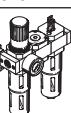
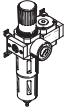
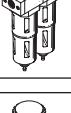


Branching modules FRM/distributor blocks FRZ, D series

FESTO



Product range overview – Service unit components, D series, metal

Type	Size	Pneumatic connection										Pressure regulation range [bar]			Grade of filtration [μm]							
		M5	M7	G1/8	G1/4	G3/8	G1/2	G3/4	G1	QS4	QS6	0.5	0.5	2.5	7	12	12	0.01	1	5	40	
Service units																						
FRC/FRCS		Mini	-	-	■	■	■	-	-	-	-	■	■	-	-	-	-	■	■	■	■	
		Midi	-	-	-	■	■	■	■	-	-	■	■	-	-	■	■	-	-	■	■	
		Maxi	-	-	-	-	-	■	■	■	■	-	-	■	■	■	■	-	-	■	■	
Service unit combinations																						
FRC-K		Micro	-																			
		Mini	-	-	■	■	■	-	-	-	-	-	-	■	■	■	-	-	-	■	■	
		Midi	-	-	-	■	■	■	-	-	-	-	-	■	■	■	-	-	-	■	■	
		Maxi	-	-	-	-	-	■	■	■	-	-	-	■	■	■	-	-	-	■	■	
LFR-K LFRS-K		Micro	-																			
		Mini	-	-	■	■	■	-	-	-	-	-	-	■	■	■	-	-	-	■	■	
		Midi	-	-	-	■	■	■	-	-	-	-	-	■	■	■	-	-	-	■	■	
		Maxi	-	-	-	-	-	■	■	■	-	-	-	■	■	■	-	-	-	■	■	
Individual devices																						
Filter regulators LFR/LFRS		Micro	■	■	■	■	-	-	-	-	-	■	■	■	■	-	-	-	■	-	-	
		Mini	-	-	■	■	■	■	-	-	-	-	-	■	■	■	-	-	-	■	■	
		Midi	-	-	-	■	■	■	■	-	-	-	-	■	■	■	-	-	-	■	■	
		Maxi	-	-	-	-	-	■	■	■	■	-	-	■	■	■	-	-	-	■	■	
Filters LF		Mini	-	-	■	■	■	■	■	-	-	-	-	-	-	-	-	-	■	■	■	
		Midi	-	-	-	■	■	■	■	■	-	-	-	-	-	-	-	-	■	■	■	
		Maxi	-	-	-	-	-	■	■	■	■	-	-	-	-	-	-	-	■	■	■	
Fine and micro filters LFMA/LFMB		Micro	-																			
		Mini	-	-	■	■	■	■	■	-	-	-	-	-	-	-	-	■	■	■	■	
		Midi	-	-	-	■	■	■	■	■	-	-	-	-	-	-	-	■	■	■	■	
		Maxi	-	-	-	-	-	■	■	■	■	-	-	-	-	-	-	■	■	■	■	
Activated carbon filters LFX		Micro	-																			
		Mini	-	-	■	■	■	■	■	-	-	-	-	-	-	-	-	-	-	-	-	
		Midi	-	-	-	■	■	■	■	■	-	-	-	-	-	-	-	-	-	-	-	
		Maxi	-	-	-	-	-	■	■	■	■	-	-	-	-	-	-	-	-	-	-	
Filter combinations LFMBA		Micro	-																			
		Mini	-	-	■	■	■	■	■	-	-	-	-	-	-	-	-	■	■	■	■	
		Midi	-	-	-	■	■	■	■	■	-	-	-	-	-	-	-	■	■	■	■	
		Maxi	-	-	-	-	-	■	■	■	■	-	-	-	-	-	-	■	■	■	■	
Pressure regulators LR/LRS		Mini	-	-	■	■	■	■	■	-	-	-	-	-	-	-	-	■	-	-	-	
		Midi	-	-	-	■	■	■	■	■	-	-	-	-	-	-	-	■	-	-	-	
		Maxi	-	-	-	-	-	■	■	■	■	-	-	-	-	-	-	■	-	-	-	

