

## On-off/Soft-start Valves MS12N-EM/EE/DL/DE – Inch Series



Manually operated and solenoid actuated on-off valves for pressurizing and venting pneumatic installations. Pneumatic and solenoid actuated soft-start valves for slowly pressurizing and venting pneumatic installations.

- On-off valves
  - MS12N-EM, manually operated
  - MS12N-EE, solenoid actuated
- Soft-start valves
  - MS12N-DL, pneumatically actuated
  - MS12N-DE, solenoid actuated
- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Operating pressure
  - EM: 0 ... 309 psi
  - EE and DE: 44 ... 235 psi
  - DL: 29 ... 309 psi
- Flow rate: 882.5 ... 1,482.6 scfm

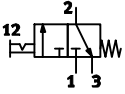
Product Range Overview														
Type	Flow rate [scfm]	Pneumatic connections		Supply voltage				Pressure indicator				Options		
				24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for pressure gauge 1/8 NPT	Adapter for pressure gauge 1/4 NPT	Pressure sensor with display	Silencer	Flow direction from right to left
MS12N		Body thread	Port plate	V24	V24P	V110	V230	VS	AG	A8	A4	AD...	S	Z
EM	882.5 ... 1,129.6	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	–	–	–	–	■	■	–	■	–	■	■
EE	882.5 ... 1,129.6	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	■	■	■	■	■	■	–	■	–	■	■
DL	882.5 ... 1,482.6	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	–	–	–	–	■	■	–	■	–	–	■
DE	882.5 ... 1,482.6	–	1 NPT, 1¼ NPT, 1½ NPT, 2 NPT	■	■	■	■	■	■	–	■	–	–	■

Contents			
MS12N-EM	MS12N-EE	MS12N-DL	MS12N-DE
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Dimensional Drawings → 1219	Dimensional Drawings → 1223	Dimensional Drawings → 1228	Dimensional Drawings → 1232
Ordering Data → 1220	Ordering Data → 1224	Ordering Data → 1228	Ordering Data → 1232
Accessories → 1234	Accessories → 1234	Accessories → 1234	Accessories → 1234
→ <a href="http://www.festo.com/catalog/ms12n-em">www.festo.com/catalog/ms12n-em</a>	→ <a href="http://www.festo.com/catalog/ms12n-ee">www.festo.com/catalog/ms12n-ee</a>	→ <a href="http://www.festo.com/catalog/ms12n-dl">www.festo.com/catalog/ms12n-dl</a>	→ <a href="http://www.festo.com/catalog/ms12n-de">www.festo.com/catalog/ms12n-de</a>

# On-off Valves MS12N-EM – Inch Series

Technical Data

ISO Symbol



- Manually operated on-off valve for pressurizing and venting pneumatic installations
- Ducted exhaust possible via a threaded connection with silencer
- The switching position is immediately recognizable
- Actuator secured by locking the rotary knob
- Commercially available padlock can be used for security



General Technical Data				
Pneumatic connection 1, 2 <sup>1)</sup>	1 NPT	1¼ NPT	1½ NPT	2 NPT
Pneumatic connection 3	1 NPT			
Operating pressure [psi]	0 ... 309			

1) Dependent on port plate selected, must be ordered separately as an accessory → 1236

Standard Nominal Flow Rate q <sub>N</sub> <sup>2)</sup> [scfm]	
In main flow direction 1 → 2	882.5 ... 1,129.6
In relief direction 2 → 3	458.9

2) Measured at p<sub>1</sub> = 88 psi and Δp = 15 psi

Operating and Environmental Conditions	
Operating medium	Compressed air
Exhaust function	Without flow control
Switching position display	Knob actuator direction = flow direction
Ambient temperature [°F]	14 ... 140
Temperature of medium [°F]	14 ... 140
Assembly position	Any
Corrosion resistance CRC <sup>3)</sup>	2

3) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. 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.

Weights [lb]	
Standard	7.80
With silencer	8.00

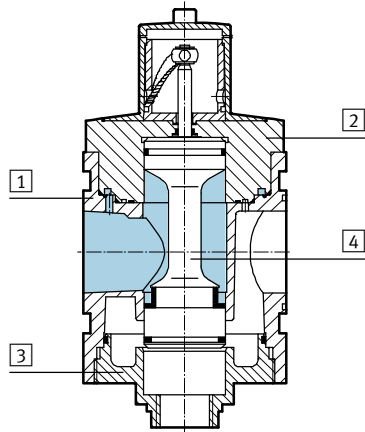
- For spare parts go to: [www.festo.com/en/spare\\_parts\\_service](http://www.festo.com/en/spare_parts_service)

# On-off Valves MS12N-EM – Inch Series

Technical Data, Dimensional Drawings

## Materials

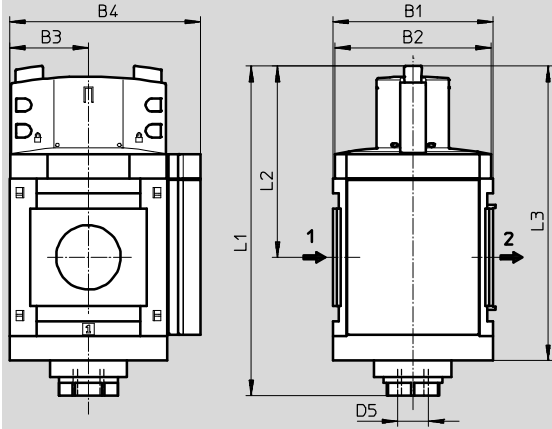
Sectional view



On-off valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve spool	Stainless steel, polyacetate, nitrile rubber
-	Springs	Steel
-	Covers/cover plates	Polyamide
-	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE (not with variant AG)

