

Quarter turn actuators DFPB



# Quarter turn actuators DFPB

Key features

FESTO

## General

- The DFPB quarter turn actuator is a rack and pinion combination that converts the linear movement of the shaft. Quarter turn actuators based on this principle exhibit an identical torque characteristic across the entire rotation angle range of 90°.

## Function

- In addition to the ISO 5211 interface, all of the quarter turn actuators in the DFPB series have a so-called pressure relief slot at either end. This enables the DFPB to be mounted on all process valves regardless of whether or not the process valve features this slot, which is a requirement for the chemical industry. This greatly increases the applications of the process valves
- Standards-based (VDI/VDE 3845) hole patterns 30/80 as standard for direct mounting of a range of common peripheral devices such as sensor boxes for end position display and controllers for accurate positioning

## Design

- Compact design
- One housing for double and single-acting actuators
- Constant torque characteristic
- Long service life, low wear thanks to an innovative pressure-dependent lip seal
- The pressure relief slot in the housing means that all process valves can be used in the chemical industry, regardless of whether or not the process valve flange features this slot
- Operation with clockwise and anti-clockwise rotation thanks to the process valve connection to ISO 5211 on both sides

## Easy to clean

- Resistant to conventional cleaning agents
- Sturdy, non-slip and easy-to-clean aluminium housing offers greater safety even in corrosive atmospheres
- No countersunk holes, radii as per FDA directive
- Increased corrosion protection

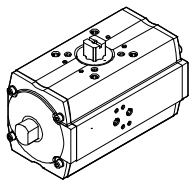
## Easy to mount

- Flexible attachment options thanks to choice of mounting adapters as accessory
- Extremely fine torque gradation for optimum adaptation to the process valve
- The DFPB actuator series is maintenance-free. When changing the seal, only 1 Allen key is needed to dismantle the entire actuator

## Variants

DFPB-...

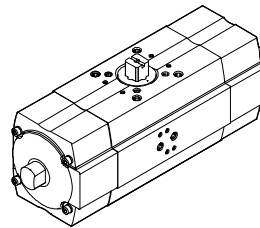
Double-acting



A spare part kit is available for each size of the quarter turn actuator DFPB. This includes all wearing parts such as seals, O-rings, slip bands and bearings needed to repair a DFPB.

DFPB-...-S

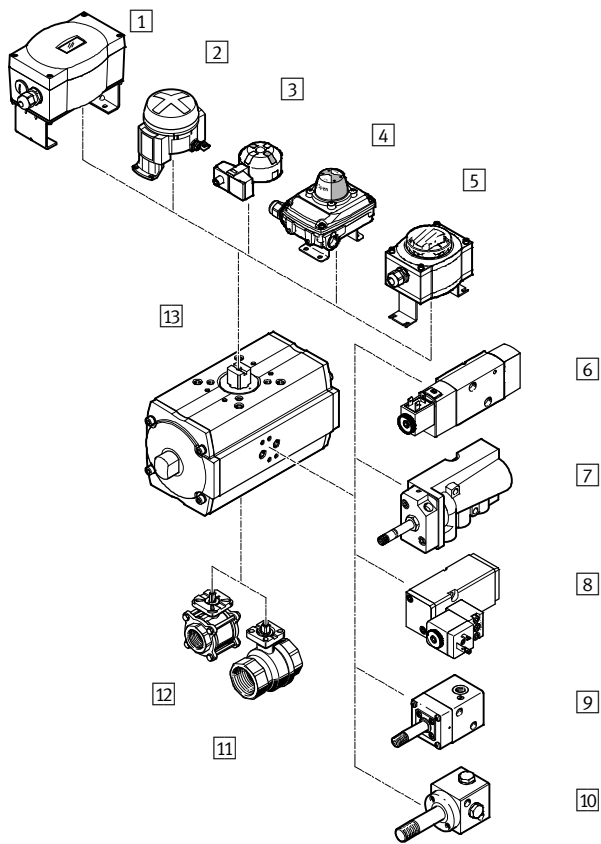
Single-acting



The single-acting actuators are each available with 4 different spring types S3-S6 for adapting to 4 pressure levels from 3 ... 6 bar.

# Quarter turn actuators DFPB

Peripherals overview



Mounting components and accessories			
	Brief description	→ Page/Internet	
1	Positioner CMSX	For position control of quarter turn actuators in process automation systems	cmsx
2	Limit switch attachment DAPZ	Round design, variant AR, electrical, inductive or inductive and explosion-proof sensing	dapz
3	Sensor boxes SRBG	For electrical feedback and position monitoring of process valves which are actuated with quarter turn actuators	srbg
4	Sensor boxes SRBC	For electrical feedback and position monitoring of process valves which are actuated with quarter turn actuators	srbc
5	Sensor boxes SRAP	SRAP, analogue sensor box continuously senses the entire swivel range and reports this back to the controller	srap
6	Solenoid valves VSNC	For single- and double-acting quarter turn actuators with a connection pattern to VDI/VDE 3845	vsnc
7	Solenoid valves NVF3	For F solenoid coil and explosion-proof F solenoid coil, connection pattern to Namur	nvf3
8	Solenoid valves VSNB	Solenoid valve with solenoid coil, connection pattern to Namur	vsnb
9	Solenoid valves VOFC	Solenoid valve with solenoid coil, connection pattern to Namur	vofc
10	Solenoid valves VOFD	Solenoid valve with solenoid coil, connection pattern to Namur	vofd
11	Ball valves VAPB	2-way, brass, with pipe thread to EN 10226-1	vapb
12	Ball valves VZBA	2-way, stainless steel, optionally with pipe thread to EN 10226-1 or with welding ends	vzba
13	Quarter turn actuators DFPB	Single- and double-acting quarter turn actuators with a connection pattern to VDI/VDE 3845	5

# Quarter turn actuators DFPB

Type codes

DFPB - [ ] - 90 - [ ] - [ ] - [ ]

Type	
DFPB	Quarter turn actuator

Size [Nm]	
10	Size 10
15	Size 15
20	Size 20
30	Size 30
45	Size 45
65	Size 65
80	Size 80
120	Size 120
170	Size 170
230	Size 230
300	Size 300
370	Size 370
470	Size 470
550	Size 550
670	Size 670
840	Size 840
1050	Size 1050

**Swivel angle [°]**

Function	
-	Double-acting
S	Single-acting quarter turn actuator

Spring index	
3	
4	
5	
6	

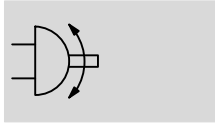
Flange pattern	
F03	Hole pattern F03
F04	Hole pattern F04
F05	Hole pattern F05
F0507	Hole pattern F05 and F07
F0710	Hole pattern F07 and F10
F1012	Hole pattern F10 and F12
F14	Hole pattern F14