Product range overview – Service unit components, D series, metal

Type	Size	Bowl guard		Condensate drain		Pressure indication	Actuator lock	Supply voltage		Options		→ Page/ Internet	
		Metal bowl guard	Plastic bowl	Manual	Semi-automatic			With pressure gauge	Without pressure gauge	Rotary knob with latch	Rotary knob with integrated lock		
Service units													
FRC/FRCS	Mini	■	–	■	–	■	■	■	■	■	–	–	frc
	Midi	■	–	■	–	■	■	■	■	■	–	–	
	Maxi	■	–	■	–	■	■	■	■	■	–	■	
Service unit combinations													
FRC-K	Micro	–											frc
	Mini	■	–	■	–	■	■	–	■	■	–	–	
	Midi	■	–	■	–	■	■	–	■	■	–	–	
	Maxi	■	–	■	–	■	■	–	■	■	–	■	
LFR-K LFRS-K	Micro	–											frc
	Mini	■	–	■	–	■	■	–	■	■	–	–	
	Midi	■	–	■	–	■	■	–	■	■	–	–	
	Maxi	■	–	■	–	■	■	–	■	■	–	■	
Individual devices													
Filter regulators LFR/LFRS	Micro	–	■	■	■	–	■	■	■	–	–	–	lfr
	Mini	■	–	■	–	■	■	■	■	■	–	–	
	Midi	■	–	■	–	■	■	■	■	■	–	–	
	Maxi	■	–	■	–	■	■	■	■	■	–	■	
Filters LF	Mini	■	–	■	–	■	–	–	–	–	–	–	lf
	Midi	■	–	■	–	■	–	–	–	–	–	–	
	Maxi	■	–	■	–	■	–	–	–	–	–	–	
Fine and micro filters LFMA/LFMB	Micro	–											lfma, lfmb
	Mini	■	–	■	–	■	–	–	–	–	–	–	
	Midi	■	–	■	–	■	–	–	–	–	–	–	
	Maxi	■	–	■	–	■	–	–	–	–	–	–	
Activated carbon filters LFX	Micro	–											lfx
	Mini	■	–	–	–	–	–	–	–	–	–	–	
	Midi	■	–	–	–	–	–	–	–	–	–	–	
	Maxi	■	–	–	–	–	–	–	–	–	–	–	
Filter combinations LFMBA	Micro	–											lfmba
	Mini	■	–	■	–	■	–	–	–	–	–	–	
	Midi	■	–	■	–	■	–	–	–	–	–	–	
	Maxi	■	–	■	–	■	–	–	–	–	–	–	
Pressure regulators LR/LRS	Mini	–	–	–	–	–	■	■	■	■	–	–	lr
	Midi	–	–	–	–	–	■	■	■	■	–	–	
	Maxi	–	–	–	–	–	■	■	■	■	–	–	
	Maxi												

Product range overview – Service unit components, D series, metal

Type	Size	Pneumatic connection										Pressure regulation range [bar]	
		M5	M7	G1/8	G1/4	G3/8	G1/2	G3/4	G1	QS4	QS6		
Individual devices												0.5	0.5
Pressure regulators LRB/LRBS		Micro	–								
		Mini	–	–	–	■	–	–	–	–	–	■	■
		Midi	–	–	–	–	■	–	–	–	–	■	■
		Maxi	–										
Pressure regulator manifolds LRB-K		Micro	–									■	■
		Mini	–	–	–	■	■	–	–	–	–	■	■
		Midi	–	–	–	–	■	■	–	–	–	■	■
		Maxi	–										
Lubricators LOE		Mini	–	–	■	■	■	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–
On/off valves HE		Micro	–									–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–
On/off valves HEE		Micro	–									–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–
On/off valves HEP		Micro	–									–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–
Soft-start valves HEL		Micro	–									–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–
Membrane air dryers LDM1		Micro	–									–	–
		Mini	–									–	–
		Midi	–									–	–
		Maxi	–	–	–	–	–	–	■	■	■	–	–
Branching modules FRM		Micro	–									–	–
		Mini	–	–	■	■	■	–	–	–	–	–	–
		Midi	–	–	–	■	■	■	■	–	–	–	–
		Maxi	–	–	–	–	–	■	■	■	–	–	–
Distributor block FRZ		Mini	–	–	–	–	–	–	–	–	–	–	–
		Midi	–	–	–	–	–	–	–	–	–	–	–
		Maxi	–	–	–	–	–	–	–	–	–	–	–