## Dimensions – Standard

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



→ Flow direction

B1	B2	B3	B4	L1	L2	L3	D5
4.88	4.80	2.40	5.83	10.04	5.83	8.98	G1

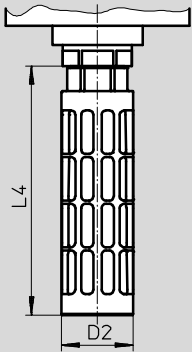
# On-off Valves MS12-EM – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products



## Dimensions<sup>1)</sup> – Silencer

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



Type	D2 Ø	L4
MS12-EM-...-S	1.88	6.52

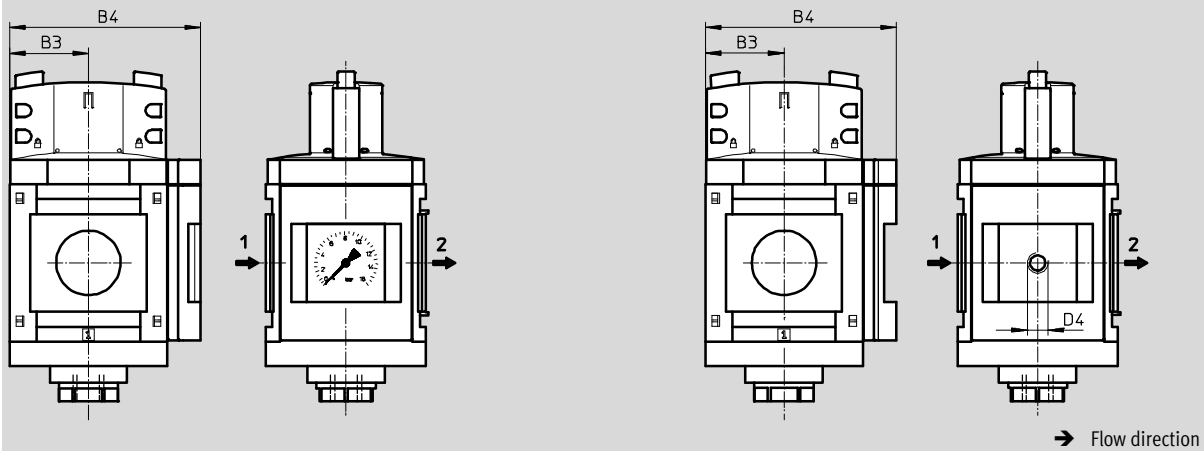
1) Dimensions are in inches, unless otherwise noted.

## Dimensions<sup>1)</sup> – Pressure Gauges/Adapters

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Integrated MS pressure gauge AG, display unit [psi]

Adapter A4 for EN pressure gauge 1/4, without pressure gauge



Type	B3	B4	D4
MS12-EM-...-AG	2.40	5.83	–
MS12-EM-...-A4	2.40	5.83	G1/4

1) Dimensions are in inches, unless otherwise noted.

## Ordering Data

Connection	Part No.	Type	LT
1 NPT ... 2 NPT <sup>2)</sup>	541495	MS12-EM-G <sup>3)</sup>	Q

LT = Lead time

1D typically ships same day/next day

3D typically ships within 3 days

2) Port plate must be ordered separately as an accessory → 1236

3) Free of copper and PTFE

# On-off Valves MS12N-EM – Inch Series



Ordering Data – Configurable Products

M Mandatory Data						O Options				
Part No.	Series	Size	Thread	Function	Connection size	Silencer	Pressure gauge/adapter	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535036	MS	12	N	EM	AQT AQU AQUV AQW G	S	AG A4	BAR MPA	WP	Z
<b>Order example</b>										
<b>535036</b>	<b>MS</b>	<b>12</b>	<b>N</b>	<b>-EM</b>	<b>-G</b>	<b>-S</b>	<b>-AG</b>	<b>-BAR</b>		<b>-Z</b>

Ordering Table		Grid dimension [mm]	124	Conditions	Code	Enter code
M	Part No.	535036				
	Series	Standard			MS	MS
	Size	12			12	12
	Thread	NPT thread			N	N
	Function	On-off valve, manual			-EM	-EM
	Connection size	Port plate 1 NPT (dimensions → 1236)			-AQT	
		Port plate 1¼ NPT (dimensions → 1236)			-AQU	
		Port plate 1½ NPT (dimensions → 1236)			-AQUV	
		Port plate 2 NPT (dimensions → 1236)			-AQW	
		Module without connecting thread, without connecting plate			-G	
O	Silencer	Silencer			-S	
	Pressure gauge/adapter	MS pressure gauge, psi			-AG	
		Adapter plate for EN pressure gauge ¼, without pressure gauge			-A4	
	Alternative pressure gauge scale	bar		1	-BAR	
		MPa		1	-MPA	
	Type of mounting	Mounting bracket (dimensions → 1237)		2	-WP	
	Reverse flow direction	Flow direction from right to left			-Z	

1 BAR, MPA Only with pressure gauge AG

2 WP Only with port plate AQT, AQU, AQUV or AQW

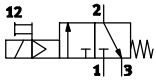
### Transfer order code

535036	MS	12	N	-EM	-		-		-		-		-	
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# On-off Valves MS12N-EE – Inch Series

Technical Data

ISO Symbol



- Solenoid actuated on-off valve for pressurizing and venting pneumatic installations
- Solenoid coil without plug socket, three voltage ranges available.
- Ducted exhaust possible via a threaded connection with silencer
- Non-detenting manual override (except variant V24P)



General Technical Data				
Pneumatic connection 1, 2 <sup>1)</sup>	1 NPT	1¼ NPT	1½ NPT	2 NPT
Pneumatic connection 3	1 NPT			
Operating pressure [psi]	44 ... 235			

1) Dependent on port plate selected, must be ordered separately as an accessory → 1236

Standard Nominal Flow Rate q <sub>N</sub> <sup>2)</sup> [scfm]	
In main flow direction 1 → 2	882.5 ... 1,129.6
In relief direction 2 → 3	314.2

2) Measured at p<sub>1</sub> = 88 psi and Δp = 15 psi

Operating and Environmental Conditions		
Operating medium	Compressed air	
Coil characteristics	V24	24 V DC
	V110	110 V AC
	V230	230 V AC
Ambient temperature	[°F]	14 ... 122
Temperature of medium	[°F]	14 ... 122
Assembly position	Any	
Corrosion resistance	CRC <sup>3)</sup>	2

3) Corrosion resistance class 2 according to Festo standard 940 070  
 Components requiring moderate corrosion resistance. 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.

