

Water separators MS-LWS, MS series, NPT

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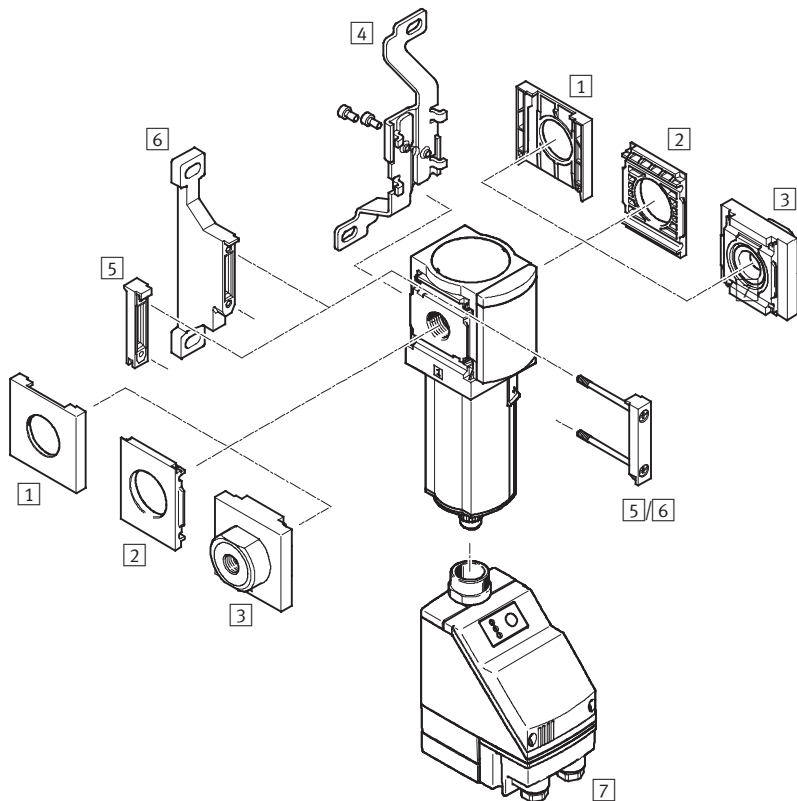


Water separators MS6N-LWS, MS series, NPT

Peripherals overview

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Water separator MS6N-LWS



Note

Additional accessories:

- Module connector for combination with size MS4/MS6 or size MS9 → Internet: amv, rmv, armv
- Adapter for mounting on profiles → Internet: ipm-80, ipm-40-80, ipm-80-80

Mounting attachments and accessories						
		Individual device		Combination		➔ Page/Internet
		Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS6-END	■	–	■	–	ms6-end
2	Mounting plate MS6-AEND	■ ¹⁾	–	■ ¹⁾	–	ms6-aend
3	Connecting plate MS6N-AQ...	–	■ ¹⁾	–	■ ¹⁾	ms6n-aq
4	Mounting bracket MS6-WB	■	■	–	–	ms6-wb
5	Module connector MS6-MV	–	■	■	■	ms6-mv
6	Mounting bracket MS6-WP	■	■	■	■	ms6-wp
	Mounting bracket (not illustrated) MS6-WPB/WPE/WPM	■	■	■	■	ms6-wp
7	Fully automatic, electrically actuated condensate drain E2/E3/E4	■	■	■	■	7

1) Module connector MS6-MV [5] or mounting bracket MS6-WP/WPB/WPE/WPM [6] is required for mounting.

Water separators MS6N-LWS, MS series, NPT

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Type codes

		MS	6	N	-	LWS	-	1/4	-	U	-	V
Series												
MS	Standard service unit											
Size												
6	Grid dimension 62 mm											
Thread												
N	NPT thread											
Service function												
LWS	Water separator											
Pneumatic connection												
1/4	Thread NPT1/4-18											
3/8	Thread NPT3/8-18											
1/2	Thread NPT1/2-14											
Bowl guard												
U	Integrated as metal bowl											
Condensate drain												
V	Fully automatic											

Further variants can be ordered using the modular system → 7

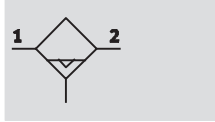
- Connecting plates
- Condensate drain
- Type of mounting
- Alternative flow direction

Water separators MS6N-LWS, MS series, NPT

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Technical data

Condensate drain,
fully automatic



Flow rate
2,400 ... 3,800 l/min
Temperature range
+1 ... +60 °C
Pressure
0.8 ... 16 bar



The maintenance-free water separator removes condensate from the compressed air.

- Constantly high condensate separation (99%) up to the maximum flow rate
- Metal bowl
- Available with fully automatic or fully automatic, electrically actuated condensate drain

General technical data				
Size	MS6			
Pneumatic connection 1, 2	NPT1/4-18	NPT3/8-18	NPT1/2-14	NPT1/4-18 ... NPT3/4-14 (with connecting plate AQ...)
Constructional design	Centrifugal separator			
Type of mounting	Via accessories In-line installation			
Mounting position	Vertical ±5°			
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:7:4] (with variant E2, E3 or E4: [-:7:4])			
Bowl guard	Integrated as metal bowl			
Condensate drain	Fully automatic Fully automatic, electrically actuated			
Degree of condensate separation [%]	99			
Max. condensate volume [ml]	38			

Standard nominal flow rate qnN ¹⁾			
Size	MS6		
Pneumatic connection	NPT1/4-18	NPT3/8-18	NPT1/2-14
qnN [l/min]	2,400	3,500	3,800

1) Measured at p₁ = 6 bar and Δp = 1 bar

Operating and environmental conditions		
Condensate drain	Fully automatic V	Fully automatic, electrically actuated E2/E3/E4
Size	MS6	MS6
Supply pressure [bar]	2 ... 12	0.8 ... 16
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:-:-] Inert gases	Compressed air in accordance with ISO 8573-1:2010 [-:-:-]
Ambient temperature [°C]	+5 ... +60	+1 ... +60
Temperature of medium [°C]	+5 ... +60	+1 ... +60
Storage temperature [°C]	-10 ... +60	+1 ... +60
Corrosion resistance class CRC ¹⁾	2	

1) Corrosion resistance class 2 to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricants.

