

Service unit combination MSB6N-FRC

FESTO



Characteristics

At a glance

Combination of filter regulator and lubricator.

- Grid dimension: 62 mm
- High flow rate and extremely efficient in removing contaminants
- Good regulation characteristics with minimal pressure hysteresis
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Two pressure regulation ranges: 4.4 ... 103 psi and 7.4 ... 176 psi
- Optionally with manual or fully automatic condensate drain
- Choice of filter inserts 5 µm or 40 µm

Engineering tools

Link [engineering tools](#)



A selection tool for sizing a suitable service unit component and the correct air purity class can be found under Engineering Tools.

Type code

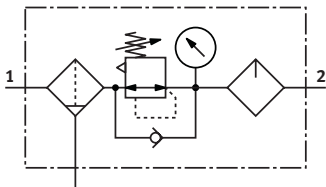
001	Series	
MSB	Service unit component MS series	
002	Size	
6	Grid dimension 62 mm	
003	Thread type	
N	NPT thread	
004	Pneumatic connection, inch	
1/4	Female thread NPT 1/4	
3/8	Female thread NPT 3/8	
1/2	Female thread NPT 1/2	
005	Function	
FRC	Service unit combination	

006	Service unit component equipment	
J1	Filter regulator, 0.5 ... 12 bar, 40 µm, plastic bowl with plastic bowl guard, manual condensate drain, lockable rotary knob	
J2	Filter regulator, 0.5 ... 12 bar, 40 µm, plastic bowl with plastic bowl guard, fully automatic condensate drain, lockable rotary knob	
J3	Filter regulator, 0.5 ... 12 bar, 5 µm, plastic bowl with plastic bowl guard, manual condensate drain, lockable rotary knob	
J4	Filter regulator, 0.5 ... 12 bar, 5 µm, plastic bowl with plastic bowl guard, fully automatic condensate drain, lockable rotary knob	
J5	Filter regulator, 0.3 ... 7 bar, 40 µm, plastic bowl with plastic bowl guard, manual condensate drain, lockable rotary knob	
J6	Filter regulator, 0.3 ... 7 bar, 40 µm, plastic bowl with plastic bowl guard, fully automatic condensate drain, lockable rotary knob	
J7	Filter regulator, 0.3 ... 7 bar, 5 µm, plastic bowl with plastic bowl guard, manual condensate drain, lockable rotary knob	
J8	Filter regulator, 0.3 ... 7 bar, 5 µm, plastic bowl with plastic bowl guard, fully automatic condensate drain, lockable rotary knob	
J9	Filter regulator, 0.5 ... 12 bar, 5 µm, metal bowl with manual condensate drain, lockable rotary knob	
J10	Filter regulator, 0.5 ... 12 bar, 5 µm, metal bowl with fully automatic condensate drain, lockable rotary knob	
J11	Filter regulator, 0.5 ... 12 bar, 40 µm, metal bowl with manual condensate drain, lockable rotary knob	
J12	Filter regulator, 0.5 ... 12 bar, 40 µm, metal bowl with fully automatic condensate drain, lockable rotary knob	
M1	Lubricator, plastic bowl with plastic bowl guard	
M2	Lubricator, metal bowl	
007	Flow direction	
	Flow direction from left to right	

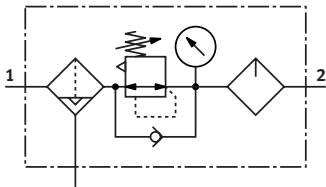
Datasheet

General technical data		
Grade of filtration	5 µm	40 µm
Air purity class at output	Compressed air to ISO 8573-1:2010 [6:4:-]	Compressed air to ISO 8573-1:2010 [7:4:-]
Pneumatic connection, port 1	1/4 NPT, 3/8 NPT, 1/2 NPT	
Pneumatic connection, port 2	1/4 NPT, 3/8 NPT, 1/2 NPT	
Design	Filter regulator with pressure gauge, Proportional standard mist lubricator	
Controller function	Output pressure constant, Via primary pressure compensation, With secondary venting, With return flow function	
Type of mounting	With accessories	
Mounting position	Vertical +/- 5°	
Bowl guard	Plastic bowl guard Integrated as metal bowl	
Condensate drain	Fully automatic Manually rotating	
Actuator lock	Rotary knob with integrated lock	
Pressure regulation range	0.3 ... 12 bar	
Pressure gauge (ANALOG) or Pressure display (DIGITAL)	With pressure gauge	