Weights [lb]	
Standard	7.60
With silencer	7.80

- For spare parts go to: [www.festo.com/en/spare\\_parts\\_service](http://www.festo.com/en/spare_parts_service)

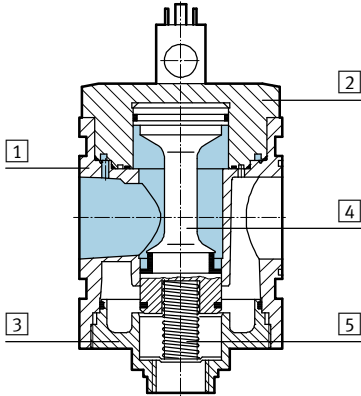
# On-off Valves MS12N-EE – Inch Series

Technical Data, Dimensional Drawings



## Materials

Sectional view



On-off valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve spool	Stainless steel, polyacetate, nitrile rubber
5	Springs	Steel
-	Covers/cover plates	Polyamide
-	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE (not with variant AG)

## Dimensions<sup>1)</sup> – Standard

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

MS12-EE-...-V24/V110/V230

MS12-EE-...-V24P

1 Plug connection to DIN EN 175 301-803

3 Plug connection M12, 4-pin to DESINA

→ Flow direction

Type	B1	B2	B3	B4	L1	L2	L3	L4	L5	D5
MS12-EE-...-V24/V110/V230	4.88	4.80	2.40	5.83	9.33	5.12	6.38	1.41	0.48	G1
MS12-EE-...-V24P								1.42	0.39	

1) Dimensions are in inches, unless otherwise noted.

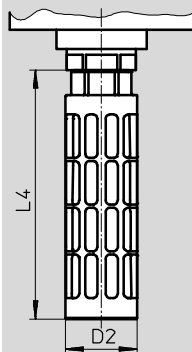
# On-off Valves MS12N-EE – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products



## Dimensions<sup>1)</sup> – Silencer

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



Type	D2 Ø	L4
MS12-EE-...-S	1.88	6.52

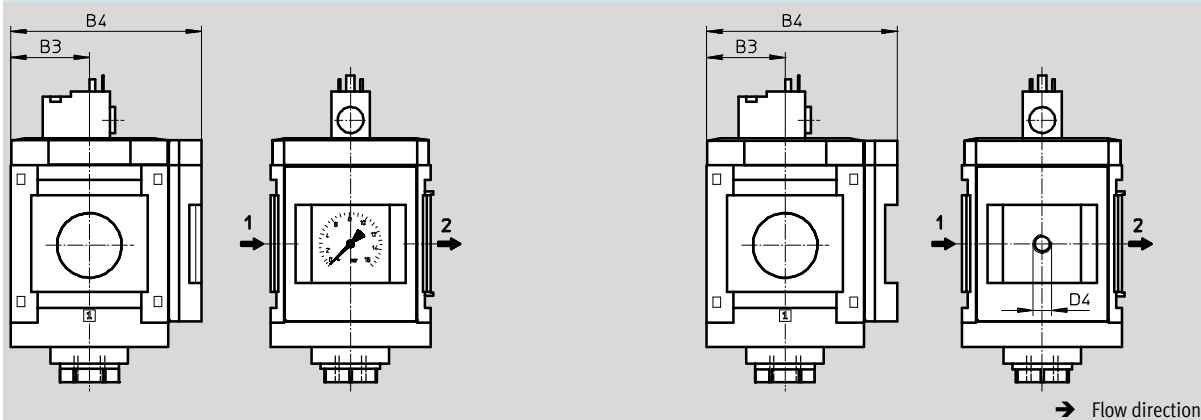
1) Dimensions are in inches, unless otherwise noted.

## Dimensions<sup>1)</sup> – Pressure Gauges/Adapters

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Integrated MS pressure gauge AG, display unit [psi]

Adapter A4 for EN pressure gauge 1/4, without pressure gauge



Type	B3	B4	D4
MS12-EE-...-AG	2.40	5.83	–
MS12-EE-...-A4	2.40	5.83	G1/4

1) Dimensions are in inches, unless otherwise noted.

## Ordering Data

Connection	Supply voltage 24 V DC		LT
	Part No.	Type	
1 NPT ... 2 NPT <sup>2)</sup>	541496	MS12-EE-G-V24 <sup>3)</sup>	Q

LT = Lead time

1D typically ships same day/next day

3D typically ships within 3 days

2) Port plate must be ordered separately as an accessory → 1236

3) Free of copper and PTFE



# On-off Valves MS12N-EE – Inch Series

Ordering Data – Configurable Products



M Mandatory Data							O Options				
Part No.	Series	Size	Thread	Function	Connection size	Supply voltage	Silencer	Pressure gauge/adapter	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535037	MS	12	N	EE	AQT AQU AQV AQW G	V24 V24P V110 V230	S	AG A4	BAR MPA	WP	Z
<b>Order example</b>	<b>MS</b>	<b>12</b>	<b>N</b>	- <b>EE</b>	- <b>AQW</b>	- <b>V110</b>	- <b>S</b>	- <b>AG</b>	- <b>MPA</b>	- <b>WP</b>	-

