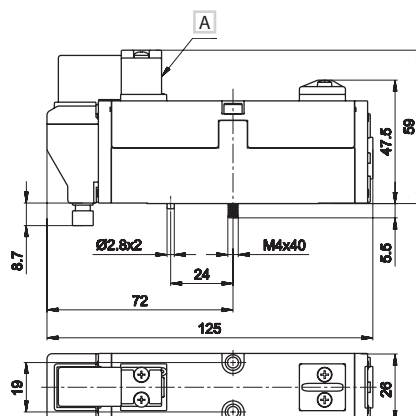
A Manual override

The valves are supplied with a coil, **DD-051BD** 24V DC

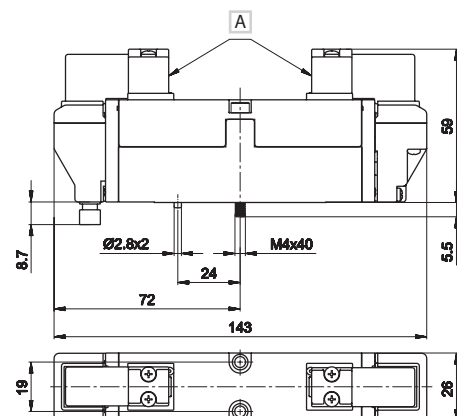
BDE - ELECTRIC DISTRIBUTORS WITH INTEGRATED ELECTRICAL CONNECTION

	Code	Way	ISO mm	Control 12	Return 14	Pressure bar	Resp. Time (ms) En. De-en.	Weight kg	
SINGLE ELECTRIC IMPULSE									
	BDE-424024	5/2	26	electric amplified	pneumatic + spring	1,8÷9	21 40	0,205	
	BDE-424124	5/2	26	electric amplified	mechanical spring	2,5÷9	20 50	0,205	
BISTABLE ELECTRIC IMPULSE									
	BDE-424424	5/2	26	electric amplified	electric amplified	0,8÷9	17 17	0,232	
	BDE-434424	5/3 C.C.	26	electric amplified	electric amplified	2,1÷9	16 54	0,232	
	BDE-444424	5/3 O.C.	26	electric amplified	electric amplified	2,1÷9	16 54	0,232	
	BDE-454424	5/3 P.C.	26	electric amplified	electric amplified	2,1÷9	63 16	0,232	
	BDE-464424	3/2 NC + 3/2 NC	26	electric amplified	electric amplified	1,8÷9	20 27	0,232	
	BDE-474424	3/2 NC + 3/2 NO	26	electric amplified	electric amplified	1,8÷9	20 27	0,232	
	BDE-484424	3/2 NO + 3/2 NO	26	electric amplified	electric amplified	1,8÷9	20 27	0,232	

C.C. = closed centres O.C. = open centres P.C. = pressurized centres

SINGLE ELECTRIC IMPULSE


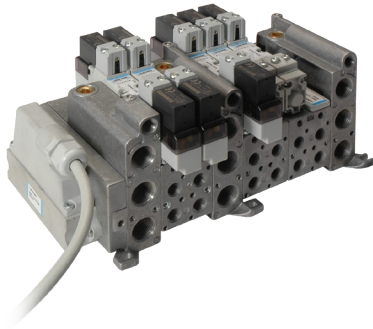
A Manual override

BISTABLE ELECTRIC IMPULSE


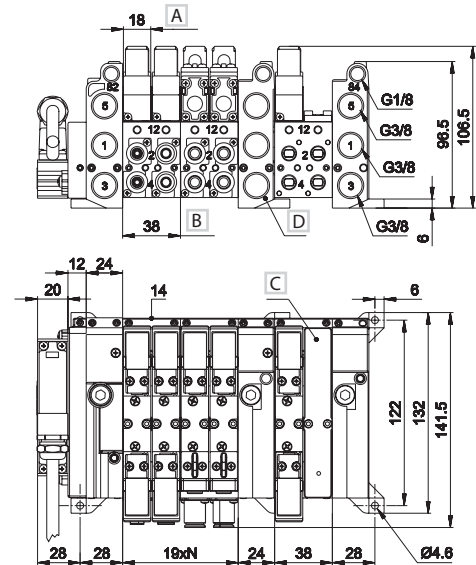
A Manual override

The valves are supplied with a coil, **DD-051BD** 24V DC

INTEGRATED ELECTRIC CONNECTION SIDE 18 MM

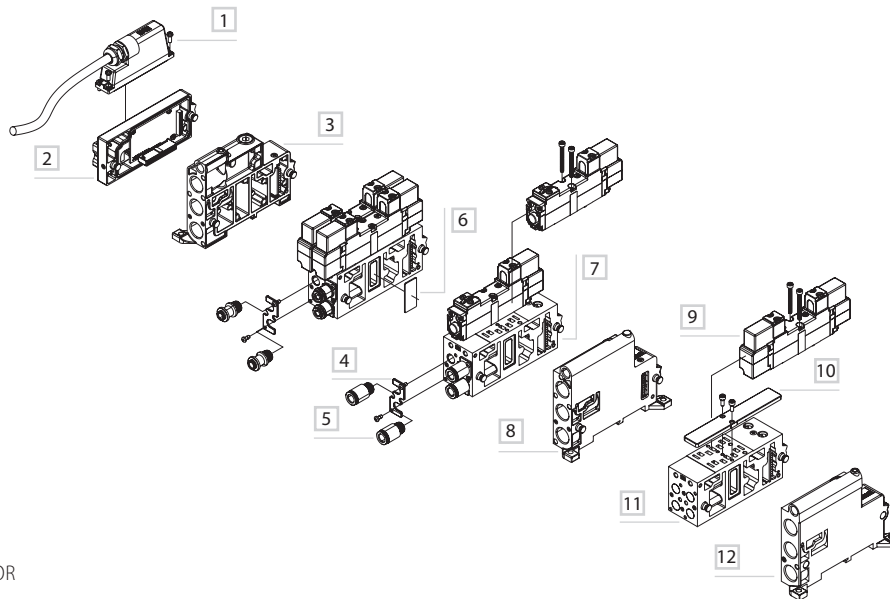


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return
- N = Number of valve places



- A Valve thickness
- B Sub-base 2 places valve
- C Closing plate for unused valve place BDF-3185
- D Intermediate supply plate

VALVE ASSEMBLY - SERIES BD



- 1 FLYING FEMALE CONNECTOR
- 2 MALE CONNECTOR
- 3 LEFT SUPPLY PLATE G3/8
- 4 FIXING PLATE FOR FITTINGS
- 5 STRAIGHT FITTINGS
- 6 PLATE FOR SEPARATING PRESSURES
- 7 INTEGRATED ELECTRIC CONNECTION
- 8 INTERMEDIATE SUPPLY PLATE G3/8
- 9 SOLENOID VALE SIDE 18 MM
- 10 CLOSING PLATE
- 11 SUB-BASE 2 VALVE PLACES
- 12 RIGHT SUPPLY PLATE G3/8

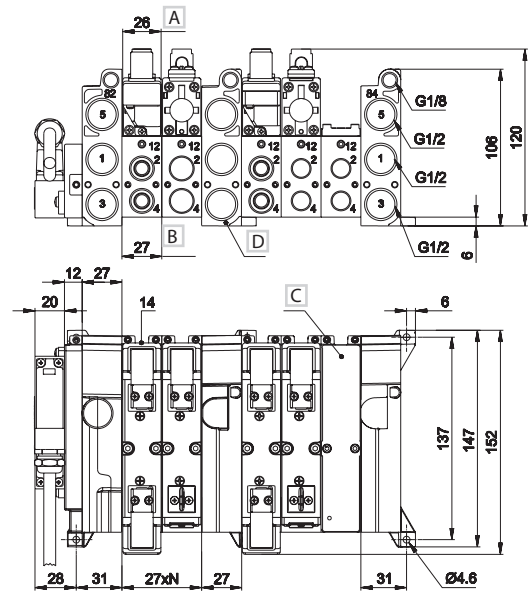
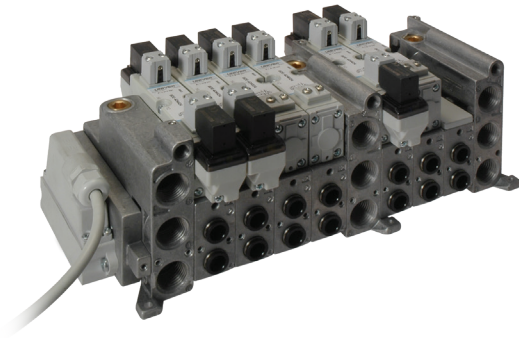
BDE - SOLENOID VALVES WITH INTEGRATED ELECTRICAL CONNECTION 18 MM