Water separators MS6N-LWS, MS series, NPT

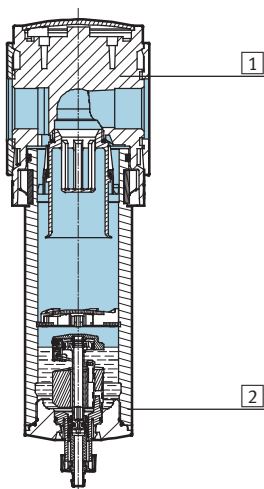
Technical data

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Weight [g]	
Size	MS6
Water separator	820
Water separator with fully automatic, electrically actuated condensate drain E2/E3/E4	1,800

Materials

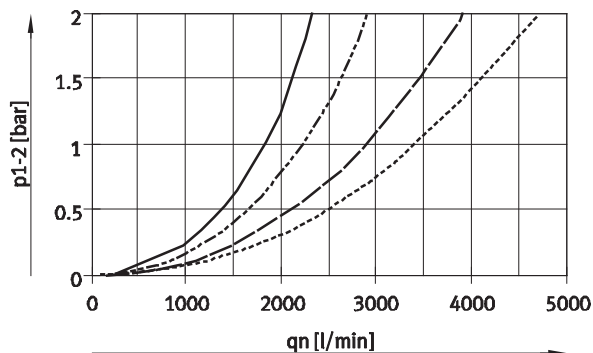
Sectional view



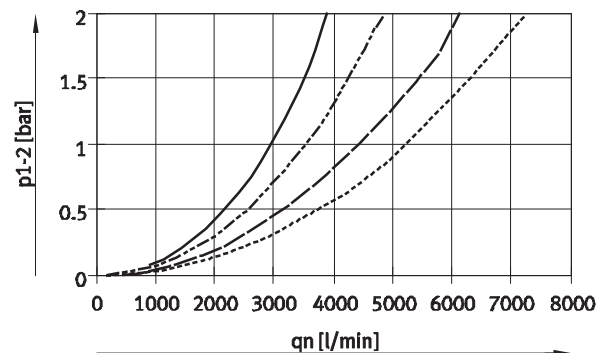
Water separator		
1	Housing	Die-cast aluminium
2	Bowl	Wrought aluminium alloy
	Inspection window	PA
–	Seals	NBR
Note on materials		RoHS-compliant (not with variant E2, E3 or E4)
		Free of copper and PTFE