Ordering Table			Conditions	Code	Enter code
Grid dimension	[mm]	124			
M Part No.	535037				
Series	Standard			MS	MS
Size	12			12	12
Function	On-off valve, electrical			-EE	-EE
Thread	NPT thread			N	N
Connection size	Port plate 1 NPT (dimensions → 1236)			-AQT	
	Port plate 1¼ NPT (dimensions → 1236)			-AQU	
	Port plate 1½ NPT (dimensions → 1236)			-AQV	
	Port plate 2 NPT (dimensions → 1236)			-AQW	
	Module without connecting thread, without port plate			G	
Supply voltage	24 V DC (connection pattern to EN 175301), 265 psi			-V24	
	24 V DC plug (connection pattern M12 to DESINA), 235 psi			-V24P	
	110 V AC (connection pattern to EN 175301), 265 psi			-V110	
	230 V AC (connection pattern to EN 175301), 265 psi			-V230	
O Silencer	Silencer			-S	
Pressure gauge/adapter	MS pressure gauge, bar			-AG	
	Adapter plate for EN pressure gauge ¼, without pressure gauge			-A4	
Alternative pressure gauge scale	bar		1	-BAR	
	MPa		1	-MPA	
Type of mounting	Mounting bracket (dimensions → 1237)		2	-WP	
Reverse flow direction	Flow direction from right to left			-Z	

1 BAR, MPA Only with pressure gauge AG

2 WP Only with port plate AQT, AQU, AQV or AQW

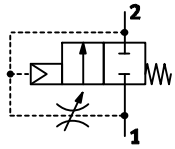
## Transfer order code

535037 MS 12 N - EE - - - - - - - - - - - - - - - -

# Soft-start Valves MS12N-DL – Inch Series

Technical Data

ISO Symbol



- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. The main seat opens when the switch-through pressure is reached.
- When the valve is exhausted, the main seat remains open until the switch-through pressure is reached. The rest of the exhaust procedure is performed using the restrictor.
- Pneumatically actuated soft-start valve for slowly pressurizing and venting pneumatic installations (for use with on-off valves EM and EE)
- Adjustable switching time delay



- The cylinders advance slowly and reliably into the initial position, sudden and erratic movements are avoided.
- Pressure switching approx. 50% of supply pressure

General Technical Data				
Pneumatic connection 1, 2 <sup>1)</sup>	1 NPT	1¼ NPT	1½ NPT	2 NPT
Operating pressure [psi]	29 ... 309			

1) Dependent on port plate selected, must be ordered separately as an accessory → 1236

Standard Nominal Flow Rate qnN <sup>2)</sup> [scfm]	
In main flow direction 1 → 2	882.5 ... 1,482.6
In relief direction 2 → 1	882.5 ... 1,482.6

2) Measured at p1 = 88 psi and p2 = 74 psi, Δp = 15 psi

Operating and Environmental Conditions	
Operating medium	Compressed air
Exhaust function	Flow control
Direction of flow	Non-reversible
Ambient temperature [°F]	14 ... 140
Temperature of medium [°F]	14 ... 140
Assembly position	Any
Corrosion resistance CRC <sup>3)</sup>	2

3) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. 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.

Weights [lb]	
Soft-start valve	7.20

- For spare parts go to: [www.festo.com/en/spare\\_parts\\_service](http://www.festo.com/en/spare_parts_service)

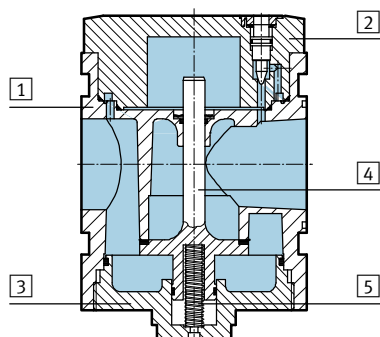
# Soft-start Valves MS12N-DL – Inch Series

Technical Data



## Materials

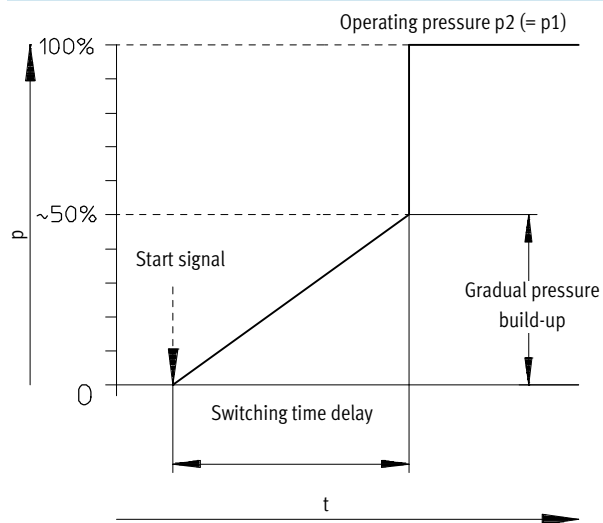
Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve stem	Aluminum, nitrile rubber
5	Springs	Steel
-	Covers/cover plates	Polyamide
-	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE (not with variant AG)

## Switching Point

Pressure p as a function of time t



# Soft-start Valves MS12N-DL – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

**Dimensions<sup>1)</sup> – Standard** Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

→ Flow direction

B1	B2	B3	B4	L1	L2	L3
4.88	4.80	2.40	5.83	7.01	3.23	6.38

1) Dimensions are in inches, unless otherwise noted.