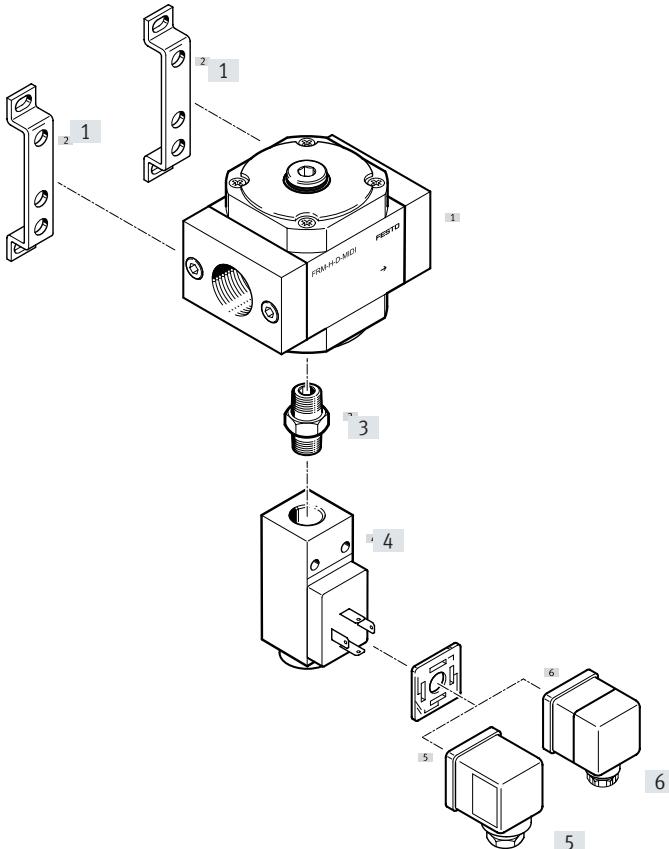
Product range overview – Service unit components, D series, metal