	BDF-3100	supply plate G3/8 left with integrated electrical connection weight: 0.292 Kg		BDF-3120	intermediate G3/8 supply plate with integrated electrical connection weight: 0.29 Kg
	BDF-3115	supply plate G3/8 right weight: 0.276 Kg		BDF-3140TIM	25-pin male multipole connection module type D for 18 mm side weight: 0.158 Kg
	BDF-3210	2-position sub-base according to VDMA-ISO standards flow rate 620 NI/min G1/8 ports, integrated electrical connection weight: 0.324 Kg		BDF-3310	2-position sub-base with increased flow rate 800 NI/min G1/8 ports, integrated electrical connection weight: 0.322 Kg
	BDF-3230	2-position sub-base according to VDMA-ISO standards flow rate 620 NI/min fittings for Ø 4-6-8 mm (fittings excluded), integrated electrical connection weight: 0.334 Kg		BDF-3330	2-position sub-base with increased flow rate 800 NI/min for fittings Ø 4-6-8 mm (fittings excluded), integrated electrical connection weight: 0.334 Kg
	BDF-3180	separator plate for supply pressure weight: 0.002 Kg		BDF-3400	single sub-base 1 position with increased flow rate G1/8 ports weight: 0.12 Kg
	BDF-3185	blanking plate for unused valve position weight: 0.038 Kg		GZR-100	closing plug weight: 0.01 Kg
	BDF-3190	connection interface between valve units 18-26 mm side with integrated electrical connection weight: 0.216 Kg		GZR-V10004 GZR-V10006 GZR-V10008	UNIVER-designed fittings pack of 50 pcs. for Ø 4-6-8 mm weight: 0.01 Kg each

U05 COIL WITHOUT GROUND FASTON TERMINAL


Code	Duty cycle ED %	Power consumption W		Tension tolerance %	Rated voltage	Weight Kg
		Hold	Inrush			
DD-051BD	100	2	2	±10	24 V DC	0,019
DD-041BD	100	2	2	±10	12 V DC	0,019

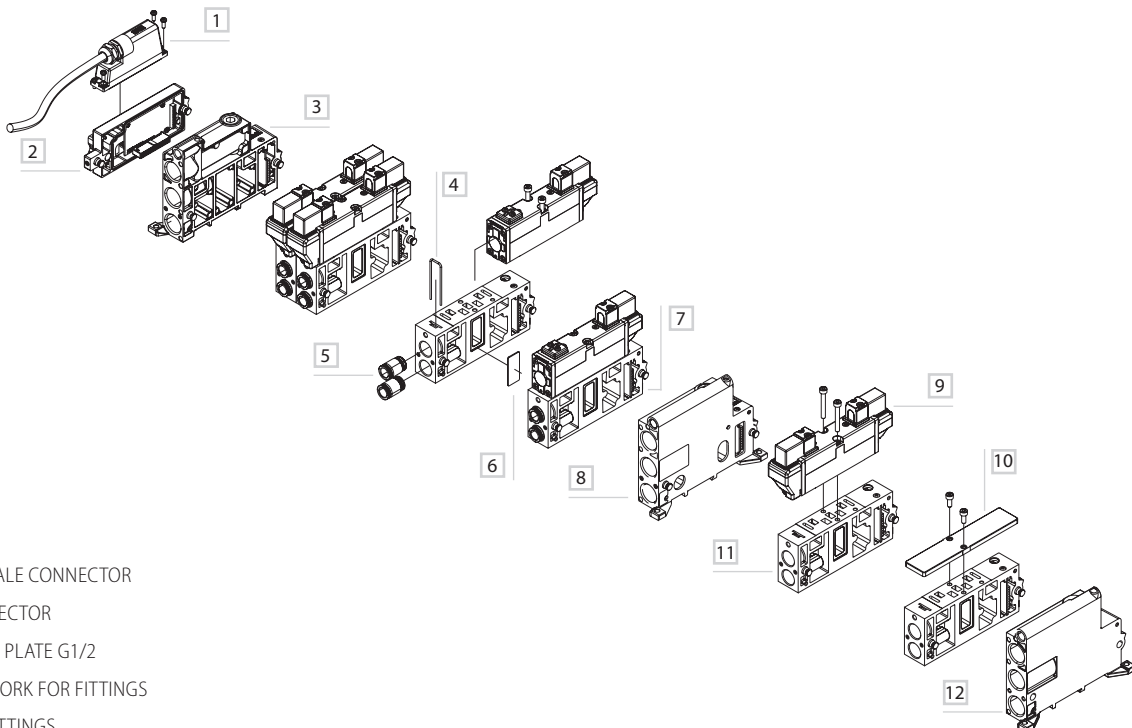
BDE - SOLENOID VALVES WITH INTEGRATED ELECTRICAL CONNECTION 26 MM



- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return
- N = Number of valve places

- A** Valve thickness
- B** Sub-base 2 places valve
- C** Closing plate for unused valve place BDF-3185
- D** Intermediate supply plate

VALVE ASSEMBLY - SERIES BD



- 1 FLYING FEMALE CONNECTOR
- 2 MALE CONNECTOR
- 3 LEFT SUPPLY PLATE G1/2
- 4 CLAMPING FORK FOR FITTINGS
- 5 STRAIGHT FITTINGS
- 6 PLATE FOR SEPARATING PRESSURES
- 7 INTEGRATED ELECTRIC CONNECTION
- 8 INTERMEDIATE SUPPLY PLATE G1/2
- 9 SOLENOID VALE SIDE 26 MM
- 10 CLOSING PLATE
- 11 SUB-BASE 1 VALVE PLACE
- 12 RIGHT SUPPLY PLATE G1/2

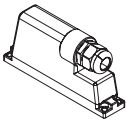
BDE - SOLENOID VALVES WITH INTEGRATED ELECTRICAL CONNECTION 26 MM

	BDF-4100	supply plate G1/2 left with integrated electrical connection weight: 0.396 Kg		BDF-4115	supply plate G1/2 right weight: 0.418 Kg
	BDF-4210	1-position sub-base according to VDMA-ISO standards flow rate 1250 NI/min G1/4 ports weight: 0.254 Kg integrated electrical connection		BDF-4310	1-position sub-base with increased flow rate 1700 NI/min G1/4 ports weight: 0.254 Kg integrated electrical connection
	BDF-4220	1-position sub-base according to VDMA-ISO standards flow rate 1250 NI/min G3/8 ports weight: 0.246 Kg integrated electrical connection		BDF-4320	1-position sub-base with increased flow rate 1700 NI/min G3/8 ports weight: 0.246 Kg integrated electrical connection
	BDF-4230	1-position sub-base according to VDMA-ISO standards flow rate 1250 NI/min for fittings Ø 6-8-10 mm (fittings excluded) weight: 0.23 Kg integrated electrical connection		BDF-4330	1-position sub-base with increased flow rate 1700 NI/min for fittings Ø 6 mm (fittings excluded) weight: 0.23 Kg integrated electrical connection
	BDF-4120	intermediate G1/2 supply plate with integrated electrical connection weight: 0.396 Kg		BDF-4400	single sub-base 1 position with increased flow rate G3/8 ports weight: 0.226 Kg
	BDF-4140TIM	25-pin male multipole connection module type D for 26 mm side weight: 0.158 Kg		GZR-VV1006 GZR-VV1008 GZR-VV1010	UNIVER-designed fittings pack of 50 pcs. for Ø 6-8-10 mm weight: 0.014 Kg each
	BDF-4180	separator plate for supply pressure weight: 0.002 Kg			
	BDF-4185	blanking plate for unused valve position weight: 0.08 Kg			

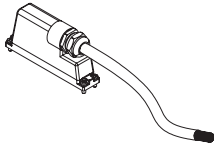
U05 COIL WITHOUT GROUND FASTON TERMINAL


Code	Duty cycle ED %	Power consumption W		Tension tolerance %	Rated voltage	Weight Kg
		Hold	Inrush			
DD-051BD	100	2	2	±10	24 V DC	0,019
DD-041BD	100	2	2	±10	12 V DC	0,019