Function (with manual condensate drain)



Function (with fully automatic condensate drain)



Standard nominal flow rate (measured at p1 = 10 bar, p2 = 6 bar and Δp = 1 bar)											
Pneumatic connection, port 1	1/4 NPT			3/8 NPT				1/2 NPT			
Grade of filtration	5 µm	40 µm		5 µm	40 µm			5 µm	40 µm		
Pressure regulation range	0.5 ... 12 bar		0.3 ... 7 bar	0.5 ... 12 bar	0.3 ... 7 bar		0.5 ... 12 bar	0.3 ... 7 bar	0.5 ... 12 bar	0.3 ... 7 bar	0.5 ... 12 bar
Standard nominal flow rate (standardised to DIN 1343) ¹⁾	1,700 l/min	1,900 l/min	2,100 l/min	3,400 l/min	4,400 l/min	3,500 l/min	4,600 l/min	3,600 l/min	4,600 l/min	3,700 l/min	4,800 l/min

1) 125 l/min must be available for the fully automatic condensate drain to close correctly.

Datasheet

Operating and environmental conditions

Condensate drain	Fully automatic		Manually rotating	
Pressure regulation range	0.5 ... 12 bar	0.3 ... 7 bar	0.5 ... 12 bar	0.3 ... 7 bar
Operating pressure	1.5 ... 12 bar		1.5 ... 20 bar	
Operating medium	Compressed air to ISO 8573-1:2010 [7:4-], Inert gases		Compressed air to ISO 8573-1:2010 [-:4-], Inert gases	
Grade of filtration	5 ... 40 µm			
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)			
Ambient temperature	5 ... 60°C		-10 ... 60°C	
Media temperature	5 ... 60°C		-10 ... 60°C	
Storage temperature	-10 ... 60°C			
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress			
Suitable for use with food ²⁾	See supplementary material information			

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

2) More information www.festo.com/catalogue/msb6n-frc → Support/Downloads.

Weight

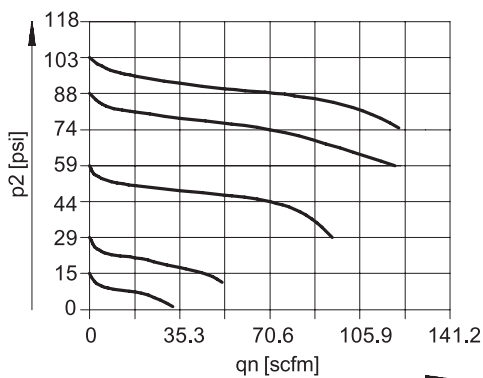
Bowl guard	Plastic bowl guard		Integrated as metal bowl	
Pressure regulation range	0.5 ... 12 bar	0.3 ... 7 bar	0.5 ... 12 bar	0.3 ... 7 bar
Product weight	1,495 g		1,713 g	1,495 g

Materials

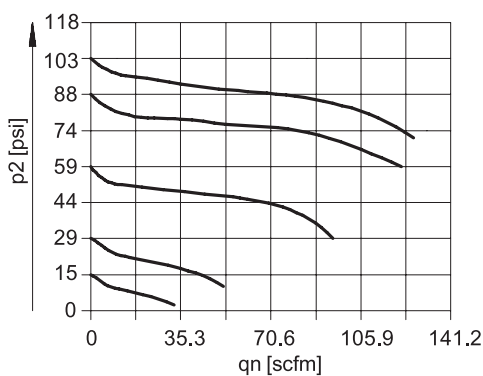
Material housing	—			
Material bowl	—			
Note on materials	RoHS-compliant			
LABS (PWIS) conformity ¹⁾	VDMA24364-B1/B2-L			