Standard flow rate q_n as a function of differential pressure p_{1-2}

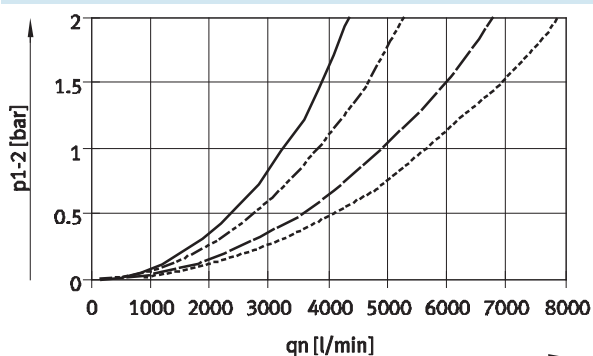
MS6N-LWS-1/4



MS6N-LWS-3/8



MS6N-LWS-1/2



— 4 bar
 - - - 6 bar
 - . - . 10 bar
 - . - . 14 bar

Water separators MS6N-LWS, MS series, NPT

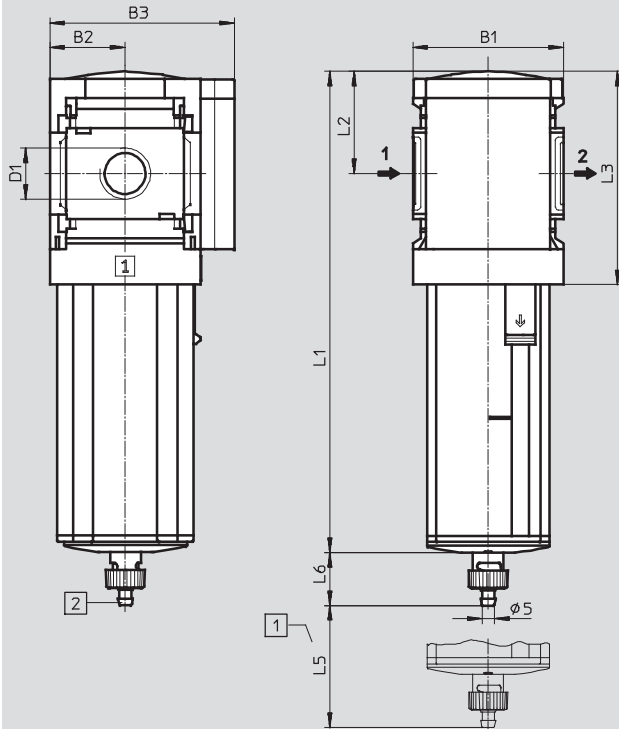
Technical data

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Dimensions – Standard

Download CAD Data → www.festo.com/us/cad

Fully automatic condensate drain V



- 1 Installation dimensions
- 2 Barbed connector for plastic tubing PCN-4

→ Flow direction

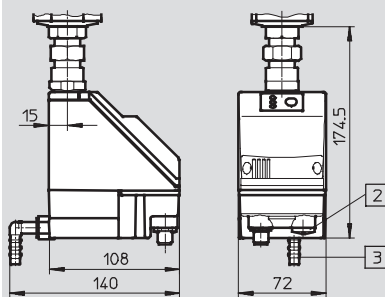
Type	B1	B2	B3	D1	L1	L2	L3	L5	L6
MS6N-LWS-1/4-...-V	62	31	76	NPT1/4-18	198	42	87	68	22
MS6N-LWS-3/8-...-V				NPT3/8-18					
MS6N-LWS-1/2-...-V				NPT1/2-14					

Dimensions – Condensate drain

Download CAD Data → www.festo.com/us/cad

Fully automatic, electrically actuated E2/E3/E4

Technical data → Internet: pwea



Condensate drain PWEA:

- 2 Electrical connection: Screw terminal PG9
- 3 Connection 360° rotatable for plastic tubing PUN-H-12x2

Ordering data

Size	Condensate drain	Connection	Part No.	Type
Integrated as metal bowl				
MS6	Fully automatic	NPT1/4-18	564871	MS6N-LWS-1/4-U-V
		NPT3/8-18	564872	MS6N-LWS-3/8-U-V
		NPT1/2-14	564873	MS6N-LWS-1/2-U-V

Water separators MS6N-LWS, MS series, NPT

Ordering data – Modular products

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M Mandatory data								O Options	
Module No.	Series	Size	Thread	Function	Connection size	Bowl guard	Condensate drain	Type of mounting	Alternative flow direction
564898	MS	6	N	LWS	1/4, 3/8, 1/2, AQN, AQP, AQR, AQS	U	V, E2, E3, E4	WP, WPM, WB	Z
Ordering example									
564898	MS	6	N	- LWS	- AQN	- U	- V	- WP	- Z

Ordering table					
Grid dimension	[mm]	62	Condition s	Code	Enter code
M	Module No.	564898			
	Series	Standard		MS	MS
	Size	6		6	6
	Thread	NPT thread		N	N
	Function	Water separator		-LWS	-LWS
	Connection size	Thread NPT1/4		-1/4	
		Thread NPT3/8		-3/8	
		Thread NPT1/2		-1/2	
		Connecting plate NPT1/4		-AQN	
		Connecting plate NPT3/8		-AQP	
		Connecting plate NPT1/2		-AQR	
		Connecting plate NPT3/4		-AQS	
	Bowl guard	Metal bowl		-U	-U
	Condensate drain	Fully automatic (P1 max. 12 bar)		-V	
		External fully automatic condensate drain, electrical, 110 V AC, terminals (P1 max. 16 bar)		-E2	
		External fully automatic condensate drain, electrical, 230 V AC, terminals (P1 max. 16 bar)		-E3	
		External fully automatic condensate drain, electrical, 24 V DC, terminals (P1 max. 16 bar)		-E4	
	Type of mounting	Mounting bracket	1	-WP	
		Mounting bracket	1	-WPM	
		Mounting bracket		-WB	
	Alternative flow direction	Flow direction from right to left		-Z	

1 WP, WPM Only with connecting plate AQN, AQP, AQR or AQS

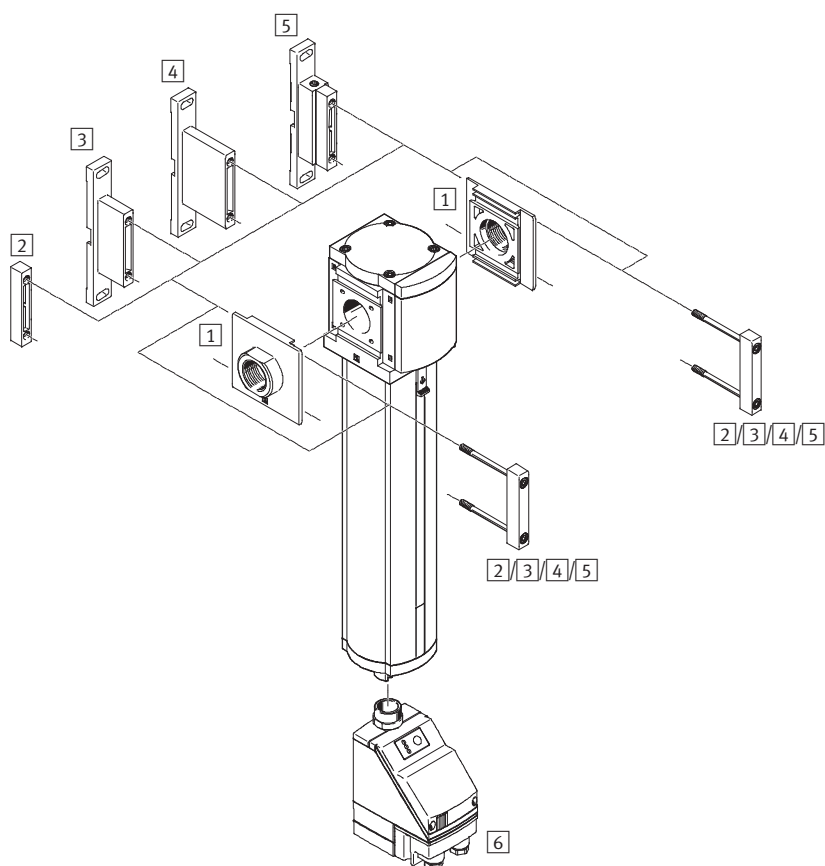
Transfer order code

564898	MS	6	N	- LWS	-	-U	-	-	-
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Water separators MS9-LWS, MS series, NPT