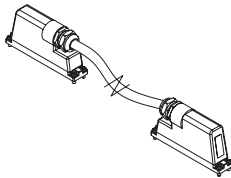
BD CONNECTION MODULES AND FLYING CONNECTORS - ELECTRICAL CONNECTIONS TABLE



TSCFN24S000 female connector 25 poles type D-sub
no cable M3 x 8 fixing screws

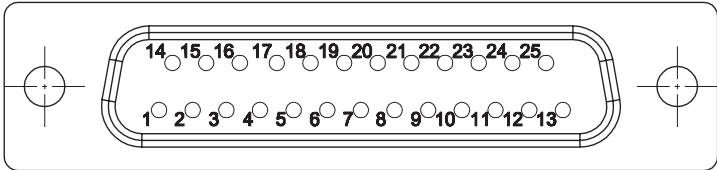


TSCFN24S0300
TSCFN24S0500
TSCFN24S1000 female connector 25 poles
type D-sub cable **3-5-10 m**
M3 x 8 fixing screws

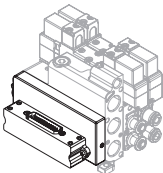


TSCFN16D0300
TSCFN16D0500
TSCFN16D1000 male/female flying connector
sub D (upon request)
prewired for 24 coils with
cable Ø 8 mm (**3-5-10 m** lenght)
suitable for mobile laying
M3 x 8 fixing screws

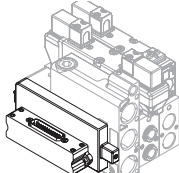
25-PIN D-SUB FEMALE CONNECTOR



Pin N°	Control Side	Valve N°	Colour	Coil
1	14	1		1
2	12	1	brown	2
3	14	2	green	3
4	12	2	yellow	4
5	14	3	grey	5
6	12	3	pink	6
7	14	4	blue	7
8	12	4	red	8
9	14	5	black	9
10	12	5	violet	10
11	14	6	grey-pink	11
12	12	6	red-blue	12
13	14	7	white-green	13
14	12	7	green-brown	14
15	14	8	white-yellow	15
16	12	8	yellow-brown	16
17	14	9	white-grey	17
18	12	9	grey-brown	18
19	14	10	white-pink	19
20	12	10	pink-brown	20
21	14	11	white-blue	21
22	12	11	brown-blue	22
23	14	12	white-red	23
24	-	-	brown-red	
25	12	12	white-black	24



BDF-3140 TIM multiway connection module 25 poles
male type D side 18 mm



BDF-4140 TIM multiway connection module 25 poles
male type D side 26 mm

COMMUNICATION SYSTEMS

Possibility to configure manifolds with serial communication systems





Ordering codes

C.C. = closed centres

O.C. = open centres

P.C. = pressurized centres

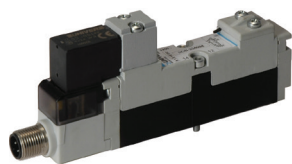
Series	Size	Type	Command 14	Return 12	Coil voltage	Variant
B D B	3	3	4	4	2 4	☐
BDB Electrical distributors with a 24 V DC power connection and an M12 connector	3 18 mm 4 26 mm	2 5/2 3 5/3 C.C. 4 5/3 O.C. 5 5/3 P.C. 6 3/2 NC+3/2 NC 7 3/2 NC +3/2 NO 8 3/2 NO+3/2 NO	4 Amplified electric	0 Pneumatic-mechanical spring 1 Mechanical spring 4 Amplified electric 7 Unamplified electrical (differential)	24 4 V DC (on request) 12 12 V DC	D External pilot supply

Series	Size	Type	Command 14	Return 12	Variant
B D A	4	3	4	4	☐
BDA Distributors and electrical distributors Coils and connectors are not included in the supply and must be ordered separately	4 =26 mm	2 5/2 3 5/3 C.C. 4 5/3 O.C. 5 5/3 P.C. 6 3/2 NC+3/2 NC 7 3/2 NC +3/2 NO 8 3/2 NO+3/2 NO	3 Pneumatic-assisted 4 DC electric-assisted 5 DC/AC electric-assisted	0 Pneumatic-mechanical spring 1 Mechanical spring 2 Non-amplified pneumatic (differential) 3 Amplified pneumatic 4 Amplified DC electric 5 Amplified DC/AC electric 7 Non-amplified DC electric (differential) 8 Non-amplified DC/AC electric (differential)	D External pilot supply

BDB - POWER DISTRIBUTION UNITS WITH M12 CONNECTORS

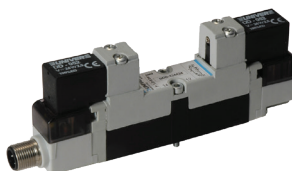
	Code	Way	ISO mm	Control 12	Return 14	Pressure bar	Resp. Time (ms) En. De-en.	Weight kg	
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SINGLE ELECTRIC IMPULSE



BDB-324024	5/2	18	electric amplified	pneumatic + spring	1,8÷9	15	25	0,117	
BDB-324124	5/2	18	electric amplified	mechanical spring	2,5÷9	14	37	0,117	

BISTABLE ELECTRIC IMPULSE

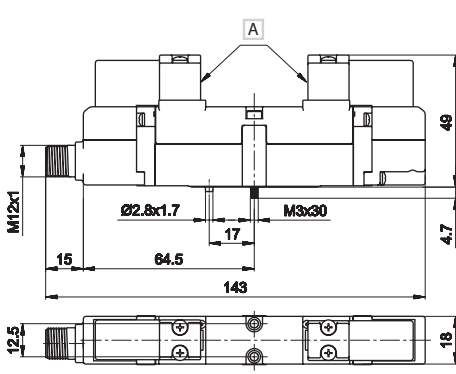
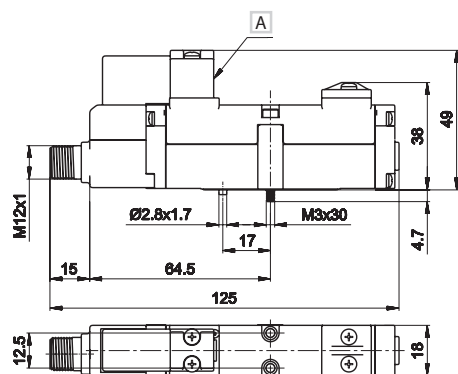


BDB-324424	5/2	18	electric amplified	electric amplified	0,8÷9	16	16	0,136	
BDB-334424	5/3 C.C.	18	electric amplified	electric amplified	2,1÷9	14	31	0,136	
BDB-344424	5/3 O.C.	18	electric amplified	electric amplified	2,1÷9	14	31	0,136	
BDB-354424	5/3 P.C.	18	electric amplified	electric amplified	2,1÷9	31	14	0,136	
BDB-364424	3/2 NC + 3/2 NC	18	electric amplified	electric amplified	1,8÷9	17	22	0,136	
BDB-374424	3/2 NC + 3/2 NO	18	electric amplified	electric amplified	1,8÷9	17	22	0,136	
BDB-384424	3/2 NO + 3/2 NO	18	electric amplified	electric amplified	1,8÷9	17	22	0,136	

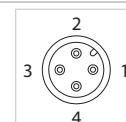
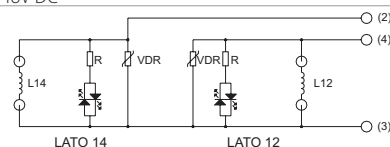
C.C. = closed centres O.C. = open centres P.C. = pressurized centres

SINGLE ELECTRIC IMPULSE

BISTABLE ELECTRIC IMPULSE



Electric connector M12x1
IP 65 protection degree
24V DC voltage
2,5 W nominal power
DD-051BD coil included (without faston)
ED 100%
LED indicator
Available upon request other voltages
max 48V DC



A Manual override

A Manual override

BDB - POWER DISTRIBUTION UNITS WITH M12 CONNECTORS

	Code	Way	ISO mm	Control 12	Return 14	Pressure bar	Resp. Time (ms) En. De-en.	Weight kg	
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SINGLE ELECTRIC IMPULSE



BDB-424024

5/2

26

electric
amplified

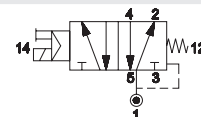
pneumatic
+ spring

1,8÷9

21

40

0,205



BDB-424124

5/2

26

electric
amplified

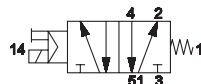
mechanical
spring

2,5÷9

20

50

0,205



BISTABLE ELECTRIC IMPULSE

BDB-424424

5/2

26

electric
amplified

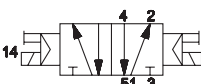
electric
amplified

0,8÷9

17

17

0,236



BDB-434424

5/3
C.C.