Type	Size	Bowl guard		Pressure indication		Actuator lock		Supply voltage		Options		→ Page/ Internet
		Metal bowl guard	Plastic bowl	With pressure gauge	Without pressure gauge	Rotary knob with latch	Rotary knob with integrated lock	24 V DC	110 V AC	230 V AC	With non-return function	
Individual devices												
Pressure regulators LRB/LRBS	Micro	–										lrb
	Mini	–	–	–	■	■	■	–	–	–	–	
	Midi	–	–	–	■	■	■	–	–	–	–	
	Maxi	–	–									
Pressure regulator manifolds LRB-K	Micro	–										lrb
	Mini	–	–	–	■	■	–	–	–	–	–	
	Midi	–	–	–	■	■	–	–	–	–	–	
	Maxi	–	–									
Lubricators LOE	Mini	■	–	–	■	–	–	–	–	–	–	loe
	Midi	■	–	–	■	–	–	–	–	–	–	
	Maxi	■	–	–	■	–	–	–	–	–	–	
On/off valves HE	Micro	–										he
	Mini	–	–	–	■	■	–	–	–	–	–	
	Midi	–	–	–	■	■	–	–	–	–	–	
	Maxi	–	–	–	■	■	–	–	–	–	–	
On/off valves HEE	Micro	–										hee
	Mini	–	–	–	■	–	–	■	■	■	–	
	Midi	–	–	–	■	–	–	■	■	■	–	
	Maxi	–	–	–	■	–	–	■	■	■	–	
On/off valves HEP	Micro	–										hep
	Mini	–	–	–	■	–	–	–	–	–	–	
	Midi	–	–	–	■	–	–	–	–	–	–	
	Maxi	–	–	–	■	–	–	–	–	–	–	
Soft-start valves HEL	Micro	–										hel
	Mini	–	–	–	■	–	–	–	–	–	–	
	Midi	–	–	–	■	–	–	–	–	–	–	
	Maxi	–	–	–	■	–	–	–	–	–	–	
Membrane air dryers LDM1	Micro	–										ldm1
	Mini	–										
	Midi	–										
	Maxi	■	–	–	■	–	–	–	–	–	–	
Branching modules FRM	Micro	–										6
	Mini	–	–	–	■	–	–	–	–	–	■	
	Midi	–	–	–	■	–	–	–	–	–	■	
	Maxi	–	–	–	■	–	–	–	–	–	■	
Distributor block FRZ	Mini	–	–	–	■	–	–	–	–	–	–	12
	Midi	–	–	–	■	–	–	–	–	–	–	
	Maxi	–	–	–	■	–	–	–	–	–	–	

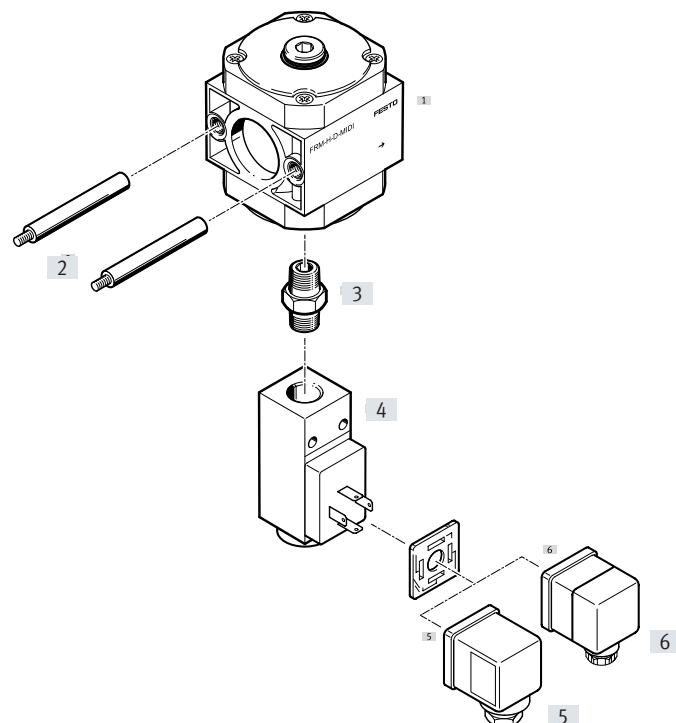
Peripherals overview

Mini/Midi/Maxi

Individual unit with connecting plates



Individual unit without connecting plates, for service unit combination



Mounting attachments and accessories

	Single device		Combination		→ Page/Internet
	With connecting plates	Without connecting plates	With connecting plates	Without connecting plates	
[1] Mounting bracket HFOE	■	-	■	-	hfoe-d
[2] Threaded bolt (included in the scope of delivery) FRB	-	-	■	■	frb-d
[3] Double nipple ESK	■	■	■	■	14
[4] Pressure switch PEV	■	■	■	■	14
[5] Plug socket MSSD-C	■	■	■	■	14
[6] Angled plug socket PEV...-WD-LED	■	■	■	■	14

Type codes

001	Series	
FRM	Branching module	

002	Additional function	
	None	
H	With integrated non-return function	
Y	Pressure switch, connection A1	

003	Pneumatic connection	
	None	
1/8	Female thread G1/8	
1/4	Female thread G1/4	
3/8	Female thread G3/8	
1/2	Female thread G1/2	
3/4	Female thread G3/4	
1	Female thread G1	