Peripherals overview

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Note

Additional accessories:

- Module connector for combinations with size MS6, MS9 or MS12

→ Internet: rmv, armv

Mounting attachments and accessories				
		Individual device		→ Page/ Internet
		With female thread N $\frac{3}{4}$ or N1	With connecting plate AQ...	
[1]	Connecting plate MS9-AQ...	–	■	ms9-aq
[2]	Module connector MS9-MV	–	–	ms9-mv
[3]	Mounting bracket MS9-WP	■	■	ms9-wp
[4]	Mounting bracket MS9-WPB	■	■	ms9-wp
[5]	Mounting bracket MS9-WPM	■	■	ms9-wp
[6]	Condensate drain, fully automatic, electrically actuated E2/E3/E4	■	■	14

Water separators MS9-LWS, MS series, NPT

Type codes

		MS	9	-	LWS	-	G	-	U	-	V
Series											
MS	Standard service unit										
Size											
9	Grid dimension 90 mm										
Service function											
LWS	Water separator										
Connection size											
G	Module without connecting thread, without connecting plate										
Bowl guard											
U	Integrated as metal bowl										
Condensate drain											
V	Fully automatic										

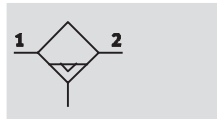
Additional variants can be ordered using the modular product system → 14

- Connecting plates
- Condensate drain
- Type of mounting
- UL certification
- Alternative flow direction

Water separators MS9-LWS, MS series, NPT

Technical data

Condensate drain,
fully automatic



Flow rate
12,000 ... 15,000 l/min
Temperature range
+1 ... +60 °C
Pressure
0.8 ... 16 bar



The water separator removes
condensate from the compressed air.

- Constantly high condensate separation (99%) up to the maximum flow rate
- Metal bowl
- Available with fully automatic or fully automatic, electrically actuated condensate drain

General technical data				
Size	MS9			
Pneumatic connection 1, 2	NPT $\frac{3}{4}$ -14	NPT1-11 $\frac{1}{2}$	NPT $\frac{1}{2}$ -14 ... NPT1 $\frac{1}{2}$ -11 $\frac{1}{2}$ (with connecting plate AQ...)	– (without connecting thread G)
Design	Centrifugal separator			
Type of mounting	Via accessories In-line installation			
Mounting position	Vertical $\pm 5^\circ$			
Air purity class at the output	Compressed air to ISO 8573-1:2010 [–:7:4]			
Bowl guard	Integrated as metal bowl			
Condensate drain	Fully automatic Fully automatic, electrically actuated			
Degree of condensate separation [%]	99			
Max. condensate volume [ml]	220			

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]			
Pneumatic connection	Thread NPT $\frac{3}{4}$ -14 or connecting plate AQS	Thread NPT1-11 $\frac{1}{2}$ or connecting plate AQT	Without connecting thread G
q_{nN} [l/min]	12,000 $\pm 15\%$	15,000 $\pm 15\%$	15,000 $\pm 15\%$

1) Measured at $p_1 = 6$ bar and $\Delta p = 1$ bar

Water separators MS9-LWS, MS series, NPT

Technical data

Operating and environmental conditions		
Condensate drain	Fully automatic V	Fully automatic, electrically actuated E2/E3/E4
Operating pressure [bar]	2 ... 12	0.8 ... 16
Operating medium	Compressed air to ISO 8573-1:2010 [-:-:-]	
Ambient temperature [°C]	+5 ... +60	+1 ... +60
Temperature of medium [°C]	+5 ... +60	+1 ... +60
Storage temperature [°C]	+5 ... +60	+1 ... +60
Corrosion resistance class CRC ¹⁾	2	
Certification (variant UL1)	cULus recognized (OL)	

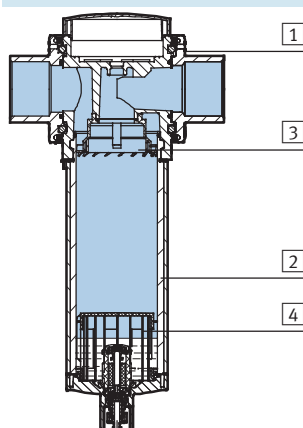
1) Corrosion resistance class 2 according to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weight [g]	
Water separator	2,000
Water separator with condensate drain, fully automatic, electrically actuated E2/E3/E4	2,400

Materials

Sectional view

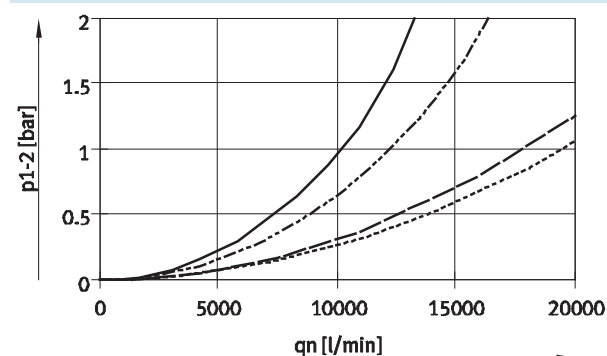


Water separator		
1	Housing	Die-cast aluminium
2	Bowl	Wrought aluminium alloy
	Inspection window	PA
3	Spin disc	POM
4	Isolating disc	POM
–	Cover	PA, reinforced
–	Connecting plate, module connector, mounting bracket	Die-cast aluminium
–	Seals	NBR
Note on materials		RoHS-compliant (not with variant E2, E3 or E4)