# Quarter turn actuators DFPB, double-acting

Technical data


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Function



-  - Swivel angle  
0 ... 90°



-  - Size  
10 ... 1050

-  - Torque  
7 ... 945 Nm

General technical data								
Size	10	20	30	45	65	80	120	170
Flange hole pattern	F03	F04		F05			F0507	F0710
Pneumatic connection	G $\frac{1}{8}$							
Constructional design	Rack and pinion							
Mode of operation	Double-acting							
Mounting position	Any							
Swivel angle	[°]	90						
End position adjustment range	[°]	-4 ... +4						
Closing direction	Any							
Position sensing	No							
Cushioning	No							

Size	230	300	370	470	550	670	840	1050
Flange hole pattern	F0710		F1012			F14		
Pneumatic connection	G $\frac{1}{8}$		G $\frac{1}{4}$					
Constructional design	Rack and pinion							
Mode of operation	Double-acting							
Mounting position	Any							
Swivel angle	[°]	90						
End position adjustment range	[°]	-4 ... +4						
Closing direction	Any							
Position sensing	No							
Cushioning	No							

# Quarter turn actuators DFPB, double-acting



Technical data

Ambient conditions		10	20	30	45	65	80	120	170
Size									
Operating pressure	[bar]	1 ... 8							
Nominal operating pressure	[bar]	5.6							
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]							
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)							
Ambient temperature <sup>1)</sup>	[°C]	-20 ... +80							
Corrosion resistance class CRC <sup>2)</sup>		3							
CE mark (see declaration of conformity)		EU explosion protection directive (ATEX)							
→ www.festo.com									
ATEX category gas		II 2G							
Explosion ignition protection type gas		c T4 X							
ATEX category dust		II 2D							
Explosion ignition protection type dust		c 125°C X							
Explosion-proof ambient temperature <sup>1)</sup>		-20°C ≤ Ta ≤ +80°C							

Size	230	300	370	470	550	670	840	1050
Operating pressure	[bar] 1 ... 8							
Nominal operating pressure	[bar] 5.6							
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]							
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)							
Ambient temperature <sup>1)</sup>	[°C] -20 ... +80							
Corrosion resistance class CRC <sup>2)</sup>	3							
CE mark (see declaration of conformity)	EU explosion protection directive (ATEX)							
→ www.festo.com								
ATEX category gas	II 2G							
Explosion ignition protection type gas	c T4 X							
ATEX category dust	II 2D							
Explosion ignition protection type dust	c 125°C X							
Explosion-proof ambient temperature <sup>1)</sup>	-20°C ≤ Ta ≤ +80°C							

1) Note operating range of proximity sensors.

2) Corrosion resistance class 3 as per Festo standard 940 070

Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Air consumption [l/cycle] at 6 bar			
Size		Size	
DFPB-10	0.18	DFPB-230	4.72
DFPB-20	0.45	DFPB-300	6.07
DFPB-30	0.62	DFPB-370	7.45
DFPB-45	0.89	DFPB-470	9.31
DFPB-65	1.33	DFPB-550	10.9
DFPB-80	1.66	DFPB-670	13.4
DFPB-120	2.42	DFPB-840	16.6
DFPB-170	3.5	DFPB-1050	20.7

# Quarter turn actuators DFPB, double-acting

Technical data


Weight [g]								
Size	10	20	30	45	65	80	120	170
Product weight	500	1,000	1,300	1,700	2,200	2,600	4,200	5,200

Size	230	300	370	470	550	670	840	1050
Product weight	7,100	7,800	12,900	14,200	18,600	20,400	30,500	32,200

Actual torque [Nm]								
Size	10	20	30	45	65	80	120	170
Torque <sup>1)</sup>	7	18	29	38	53	71	106	154

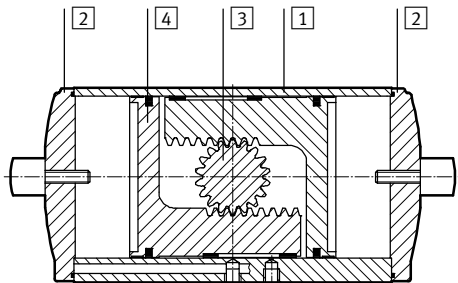
Size	230	300	370	470	550	670	840	1050
Torque <sup>1)</sup>	210	270	323	402	502	598	793	945

<sup>1)</sup>Torque at nominal operating pressure and 0° swivel angle

 - Note  
The operating torque of the drive must not be higher than the maximum permissible torque listed in ISO 5211, with reference to the size of the mounting flange and of the coupling.

## Materials

Sectional view



Quarter turn actuator		
1	Housing	Anodised aluminium
2	End cap	Die-cast aluminium, coated
3	Shaft	Anodised aluminium
4	Piston	Die-cast aluminium
-	Screws	High-alloy stainless steel
-	Seals	Polyurethane, nitrile rubber

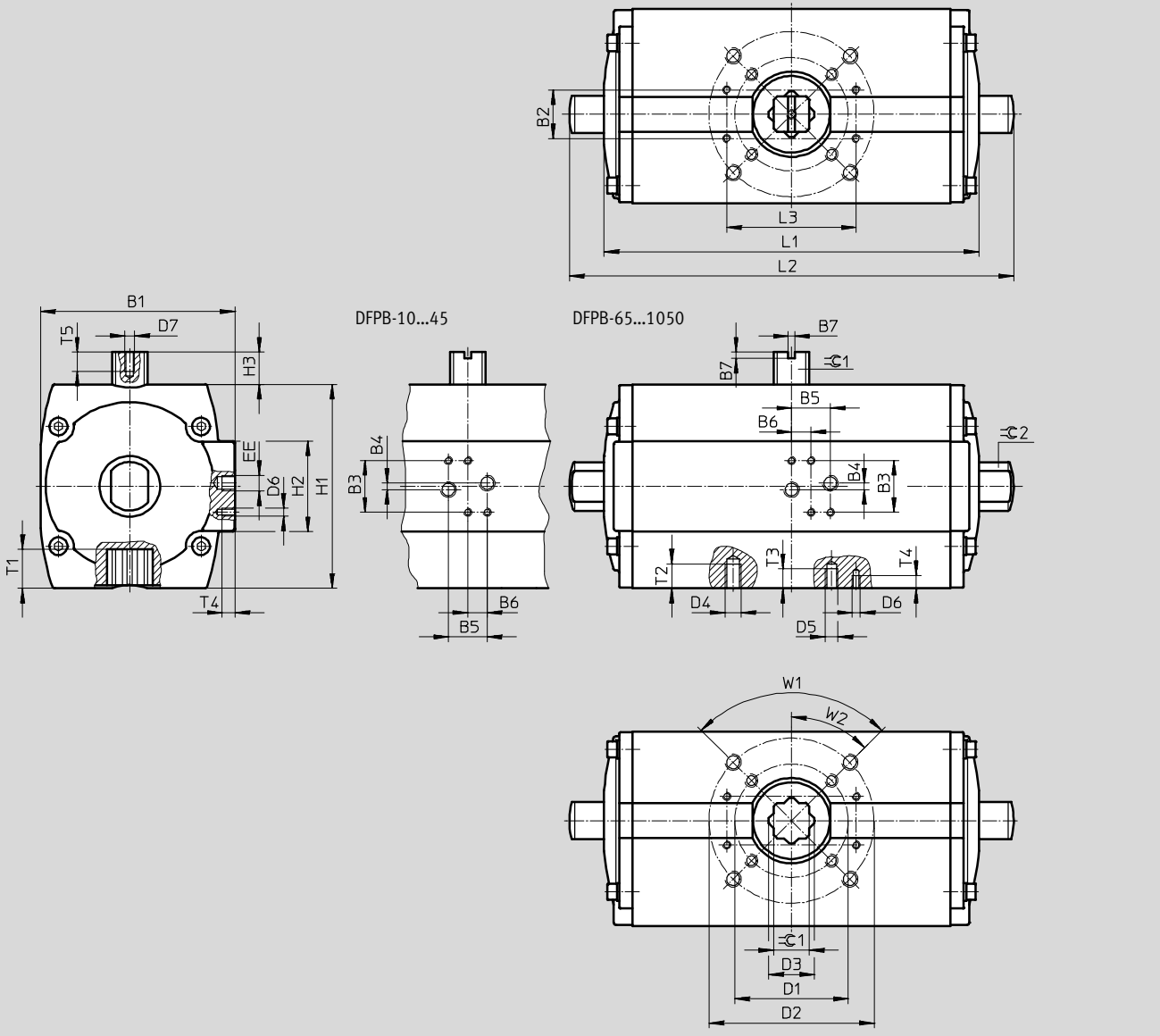
# Quarter turn actuators DFPB, double-acting