1) MSB6N-1/2-FRC5;1M1; VDMA24364-B2-L

Normal flow q_n as a function of output pressure p_2 (MSB6N-1/4; pressure regulation range 4.4 ... 103 psi; grade of filtration 5 µm)

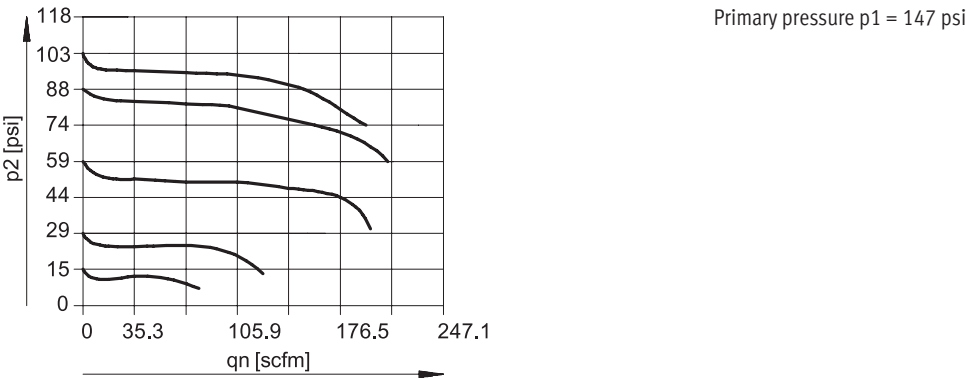


Normal flow q_n as a function of output pressure p_2 (MSB6N-1/4; pressure regulation range 4.4 ... 103 psi; grade of filtration 40 µm)

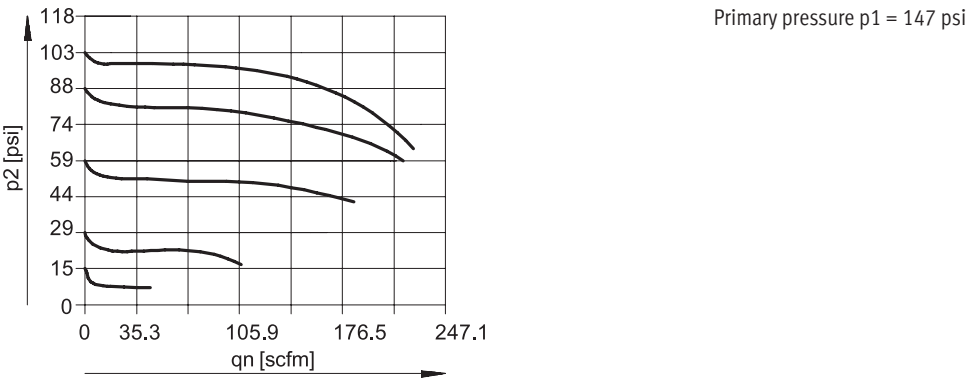


Datasheet

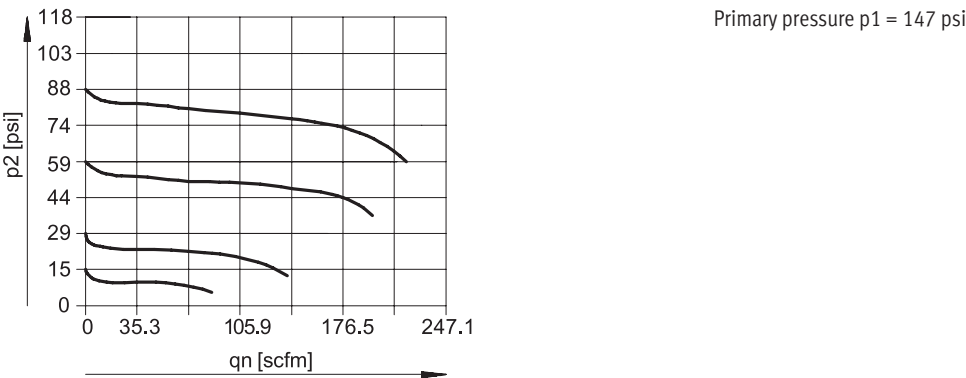
Normal flow qn as a function of output pressure p2 (MSB6N-3/8; pressure regulation range 4.4 ... 103 psi; grade of filtration 5 µm)