26

electric
amplified

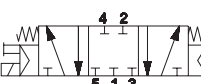
electric
amplified

2,1÷9

16

54

0,236



BDB-444424

5/3
O.C.

26

electric
amplified

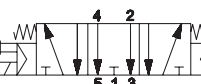
electric
amplified

2,1÷9

16

54

0,236



BDB-454424

5/3
P.C.

26

electric
amplified

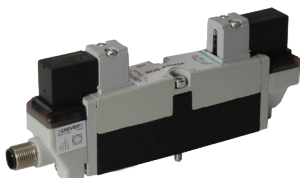
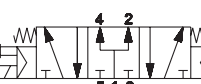
electric
amplified

2,1÷9

63

16

0,236



BDB-464424

3/2 NC
+
3/2 NC

26

electric
amplified

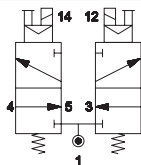
electric
amplified

1,8÷9

20

27

0,236



BDB-474424

3/2 NC
+
3/2 NO

26

electric
amplified

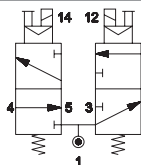
electric
amplified

1,8÷9

20

27

0,236



BDB-484424

3/2 NO
+
3/2 NO

26

electric
amplified

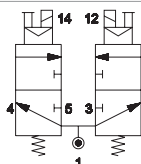
electric
amplified

1,8÷9

20

27

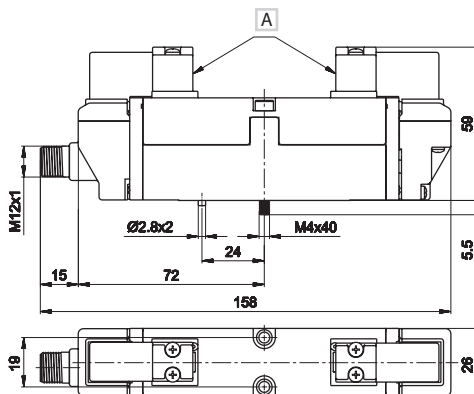
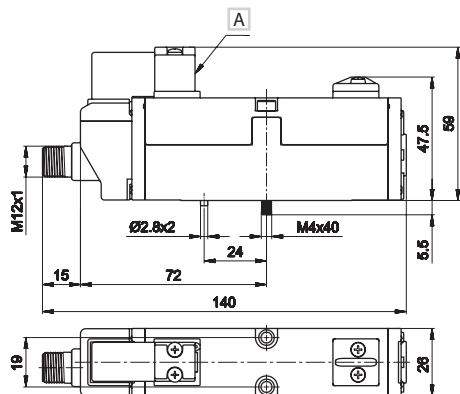
0,236



C.C. = closed centres O.C. = open centres P.C. = pressurized centres

SINGLE ELECTRIC IMPULSE

BISTABLE ELECTRIC IMPULSE



Electric connector M12x1

IP 65 protection degree

24V DC voltage

2,5 W nominal power

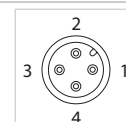
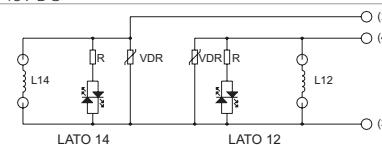
DD-051BD coil included (without faston)

ED 100%

LED indicator

Available upon request other voltages

max 48V DC



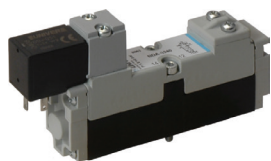
A Manual override

A Manual override

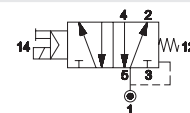
BDA - ELECTRIC DISTRIBUTORS WITH STANDARD ELECTRICAL CONNECTION

	Code	Way	ISO mm	Control 12	Return 14	Pressure bar	Resp. Time (ms) En. De-en.	Weight kg	
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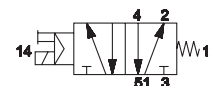
SINGLE ELECTRIC IMPULSE



BDA-3240	5/2	18	electric amplified	pneumatic + spring	1,8÷9	15	25	0,107
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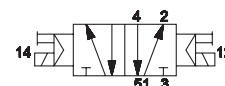


BDA-3241	5/2	18	electric amplified	mechanical spring	2,5÷9	14	37	0,107
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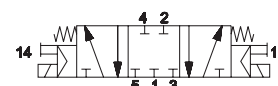


BISTABLE ELECTRIC IMPULSE

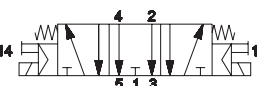
BDA-3244	5/2	18	electric amplified	electric amplified	0,8÷9	16	16	0,123
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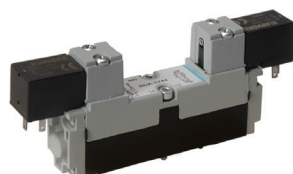
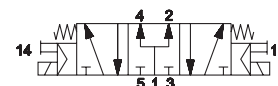
BDA-3344	5/3 C.C.	18	electric amplified	electric amplified	2,1÷9	14	31	0,123
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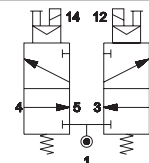
BDA-3444	5/3 O.C.	18	electric amplified	electric amplified	2,1÷9	14	31	0,123
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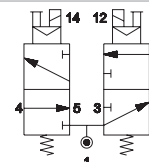
BDA-3544	5/3 P.C.	18	electric amplified	electric amplified	2,1÷9	31	14	0,123
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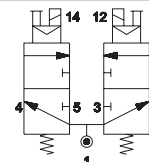
BDA-3644	3/2 NC + 3/2 NC	18	electric amplified	electric amplified	1,8÷9	17	22	0,123
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BDA-3744	3/2 NC + 3/2 NO	18	electric amplified	electric amplified	1,8÷9	17	22	0,123
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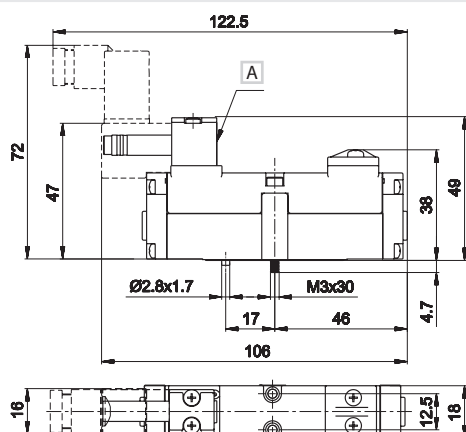


BDA-3844	3/2 NO + 3/2 NO	18	electric amplified	electric amplified	1,8÷9	17	22	0,123
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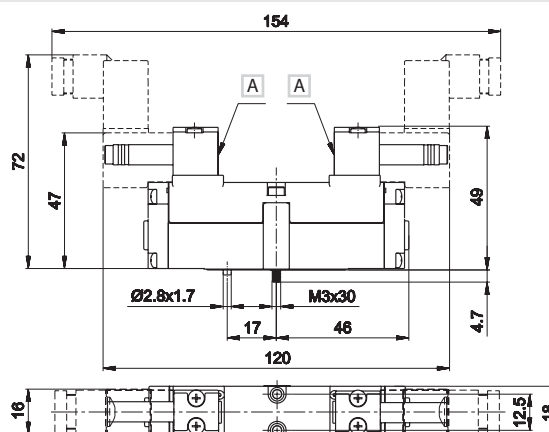
C.C. = closed centres O.C. = open centres P.C. = pressurized centres