Technical data



Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)





# Quarter turn actuators DFPB, double-acting

Technical data



Size	B1	B2	B3	B4	B5	B6	B7	D1 ∅	D2 ∅	D3 ∅	D4	D5	D6	D7	EE		
DFPB-10	50 <sub>±0.5</sub>	30	32	4	24	12	4	-	36	12.1	M5	-	M5	M6	G 1/8		
DFPB-20	66 <sub>±0.55</sub>								42	14.1							
DFPB-30	79.5 <sub>±0.6</sub>								50	18.1							
DFPB-45											50					70	22.2
DFPB-65	96.5 <sub>±0.7</sub>																
DFPB-80																	
DFPB-120	120 <sub>±0.85</sub>								70	102							
DFPB-170																	
DFPB-230	145 <sub>±0.9</sub>			102				125	36.2	M12	M10						
DFPB-300																	
DFPB-370	169 <sub>±1.05</sub>			-				140	48.2	M16	-						
DFPB-470																	
DFPB-550	193 <sub>±1.05</sub>			0				-	-	-	-						
DFPB-670																	
DFPB-840	228 <sub>±1.4</sub>	0	-	-	-	-											
DFPB-1050																	

Size	H1	H2	H3	L1	L2	L3	T1 min.	T2 min.	T3 min.	T4 min.	T5	W1	W2	∠C1	∠C2
DFPB-10	49	45 <sub>±0.4</sub>	20	111 <sub>±0.48</sub>	135 <sub>±0.88</sub>	80	10	8	-	8	12	90°	45°	9	11
DFPB-20	65	49 <sub>±0.4</sub>		130.6 <sub>±0.48</sub>	154.6 <sub>±0.88</sub>		12								
DFPB-30	83			126.2 <sub>±0.48</sub>	157.8 <sub>±0.88</sub>		16							9	
DFPB-45				152 <sub>±0.48</sub>	183.6 <sub>±0.88</sub>										
DFPB-65	100			159.3 <sub>±0.48</sub>	190 <sub>±0.88</sub>		19							12	9
DFPB-80				183.6 <sub>±0.48</sub>	215.2 <sub>±0.88</sub>										
DFPB-120	126			56 <sub>±0.4</sub>	181.4 <sub>±0.48</sub>		224.4 <sub>±0.88</sub>							24	15
DFPB-170	156	70 <sub>±0.45</sub>		231.5 <sub>±0.48</sub>	274.5 <sub>±0.88</sub>		29	18						15	
DFPB-230	176 <sub>±1</sub>	74 <sub>±0.45</sub>		234.2 <sub>±0.54</sub>	277.2 <sub>±0.94</sub>										
DFPB-300				265.1 <sub>±0.54</sub>	308.1 <sub>±0.94</sub>		23	20							
DFPB-370	202 <sub>±1.2</sub>	89.6 <sub>±0.45</sub>		299.2 <sub>±0.6</sub>	345.2 <sub>±1</sub>										
DFPB-470				335.6 <sub>±0.6</sub>	381.6 <sub>±1</sub>										
DFPB-550	228 <sub>±1.2</sub>	112 <sub>±0.6</sub>		343.3 <sub>±0.6</sub>	400.3 <sub>±1</sub>		38	24						-	
DFPB-670				380.6 <sub>±0.6</sub>	437.6 <sub>±1</sub>										
DFPB-840	228 <sub>±1.2</sub>	112 <sub>±0.6</sub>	416.2 <sub>±0.66</sub>	502.2 <sub>±1.26</sub>	130	38	24	-							
DFPB-1050			479.7 <sub>±0.66</sub>	565.7 <sub>±1.26</sub>											

# Quarter turn actuators DFPB, double-acting

Technical data



Ordering data		Ordering data	
Part No.	Type	Part No.	Type
Size 10		Size 230	
557539	DFPB-10-090-F03	557547	DFPB-230-090-F0710
Size 20		Size 300	
557540	DFPB-20-090-F04	557548	DFPB-300-090-F0710
Size 30		Size 370	
557541	DFPB-30-090-F04	557611	DFPB-0370-090-F1012
Size 45		Size 470	
557542	DFPB-45-090-F05	557612	DFPB-0470-090-F1012
Size 65		Size 550	
557543	DFPB-65-090-F05	557613	DFPB-0550-090-F1012
Size 80		Size 670	
557544	DFPB-80-090-F05	557614	DFPB-0670-090-F1012
Size 120		Size 840	
557545	DFPB-120-090-F0507	557615	DFPB-0840-090-F14
Size 170		Size 1050	
557546	DFPB-170-090-F0710	557616	DFPB-1050-090-F14

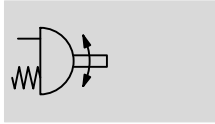
Ordering data – Wearing parts kits		Ordering data	
Part No.	Type	Part No.	Type
Size 10		Size 230	
737036	DFPB-10-090	737044	DFPB-230/S110-090
Size 20		Size 300	
737037	DFPB-20-090	737045	DFPB-300/S150-090
Size 30		Size 370	
737038	DFPB-30-090	737046	DFPB-370/S180-090
Size 45		Size 470	
737039	DFPB-45/S20-090	737047	DFPB-470/S230-090
Size 65		Size 550	
737040	DFPB-65/S30-090	737048	DFPB-550/S270-090
Size 80		Size 670	
737041	DFPB-80/S40-090	737049	DFPB-670/S330-090
Size 120		Size 840	
737042	DFPB-120/S60-090	737050	DFPB-840/S420-090
Size 170		Size 1050	
737043	DFPB-170/S80-090	737051	DFPB-1050/S520-090