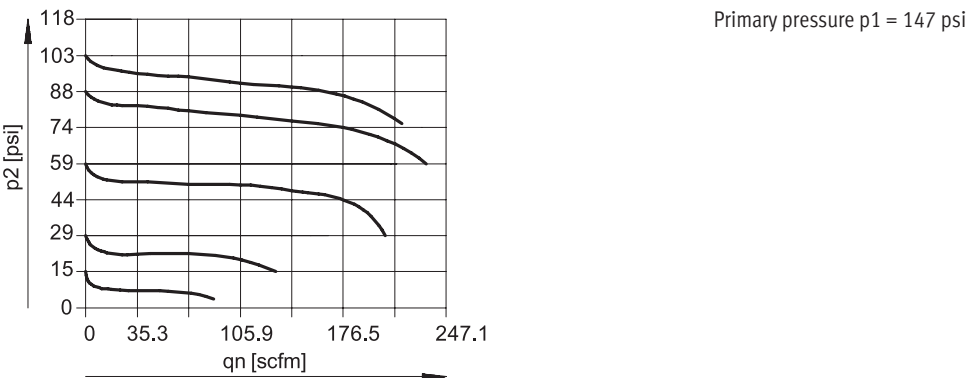
Normal flow qn as a function of output pressure p2 (MSB6N-3/8; pressure regulation range 4.4 ... 103 psi; grade of filtration 40 µm)



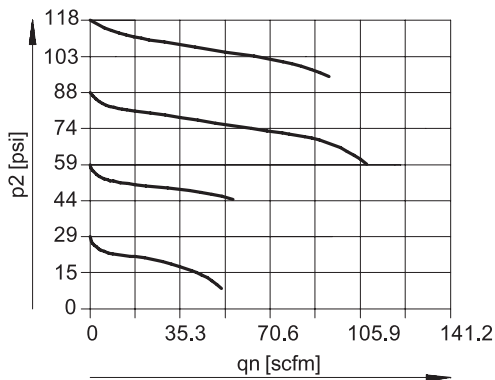
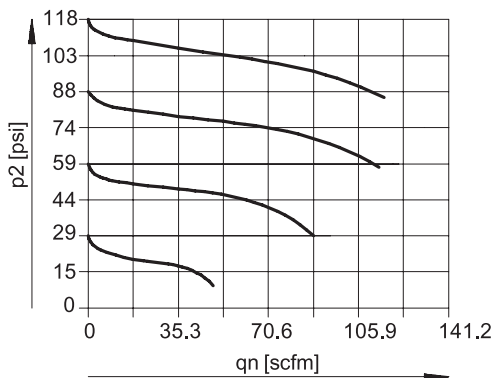
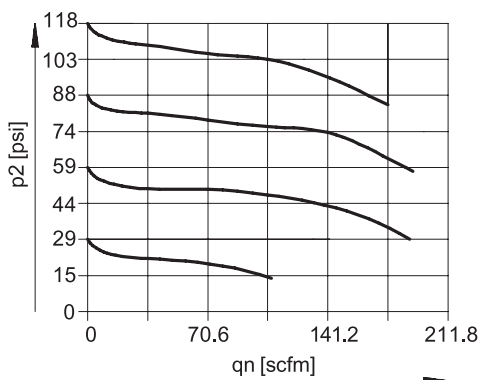
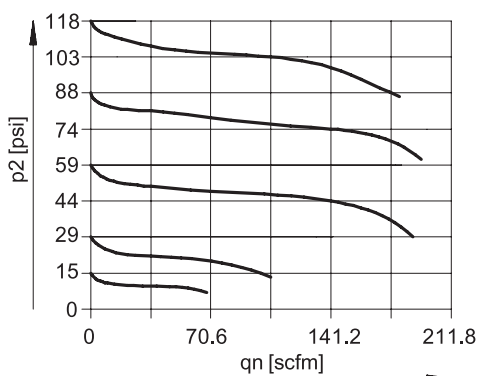
Normal flow qn as a function of output pressure p2 (MSB6N-1/2; pressure regulation range 4.4 ... 103 psi; grade of filtration 5 µm)