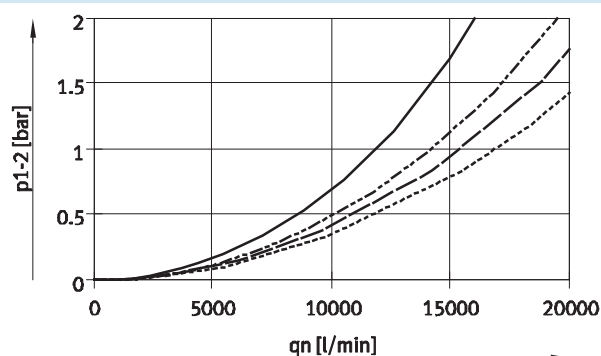
Standard flow rate q_n as a function of differential pressure Δp_{1-2}

MS9-LWS-N $\frac{3}{4}$ /AQS, pneumatic connection NPT $\frac{3}{4}$ -14

MS9-LWS-N1/AQT, pneumatic connection NPT1-11 $\frac{1}{2}$



— 4 bar
- - - 6 bar
- · - · 10 bar
· · · · 12 bar



Water separators MS9-LWS, MS series, NPT

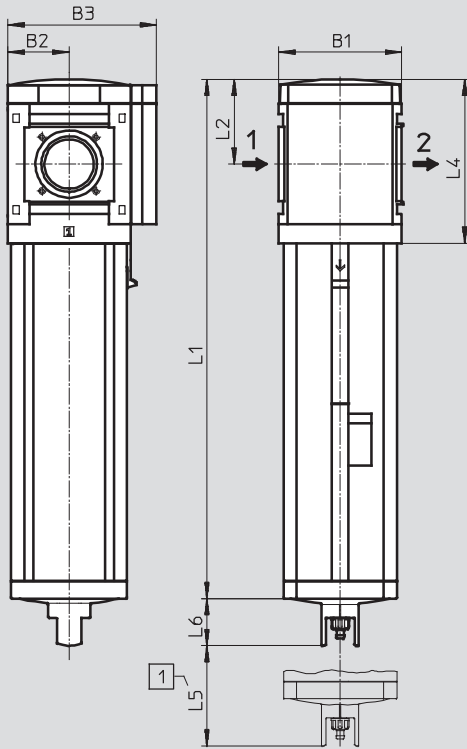
Technical data

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Dimensions – Basic version

Download CAD Data → www.festo.com/us/cad

Without connecting thread G, fully automatic condensate drain V



1 Installation dimensions

→ Flow direction

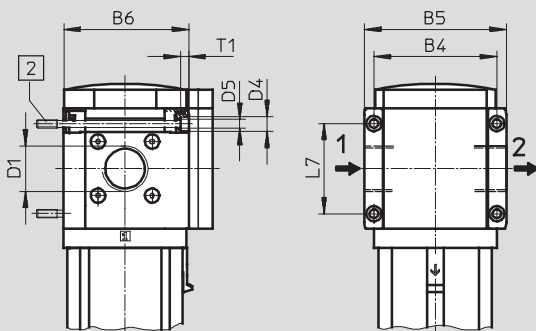
Type	B1	B2	B3	L1	L2	L4	L5	L6
MS9-LWS-G	90	45	109	310.5	62	120	50	34.5

Dimensions – Connecting thread/connecting plate

Download CAD Data → www.festo.com/us/cad

With connecting thread N $\frac{3}{4}$ or N1

With connecting plate AQ...



2 Mounting screw M6xmin.90 to DIN 912 (not included in the scope of delivery) for wall mounting without mounting bracket

→ Flow direction

Type	B4	B5	B6	B7	B8	D1	D4	D5	L7	T1	⌀C
MS9-LWS-N $\frac{3}{4}$	90	104	91.5	-	-	NPT $\frac{3}{4}$ -14	11	6.5	66	6	-
MS9-LWS-N1					-	NPT1-11 $\frac{1}{2}$					-
MS9-LWS-AQR	-	-	-	112	132	NPT $\frac{1}{2}$ -14	-	-	-	-	30
MS9-LWS-AQS					132	NPT $\frac{3}{4}$ -14					36
MS9-LWS-AQT					142	NPT1-11 $\frac{1}{2}$					41
MS9-LWS-AQU					162	NPT1 $\frac{1}{4}$ -11 $\frac{1}{2}$					50
MS9-LWS-AQV					176	NPT1 $\frac{1}{2}$ -11 $\frac{1}{2}$					55

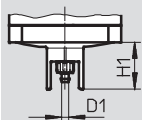
Water separators MS9-LWS, MS series, NPT

Technical data

Dimensions – Condensate drain

Download CAD Data → www.festo.com/us/cad

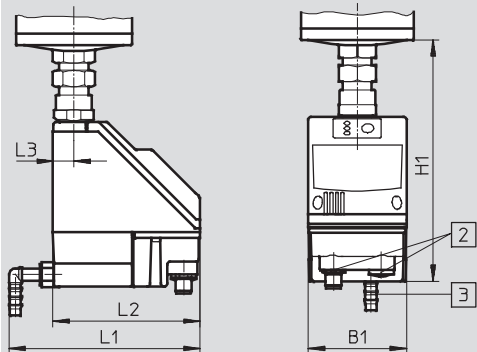
Fully automatic V



Barbed connector for plastic tubing
PCN-4

Fully automatic, electrically actuated E2/E3/E4

Technical data → Internet: pwea



Condensate drain PWEA:

- 2 Electrical connection: Screw terminal PG9
- 3 Connection 360° rotatable for plastic tubing PUN-H-12x2

Type	B1	D1	H1	L1	L2	L3
MS9-LWS-...-V	–	5	34.5	–	–	–
MS9-LWS-...-E2/E3/E4	72	–	178	140	108	15

Ordering data

Size	Condensate drain	Connection	Part No.	Type
MS9	Fully automatic	–	571468	MS9-LWS-G-U-V

Water separators MS9-LWS, MS series, NPT

Ordering data – Modular products

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M Mandatory data							O Options		
Module No.	Series	Size	Function	Connection size	Bowl	Condensate drain	Type of mounting	UL certification	Alternative flow direction
567857	MS	9	LWS	N $\frac{3}{4}$, N1, AQR, AQS, AQT, AQU, AQV, G	U	V, E2, E3, E4	WP, WPM, WPB	UL1	Z
Ordering example									
567857	MS	9	- LWS	- AQR	- U	- V	-	-	-

Ordering table					Grid dimension	[mm]	90	Condition s	Code	Enter code
M	Module No.	567857								
	Series	Standard							MS	MS
	Size	9							9	9
	Function	Water separator							-LWS	-LWS
	Connection size	Thread NPT $\frac{3}{4}$							-N$\frac{3}{4}$	
		Thread NPT1							-N1	
		Connecting plate NPT $\frac{1}{2}$							-AQR	
		Connecting plate NPT $\frac{3}{4}$							-AQS	
		Connecting plate NPT1							-AQT	
		Connecting plate NPT1 $\frac{1}{4}$							-AQU	
		Connecting plate NPT1 $\frac{1}{2}$							-AQV	
		Module without connecting thread, without connecting plate							-G	
	Bowl	Metal bowl							-U	-U
	Condensate drain	Fully automatic (P1 max. 12 bar)							-V	
		External, fully automatic, 110 V AC, terminals (P1 max. 16 bar)							-E2	
		230 V AC, terminals (P1 max. 16 bar)							-E3	
		24 V DC, terminals (P1 max. 16 bar)							-E4	
O	Type of mounting	Mounting bracket						1	-WP	
		Mounting bracket						1	-WPM	
		Mounting bracket for large wall gap						1	-WPB	
	UL certification	cULus, ordinary location for Canada and USA							-UL1	
	Alternative flow direction	Flow direction from right to left							-Z	

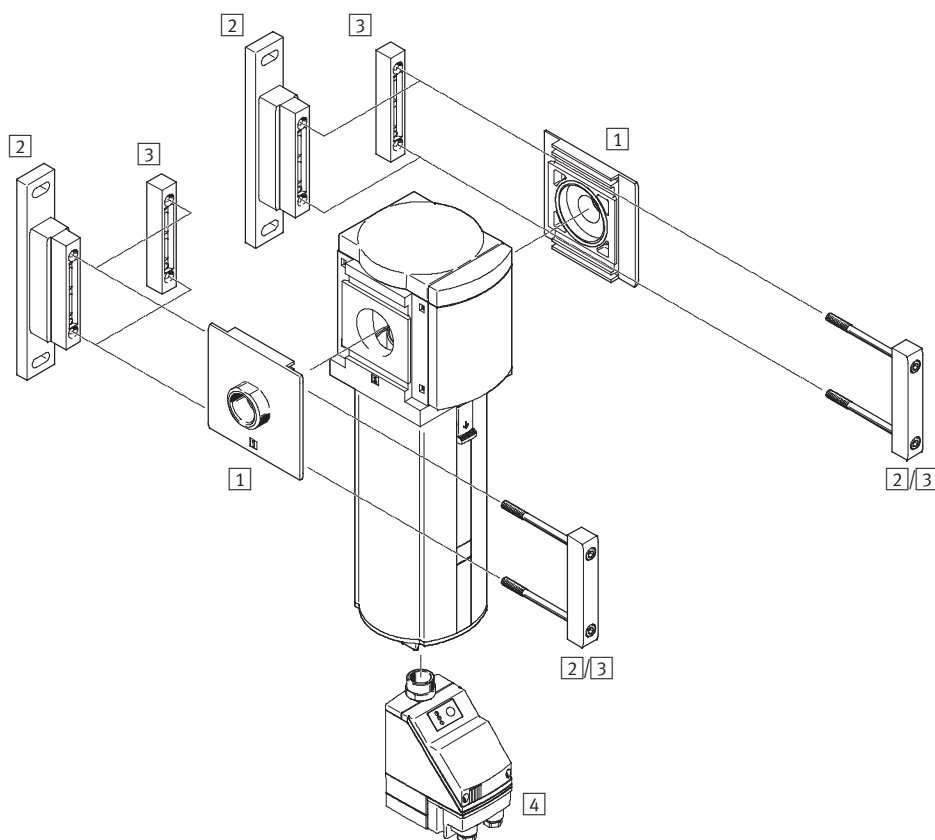
1 WP, WPM, WPB Not with module G

Transfer order code

567857 **MS** **9** **- LWS** **-** **U** **-** **-** **-** **-**

Water separators MS12-LWS, MS series, NPT

Peripherals overview



Note

Additional accessories:

- Module connector for combination with size MS9
- Internet: armv

Mounting attachments and accessories		→ Page/Internet
1	Connecting plate MS12-AQ...	ms12-aq
2	Mounting bracket MS12-WP	ms12-wp
3	Module connector MS12-MV	ms12-mv
4	Fully automatic, electrically actuated condensate drain E2/E3/E4	21