# Quarter turn actuators DFPB, single-acting

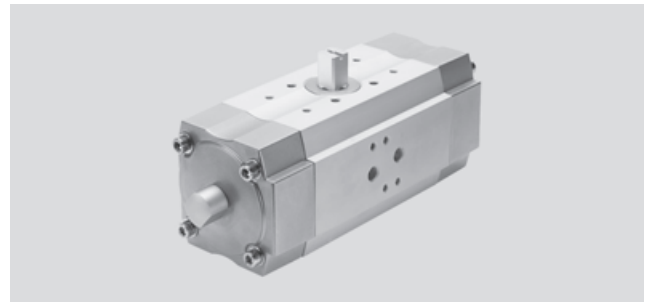
Technical data


FESTO


Function



 Swivel angle  
0 ... 90°



 Size  
10-S ... 520-S

 Torque  
1 ... 882 Nm

General technical data								
Size	10-S	15-S	20-S	30-S	40-S	60-S	80-S	110-S
Flange hole pattern	F03, F04	F04	F04, F05	F05		F0507	F0710	
Pneumatic connection	G $\frac{1}{8}$							
Constructional design	Rack and pinion							
Mode of operation	Single-acting							
Mounting position	Any							
Swivel angle	[°]	90						
End position adjustment range	[°]	-4 ... +4						
Closing direction	Any							
Position sensing	No							
Cushioning	No							

Size	150-S	180-S	230-S	270-S	330-S	420-S	520-S
Flange hole pattern	F0710	F1012				F14	
Pneumatic connection	G $\frac{1}{8}$	G $\frac{1}{4}$					
Constructional design	Rack and pinion						
Mode of operation	Single-acting						
Mounting position	Any						
Swivel angle	[°]	90					
End position adjustment range	[°]	-4 ... +4					
Closing direction	Any						
Position sensing	No						
Cushioning	No						

# Quarter turn actuators DFPB, single-acting

Technical data

FESTO

Ambient conditions		10-S	15-S	20-S	30-S	40-S	60-S	80-S	110-S
Size									
Operating pressure <sup>1)</sup>	[bar]	≤ 8							
Nominal operating pressure	[bar]	5.6							
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]							
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)							
Ambient temperature <sup>2)</sup>	[°C]	-20 ... +80							
Corrosion resistance class CRC <sup>3)</sup>		3							
CE mark (see declaration of conformity) → <a href="http://www.festo.com">www.festo.com</a>		EU explosion protection directive (ATEX)							
ATEX category gas		II 2G							
Explosion ignition protection type gas		c T4 X							
ATEX category dust		II 2D							
Explosion ignition protection type dust		c 125°C X							
Explosion-proof ambient temperature <sup>2)</sup>		-20°C ≤ Ta ≤ +80°C							

		150-S	180-S	230-S	270-S	330-S	420-S	520-S
Size								
Operating pressure <sup>1)</sup>	[bar]	≤ 8						
Nominal operating pressure	[bar]	5.6						
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]						
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)						
Ambient temperature <sup>2)</sup>	[°C]	-20 ... +80						
Corrosion resistance class CRC <sup>3)</sup>		3						
CE mark (see declaration of conformity) → <a href="http://www.festo.com">www.festo.com</a>		EU explosion protection directive (ATEX)						
ATEX category gas		II 2G						
Explosion ignition protection type gas		c T4 X						
ATEX category dust		II 2D						
Explosion ignition protection type dust		c 125°C X						
Explosion-proof ambient temperature <sup>2)</sup>		-20°C ≤ Ta ≤ +80°C						

1) Minimum operating pressures vary for single-acting quarter turn actuators depending on spring quantity

2) Note operating range of proximity sensors.

3) Corrosion resistance class 3 as per Festo standard 940 070

Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Air consumption [l/cycle] at 6 bar		Size	
Size		Size	
DFPB-10-S	0.23	DFPB-150-S	3.04
DFPB-15-S	0.31	DFPB-180-S	3.72
DFPB-20-S	0.44	DFPB-230-S	4.65
DFPB-30-S	0.66	DFPB-270-S	5.47
DFPB-40-S	0.83	DFPB-330-S	6.69
DFPB-60-S	1.21	DFPB-420-S	8.29
DFPB-80-S	1.75	DFPB-520-S	10.4
DFPB-110-S	2.36		

# Quarter turn actuators DFPB, single-acting

Technical data

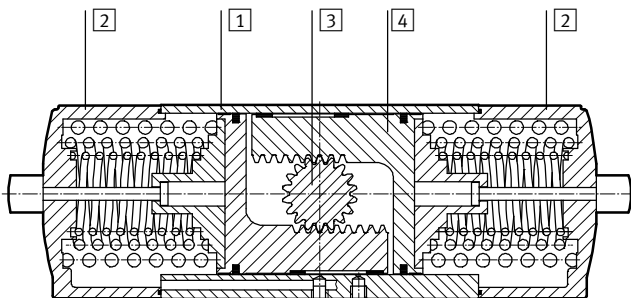
Weight [g]								
Size	10-S	15-S	20-S	30-S	40-S	60-S	80-S	110-S
Product weight <sup>1)</sup>	1,700	2,500	3,100	4,400	5,200	8,800	10,700	16,700

Size	150-S	180-S	230-S	270-S	330-S	420-S	520-S
Product weight <sup>1)</sup>	18,800	34,200	28,700	50,500	49,800	76,100	92,200

1) S6 version

## Materials

Sectional view



Quarter turn actuator	
1	Housing Wrought aluminium alloy
2	End cap Die-cast aluminium, coated
3	Shaft Anodised aluminium
4	Piston Die-cast aluminium
-	Springs Steel
-	Screws High-alloy stainless steel
-	Seals Nitrile rubber

# Quarter turn actuators DFPB, single-acting

Technical data

FESTO

Actual torque [Nm] as a function of operating pressure [bar] and swivel angle [°]						
Type	Nominal swivel angle	Springs	Operating pressure [bar]			
Springs	[°]		3	4	5	6
<b>Size DFPB 10-S</b>						
3	0	6	5	8	12	15
	90	9	1	5	9	12
4	0	8	–	6	10	13
	90	12	–	2	5	9
5	0	10	–	–	8	11
	90	15	–	–	2	6
6	0	15	–	–	–	9
	90	19	–	–	–	3
<b>Size DFPB 15-S</b>						
3	0	8	8	13	18	24
	90	13	3	9	14	20
4	0	11	–	10	19	21
	90	17	–	5	10	15
5	0	14	–	–	13	18
	90	21	–	–	6	11
6	0	17	–	–	–	15
	90	25	–	–	–	7
<b>Size DFPB 20-S</b>						
3	0	12.1	12	20	28.1	36.1
	90	18.2	5.92	14	22	30
4	0	16.2	–	16	24	32.1
	90	24.2	–	7.9	15.9	24
5	0	20.2	–	–	20	28
	90	30.3	–	–	9.87	17.9
6	0	24.2	–	–	–	24
	90	36.4	–	–	–	11.8
<b>Size DFPB 30-S</b>						
3	0	18.1	16.7	28.3	39.9	51.5
	90	27.1	7.68	19.3	30.9	42.5
4	0	24.1	–	22.3	33.9	45.5
	90	36.2	–	10.2	21.8	33.5
5	0	30.2	–	–	27.9	39.5
	90	45.2	–	–	12.8	24.4
6	0	36.2	–	–	–	33.5
	90	54.3	–	–	–	15.4

-  - Note

The operating torque of the drive must not be higher than the maximum permissible torque listed in ISO 5211, with reference to the size of the mounting flange and of the coupling.