Normal flow qn as a function of output pressure p2 (MSB6N-1/2; pressure regulation range 4.4 ... 103 psi; grade of filtration 40 µm)

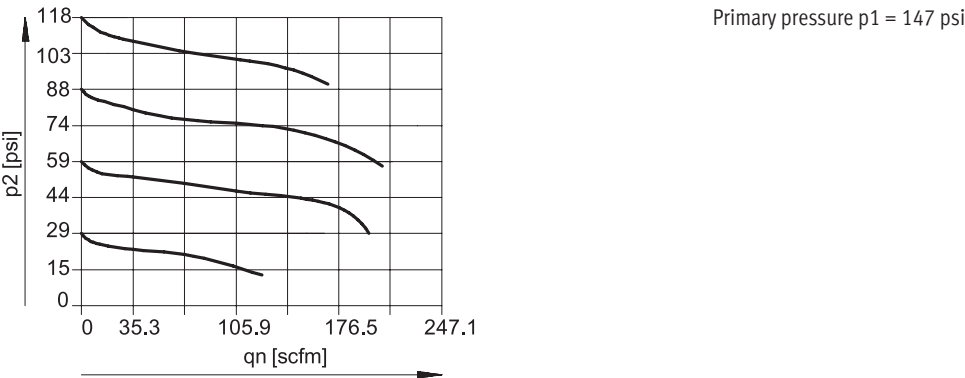


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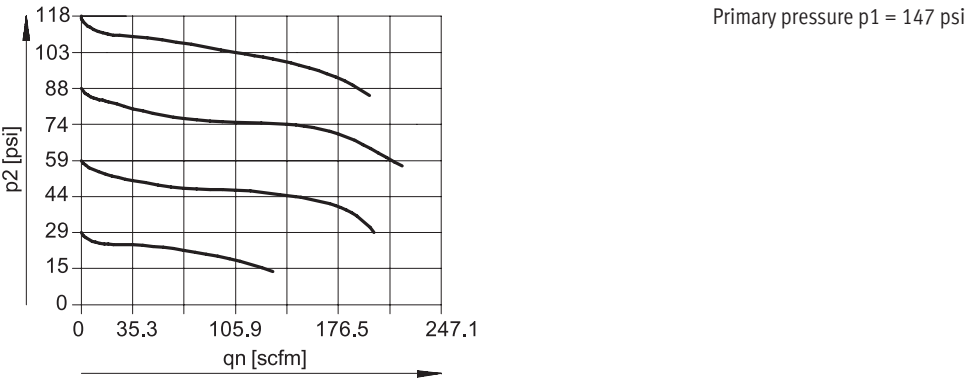
Normal flow q_n as a function of output pressure p_2 (MSB6N-1/4; pressure regulation range 7.4 ... 176 psi; grade of filtration 5 μm)Normal flow q_n as a function of output pressure p_2 (MSB6N-1/4; pressure regulation range 7.4 ... 176 psi; grade of filtration 40 μm)Normal flow q_n as a function of output pressure p_2 (MSB6N-3/8; pressure regulation range 7.4 ... 176 psi; grade of filtration 5 μm)Normal flow q_n as a function of output pressure p_2 (MSB6N-3/8; pressure regulation range 7.4 ... 176 psi; grade of filtration 40 μm)

Datasheet

Normal flow qn as a function of output pressure p2 (MSB6N-1/2; pressure regulation range 7.4 ... 176 psi; grade of filtration 5 µm)