**Dimensions<sup>1)</sup> – Pressure Gauges/Adapters** Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Integrated MS pressure gauge AG, display unit [psi] Adapter A4 for EN pressure gauge 1/4, without pressure gauge

→ Flow direction

Type	B3	B4	D4
MS12-DL-...-AG	2.40	5.83	–
MS12-DL-...-A4	2.40	5.83	G1/4

1) Dimensions are in inches, unless otherwise noted.

Ordering Data			
Connection	Part No.	Type	LT
1 NPT ... 2 NPT <sup>2)</sup>	541497	MS12-DL-G <sup>3)</sup>	Q

**LT** = Lead time      **1D** typically ships same day/next day      **3D** typically ships within 3 days

2) Port plate must be ordered separately as an accessory → 1236  
 3) Free of copper and PTFE

# Soft-start Valves MS12N-DL – Inch Series



Ordering Data – Configurable Products

M Mandatory Data						O Options			
Part No.	Series	Size	Thread	Function	Connection size	Pressure gauge/adaptor	Alternative pressure gauge scale	Type of mounting	Reverse flow direction
535038	MS	12	N	DL	AQT AQU AQV AQW G	AG A4	BAR MPA	WP	Z
<b>Order example</b>									
<b>535038</b>	<b>MS</b>	<b>12</b>	<b>N</b>	<b>- DL</b>	<b>- AQW</b>	<b>- AG</b>	<b>- MPA</b>	<b>- WP</b>	<b>- Z</b>

Ordering Table		Grid dimension [mm]	124	Conditions	Code	Enter code
M	Part No.	535038				
	Series	Standard			MS	MS
	Size	12			12	12
	Thread	NPT thread			N	N
	Function	Soft-start valve, pneumatic			-DL	-DL
	Connection size	Port plate 1 NPT (dimensions → 1236)			-AQT	
		Port plate 1¼ NPT (dimensions → 1236)			-AQU	
		Port plate 1½ NPT (dimensions → 1236)			-AQV	
		Port plate 2 NPT (dimensions → 1236)			-AQW	
		Module without connecting thread, without port plate			-G	
O	Pressure gauge/adaptor	MS pressure gauge, psi			-AG	
		Adapter plate for EN pressure gauge ¼, without pressure gauge			-A4	
	Alternative pressure gauge scale	bar		1	-BAR	
		MPa		1	-MPA	
	Type of mounting	Mounting bracket (dimensions → 1237)		2	-WP	
	Reverse flow direction	Flow direction from right to left			-Z	

1 BAR, MPA Only with pressure gauge AG

2 WP Only with port plate AQT, AQU, AQV or AQW

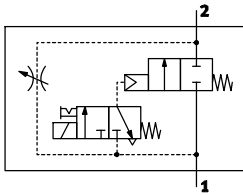
### Transfer order code

535038	MS	12	N	- DL	-		-		-		-	
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# Soft-start Valves MS12N-DE – Inch Series

Technical Data

ISO Symbol



- Solenoid actuated soft-start valve for slowly pressurizing and venting pneumatic installations
- The duration of the pressure build-up is adjusted using the restrictor attached to the valve cap.
- The output pressure p2 rises slowly in accordance with the restrictor setting. Only the air flow via the restrictor is available when the solenoid valve is not actuated. The main seat is only opened by energizing the solenoid valve.
- When the solenoid valve is switched off, the main seat is closed and only the air flow via the flow control valve is available.
- The solenoid valve should remain switched on in order to vent a system as this increases the flow rate from 2 to 1 and reduces the exhaust time.



- The cylinders advance slowly and reliably into the initial position, sudden and erratic movements are avoided.
- Switch-through pressure can be exactly controlled using a solenoid valve
- Adjustable switching time delay
- Non-detenting manual override (except variant V24P)
- Solenoid coil without plug socket, three voltage ranges available.

General Technical Data				
Pneumatic connection 1, 2 <sup>1)</sup>	1 NPT	1¼ NPT	1½ NPT	2 NPT
Operating pressure [psi]	44 ... 235			

1) Dependent on port plate selected, must be ordered separately as an accessory → 1236

Standard Nominal Flow Rate qnN <sup>2)</sup> [scfm]	
In main flow direction 1 → 2	882.5 ... 1,482.6
In relief direction 2 → 1 <sup>3)</sup>	882.5 ... 1,482.6

2) Measured at p1 = 88 psi and p2 = 74 psi Δp = 15 psi

3) For energized solenoid valve

Operating and Environmental Conditions		
Operating medium	Compressed air	
Coil characteristics	V24	24 V DC
	V110	110 V AC
	V230	230 V AC
Exhaust function	Flow control	
Direction of flow	Non-reversible	
Ambient temperature [°F]	14 ... 122	
Temperature of medium [°F]	14 ... 122	
Assembly position	Any	
Corrosion resistance	CRC <sup>4)</sup>	2

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

Components requiring moderate corrosion resistance. 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.

# Soft-start Valves MS12N-DE – Inch Series

Technical Data

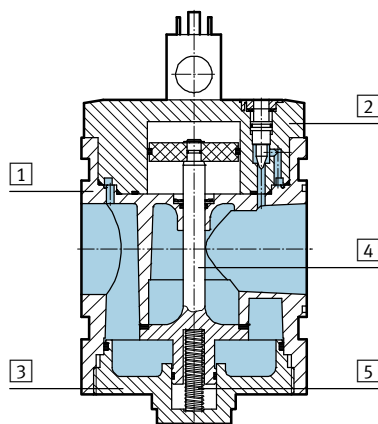


Weights [lb]	
Soft-start valve	7.60

- For spare parts go to: [www.festo.com/en/spare\\_parts\\_service](http://www.festo.com/en/spare_parts_service)

## Materials

Sectional view



Soft-start valve		
1	Body	Die-cast aluminum
2	Cap, top	Aluminum
3	Cap, bottom	Aluminum
4	Valve stem	Aluminum, nitrile rubber
5	Springs	Steel
-	Covers/cover plates	Polyamide
-	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE (not with variant AG)

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Dimensional Drawings, Ordering Data – Pre-configured Products



**Dimensions<sup>1)</sup> – Standard** Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

MS12-DE-...-V24/V110/V230 MS12-DE-...-V24P

1) Plug connection to DIN EN 175 301-803

3) Plug connection M12, 4-pin to DESINA

→ Flow direction

Type	B1	B2	B3	B4	L1	L2	L3	L4	L5
MS12-DE-...-V24/V110/V230	4.88	4.80	2.40	5.83	8.90	5.12	6.38	1.41	0.48
MS12-DE-...-V24P								1.42	0.39

1) Dimensions are in inches, unless otherwise noted.