# Quarter turn actuators DFPB, single-acting

Technical data

FESTO

Actual torque [Nm] as a function of operating pressure [bar] and swivel angle [°]						
Type	Nominal swivel angle	Springs	Operating pressure [bar]			
Springs	[°]		3	4	5	6
Size DFPB 40-S						
3	0	22.6	20.2	34.5	48.8	63.1
	90	33.9	8.93	23.2	37.5	51.8
4	0	30.2	–	27	41.3	55.6
	90	45.2	–	11.9	26.2	40.5
5	0	37.7	–	–	33.7	48
	90	56.6	–	–	14.9	29.2
6	0	45.2	–	–	–	40.5
	90	67.9	–	–	–	17.9
Size DFPB 60-S						
3	0	33	31.3	52.7	74.2	95.6
	90	49.5	14.8	36.2	57.7	79.1
4	0	44	–	41.7	63.2	84.6
	90	66	–	19.7	41.2	62.6
5	0	55	–	–	52.2	73.6
	90	82.5	–	–	24.7	46.1
6	0	66	–	–	–	62.6
	90	99	–	–	–	29.6
Size DFPB 80-S						
3	0	47.7	43.4	73.7	104	134
	90	71.6	19.5	49.9	80.2	111
4	0	63.6	–	57.8	88.2	119
	90	95.4	–	26	65.4	86.7
5	0	79.5	–	–	72.3	103
	90	119	–	–	32.5	62.9
6	0	95.4	–	–	–	86.7
	90	143	–	–	–	39
Size DFPB 110-S						
3	0	64.3	58.9	100	141	182
	90	96.5	26.7	67.8	109	150
4	0	85.8	–	78.5	120	161
	90	129	–	35.6	76.7	118
5	0	107	–	–	98.1	139
	90	161	–	–	44.4	85.5
6	0	129	–	–	–	118
	90	193	–	–	–	53.3

 Note

The operating torque of the drive must not be higher than the maximum permissible torque listed in ISO 5211, with reference to the size of the mounting flange and of the coupling.

# Quarter turn actuators DFPB, single-acting

Technical data

FESTO

Actual torque [Nm] as a function of operating pressure [bar] and swivel angle [°]						
Type	Nominal swivel angle	Springs	Operating pressure [bar]			
Springs	[°]		3	4	5	6
Size DFPB 150-S						
3	0	82.8	77.9	131	185	239
	90	124	36.5	90	144	197
4	0	110	–	104	157	211
	90	166	–	48.6	102	156
5	0	138	–	–	130	183
	90	207	–	–	60.8	114
6	0	166	–	–	–	156
	90	249	–	–	–	72.9
Size DFPB 180-S						
3	0	102	97	163	229	295
	90	152	46	112	178	244
4	0	135	–	129	195	261
	90	203	–	61	127	193
5	0	169	–	–	161	227
	90	254	–	–	76	142
6	0	203	–	–	–	193
	90	305	–	–	–	92
Size DFPB 230-S						
3	0	127	125	209	293	377
	90	190	61	145	229	313
4	0	169	–	166	250	334
	90	254	–	82	166	250
5	0	212	–	–	208	292
	90	317	–	–	102	186
6	0	254	–	–	–	250
	90	381	–	–	–	123
Size DFPB 270-S						
3	0	149	145	244	342	440
	90	224	71	169	267	365
4	0	199	–	194	292	390
	90	299	–	94	192	291
5	0	249	–	–	242	340
	90	373	–	–	118	216
6	0	299	–	–	–	291
	90	448	–	–	–	141

-  - Note

The operating torque of the drive must not be higher than the maximum permissible torque listed in ISO 5211, with reference to the size of the mounting flange and of the coupling.



# Quarter turn actuators DFPB, single-acting

Technical data

FESTO

Actual torque [Nm] as a function of operating pressure [bar] and swivel angle [°]						
Type	Nominal swivel angle	Springs	Operating pressure [bar]			
Springs	[°]		3	4	5	6
Size DFPB 330-S						
3	0	182	176	296	416	535
	90	274	85	205	325	444
4	0	243	–	235	355	475
	90	365	–	114	233	353
5	0	304	–	–	294	414
	90	456	–	–	142	262
6	0	365	–	–	–	353
	90	547	–	–	–	170
Size DFPB 420-S						
3	0	229	221	371	521	671
	90	344	106	256	406	556
4	0	305	–	295	445	595
	90	458	–	142	292	442
5	0	382	–	–	368	518
	90	573	–	–	177	327
6	0	458	–	–	–	442
	90	687	–	–	–	213
Size DFPB 520-S						
3	0	294	269	456	644	831
	90	441	122	309	497	684
4	0	392	–	358	546	733
	90	588	–	162	350	537
5	0	490	–	–	448	635
	90	735	–	–	203	390
6	0	588	–	–	–	537
	90	882	–	–	–	243

-  - Note

The operating torque of the drive must not be higher than the maximum permissible torque listed in ISO 5211, with reference to the size of the mounting flange and of the coupling.