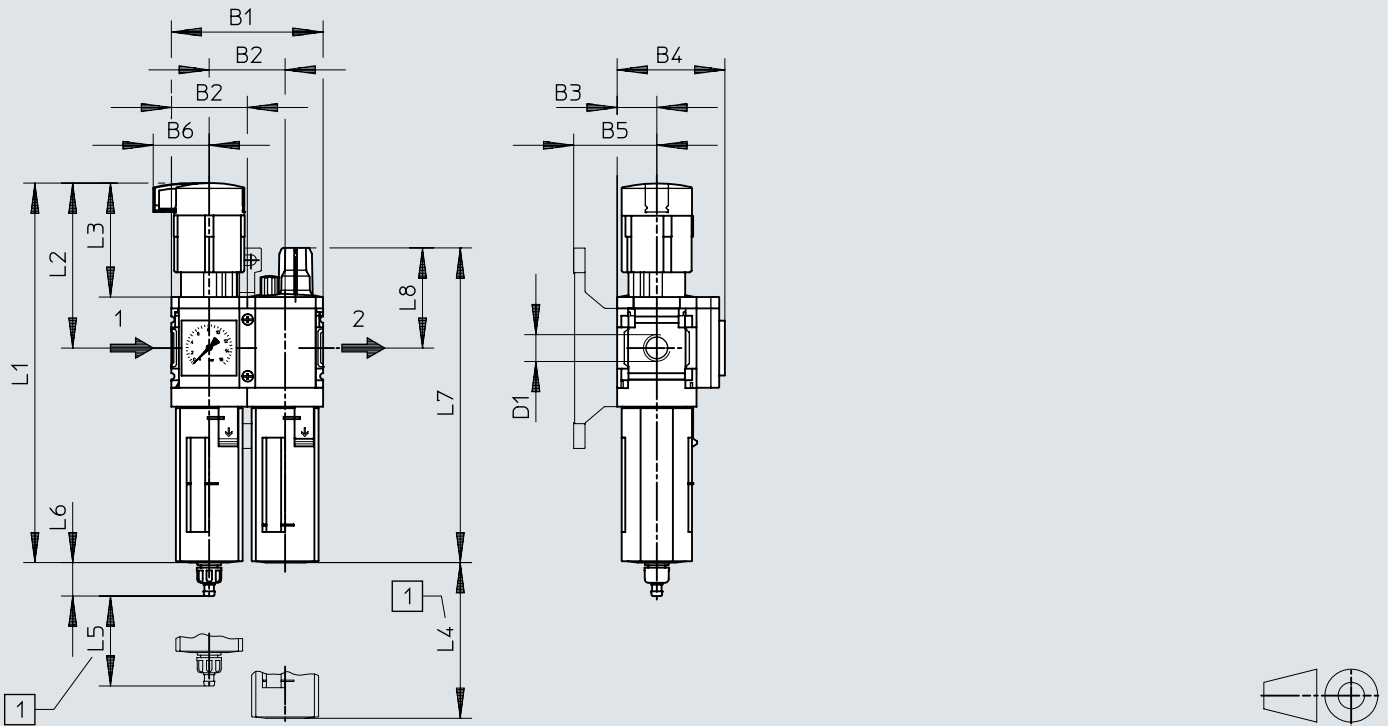
Normal flow qn as a function of output pressure p2 (MSB6N-1/2; pressure regulation range 7.4 ... 176 psi; grade of filtration 40 µm)



Dimensions

Dimensions – With pressure gauge, display unit [psi]

Download CAD data www.festo.com



[1] Installation dimension

	B1 [inch]	B2 [inch]	B3 [inch]	B4 [inch]	B5 [inch]	B6 [inch]	D1	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]	L6 [inch] ¹⁾ [inch] ²⁾		L7 [inch]	L8 [inch]
MSB6N-1/4	4,88	2,44	1,22	3,03	2,13	1,53	1/4 NPT	11,21	5,30	3,76	5,12	2,68	0,62	0,73	8,48	2,58
MSB6N-3/8							3/8 NPT									
MSB6N-1/2							1/2 NPT									

