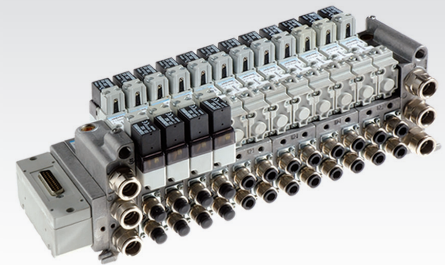


## CARACTERÍSTICAS

|                        |                                                      |
|------------------------|------------------------------------------------------|
| Temperatura ambiente   | -20 ÷ +50 °C                                         |
| Fluido                 | ar filtrado 50 µm, com ou sem lubrificação           |
| Sistema de permutação  | spool                                                |
| Pressão Máx            | 9 bar (elétrico) 10 bar (pneumático)                 |
| Conexões               | interface ISO 15407-1/2                              |
| Diâmetro nominal (mm)  | 6 (18 mm) 8 (26 mm)                                  |
| Fluxo nominal (NI/min) | vide tabela abaixo                                   |
| Corpo válvula          | resina acetálica com cobertura alumínio              |
| Vedações               | NBR                                                  |
| Spool                  | alumínio                                             |
| Eletropiloto/Bobina    | série A/U05                                          |
| Voltagem               | 12 V DC - 24 V AC/DC - 48 V AC - 110 V AC - 230 V AC |
| Consumo energético     | 2 W                                                  |
| Comando manual         | botão embutido 1 posição                             |
| Grau de proteção       | IP65                                                 |



## CHAVE DE CODIFICAÇÃO

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

| 1 Série                                                               | 2 Tamanho                                                                    | 3 Tipo                                                                                                                 |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>BDE</b> = Válvula solenoide com conexão elétrica 24 V DC integrada | <b>BDB</b> = Válvula solenoide com conexão elétrica 24 V DC com conector M12 | 3 = 18 mm<br>4 = 26 mm                                                                                                 |
| <b>Bobinas e conectores incluídos</b>                                 |                                                                              | 2 = 5/2<br>3 = 5/3 c.f.<br>4 = 5/3 c.a.<br>5 = 5/3 c.p.<br>6 = 3/2+3/2 NC-NC<br>7 = 3/2+3/2 NC-NO<br>8 = 3/2+3/2 NO-NO |

| 4 Comando 14             | 5 Retorno 12                                                                                             | 6 Voltagem bobina                                  | 7 Variação                        |
|--------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------|
| 4 = Elétrico amplificado | 0 = Mola pneumomecânica<br>1 = Mola mecânica<br>4 = Elétrico amplificado<br>7 = Elétrico não amplificado | 24 = 24 V DC (de série)<br>12 = 12 V DC (a pedido) | D = Alimentação externa do piloto |

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

| 1 Série                                                            | 2 Tamanho              | 3 Tipo                                                                                                                 | 4 Comando 14                                                                                |
|--------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>BDA</b> = Válvulas e eletroválvulas                             | 3 = 18 mm<br>4 = 26 mm | 2 = 5/2<br>3 = 5/3 c.f.<br>4 = 5/3 c.a.<br>5 = 5/3 c.p.<br>6 = 3/2+3/2 NC-NC<br>7 = 3/2+3/2 NC-NO<br>8 = 3/2+3/2 NO-NO | 3 = Pneumático amplificado<br>4 = Elétrico amplificado DC<br>5 = Elétrico amplificado DC/AC |
| <b>Bobinas e conectores não incluídos, solicitar separadamente</b> |                        |                                                                                                                        |                                                                                             |

| 5 Retorno 12                                                                                                 | 6 Variação                                                                                                                             | 7 Variação ATEX                                                |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 0 = Mola pneumomecânica<br>1 = Mola mecânica<br>2 = Pneumático não amplificado<br>3 = Pneumático amplificado | 4 = Elétrico amplificado DC<br>5 = Elétrico amplificado DC/AC<br>7 = Elétrico não amplificado DC<br>8 = Elétrico não amplificado DC/AC | D = Servo alimentação externa do piloto<br>X = Atex (a pedido) |
| <b>Para tipos e versões, consulte o catálogo ATEX</b>                                                        |                                                                                                                                        |                                                                |

c.f. = centro fechado c.a. = centro aberto em escapes c.p. = centro aberto em pressão