SINGLE ELECTRIC IMPULSE



A Manual override

BISTABLE ELECTRIC IMPULSE



A Manual override

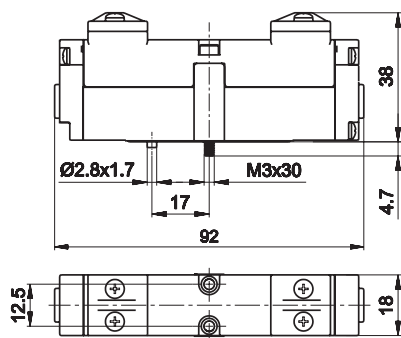
Solenoid valves are supplied without coil and connector

BDA - PNEUMATIC ELECTROVALVES

	Code	Way	ISO mm	Control 12	Return 14	Pressure bar	Resp. Time (ms) En. De-en.	Weight kg	
SINGLE/DOUBLE PNEUMATIC IMPULSE									
	BDA-3230	5/2	18	pneumatic amplified	pneumatic + spring	1,8÷10	13 30	0,092	
	BDA-3231	5/2	18	pneumatic amplified	mechanical spring	2,5÷10	11 35	0,092	
	BDA-3233	5/2	18	pneumatic amplified	pneumatic amplified	0,8÷10	8 8	0,098	
	BDA-3333	5/3 C.C.	18	pneumatic amplified	pneumatic amplified	2,1÷10	9 15	0,098	
	BDA-3433	5/3 O.C.	18	pneumatic amplified	pneumatic amplified	2,1÷10	9 15	0,098	
	BDA-3533	5/3 P.C.	18	pneumatic amplified	pneumatic amplified	2,1÷10	9 15	0,098	
	BDA-3633	3/2 NC + 3/2 NC	18	pneumatic amplified	pneumatic amplified	1,8÷10	5 14	0,098	
	BDA-3733	3/2 NC + 3/2 NO	18	pneumatic amplified	pneumatic amplified	1,8÷10	5 14	0,098	
	BDA-3833	3/2 NO + 3/2 NO	18	pneumatic amplified	pneumatic amplified	1,8÷10	5 14	0,098	

C.C. = closed centres O.C. = open centres P.C. = pressurized centres

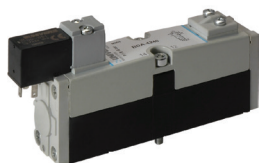
SINGLE/DOUBLE PNEUMATIC IMPULSE



BDA - ELECTRIC DISTRIBUTORS WITH STANDARD ELECTRICAL CONNECTION

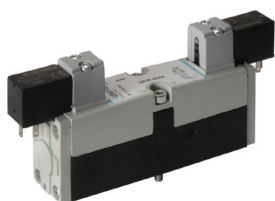
	Code	Way	ISO mm	Control 12	Return 14	Pressure bar	Resp. Time (ms)		Weight kg	
							En.	De-en.		

SINGLE ELECTRIC IMPULSE



BDA-4240	5/2	26	electric amplified	pneumatic + spring	1,8÷9	21	40	0,197	
BDA-4241	5/2	26	electric amplified	mechanical spring	2,5÷9	20	50	0,197	

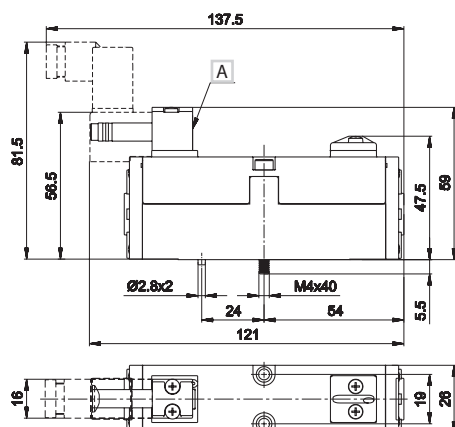
BISTABLE ELECTRIC IMPULSE



BDA-4244	5/2	26	electric amplified	electric amplified	1,2÷9	17	17	0,218	
BDA-4344	5/3 C.C.	26	electric amplified	electric amplified	2,1÷9	16	54	0,218	
BDA-4444	5/3 O.C.	26	electric amplified	electric amplified	2,1÷9	16	54	0,218	
BDA-4544	5/3 P.C.	26	electric amplified	electric amplified	2,1÷9	63	16	0,218	
BDA-4644	3/2 NC + 3/2 NC	26	electric amplified	electric amplified	1,8÷9	20	27	0,218	
BDA-4744	3/2 NC + 3/2 NO	26	electric amplified	electric amplified	1,8÷9	20	27	0,218	
BDA-4844	3/2 NO + 3/2 NO	26	electric amplified	electric amplified	1,8÷9	20	27	0,218	

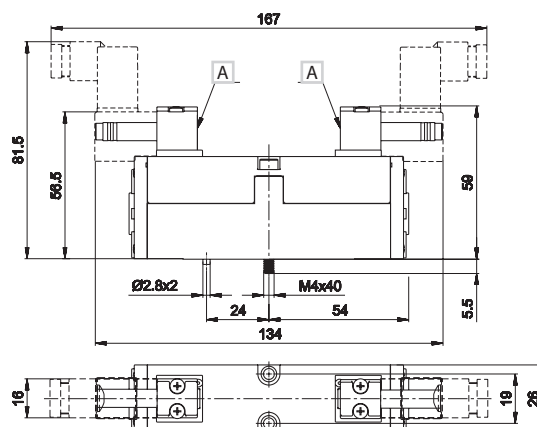
C.C. = closed centres O.C. = open centres P.C. = pressurized centres

SINGLE ELECTRIC IMPULSE



A Manual override

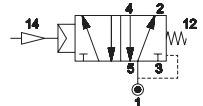
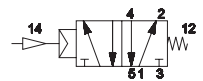
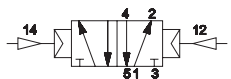
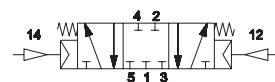
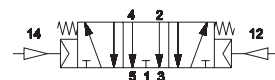
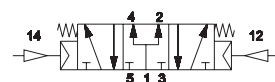
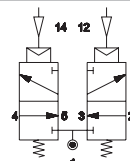
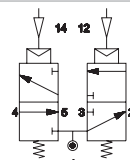
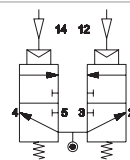
BISTABLE ELECTRIC IMPULSE



A Manual override

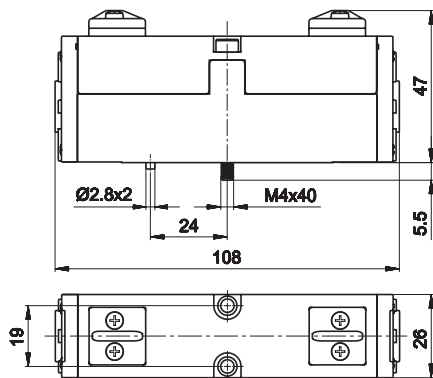
Solenoid valves are supplied without coil and connector

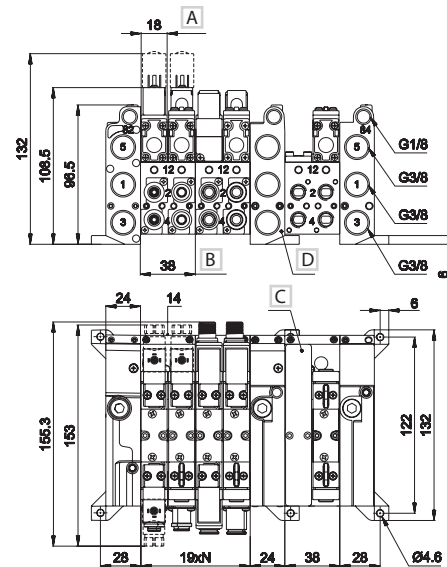
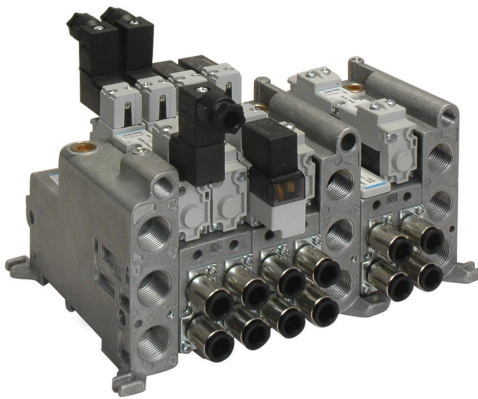
BDA - PNEUMATIC ELECTROVALVES