**Dimensions<sup>1)</sup> – Pressure Gauges/Adapters** Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Integrated MS pressure gauge AG, display unit [psi] Adapter A4 for EN pressure gauge 1/4, without pressure gauge

→ Flow direction

Type	B3	B4	D4
MS12-DE-...-AG	2.40	5.83	–
MS12-DE-...-A4	2.40	5.83	G1/4

1) Dimensions are in inches, unless otherwise noted.

Ordering Data			
Connection	Supply voltage 24 V DC		
	Part No.	Type	LT
1 NPT ... 2 NPT <sup>2)</sup>	541498	MS12-DE-G-V24 <sup>3)</sup>	Q

LT = Lead time 1D typically ships same day/next day 3D typically ships within 3 days

- 2) Port plate must be ordered separately as an accessory → 1236
- 3) Free of copper and PTFE



# Soft-start Valves MS12N-DE – Inch Series



Ordering Data – Configurable Products

M Mandatory Data							O Options			
Part No.	Series	Size	Thread	Function	Connection size	Supply voltage	Pressure gauge/adap-ter	Alternative pressure gauge scale	Type of mountin-g	Reverse flow direction
535039	MS	12	N	DE	AQT AQU AQV AQW G	V24 V24P V110 V230	AG A4	BAR MPA	WP	Z
<b>Order example</b>										
<b>535039</b>	<b>MS</b>	<b>12</b>	<b>N</b>	<b>- DE</b>	<b>- AQV</b>	<b>- V230</b>	<b>- A4</b>	<b>-</b>	<b>- WP</b>	<b>- Z</b>

Ordering Table		Grid dimension [mm]	124	Conditions	Code	Enter code
M	Part No.	535039				
	Series	Standard			MS	MS
	Size	12			12	12
	Thread	NPT thread			N	N
	Function	Soft-start valve, electrical			-DE	-DE
	Connection size	Port plate 1 NPT (dimensions → 1236)			-AQT	
		Port plate 1¼ NPT (dimensions → 1236)			-AQU	
		Port plate 1½ NPT (dimensions → 1236)			-AQV	
		Port plate 2 NPT (dimensions → 1236)			-AQW	
		Module without connecting thread, without port plate			-G	
	Supply voltage	24 V DC (connection pattern to EN 175301), 265 psi			-V24	
		24 V DC plug (connection pattern M12 to DESINA), 235 psi			-V24P	
		110 V AC (connection pattern to EN 175301), 265 psi			-V110	
		230 V AC (connection pattern to EN 175301), 265 psi			-V230	
	Pressure gauge/adap-ter	MS pressure gauge, psi			-AG	
		Adapter plate for EN pressure gauge ¼, without pressure gauge			-A4	
	Alternative pressure gauge scale	bar		1	-BAR	
		MPa		1	-MPA	
	Type of mounting	Mounting bracket (dimensions → 1237)		2	-WP	
	Reverse flow direction	Flow direction from right to left			-Z	

1 BAR, MPA Only with pressure gauge AG

2 WP Only with port plate AQT, AQU, AQV or AQW

### Transfer order code

535039	MS	12	N	- DE	-	-	-	-	-	-
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# On-off/Soft-start Valves MS12N-EM/DL – Inch Series