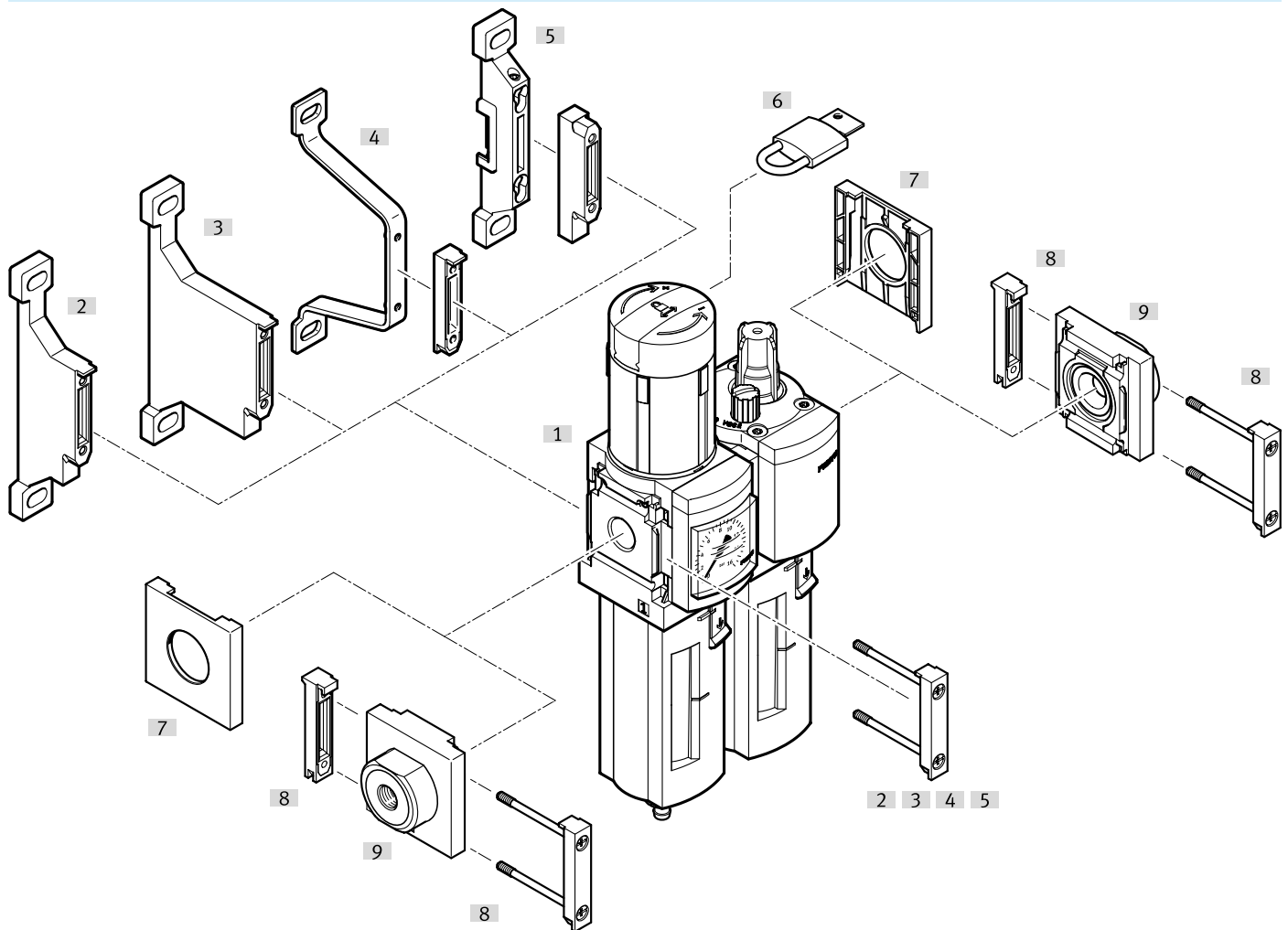
1) Manual condensate drain
2) Fully automatic condensate drain