Water separators MS12-LWS, MS series, NPT

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Type codes

		MS	12	-	LWS	-	G	-	U	-	V
Series											
MS	Standard service unit										
Size											
12	Grid dimension 124 mm										
Service function											
LWS	Water separator										
Pneumatic connection											
G	Module without connecting thread, without connecting plate										
Bowl guard											
U	Integrated as metal bowl										
Condensate drain											
V	Fully automatic										

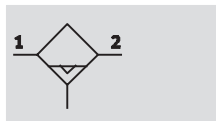
Additional variants can be ordered using the modular product system → 21

- Pneumatic connection
- Condensate drain
- Type of mounting
- Flow direction

Water separators MS12-LWS, MS series, NPT

Technical data

Condensate drain,
fully automatic



Flow rate
25,000 l/min
Temperature range
+1 ... +60 °C
Pressure
0.8 ... 16 bar



The water separator removes
condensate from the compressed air.

- Constantly high condensate separation (99%) up to the maximum flow rate
- Available with fully automatic or fully automatic, electrically actuated condensate drain
- Metal bowl

General technical data					
Pneumatic connection 1, 2	NPT1 (with connecting plate AQT)	NPT1 1/4 (with connecting plate AQU)	NPT1 1/2 (with connecting plate AQV)	NPT2 (with connecting plate AQW)	– (module without connecting thread, without connecting plate G)
Design	Centrifugal separator				
Type of mounting	Via accessories				
	In-line installation				
Mounting position	Vertical ±5°				
Air purity class at the output	Compressed air to ISO 8573-1:2010 [–:7:4]				
Bowl guard	Integrated as metal bowl				
Condensate drain	Fully automatic				
	Fully automatic, electrically actuated				
Degree of condensate separation [%]	99				
Max. condensate volume [ml]	400				

Flow rates	
Standard nominal flow rate [l/min] $q_{nN}^{1)}$	25,000 ±15%
Max. standard flow rate [l/min] $q_{n \max.}$	40,000 ±15%

1) Measured at $p_1 = 6 \text{ bar}$ and $\Delta p = 0.5 \text{ bar}$

Operating and environmental conditions		
Condensate drain	Fully automatic V	Fully automatic, electrically actuated E2/E3/E4
Operating pressure [bar]	2 ... 12	0.8 ... 16
Operating medium	Compressed air to ISO 8573-1:2010 [–:–:–]	
Ambient temperature [°C]	+5 ... +60	+1 ... +60
Temperature of medium [°C]	+5 ... +60	+1 ... +60
Storage temperature [°C]	+5 ... +60	+1 ... +60
Corrosion resistance class CRC ¹⁾	2	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Water separators MS12-LWS, MS series, NPT

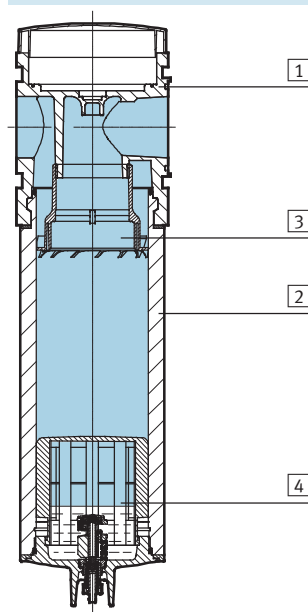
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Technical data

Weight [g]	
Water separator	6,300
Water separator with fully automatic, electrically actuated condensate drain E2/E3/E4	7,000
Accessories	
Connecting plate AQ...	1,300
Mounting bracket WP	700

Materials

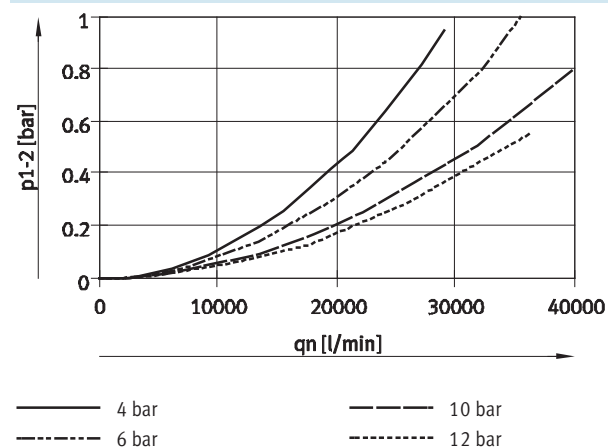
Sectional view



Water separator		
1	Housing	Die-cast aluminium
2	Bowl	Wrought aluminium alloy
	Inspection window	PA
3	Spin disc	POM
4	Separating plate	POM
–	Cover	PA reinforced
–	Connecting plate, module connector, mounting bracket	Die-cast aluminium
–	Seals	Nitrile rubber
Note on materials		RoHS-compliant (not with variant E2, E3 or E4)