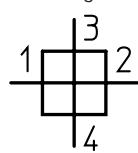
004	Version	
D	D series, metal	

005	Size	
MINI	Grid dimension 40 mm (without connecting plates)	
MIDI	Grid dimension 55 mm (without connecting plates)	
MAXI	Grid dimension 66 mm (without connecting plates)	

Datasheet

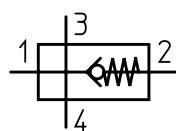
Function

Branching module, standard



- - Flow rate
1100 ... 20000 l/min
- - Temperature range
-10 ... +60 °C
- - Operating pressure
0 ... 16 bar

Branching module with integrated non-return function



- Branching module for compressed air distribution for attachment of auxiliary modules (pressure regulator, pressure switch, etc.)
- An integrated check valve prevents the return flow of lubricated compressed air
- Several additional air connections for greater flexibility
- Can be used as an intermediate distributor for varying air qualities

General technical data

Size	Mini				Midi				Maxi				
Pneumatic connection 1, 2	G1/8	G1/4	G3/8	- ¹⁾	G1/4	G3/8	G1/2	G3/4	- ¹⁾	G1/2	G3/4	G1	- ¹⁾
Pneumatic connection 3	G1/4				G1/2					G3/4			
Pneumatic connection 4	G1/4												
Design	Branching module												
Type of mounting	Via accessories In-line installation												
Mounting position	Any												
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:-:-] Inert gases												

¹⁾ Without connecting plates.²⁾ Note: This product conforms to ISO 1179-1 and ISO 228-1.Standard nominal flow rate $q_{nN}^{(1)}$ [l/min]

Size	Mini				Midi				Maxi				
Pneumatic connection 1, 2	G1/8	G1/4	G3/8	- ²⁾	G1/4	G3/8	G1/2	G3/4	- ²⁾	G1/2	G3/4	G1	- ²⁾
Branching module, standard													
In main flow direction 1 → 2	1400	3300	2900	3300	3300	6700	8200	8800	8200	11700	20000	17400	20000
Branching module with integrated non-return function													
In main flow direction 1 → 2	1100	2000	2100	2000	3100	4900	5100	5000	5100	9000	13500	12300	13500
Branching module with pressure switch													
In main flow direction 1 → 2	-		3300	-				8200	-				20000

¹⁾ Measured at p1 = 6 bar and Δp = 1 bar.²⁾ Without connecting plates.

Datasheet

Operating and environmental conditions					
Branching module	Standard	With integrated non-return function			With pressure switch
Size	Mini/Midi/Maxi	Mini	Midi	Maxi	Mini/Midi/Maxi
Operating pressure [bar]	0 ... 16	0.15 ... 16	0.2 ... 16	0.25 ... 16	0 ... 12
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-] Inert gases				
Ambient temperature [°C]	-10 ... +60				
Temperature of medium [°C]	-10 ... +60				
Storage temperature [°C]	-10 ... +60				
Corrosion resistance class CRC ¹⁾	2				

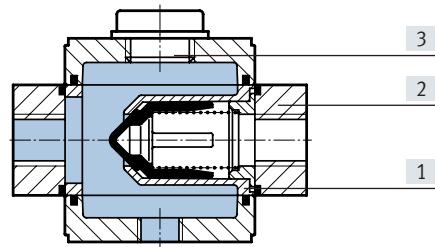
1) More information www.festo.com/x/topic/crc

Weight [g]													
Size	Mini				Midi				Maxi				
Pneumatic connection 1, 2	G1/8	G1/4	G3/8	- ¹⁾	G1/4	G3/8	G1/2	G3/4	- ¹⁾	G1/2	G3/4	G1	- ¹⁾
Branching module, standard													
FRM-D	322	321	322	230	532	522	502	472	382	702	662	772	442
Branching module with integrated non-return function													
FRM-H-D	325	324	325	233	536	526	506	476	386	706	666	776	446
Branching module with pressure switch													
FRM-Y-D	-		507	-				662	-			822	

1) Without connecting plates.