	Code	Way	ISO mm	Control 12	Return 14	Pressure bar	Resp. Time (ms)		Weight kg	
SINGLE/DOUBLE PNEUMATIC IMPULSE										
	BDA-4230	5/2	26	pneumatic amplified	pneumatic + spring	1,8÷10	15	33	0,185	
	BDA-4231	5/2	26	pneumatic amplified	mechanical spring	2,5÷10	13	38	0,185	
	BDA-4233	5/2	26	pneumatic amplified	pneumatic amplified	1,2÷10	10	10	0,204	
	BDA-4333	5/3 C.C.	26	pneumatic amplified	pneumatic amplified	1,2÷10	14	18	0,204	
	BDA-4433	5/3 O.C.	26	pneumatic amplified	pneumatic amplified	1,2÷10	14	18	0,204	
	BDA-4533	5/3 P.C.	26	pneumatic amplified	pneumatic amplified	1,2÷10	14	18	0,204	
	BDA-4633	3/2 NC + 3/2 NC	26	pneumatic amplified	pneumatic amplified	1,8÷10	8	14	0,204	
	BDA-4733	3/2 NC + 3/2 NO	26	pneumatic amplified	pneumatic amplified	1,8÷10	8	14	0,204	
BDA-4833	3/2 NO + 3/2 NO	26	pneumatic amplified	pneumatic amplified	1,8÷10	8	14	0,204		

C.C. = closed centres O.C. = open centres P.C. = pressurized centres

SINGLE/DOUBLE PNEUMATIC IMPULSE

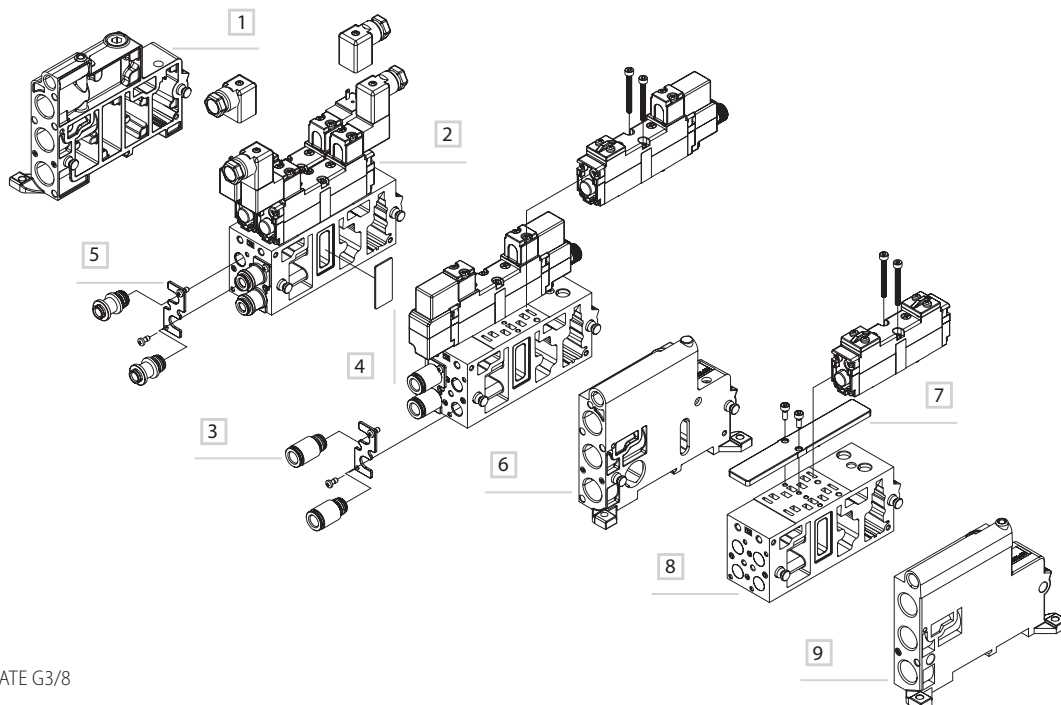




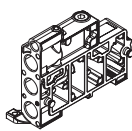
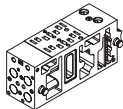
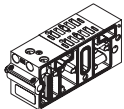
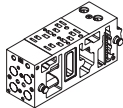
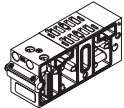
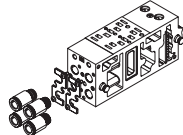
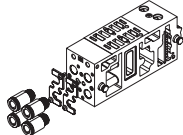
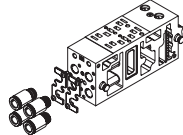
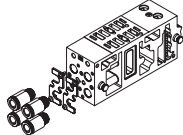
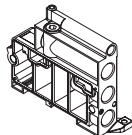
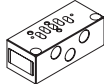
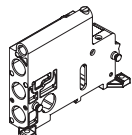
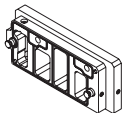
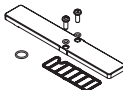
1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
14 = Control
12 = Return
N = Number of valve places

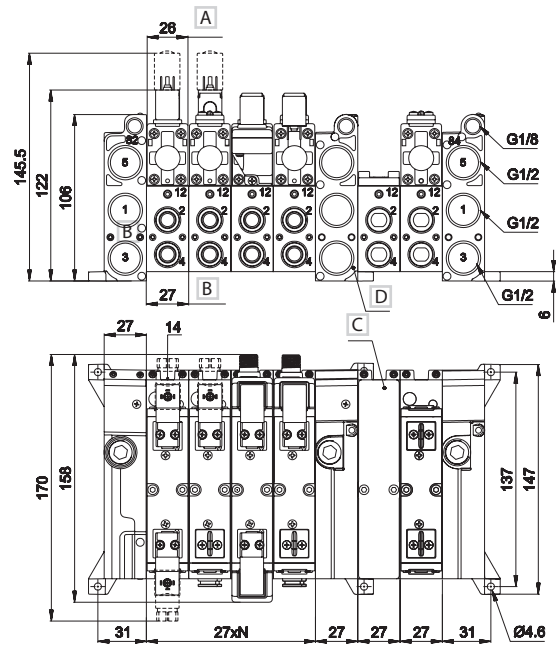
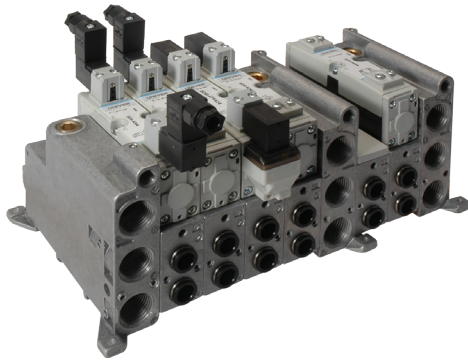
A Valve thickness
B Sub-base 2 places valve
C Closing plate for unused valve place BDF-3185
D Intermediate supply plate

VALVE ASSEMBLY - SERIES BD



- 1 LEFT SUPPLY PLATE G3/8
- 2 SOLENOID VALVE
- 3 STRAIGHT FITTINGS
- 4 PLATE FOR SEPARATING PRESSURES
- 5 FIXING PLATE FOR FITTINGS
- 6 INTERMEDIATE SUPPLY PLATE G3/8
- 7 CLOSING PLATE
- 8 SUB-BASE 2 VALVE PLACES
- 9 RIGHT SUPPLY PLATE G3/8