Standard flow rate q_n as a function of differential pressure Δp_{1-2}

MS12-LWS-AQV/AQW, pneumatic connection NPT1½/NPT2



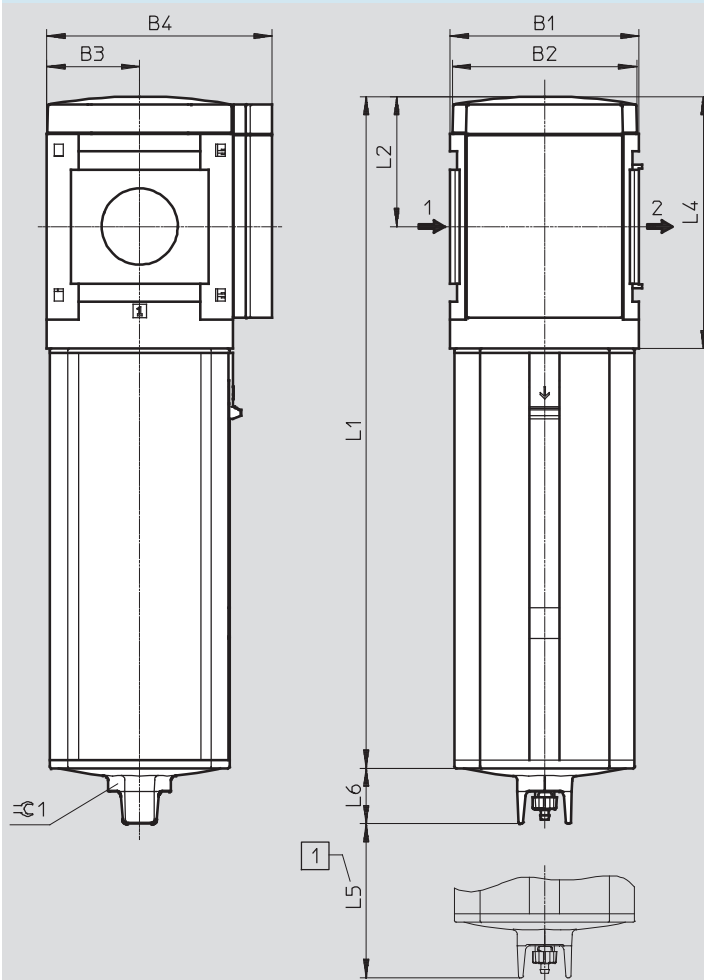
Water separators MS12-LWS, MS series, NPT

Technical data

Dimensions – Basic design

Download CAD Data → www.festo.com/us/cad

Module without connecting thread, without connecting plate G, fully automatic condensate drain V



Note

Dimensions with
 – connecting plate → ms12-aq
 – mounting bracket → ms12-wp

1 Installation dimensions

→ Flow direction

Type	B1	B2	B3	B4	L1	L2	L4	L5	L6	∅ 1
MS12-LWS-G	124	122	61	148	441	85	165	60	36	36

Water separators MS12-LWS, MS series, NPT

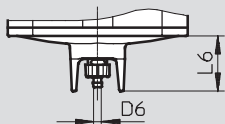
Technical data

FESTO

Dimensions – Condensate drain

Download CAD Data → www.festo.com/us/cad

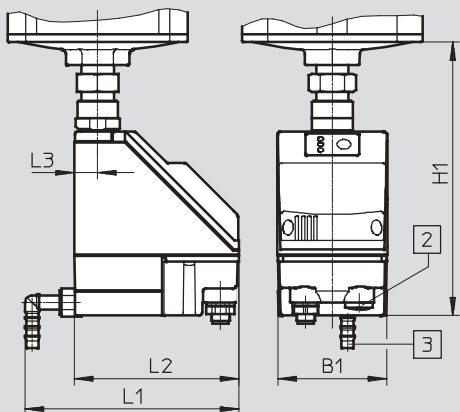
Fully automatic V



Barbed fitting for plastic tubing
PCN-4

Fully automatic, electrically actuated E2/E3/E4

Technical data → Internet: pwea



Condensate drain PWEA:

- 2 Electrical connection:
Screw terminal PG9
- 3 Connection 360° rotatable for
plastic tubing PUN-H-12x2

Type	B1	D6	H1	L1	L2	L3	L6
MS12-LWS-...-V	–	5	–	–	–	–	36
MS12-LWS-...-E2/E3/E4	72	–	179	140	108	15.4	–

Ordering data

Size	Condensate drain	Connection	Part No.	Type
MS12	Fully automatic	–	8005550	MS12-LWS-G-U-V

Water separators MS12-LWS, MS series, NPT

Ordering data – Modular products

M Mandatory data							O Options	
Module No.	Series	Size	Function	Pneumatic connection	Bowl	Condensate drain	Type of mounting	Flow direction
569827	MS	12	LWS	AQT, AQU, AQV, AQW, G	U	V, E2, E3, E4	WP	Z
Ordering example								
569827	MS	12	- LWS	- G	- U	- V	-	-

Ordering table					
Grid dimension	[mm]	124	Condition s	Code	Enter code
M Module No.	569827				
Series	Standard			MS	MS
Size	12			12	12
Function	Water separator			-LWS	-LWS
Pneumatic connection	Connecting plate NPT1			-AQT	
	Connecting plate NPT1 1/4			-AQU	
	Connecting plate NPT1 1/2			-AQV	
	Connecting plate NPT2			-AQW	
	Module without connecting thread, without connecting plate		[1]	-G	
Bowl	Metal bowl			-U	-U
Condensate drain	Fully automatic (P1 max. 12 bar)			-V	
	External, fully automatic, electric	110 V AC, terminals (P1 max. 16 bar)		-E2	
		230 V AC, terminals (P1 max. 16 bar)		-E3	
		24 V DC, terminals (P1 max. 16 bar)		-E4	
O Type of mounting	Mounting bracket		[2]	-WP	
Flow direction	Flow direction from right to left			-Z	

- [1] **G** Not with mounting type WP.
 [2] **WP** Only with connecting plate AQT, AQU, AQV or AQW.

Transfer order code

569827 MS 12 - LWS - U - - - -

Product Range and Company Overview

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