### Tipo bobina U05 lado 15 mm

| Código | Voltagem nominal |      | Frequência | Consumo energético |        |         |        |
|--------|------------------|------|------------|--------------------|--------|---------|--------|
|        |                  |      |            | DC W               |        | AC VA   |        |
|        | V DC             | V AC |            | HZ                 | regime | injeção | regime |
| 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    |

### Fluxo nominal (NI/min)

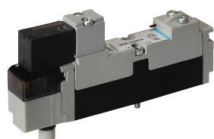
| BD<br>18 mm | VDMA-ISO |     |     | Incrementado |     |     |
|-------------|----------|-----|-----|--------------|-----|-----|
|             | Ø4       | Ø6  | Ø8  | Ø4           | Ø6  | Ø8  |
| 5/2         | 200      | 440 | 620 | 200          | 480 | 800 |
| 5/3         | 200      | 440 | 580 | 200          | 460 | 720 |
| 3/2+3/2     | 200      | 440 | 600 | 200          | 460 | 720 |

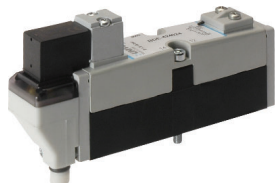
| BD<br>26 mm | VDMA-ISO |     |      |      | Incrementado |      |      |      |
|-------------|----------|-----|------|------|--------------|------|------|------|
|             | Ø6       | Ø8  | Ø10  | Ø12  | Ø6           | Ø8   | Ø10  | Ø12  |
| 5/2         | 500      | 950 | 1200 | 1250 | 500          | 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 Impulso elétrico - Conexão elétrica integrada