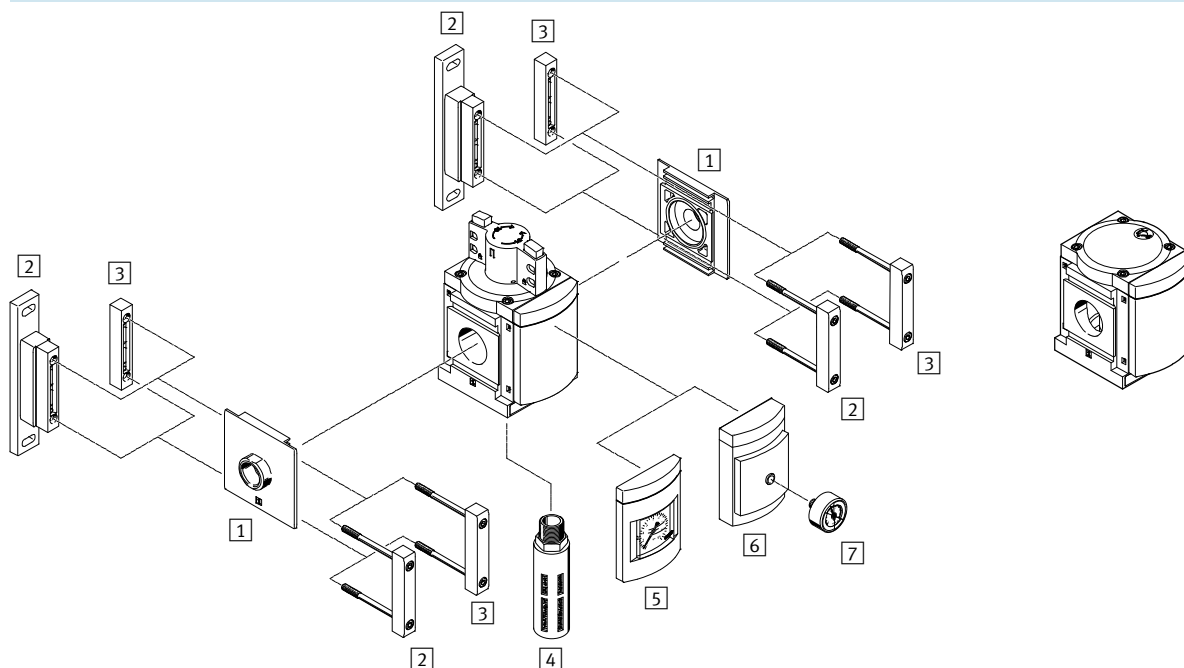
Accessories Overview



## Mounting Attachments and Accessories

On-off Valve EM – manually actuated

Soft-start Valve DL – pneumatically actuated



## Mounting Attachments and Accessories

→ Page

		→ Page
1	Port plate MS12-AQ...	1236
2	Mounting bracket MS12-WP	1237
3	Body connector MS12-MV	1236
4	Silencer (with EM) U	1238
5	MS pressure gauge AG	EM 1221 DL 1229
6	Adapter for EN pressure gauge 1/4 A4	EM 1221 DL 1229
7	Pressure gauge MA	1238

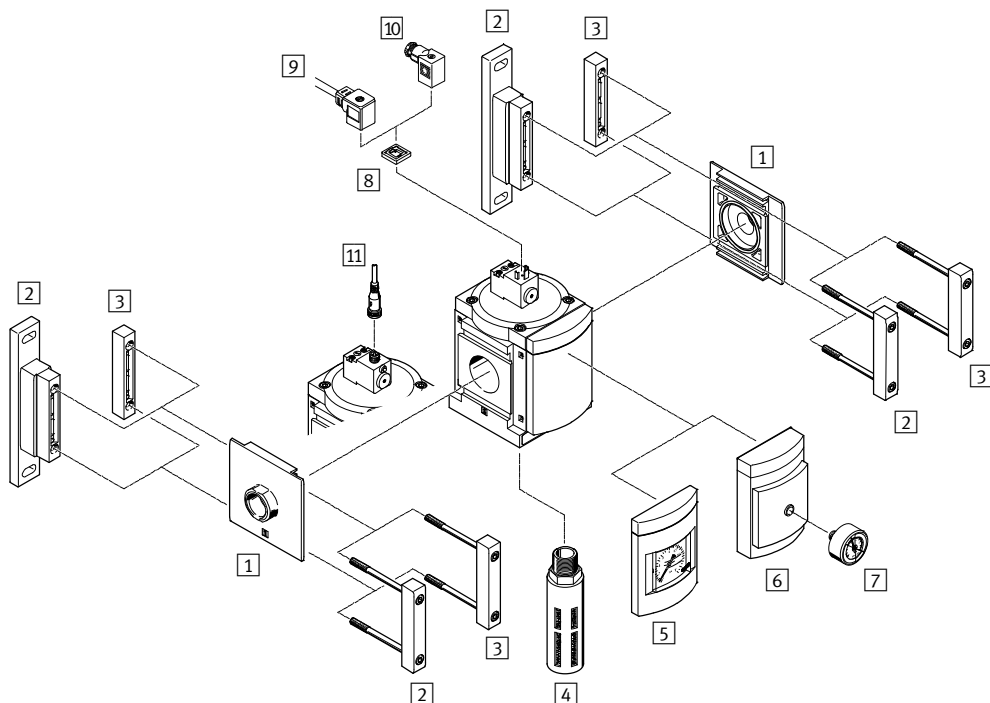
# On-off/Soft-start Valves MS12N-EE/DE – Inch Series

Accessories Overview



## Mounting Attachments and Accessories

On-off/Soft-start Valve EE/DE – solenoid actuated



## Mounting Attachments and Accessories

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		→ Page
1	Port plate MS12-AQ...	1236
2	Mounting bracket MS12-WP	1237
3	Body connector MS12-MV	1236
4	Silencer (with EE) U	1238
5	MS pressure gauge AG	EE 1225 DE 1233
6	Adapter for EN pressure gauge ¼ A4	EE 1225 DE 1233
7	Pressure gauge MA	1238
8	Illuminating seal MC-LD	1238
9	Plug socket with cable KMC	1238
10	Plug socket MSSD-C	1238
11	Plug socket with cable SIM-M12-4...	1238

# On-off/Soft-start Valves MS12N-EM/EE/DL/DE – Inch Series



Accessories

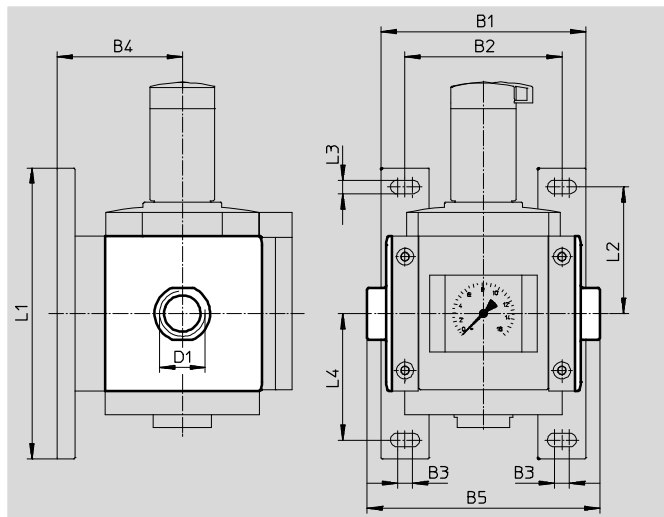
## 1 Port plate MS12-AQ...