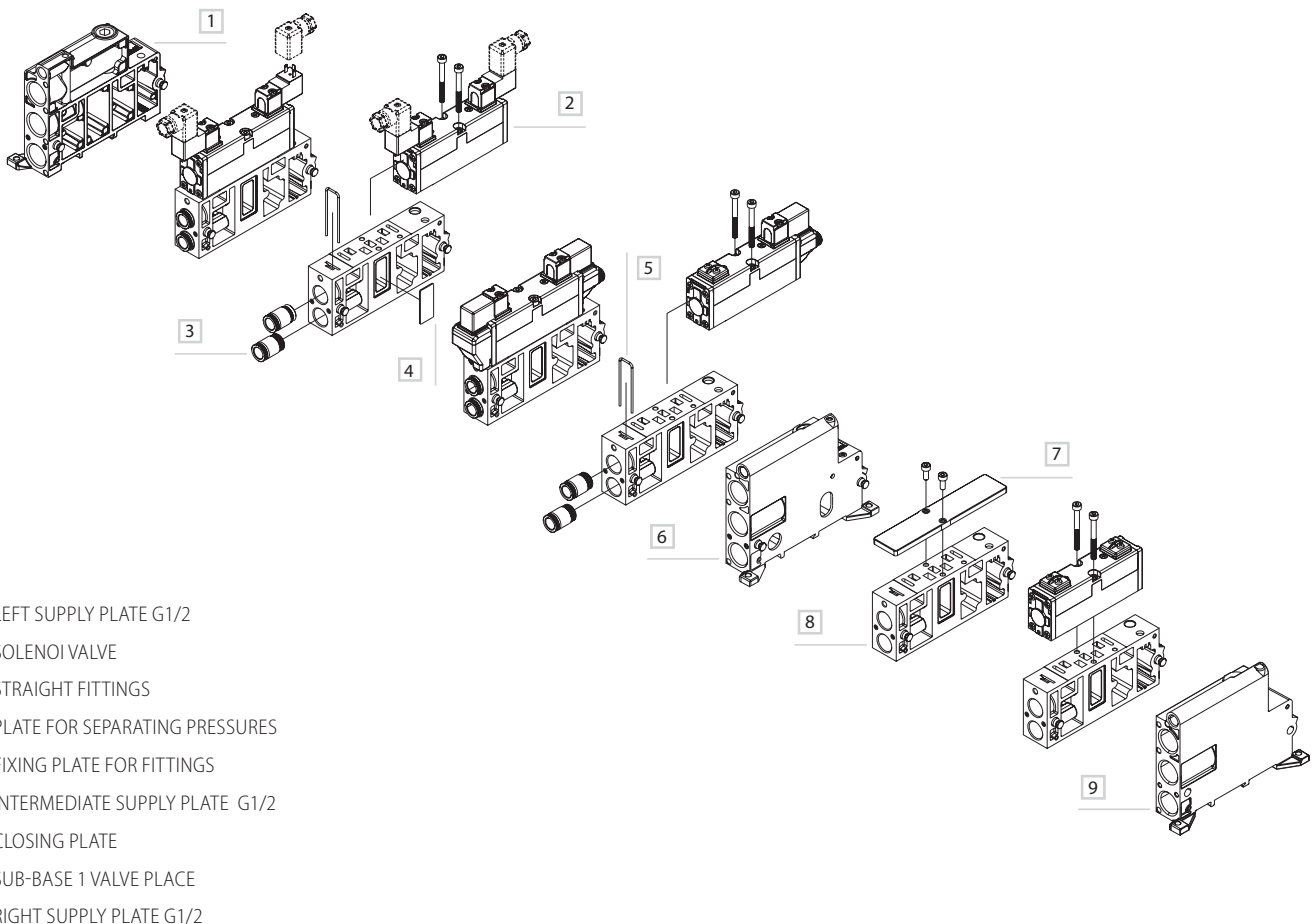
	BDF-3110	supply plate G3/8 left weight: 0.288 Kg		GZR-100	closing plug weight: 0.01 Kg
	BDF-3211	2-position sub-base according to VDMA-ISO standards flow rate 620 NI/min G1/8 ports weight: 0.316 Kg no integrated electrical connection		BDF-3311	2-position sub-base with increased flow rate 800 NI/min G1/8 ports weight: 0.316 Kg no integrated electrical connection
	BDF-3212	2-position sub-base according to VDMA-ISO standards flow rate 620 NI/min G1/8 ports weight: 0.316 Kg pneumatic		BDF-3312	2-position sub-base with increased flow rate 800 NI/min G1/8 ports weight: 0.316 Kg pneumatic
	BDF-3231	2-position sub-base according to VDMA-ISO standards flow rate 620 NI/min for fittings Ø 4-6-8 mm (fittings excluded) weight: 0.326 Kg no integrated electrical connection		BDF-3331	2-position sub-base with increased flow rate 800 NI/min for fittings Ø 4-6-8 mm (fittings excluded) weight: 0.326 Kg no integrated electrical connection
	BDF-3232	2-position sub-base according to VDMA-ISO standards flow rate 620 NI/min for fittings Ø 4-6-8 mm (fittings excluded) weight: 0.326 Kg pneumatic		BDF-3332	2-position sub-base with increased flow rate 800 NI/min for fittings Ø 4-6-8 mm (fittings excluded) weight: 0.326 Kg pneumatic
	BDF-3115	supply plate G3/8 right weight: 0.276 Kg		BDF-3400	single sub-base 1 position with increased flow rate G1/8 ports weight: 0.12 Kg
	BDF-3125	intermediate G3/8 supply plate without integrated electrical connection weight: 0.31 Kg		BDF-3191	connection interface between valve units 18-26 mm side without integrated electrical connection weight: 0.212 Kg
	BDF-3180	separator plate for supply pressure weight: 0.002 Kg		GZR-V10004 GZR-V10006 GZR-V10008	UNIVER-designed fittings pack of 50 pcs. for Ø 4-6-8 mm weight: 0.01 Kg each
	BDF-3185	blanking plate for unused valve position weight: 0.038 Kg			

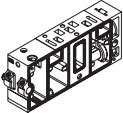
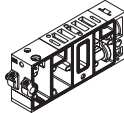
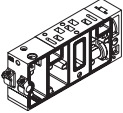
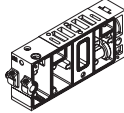
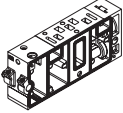
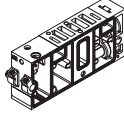
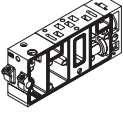
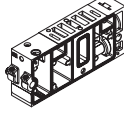
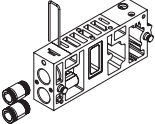
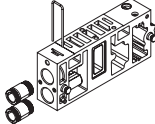
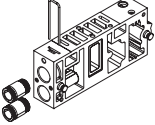
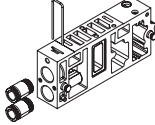
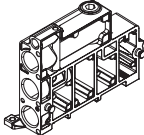
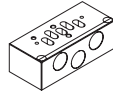
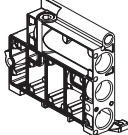
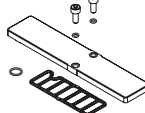
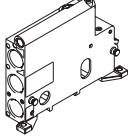
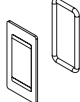


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return
- N = Number of valve places

- A Valve thickness
- B Sub-base 2 places valve
- C Closing plate for unused valve place BDF-3185
- D Intermediate supply plate

VALVE ASSEMBLY - SERIES BD



	BDF-4211	1-position sub-base according to VDMA-ISO standards flow rate 1250 NI/min G1/4 ports weight: 0.244 Kg no integrated electrical connection		BDF-4311	1-position sub-base with increased flow rate 1700 NI/min G1/4 ports weight: 0.244 Kg no integrated electrical connection
	BDF-4212	1-position sub-base according to VDMA-ISO standards flow rate 1250 NI/min G1/4 ports weight: 0.244 Kg pneumatic		BDF-4312	1-position sub-base with increased flow rate 1700 NI/min G1/4 ports weight: 0.244 Kg pneumatic
	BDF-4221	1-position sub-base according to VDMA-ISO standards flow rate 1250 NI/min G3/8 ports weight: 0.236 Kg no integrated electrical connection		BDF-4321	1-position sub-base with increased flow rate 1700 NI/min G3/8 ports weight: 0.236 Kg no integrated electrical connection
	BDF-4222	1-position sub-base according to VDMA-ISO standards flow rate 1250 NI/min G3/8 ports weight: 0.236 Kg pneumatic		BDF-4322	1-position sub-base with increased flow rate 1700 NI/min G3/8 ports weight: 0.236 Kg pneumatic
	BDF-4231	1-position sub-base according to VDMA-ISO standards flow rate 1250 NI/min for fittings Ø 6-8-10 mm (fittings excluded) weight: 0.22 Kg no integrated electrical connection		BDF-4331	1-position sub-base with increased flow rate 1700 NI/min for fittings Ø 6-8-10 mm (fittings excluded) weight: 0.22 Kg no integrated electrical connection
	BDF-4232	1-position sub-base according to VDMA-ISO standards flow rate 1250 NI/min for fittings Ø 6-8-10 mm (fittings excluded) weight: 0.22 Kg pneumatic		BDF-4332	1-position sub-base with increased flow rate 1700 NI/min for fittings Ø 6-8-10 mm (fittings excluded) weight: 0.22 Kg pneumatic
	BDF-4110	supply plate G1/2 left weight: 0.428 Kg		BDF-4400	single sub-base 1 position with increased flow rate G3/8 ports weight: 0.226 Kg
	BDF-4115	supply plate G1/2 right weight: 0.418 Kg		BDF-4185	blanking plate for unused valve position weight: 0.08 Kg
	BDF-4125	intermediate G1/2 supply plate without integrated electrical connection weight: 0.42 Kg		GZR-V10006 GZR-V10008 GZR-V10010	UNIVER-designed fittings pack of 50 pcs. for Ø 6-8-10 mm weight: 0.014 Kg each
	BDF-4180	separator plate for supply pressure weight: 0.002 Kg			

COIL

CSA/UL

Possibility of replacement without intervention in the pneumatic circuit

Other voltages available upon request

360° rotation on the pilot. Coil winding: H class

Ambient temperature: -10 ÷ +45 °C. Fluid temperature: -10 ÷ +95 °C.