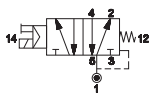
## ■ Impulso simples



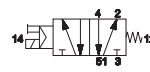
18 mm



26 mm

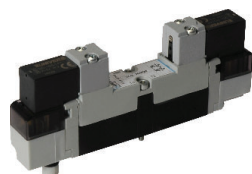


BDE-324024 18 mm  
BDE-424024 26 mm

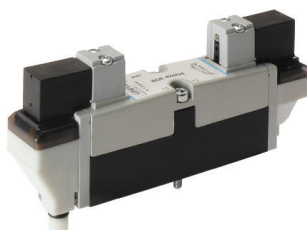


BDE-324124 18 mm  
BDE-424124 26 mm

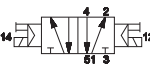
## ■ Impulso duplo



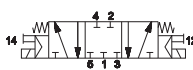
18 mm



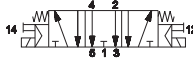
26 mm



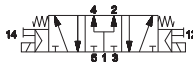
BDE-324424 18 mm  
BDE-424424 26 mm



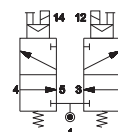
BDE-334424 18 mm  
BDE-434424 26 mm



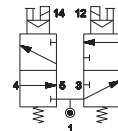
BDE-344424 18 mm  
BDE-444424 26 mm



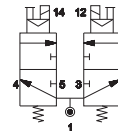
BDE-354424 18 mm  
BDE-454424 26 mm



BDE-364424 18 mm  
BDE-464424 26 mm



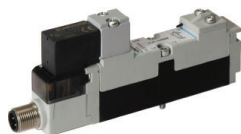
BDE-374424 18 mm  
BDE-474424 26 mm



BDE-384424 18 mm  
BDE-484424 26 mm

## BDB Impulso elétrico - Conector M12

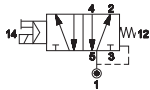
## ■ Impulso simples



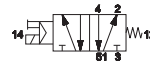
18 mm



26 mm

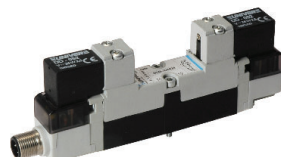


BDB-324024 18 mm  
BDB-424024 26 mm

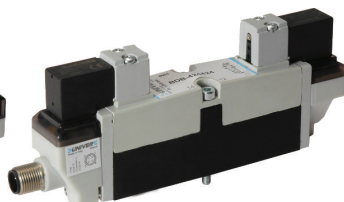


BDB-324124 18 mm  
BDB-424124 26 mm

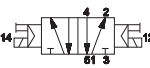
## ■ Impulso duplo



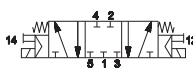
18 mm



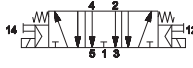
26 mm



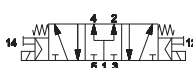
BDB-324424 18 mm  
BDB-424424 26 mm



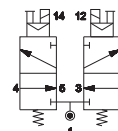
BDB-334424 18 mm  
BDB-434424 26 mm



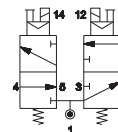
BDB-344424 18 mm  
BDB-444424 26 mm



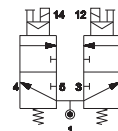
BDB-354424 18 mm  
BDB-454424 26 mm



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 Impulso pneumático

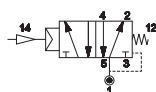
### ■ Impulso simples/duplo



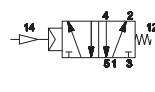
18 mm



26 mm



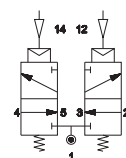
BDA-3230 18 mm  
BDA-4230 26 mm



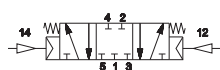
BDA-3231 18 mm  
BDA-4231 26 mm



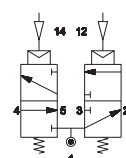
BDA-3233 18 mm  
BDA-4233 26 mm



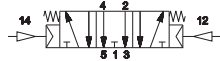
BDA-3633 18 mm  
BDA-4633 26 mm



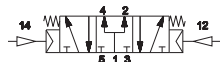
BDA-3333 18 mm  
BDA-4333 26 mm



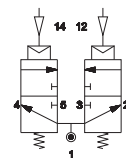
BDA-3733 18 mm  
BDA-4733 26 mm



BDA-3433 18 mm  
BDA-4433 26 mm



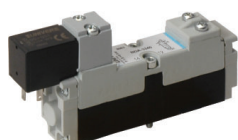
BDA-3533 18 mm  
BDA-4533 26 mm



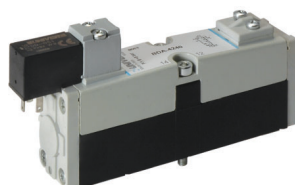
BDA-3833 18 mm  
BDA-4833 26 mm

## BDA Impulso elétrico - Conexão elétrica externa

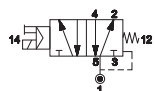
### ■ Impulso simples



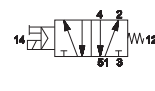
18 mm



26 mm



BDA-3240 18 mm  
BDA-4240 26 mm

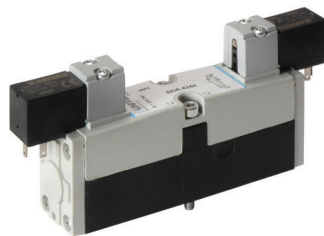


BDA-3241 18 mm  
BDA-4241 26 mm

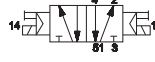
### ■ Impulso duplo



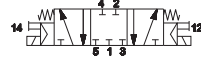
18 mm



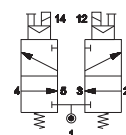
26 mm



BDA-3244 18 mm  
BDA-4244 26 mm



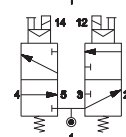
BDA-3344 18 mm  
BDA-4344 26 mm



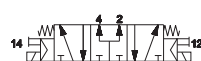
BDA-3644 18 mm  
BDA-4644 26 mm



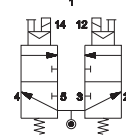
BDA-3444 18 mm  
BDA-4444 26 mm



BDA-3744 18 mm  
BDA-4744 26 mm



BDA-3544 18 mm  
BDA-4544 26 mm



BDA-3844 18 mm  
BDA-4844 26 mm



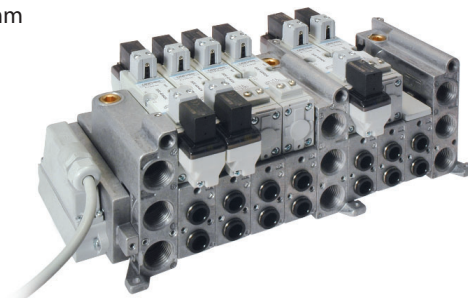
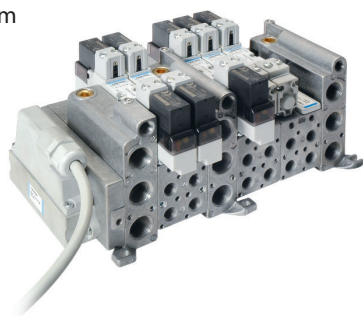
DIN C (8 mm)

Para obter mais informações contactar o nosso Departamento Comercial