Materials

Sectional view



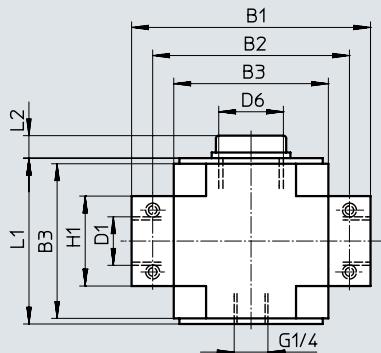
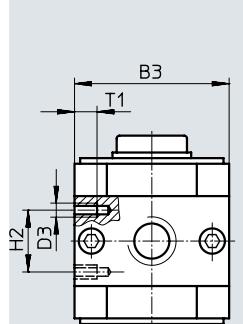
Branching module	
[1] Housing	Die-cast aluminium FRM-H-...-D-MAXI: Die-cast zinc
[2] Connecting plates	Die-cast zinc
[3] Plug screw	Galvanised steel
- Seals	NBR
Note on materials	RoHS-compliant

Datasheet

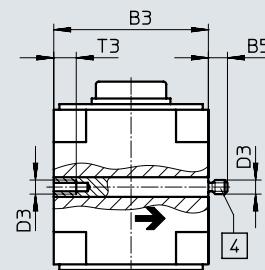
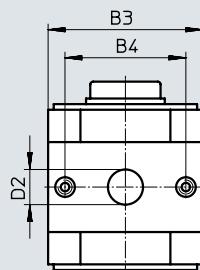
Dimensions

Connecting plates with threaded connection

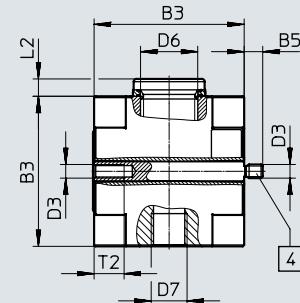
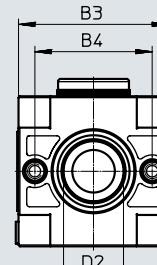
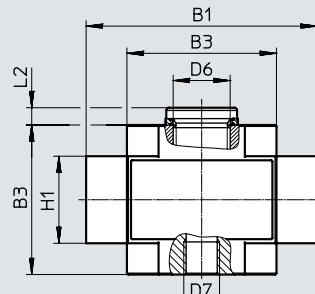
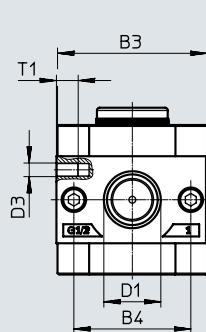
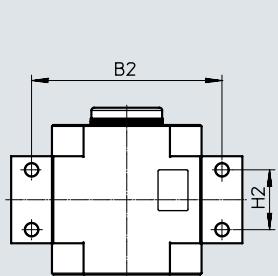
Mini/Maxi



Without connecting plates



Midi



[4] Threaded bolt (exchangeable)

→ Flow direction

Type	B1	B2	B3	B4	B5	D1	D2	D3	D6	D7	H1	H2	L1	L2	T1	T2	
Mini																	
FRM-1/8-D-MINI	64	52	40	30	-	G1/8 G1/4 G3/8	-	M4	G1/4	G1/4	20	11	42	7	7	-	
FRM-1/4-D-MINI																	
FRM-3/8-D-MINI	70																
FRM-D-MINI	-	-			5.8	-	11				-	-			-	10	
Midi																	
FRM-1/4-D-MIDI		85	70	55	43	-	G1/4 G3/8 G1/2 G3/4	-	M5	G1/2	G1/4	32	22	-	6.4	8	-
FRM-3/8-D-MIDI																	
FRM-1/2-D-MIDI																	
FRM-3/4-D-MIDI						6.8	-	22									
FRM-D-MIDI		-	-												-	11	
Maxi																	
FRM-1/2-D-MAXI	96	80	66	46	-	G1/2 G3/4 G1	-	M5	G3/4	G1/4	32 40	22	70	8	8	-	
FRM-3/4-D-MAXI																	
FRM-1-D-MAXI	116	91				6.8	-	30									
FRM-D-MAXI	-	-													-	11	