# Quarter turn actuators DFPB, single-acting

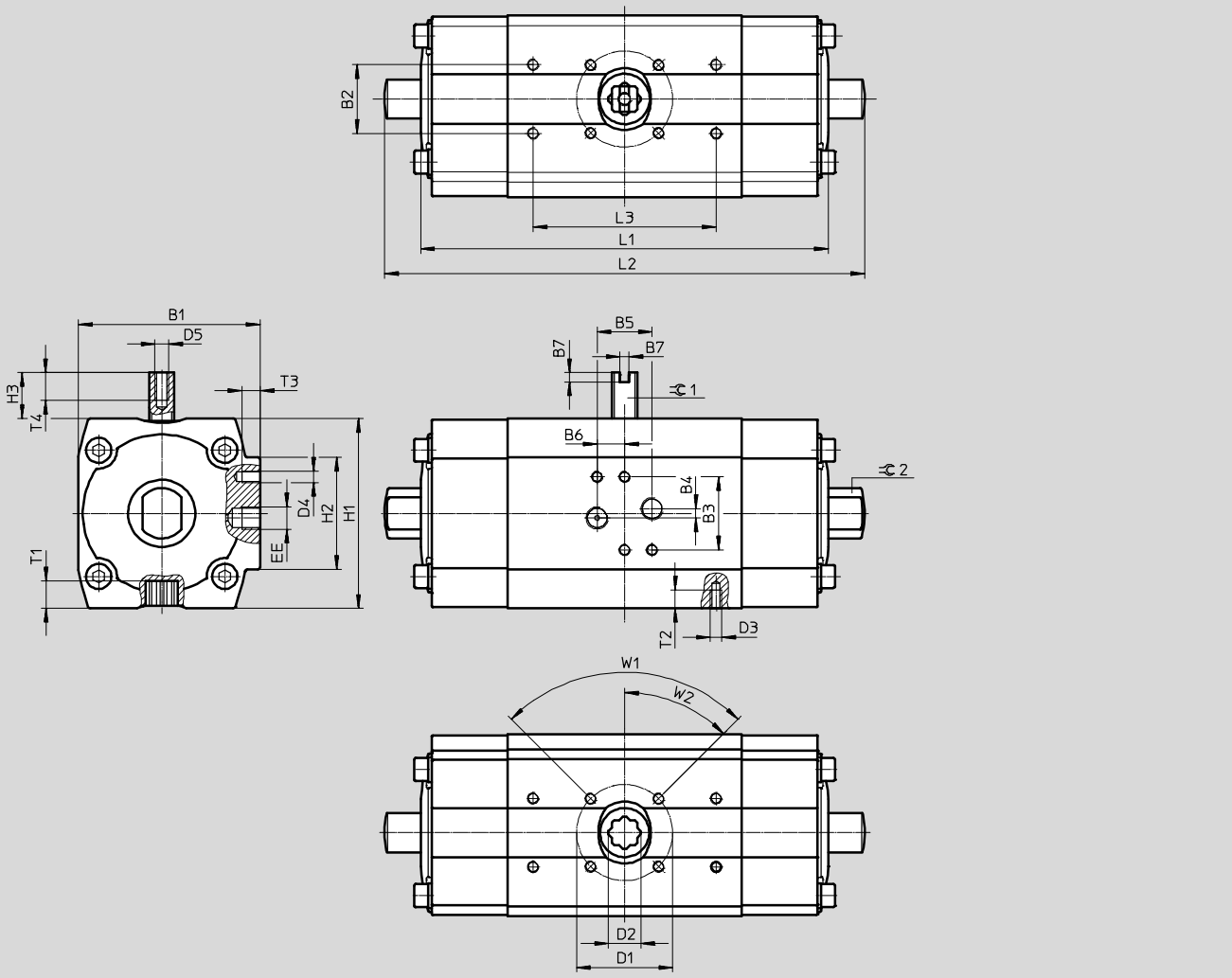
Technical data

FESTO

## Dimensions

Size 10-S-F03 ... 20-S-F04

Download CAD data → [www.festo.com](http://www.festo.com)



# Quarter turn actuators DFPB, single-acting



Technical data

Size	B1	B2	B3	B4	B5	B6	B7	D1 ∅	D2 ∅ min.	D3	D4	D5	EE	H1
DFPB-10-S...F03	66	30	32	4	24	12	4	36	14.1	M5	M5	M6	G1/8	65
DFPB-10-S...F04								42						18.1
DFPB-15-S	79.5													
DFPB-20-S...F04														

Size	H2	H3	L1	L2	L3	T1 min.	T2 min.	T3 min.	T4	T5	W1	W2	∠1	∠2
DFPB-10-S...F03	49	19.5	185.6	209.6	80	12	8	-	8	12	90°	45°	11	11
DFPB-10-S...F04			178.2			16								17
DFPB-15-S			204	235.6		14								
DFPB-20-S...F04														

# Quarter turn actuators DFPB, single-acting

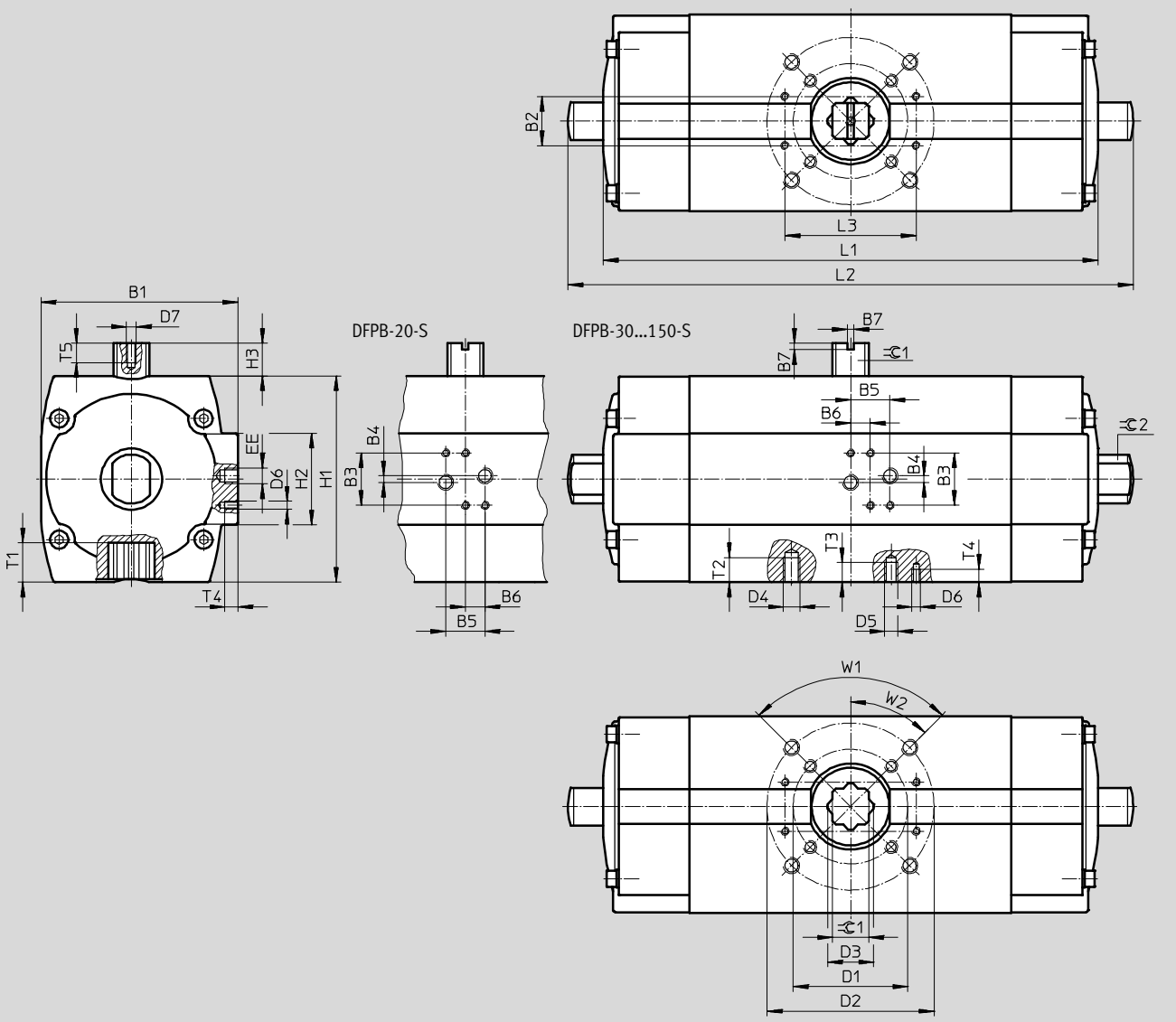
Technical data

FESTO

## Dimensions

Size DFPB-20-S-F05 ... 520-S

Download CAD data → [www.festo.com](http://www.festo.com)