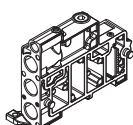
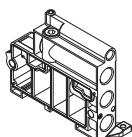
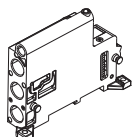
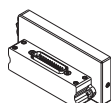
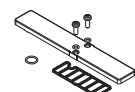
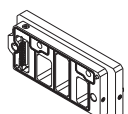
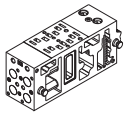
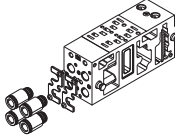
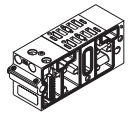
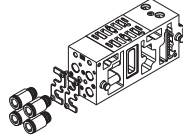
## BDE Sub-base Manifold - Conexão elétrica integrada

■ 18 mm

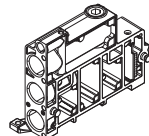
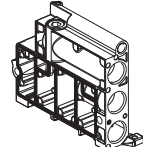
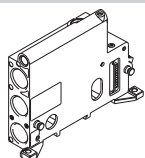
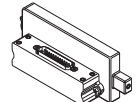
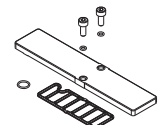
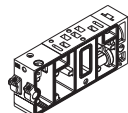
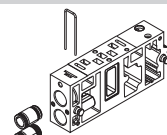
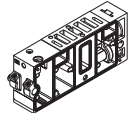
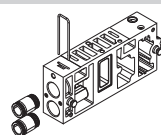
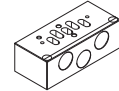
■ 26 mm



## 18 mm

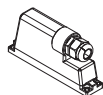
| BDF-3100                                                                          | BDF-3115                                                                                  | BDF-3120                                                                           | BDF-3140TIM                                                                        | BDF-3180                                                                            | BDF-3185                                                                             | BDF-3190                                                                               |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|   |          |   |   |   |   |     |
| placa de alimentação G3/8 esquerda                                                | placa de alimentação G3/8 direita                                                         | placa de alimentação G3/8 intermediária                                            | módulo de conexão multiplacas 25 polos macho tipo D                                | placa separadora de pressão                                                         | placa de fechamento para posição válvula não utilizada                               | interface de conexão entre válvulas lado 18-26 mm                                      |
| BDF-3210                                                                          | BDF-3230 (a)                                                                              | BDF-3310                                                                           | BDF-3330 (a)                                                                       | BDF-3400                                                                            | GZR-100                                                                              | GZR-V10004/06/08                                                                       |
|  |         |  |  |  |  |    |
| sub-base 2 posições conforme as normas VDMA-ISO fluxo 620 NI/min conexões G1/8    | sub-base 2 posições conforme as normas VDMA-ISO fluxo 620 NI/min para conexões Ø 4-6-8 mm | sub-base 2 posições com fluxo incrementado 800 NI/min conexões G1/8                | sub-base 2 posições com fluxo incrementado 800 NI/min para conexões Ø 4-6-8 mm     | sub-base única 1 posição com fluxo incrementado                                     | Plug                                                                                 | conexões com design UNIVER<br>GZR-V10004 Ø4 mm<br>GZR-V10006 Ø6 mm<br>GZR-V10008 Ø8 mm |