The solenoid valves functioning with 100V-230V must be incorporated (EN60204-1)

Under continuous service a maximum temperature will not compromise the functioning of the coil provided that the working position is ventilated.

Protection class IP65, if used with connector.



COILS BDB

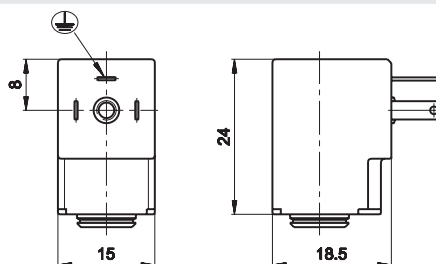
U05 COIL WITHOUT GROUND FASTON TERMINAL



Code	Duty cycle ED %	Power consumption W		Tension tolerance %	Rated voltage	Weight Kg
		Hold	Inrush			
DD-051BD	100	2	2	±10	24 V DC	0,019
DD-041BD	100	2	2	±10	12 V DC	0,019

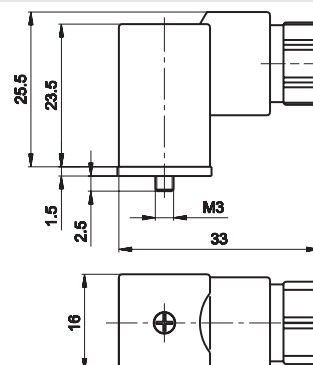
COILS BDA

U05 15 MM COIL - FASTON



Code	Duty cycle ED%	Power consumption W				Tolerance tension %		Rated voltage		Frequency HZ	Weight Kg
		Hold	DC W	Inrush	AC VA						
DD-013	100	-	-	-	3,5	-	±10	-	230	50/60	0,019
DD-040	100	-	-	-	2,3	-	±10	-	24	50/60	0,019
DD-041	100	2	2	-	-	±10	-	12	-	-	0,019
DD-050	100	-	-	-	2,3	±10	-	-	48	50/60	0,019
DD-051	100	2	2	-	-	±10	-	24	-	-	0,019
DD-060	100	-	-	-	-	-	±10	-	110	50/60	0,019
DD-070	100	-	-	-	2,3	-	-	-	230	50/60	0,019

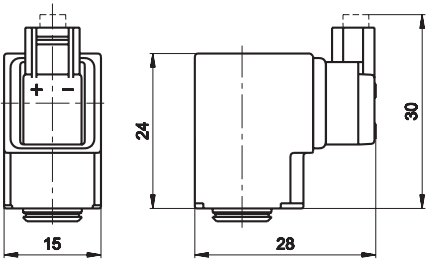
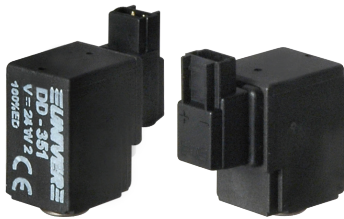
CONNECTORS 15 MM



Code	Coils series	Protection according	Cable connection	Orientation
AM-5109	U05	IP65	PG9	180°

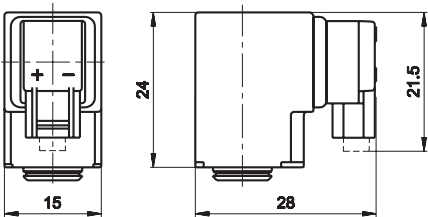
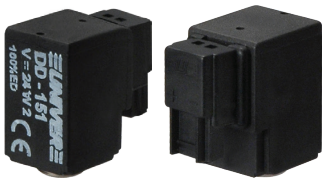
Available on request with indicator light

U05 COIL WITH INTEGRATED 90° UPWARD CONNECTOR



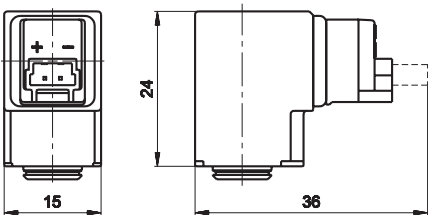
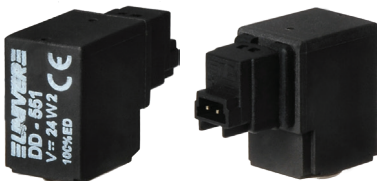
Code	Duty cycle ED %	Power consumption W		Tension tolerance %	Rated voltage	Weight Kg
		Hold	Inrush			
DD-351	100	2	2	±10	24 V DC	0,019

U05 COIL WITH INTEGRATED 90° DOWNWARD CONNECTOR



Code	Duty cycle ED %	Power consumption W		Tension tolerance %	Rated voltage	Weight Kg
		Hold	Inrush			
DD-151	100	2	2	±10	24 V DC	0,019

U05 COIL WITH IN-LINE CONNECTOR



Code	Duty cycle ED %	Power consumption W		Tension tolerance %	Rated voltage	Weight Kg
		Hold	Inrush			
DD-551	100	2	2	±10	24 V DC	0,019

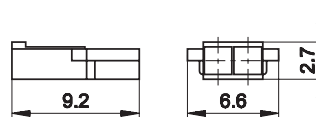
Upon request: version with LED and V DC version

WARNING! Do not invert the polarity when connecting the coil with LED.

Upon request version with LED

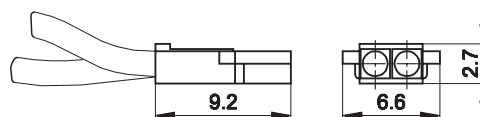
Under continuous service a maximum temperature will not compromise the functioning of the coil provided that the working position is ventilated

MINIATURE CONNECTOR WITHOUT WIRES



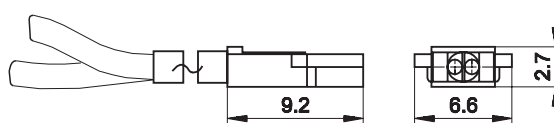
Code	Length (mm)	Coil
D-500	-	Series U05

MINIATURE CONNECTOR WITH LOOSE CABLES



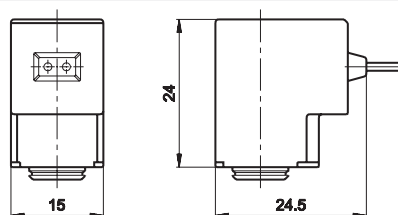
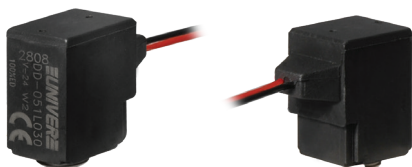
Code	Length (mm)	Coil
D-530-30	300	Series U05
D-530-50	500	Series U05
D-530-200	2000	Series U05

MINIATURE CONNECTOR WITH CABLE



Code	Length (mm)	Coil
D-535-30	300	Series U05
D-535-50	500	Series U05
D-535-200	2000	Series U05

U05 COIL WITH LOOSE CABLES (LENGTH 300 MM)



Code	Duty cycle ED %	Power consumption W Hold	Power consumption W Inrush	Tension tolerance %	Rated voltage	Weight Kg
DD-051L030	100	2	2	±10	24V DC	0,019

WARNING! Do not invert the polarity when connecting the coil with LED.

Upon request version with LED

Under continuous service a maximum temperature will not compromise the functioning of the coil provided that the working position is ventilated