# Quarter turn actuators DFPB, single-acting

Technical data



Size	B1	B2	B3	B4	B5	B6	B7	D1 ∅	D2 ∅	D3 ∅ min.	D4	D5	D6	D7	EE
DFPB-10-S...F03	66 <sub>+0.55</sub>	30	32	4	24	12	4	-	36	14.1	M5	-	M5	M6	G <sup>1</sup> / <sub>8</sub>
DFPB-10-S...F04									42						
DFPB-15-S	79.5 <sub>±0.6</sub>								50	18.1	M6				
DFPB-20-S...F04															
DFPB-20-S...F05	96.5 <sub>±0.7</sub>								50	18.1	M6				
DFPB-30-S															
DFPB-40-S	120 <sub>±0.85</sub>			50				70	22.2	M8	M6				
DFPB-60-S															
DFPB-80-S	145 <sub>±0.9</sub>			70				102	28.2	M10	M8				
DFPB-110-S															
DFPB-150-S	169 <sub>±1.05</sub>	102	125	36.2	M12	M10									
DFPB-180-S															
DFPB-230-S	193 <sub>±1.05</sub>	-	-	-	-	-									
DFPB-270-S															
DFPB-330-S	228 <sub>±1.4</sub>	-	-	-	-	-									
DFPB-420-S															
DFPB-520-S															

Size	H1	H2	H3	L1	L2	L3	T1 min.	T2 min.	T3 min.	T4 min.	T5	W1	W2	≈C1	≈C2
DFPB-10-S...F03	65 <sub>±1</sub>	49 <sub>±0.4</sub>	20	185.6 <sub>±0.6</sub>	209.6 <sub>±1</sub>	80	12	8	-	8	12	90°	45°	11	11
DFPB-10-S...F04				178.2 <sub>±0.6</sub>	209.8 <sub>±1</sub>										
DFPB-15-S	83 <sub>±1</sub>			204 <sub>±0.6</sub>	235.6 <sub>±1</sub>		16	9	14						17
DFPB-20-S...F04															
DFPB-20-S...F05	100 <sub>±1</sub>			234.3 <sub>±0.66</sub>	265 <sub>±1.06</sub>		19	12	17						23
DFPB-30-S															
DFPB-40-S	126 <sub>±1</sub>			56 <sub>±0.4</sub>	341.7 <sub>±0.66</sub>		384.7 <sub>±1.06</sub>	24	15						12
DFPB-60-S															
DFPB-80-S	156 <sub>±1</sub>			70 <sub>±0.45</sub>	377.5 <sub>±0.74</sub>		420.5 <sub>±1.14</sub>	29	18						15
DFPB-110-S															
DFPB-150-S	176	74 <sub>±0.45</sub>	408.4 <sub>±0.74</sub>	451.4 <sub>±1.14</sub>	29	18	15								
DFPB-180-S															
DFPB-230-S	202	89.6 <sub>±0.45</sub>	507.6 <sub>±0.8</sub>	553.6 <sub>±1.2</sub>	23	20	27								
DFPB-270-S															
DFPB-330-S	228	112 <sub>±0.6</sub>	30	551.3 <sub>±0.8</sub>	608.3 <sub>±1.2</sub>	23	20								
DFPB-420-S															
DFPB-520-S				588.6 <sub>±0.8</sub>	645.6 <sub>±1.2</sub>										
				727 <sub>±0.86</sub>	813 <sub>±1.46</sub>	130	38	24	-					36	46
				790.5 <sub>±0.86</sub>	876.5 <sub>±1.46</sub>										

# Quarter turn actuators DFPB, single-acting

Technical data

**FESTO**

Ordering data		Ordering data	
Part No.	Type	Part No.	Type
Size 10-S..F03		Size 110-S	
1210034	DFPB-10-090-S3-F03	557569	DFPB-110-090-S3-F0710
1210035	DFPB-10-090-S4-F03	557570	DFPB-110-090-S4-F0710
1210036	DFPB-10-090-S5-F03	557571	DFPB-110-090-S5-F0710
1210037	DFPB-10-090-S6-F03	557572	DFPB-110-090-S6-F0710
Size 10-S..F04		Size 150-S	
1207664	DFPB-10-090-S3-F04	557573	DFPB-150-090-S3-F0710
1207665	DFPB-10-090-S4-F04	557574	DFPB-150-090-S4-F0710
1207666	DFPB-10-090-S5-F04	557575	DFPB-150-090-S5-F0710
1207667	DFPB-10-090-S6-F04	557576	DFPB-150-090-S6-F0710
Size 15-S..F04		Size 180-S	
1208958	DFPB-15-090-S3-F04	557617	DFPB-180-090-S3-F1012
1208959	DFPB-15-090-S4-F04	557618	DFPB-180-090-S4-F1012
1208960	DFPB-15-090-S5-F04	557619	DFPB-180-090-S5-F1012
1208961	DFPB-15-090-S6-F04	557620	DFPB-180-090-S6-F1012
Size 20-S..F04		Size 230-S	
1246070	DFPB-20-090-S3-F04	557621	DFPB-230-090-S3-F1012
1246071	DFPB-20-090-S4-F04	557622	DFPB-230-090-S4-F1012
1246072	DFPB-20-090-S5-F04	557623	DFPB-230-090-S5-F1012
1246073	DFPB-20-090-S6-F04	557624	DFPB-230-090-S6-F1012
Size 20-S..F05		Size 270-S	
557549	DFPB-20-090-S3-F05	557625	DFPB-270-090-S3-F1012
557550	DFPB-20-090-S4-F05	557626	DFPB-270-090-S4-F1012
557551	DFPB-20-090-S5-F05	557627	DFPB-270-090-S5-F1012
557552	DFPB-20-090-S6-F05	557628	DFPB-270-090-S6-F1012
Size 30-S		Size 330-S	
557553	DFPB-30-090-S3-F05	557629	DFPB-330-090-S3-F1012
557554	DFPB-30-090-S4-F05	557630	DFPB-330-090-S4-F1012
557555	DFPB-30-090-S5-F05	557631	DFPB-330-090-S5-F1012
557556	DFPB-30-090-S6-F05	557632	DFPB-330-090-S6-F1012
Size 40-S		Size 420-S	
557557	DFPB-40-090-S3-F05	557633	DFPB-420-090-S3-F14
557558	DFPB-40-090-S4-F05	557634	DFPB-420-090-S4-F14
557559	DFPB-40-090-S5-F05	557635	DFPB-420-090-S5-F14
557560	DFPB-40-090-S6-F05	557636	DFPB-420-090-S6-F14
Size 60-S		Size 520-S	
557561	DFPB-60-090-S3-F0507	557637	DFPB-520-090-S3-F14
557562	DFPB-60-090-S4-F0507	557638	DFPB-520-090-S4-F14
557563	DFPB-60-090-S5-F0507	557639	DFPB-520-090-S5-F14
557564	DFPB-60-090-S6-F0507	557640	DFPB-520-090-S6-F14
Size 80-S			
557565	DFPB-80-090-S3-F0710		
557566	DFPB-80-090-S4-F0710		
557567	DFPB-80-090-S5-F0710		
557568	DFPB-80-090-S6-F0710		