## 26 mm

| BDF-4100                                                                                                               | BDF-4115                                                                                     | BDF-4120                                                                                                    | BDF-4140TIM                                                                         | BDF-4180                                                                              | BDF-4185                                                                                |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|                                      |           |                          |  |  |    |
| placa de alimentação G1/2 esquerda                                                                                     | placa de alimentação G1/2 direita                                                            | placa de alimentação intermediária G1/2                                                                     | módulo de conexão multipolar 25 polos macho tipo D                                  | placa separadora de pressão                                                           | placa de fechamento para posição válvula não utilizada                                  |
| BDF-4210/20                                                                                                            | BDF-4230 (a)                                                                                 | BDF-4310/20                                                                                                 | BDF-4330 (a)                                                                        | BDF-4400                                                                              | GZR-VV1006/08/10                                                                        |
|                                     |           |                          |  |  |    |
| placa base 1 posição conforme as normas VDMA-ISO fluxo 1250 NI/min<br>BDF-4210 conexões G1/4<br>BDF-4220 conexões G3/8 | placa base 1 posição conforme as normas VDMA-ISO fluxo 1250 NI/min para conexões Ø 6-8-10 mm | placa base 1 posição com fluxo incrementado 1700 NI/min<br>BDF-4310 conexões G1/4<br>BDF-4320 conexões G3/8 | placa base 1 posição com fluxo incrementado 1700 NI/min para conexões Ø 6-8-10 mm   | placa base única 1 posição com fluxo incrementado                                     | conexões com design UNIVER<br>GZR-VV1006 Ø6 mm<br>GZR-VV1008 Ø8 mm<br>GZR-VV1010 Ø10 mm |

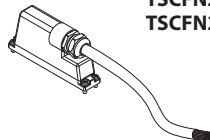
## Conexões elétricas

TSCFN24S000



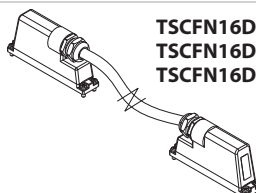
conector fêmea 25 polos tipo D-sub sem cabo parafusos de fixação M3 x 8

TSCFN24S0300  
TSCFN24S0500  
TSCFN24S1000



conector fêmea 25 polos tipo sub-D pré-cabado para 24 bobinas com cabo 3-5-10 m parafusos de fixação M3 x 8

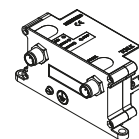
TSCFN16D0300  
TSCFN16D0500  
TSCFN16D1000



conector livre macho/fêmea sub-D pré-cabado para 16 bobinas com cabo Ø 8 mm de 3-5-10 m adequado para colocação móvel, parafusos de fixação M3 x 8

## Conexão IO-LINK

TCXLKA  
TCXLKB



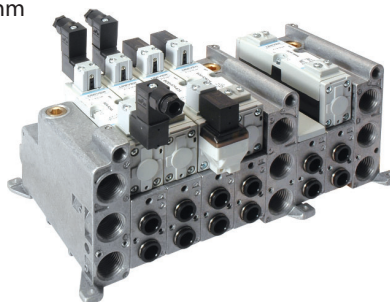
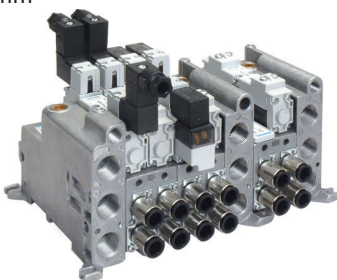
módulo de conexão IO-LINK (portas classe A/B)

(a) = placa base com placa de fixação de conexões ( conexões não incluídas)

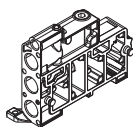
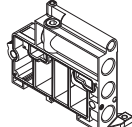
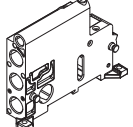
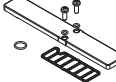
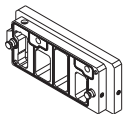
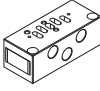
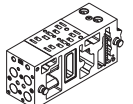
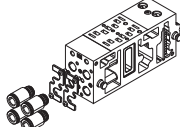
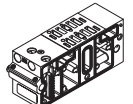
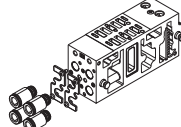
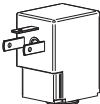
## BDA/BDB Sub-base Manifold - Conexão elétrica com conector externo