- Adapter for pneumatic connection

Material:

Die-cast aluminum

Free of copper and PTFE



Dimensions and Ordering Data												
B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [lb]	Part No.	Type
6.38	4.88	0.47	3.90	7.24	1 NPT	9.06	3.94	0.43	3.94	2.60	537139	MS12-AQT
				7.24	1¼ NPT						537140	MS12-AQU
				7.24	1½ NPT						537141	MS12-AQV
				7.72	2 NPT						537142	MS12-AQW

## 3 Body connector MS12-MV

- For connecting modules

Material:

Die-cast aluminum,

Free of copper and PTFE



Ordering Data			
Size	Weight [lb]	Part No.	Type
MS12	1.00	537134	MS12-MV

# On-off/Soft-start Valves MS12N-EM/EE/DL/DE – Inch Series

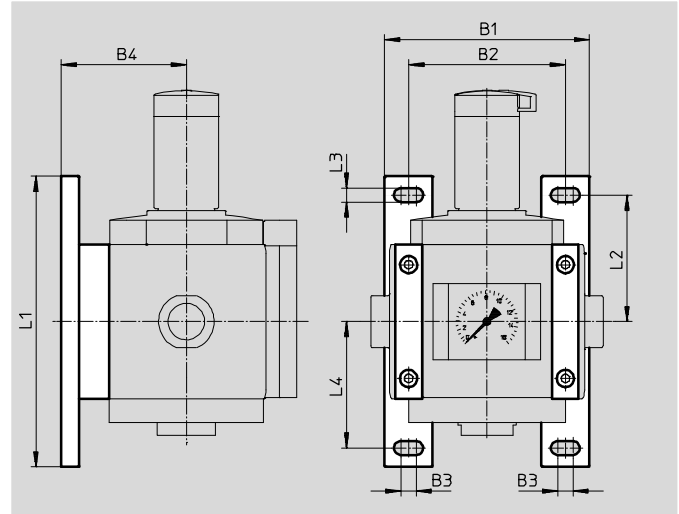


Accessories

## 2 Mounting bracket MS12-WP

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:  
Die-cast aluminum  
Free of copper and PTFE




### Dimensions and Ordering Data


Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [[b]	Part No.	Type
MS12	6.38	4.88	0.47	3.90	9.06	3.94	0.43	3.94	1.40	537133	MS12-WP


# On-off/Soft-start Valves MS12N-EM/EE/DL/DE – Inch Series

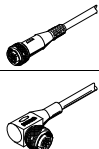



Accessories


10 Ordering Data – Plug Socket MSSD					Technical data → <a href="http://www.festo.com/catalog/mssd">www.festo.com/catalog/mssd</a>	
	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for MS12-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	<b>34583</b>	<b>MSSD-C</b>
			4-pin	Insulation displacement technology	<b>192748</b>	<b>MSSD-C-S-M16</b>

9 Ordering Data – Plug Socket with Cable KMC					Technical data → <a href="http://www.festo.com/catalog/kmc">www.festo.com/catalog/kmc</a>	
	Description	Operating voltage range	Switching status display	Cable length [ft]	Part No.	Type
	for MS12-EE/DE	24 V DC	LED	8.2	<b>30931</b>	<b>KMC-1-24DC-2,5-LED</b>
		24 V DC	LED	16.4	<b>30933</b>	<b>KMC-1-24DC-5-LED</b>
		24 V DC	LED	32.8	<b>193459</b>	<b>KMC-1-24-10-LED</b>
		230 V AC	–	8.2	<b>30932</b>	<b>KMC-1-230AC-2,5</b>
		230 V AC	–	16.4	<b>30934</b>	<b>KMC-1-230AC-5</b>

8 Ordering Data – Illuminating Seal MC-LD			Technical data → <a href="http://www.festo.com/catalog/mc-ld">www.festo.com/catalog/mc-ld</a>	
	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMC and plug socket MSSD-C	12 ... 24 V DC	<b>19145</b>	<b>MC-LD-12-24DC</b>
		230 V DC/AC ±10%	<b>19146</b>	<b>MC-LD-230AC</b>

1 Ordering Data – Plug Socket with Cable SIM-M12			Technical data → <a href="http://www.festo.com/catalog/sim-m12">www.festo.com/catalog/sim-m12</a>	
	Electrical connection	Cable length [ft]	Part No.	Type
	M12x1, 4-pin	16.4	<b>164259</b>	<b>SIM-M12-4GD-5-PU</b>
	M12x1, 4-pin	16.4	<b>164258</b>	<b>SIM-M12-4WD-5-PU</b>

7 Ordering Data – Pressure Gauge MA					Technical data → <a href="http://www.festo.com/catalog/ma">www.festo.com/catalog/ma</a>	
	Nominal size	Pneumatic connection	Indicating range		Part No.	Type
			[bar]	[psi]		
	Pressure gauge MA, DIN EN 837-1					
	1.57	R $\frac{1}{4}$	0 ... 16	0 ... 232	<b>187080</b>	<b>MA-40-16-R<math>\frac{1}{4}</math>-EN</b>
	Pressure gauge MA, DIN EN 837-1, with red-green range					
	1.97	R $\frac{1}{4}$	–	0 ... 232	<b>526790</b>	<b>MA-50-232-R<math>\frac{1}{4}</math>-PSI-E-RG</b>

4 Ordering Data – Silencer U			Technical data → <a href="http://www.festo.com/catalog/u">www.festo.com/catalog/u</a>	
	Description	Pneumatic connection	Part No.	Type
	for MS12-EM/EE	G1	<b>151990</b>	<b>U-1-B</b>

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