Note: This product conforms to ISO 1179-1 and ISO 228-1.

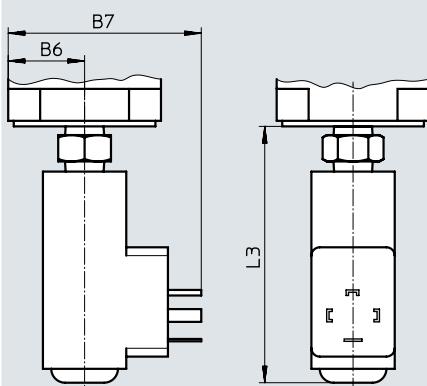
Datasheet

Dimensions – Pressure switch

Pressure switch with adjustable pressure switching point

Download CAD data → www.festo.com

Datasheets → Internet: pev-1/4



Pressure switch PEV-1/4-B-OD with
adjustable pressure switching point,
plug, square design to EN 175 301,
type A

Type	B6	B7	L3
FRM-Y-D-MINI	20	62	92.3
FRM-Y-D-MIDI	27.5	69.5	92.3
FRM-Y-D-MAXI	33	75	92.3

Ordering data		Branching module, standard		Branching module with integrated non-return function		Branching module with pressure switch PEV-1/4-B-OD	
Size	Connection	Part no.	Type	Part no.	Type	Part no.	Type

Without connecting plates							
Mini	–	170684	FRM-D-MINI	170687	FRM-H-D-MINI	542184	FRM-Y-D-MINI
Midi	–	170685	FRM-D-MIDI	170688	FRM-H-D-MIDI	542185	FRM-Y-D-MIDI
Maxi	–	170686	FRM-D-MAXI	170689	FRM-H-D-MAXI	542186	FRM-Y-D-MAXI

Connecting plates with threaded connection							
Mini	G1/8	164949	FRM-1/8-D-MINI	162788	FRM-H-1/8-D-MINI	–	
	G1/4	164950	FRM-1/4-D-MINI		162789		
	G3/8	164951	FRM-3/8-D-MINI		162790	FRM-H-3/8-D-MINI	
Midi	G1/4	186523	FRM-1/4-D-MIDI		186525	FRM-H-1/4-D-MIDI	
	G3/8	164952	FRM-3/8-D-MIDI		162791	FRM-H-3/8-D-MIDI	
	G1/2	164953	FRM-1/2-D-MIDI		162792	FRM-H-1/2-D-MIDI	
	G3/4	164954	FRM-3/4-D-MIDI		162793	FRM-H-3/4-D-MIDI	
Maxi	G1/2	186524	FRM-1/2-D-MAXI		186526	FRM-H-1/2-D-MAXI	
	G3/4	164955	FRM-3/4-D-MAXI		162794	FRM-H-3/4-D-MAXI	
	G1	164956	FRM-1-D-MAXI		162795	FRM-H-1-D-MAXI	