■ 18 mm

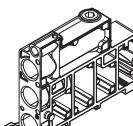
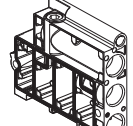
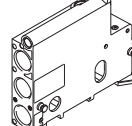
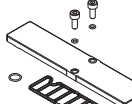
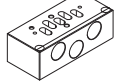
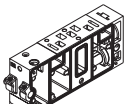
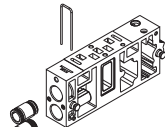
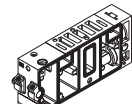
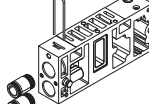
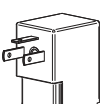
■ 26 mm



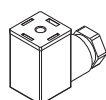
## 18 mm

| BDF-3110                                                                          | BDF-3115                                                                             | BDF-3125                                                                           | BDF-3180                                                                           | BDF-3185                                                                             | BDF-3191                                                                             | BDF-3400                                                                             |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|   |     |   |   |    |   |   |
| placa de alimentação G3/8 esquerda                                                | placa de alimentação G3/8 direita                                                    | placa de alimentação intermediária G3/8                                            | placa separadora de pressão                                                        | placa de fechamento para posição válvula não utilizada                               | interface de conexão entre distribuidores lado 18-26 mm                              | placa base única 1 posição com fluxo incrementado 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-...                                                                               |
|  |    |  |  |  |  |  |
| sub-base 2 posições conforme as normas VDMA-ISO fluxo 620 NI/min conexões G1/8    | sub-base 2 posições conforme as normas VDMA-ISO fluxo 620 NI/min conexões Ø 4-6-8 mm | sub-base 2 posições com fluxo incrementado 800 NI/min conexões G1/8                | sub-base 2 posições com fluxo incrementado 800 NI/min para conexões Ø 4-6-8 mm     | Plug                                                                                 | conexões com design UNIVER GZR-V10004 Ø4 mm GZR-V10006 Ø6 mm GZR-V10008 Ø8 mm        | bobina U05 lado 15 mm                                                                |

## 26 mm

| BDF-4110                                                                                                       | BDF-4115                                                                                                     | BDF-4125                                                                                            | BDF-4180                                                                                          | BDF-4185                                                                              | BDF-4400                                                                              |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                              |                           |                  |                |  |  |
| placa de alimentação G1/2 esquerda                                                                             | placa de alimentação G1/2 direita                                                                            | placa de alimentação intermediária G1/2                                                             | placa separadora de pressão                                                                       | placa de fechamento para posição válvula não utilizada                                | placa base única 1 posição com fluxo incrementado G3/8                                |
| BDF-4211/.. (b)                                                                                                | BDF-4231/2 (a) - (b)                                                                                         | BDF-4311/.. (b)                                                                                     | BDF-4331/2 (a) - (b)                                                                              | GZR-VV1006/8/10                                                                       | DD-...                                                                                |
|                              |                           |                  |               |  |  |
| sub-base 1 posição conforme as normas VDMA-ISO fluxo 1250 NI/min conexões G1/4 conexões G3/8 BDF-4211 BDF-4212 | sub-base 1 posição conforme as normas VDMA-ISO fluxo 1250 NI/min para conexões Ø 6-8-10 mm BDF-4231 BDF-4232 | sub-base 1 posição com fluxo incrementado 1700 NI/min conexões G1/4 conexões G3/8 BDF-4311 BDF-4312 | sub-base 1 posição com fluxo incrementado 1700 NI/min para conexões Ø 6-8-10 mm BDF-4321 BDF-4322 | conexões com design UNIVER GZR-VV1006 Ø6 mm GZR-VV1008 Ø8 mm GZR-VV1010 Ø10 mm        | bobina U05 lado 15 mm                                                                 |

## Conexões elétricas



AM-5109

conector 15 mm

(a) = placa base com placa de fixação conexões ( conexões não incluídas)  
 (b) = codificação final do código: 1 = elétrica não integrada 2 = somente pneumática