# Quarter turn actuators DFPB, single-acting

Technical data

**FESTO**

Ordering data – Wearing parts kits		Part No.	Type
Size 20–S			
<b>737039</b>	<b>DFPB-45/S20-090</b>		
Size 30–S			
<b>737040</b>	<b>DFPB-65/S30-090</b>		
Size 40–S			
<b>737041</b>	<b>DFPB-80/S40-090</b>		
Size 60–S			
<b>737042</b>	<b>DFPB-120/S60-090</b>		
Size 80–S			
<b>737043</b>	<b>DFPB-170/S80-090</b>		
Size 110–S			
<b>737044</b>	<b>DFPB-230/S110-090</b>		
Size 150–S			
<b>737045</b>	<b>DFPB-300/S150-090</b>		
		Part No.	Type
		Size 180–S	
		<b>737046</b>	<b>DFPB-370/S180-090</b>
		Size 230–S	
		<b>737047</b>	<b>DFPB-470/S230-090</b>
		Size 270–S	
		<b>737048</b>	<b>DFPB-550/S270-090</b>
		Size 330–S	
		<b>737049</b>	<b>DFPB-670/S330-090</b>
		Size 420–S	
		<b>737050</b>	<b>DFPB-840/S420-090</b>
		Size 520–S	
		<b>737051</b>	<b>DFPB-1050/S520-090</b>

# Quarter turn actuators DFPB

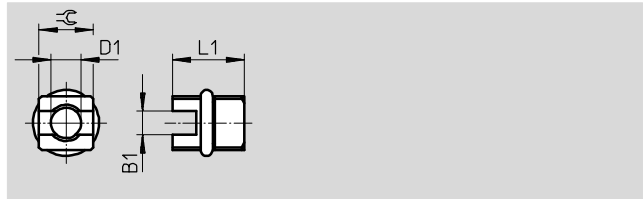
Accessories



## Coupling

Material note:

RoHS-compliant



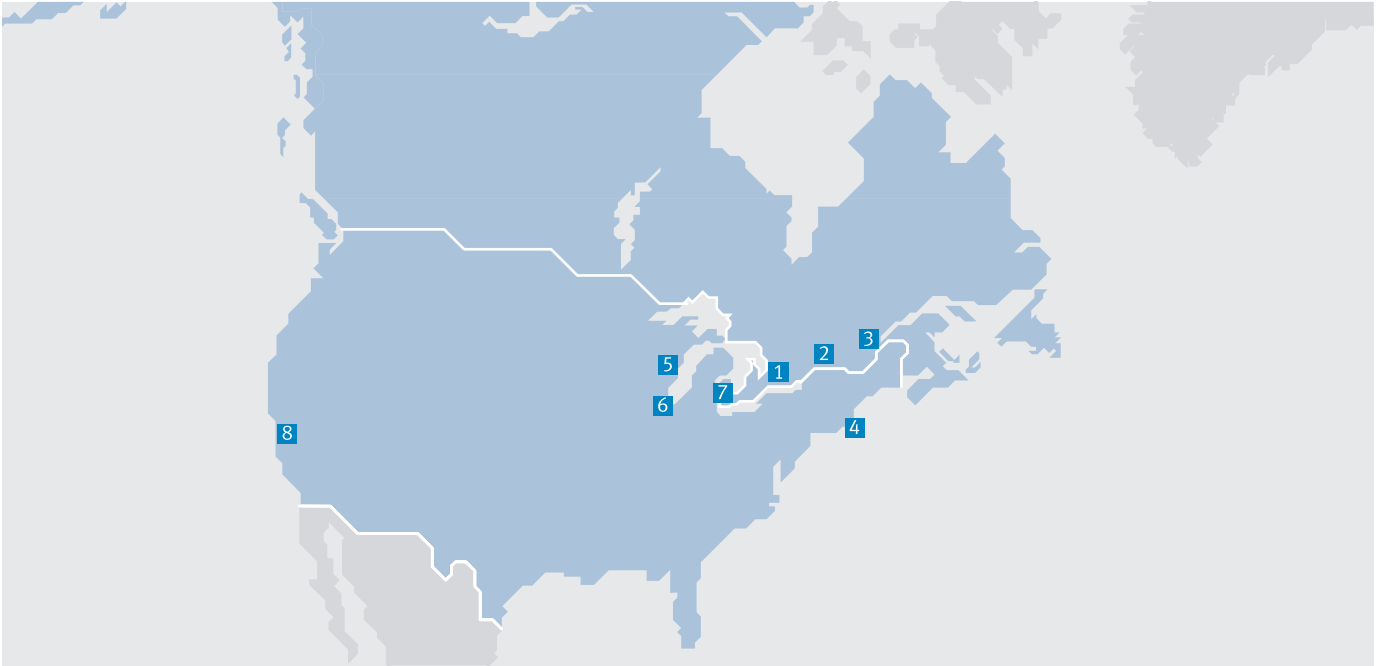
Dimensions [mm]				
	B1	D1 ∅	L1	⊘
DARQ-C-S9	4	5.1	10.4	9
DARQ-C-S11			11.4	11
DARQ-C-S14			15.6	14
DARQ-C-S17			18.4	17
DARQ-C-S22			23.9	22
DARQ-C-S27			28.9	27

Ordering data – Couplings for direct mounting of sensor boxes SRAP on quarter turn actuators DFPB <sup>2)</sup>				
	Size	CRC <sup>1)</sup>	Part No.	Type
<b>DFPB double-acting</b>				
	DFPB-10	3	568674	DARQ-C-S9
	DFPB-20, DFPB-30		568675	DARQ-C-S11
	DFPB-45, DFPB-65, DFPB-80		568676	DARQ-C-S14
	DFPB-120		568677	DARQ-C-S17
	DFPB-170, DFPB-230, DFPB-300		568678	DARQ-C-S22
	DFPB-370, DFPB-470, DFPB-550, DFPB-670		568679	DARQ-C-S27
<b>DFPB single-acting</b>				
	DFPB-10-S, DFPB-15-S	3	568675	DARQ-C-S11
	DFPB-20-S, DFPB-30-S, DFPB-40-S		568676	DARQ-C-S14
	DFPB-60-S		568677	DARQ-C-S17
	DFPB-80-S, DFPB-110-S, DFPB-150-S		568678	DARQ-C-S22
	DFPB-180-S, DFPB-230-S, DFPB-270-S, DFPB-330-S		568679	DARQ-C-S27

- 1) Corrosion resistance class 3 according to Festo standard 940 070  
Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface
- 2) The adapter kit DASB-P1-HA-SB can optionally be used for all DFPB actuators



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