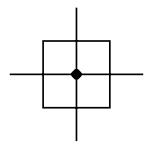
Type codes

001	Series	
FRZ	Distributor block	
002	Version	
D	D series, metal	

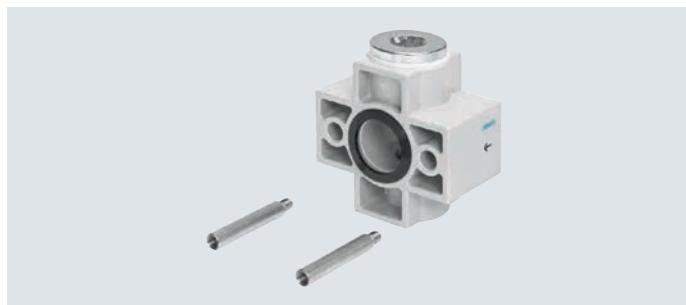
003	Size	
MINI	Grid dimension 40 mm (without connecting plates)	
MIDI	Grid dimension 55 mm (without connecting plates)	
MAXI	Grid dimension 66 mm (without connecting plates)	

Datasheet

Function



Filtered, unlubricated compressed air can be branched via additional air connections, e.g. to supply compressed air to air barriers, sensors and controllers or, for especially clean compressed air, in combination with micro filter LFM.



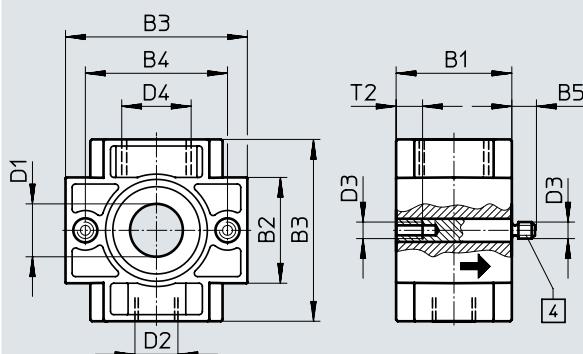
Materials:

Housing: Aluminium

Plug screw: Galvanised steel

Dimensions

[Download CAD data → www.festo.com](#)



Type	B1	B2	B3	B4	B5	D1 Ø	D2	D3	D4	T2
Mini										
FRZ-D-MINI	30	20	40	30	6	12	G1/4	M4	G1/4	12
Midi										
FRZ-D-MIDI	35	32	55	43	7	16	G1/4	M5	G1/2	8
Maxi										
FRZ-D-MAXI	40	32	65	46	7	22	G1/4	M5	G3/4	10

• Note: This product conforms to ISO 1179-1 and ISO 228-1.

Ordering data

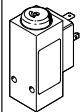
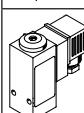
Distributor block

Size	Part no.	Type
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Without connecting plates

Mini	162786	FRZ-D-MINI
Midi	159592	FRZ-D-MIDI
Maxi	162787	FRZ-D-MAXI

Accessories

Ordering data – Pressure switches PEV					Datasheets → Internet: pev-1/4
	Pneumatic connection	Pressure switching point	Electrical connection	Part no.	Type
	G1/4	Adjustable With visual scale	Plug, square design to DIN EN 175 301, type A	161760	PEV-1/4-SC-OD
	G1/4	Adjustable	Plug, square design to DIN EN 175 301, type A	175250	PEV-1/4-B-OD
	G1/4	Adjustable	Plug socket MSSD-C-4P	10773	PEV-1/4-B

Ordering data – Angled plug socket PEV						Datasheets → Internet: pev-1/4
	Description	Operating voltage range	Electrical connection	Switching status indication	Part no.	Type
	For PEV-1/4-....-OD	15 30 V DC	4-pin	Yellow LED	164274	PEV-1/4-WD-LED-24
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	164275	PEV-1/4-WD-LED-230

Ordering data – Plug socket MSSD-C-4P						Datasheets → Internet: msssd-c-4p
	Description	Operating voltage range	Electrical connection	Type of mounting for cable connection	Part no.	Type
	For PEV-1/4-....-OD	≤ 250 V AC/DC	3-pin	Clamping screws	171157	MSSD-C-4P

Ordering data – Double nipple ESK					
	Description	Pneumatic connection		Part no.	Type
	Adjustable for angular compensation • For subsequent mounting of pressure switch PEV on branching module FRM	R1/4	R1/4	151521	ESK-1/4-1/4

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