Ordering data

Ordering data						
	Pneumatic connection, port 1	Condensate drain	Grade of filtration	Pressure regulation range	Part no.	Type
	1/4 NPT	Fully automatic	5 µm		533997	MSB6N-1/2-FRC7:J3M1
			40 µm	0.3 ... 7 bar	534011	MSB6N-1/4-FRC2:J6M1
				0.5 ... 12 bar	534005	MSB6N-1/4-FRC10:J12M2
			Manually rotating		534019	MSB6N-1/4-FRC6:J2M1
					534021	MSB6N-1/4-FRC7:J3M1
					534007	MSB6N-1/4-FRC11:J9M2
			40 µm	0.3 ... 7 bar	534003	MSB6N-1/4-FRC1:J5M1
				0.5 ... 12 bar	534017	MSB6N-1/4-FRC5:J1M1
	3/8 NPT	Fully automatic	5 µm	0.3 ... 7 bar	534039	MSB6N-3/8-FRC4:J8M1
				0.5 ... 12 bar	534033	MSB6N-3/8-FRC12:J10M2
					534047	MSB6N-3/8-FRC8:J4M1
			40 µm	0.3 ... 7 bar	534035	MSB6N-3/8-FRC2:J6M1
				0.5 ... 12 bar	534029	MSB6N-3/8-FRC10:J12M2
					534043	MSB6N-3/8-FRC6:J2M1
		Manually rotating	5 µm	0.3 ... 7 bar	534037	MSB6N-3/8-FRC3:J7M1
				0.5 ... 12 bar	534045	MSB6N-3/8-FRC7:J3M1
					534031	MSB6N-3/8-FRC11:J9M2
			40 µm	0.3 ... 7 bar	534027	MSB6N-3/8-FRC1:J5M1
				0.5 ... 12 bar	534041	MSB6N-3/8-FRC5:J1M1
	1/2 NPT	Fully automatic	5 µm	0.3 ... 7 bar	533991	MSB6N-1/2-FRC4:J8M1
				0.5 ... 12 bar	533985	MSB6N-1/2-FRC12:J10M2
					533999	MSB6N-1/2-FRC8:J4M1
			40 µm	0.3 ... 7 bar	533987	MSB6N-1/2-FRC2:J6M1
				0.5 ... 12 bar	533995	MSB6N-1/2-FRC6:J2M1
					533981	MSB6N-1/2-FRC10:J12M2
		Manually rotating	5 µm	0.3 ... 7 bar	533989	MSB6N-1/2-FRC3:J7M1
				0.5 ... 12 bar	533983	MSB6N-1/2-FRC11:J9M2
			40 µm	0.3 ... 7 bar	533979	MSB6N-1/2-FRC1:J5M1
				0.5 ... 12 bar	534001	MSB6N-1/2-FRC9:J11M2
					533993	MSB6N-1/2-FRC5:J1M1

Peripherals

Peripherals overview



Accessories		→ Link
Type/order code	Description	
[1] Service unit combination MSB6N-FRC		msb6n-frc
[2] Mounting bracket MS6-WP		12
[3] Mounting bracket MS6-WPB		12
[4] Mounting bracket MS6-WPE		12
[5] Mounting bracket MS6-WPM		12
[6] Padlock LRVS		13
[7] Cover cap MS6-END		12
[8] Module connector MS6-MV1		12
[9] Connecting plate MS6-AG...		12

Accessories

Cover cap MS6-END				
	Size	Part no.	Type	
	6	538780	MS6-END	

Connecting plate SET MS6N-AQ...				
	Size	Pneumatic connection, port 1	Part no.	Type
	6	1/4 NPT	526076	MS6N-AQN
		3/8 NPT	526077	MS6N-AQP
		1/2 NPT	526078	MS6N-AQR
		3/4 NPT	526079	MS6N-AQS

Module connector MS6-MV1				
	Size	Product weight	Part no.	Type
	6	33 g	8119204	MS6-MV1

Mounting bracket MS6-WP...				
	Size	Part no.	Type	
	6	532195	MS6-WP	
		532186	MS6-WPM-2D	
		526073	MS6-WPM-D	
		526074	MS6-WPB	

Filter cartridge MS-LFP				
	Size	Grade of filtration	Part no.	Type
	6	5 µm	534499	MS6-LFP-C

Accessories

Filter cartridge MS-LFP				
	Size	Grade of filtration	Part no.	Type
	6	40 µm	534500	MS6-LFP-E

Special oil OPSW-32 (1 litre)				
	Short type code		Part no.	Type
	OFSW		152811	OFSW-32

Padlock LRVS-D						
	Short type code	Corrosion resistance class CRC ¹⁾	LABS (PWIS) conformity	Product weight	Part no.	Type
	LRVS-D	2 - Moderate corrosion stress	VDMA24364-B1/B2-L	120 g	193786	LRVS-D

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