

## Solenoid/pneumatic valves, ISO 15 407-1

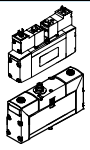


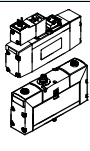
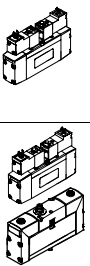
- Electrically or pneumatically actuated valves
- With internal or external pilot air
- Pneumatic or mechanical reset

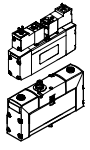
Ausgewählte Typen nach  
ATEX-Richtlinie für  
explosionsfähige  
Atmosphären  
→ [www.festo.com/de/ex](http://www.festo.com/de/ex)

## Solenoid valves, ISO 15 407-1

Product range overview

Function	Design	Type	ISO size		Nominal flow rate [l/min]	Working port on sub-base		Operating voltage				
			02	01		G $\frac{1}{8}$	G $\frac{1}{4}$	[V DC]		[V AC]		
								12	24	24	110	230
2x 3/2-way valves in one housing		MN2H-2x3-...	■	■	490/950	■	■	■	■	■	■	■
		MN2H-2x3-...-ZSR	■	■		■	■	-	■	-	-	-
		VSVA-...-T32-...1R...	■	■	500/1,000	■	■	-	■	-	-	-

Function	Design	Type	ISO size		Nominal flow rate [l/min]	Working port on sub-base		Operating voltage				
			02	01		G $\frac{1}{8}$	G $\frac{1}{4}$	[V DC]		[V AC]		
								12	24	24	110	230
5/2-way valves		MN2H	■	■	500/1,000	■	■	■	■	■	■	■
		MN2H-...-ZSR	■	■	500/1,000	■	■	-	■	-	-	-
		VSVA-...-M52-...R...	■	■	500/1,000	■	■	-	■	-	-	-
		Double solenoid valve										
		JMN2H	■	■	500/1,000	■	■	■	■	■	■	■
		JMN2DH	■	■	500/1,000	■	■	■	■	■	■	■
		JMN2H-...-ZSR	■	■	500/1,000	■	■	-	■	-	-	-
		VSVA-...-B52-...R...	■	■	1,000	■	■	-	■	-	-	-
		JMN2DH-...-ZSR	■	■	500/1,000	■	■	-	■	-	-	-
	VSVA-...-D52-...R...	■	■	500/1,000	■	■	-	■	-	-	-	

Function	Design	Type	ISO size		Nominal flow rate [l/min]	Working port on sub-base		Operating voltage				
			02	01		G $\frac{1}{8}$	G $\frac{1}{4}$	[V DC]		[V AC]		
								12	24	24	110	230
5/3-way valves		MN2H-5/3...	■	■	500/1,000	■	■	■	■	■	■	■
		MN2H-5/3-...-ZSR	■	■	500/1,000	■	■		■			
		VSVA-...-P53-...R...	■	■	450/1,000	■	■		■			

# Solenoid valves, ISO 15 407-1

Product range overview




Type	Plug			Pilot air supply		Spring return		Normal position (normal position)			→ Page
	Cube MEB	Central round		Internal	External	Pneumatic	Mechanical	2x closed	2x open	1x open 1x closed	
		M8x1	M12x1								
<b>Solenoid valve</b>											
MN2H-2x3...	■	-	-	■	■	■	-	■	■	■	2 / 1.1-12
MN2H-2x3-...-ZSR	-	-	■	■	■	■	-	■	■	■	2 / 1.1-12
VSVA-...-T32-...R...	-	■	■	■	■	■	-	■	■	■	2 / 1.1-36


Type	Plug			Pilot air supply		Spring return		Signal processing			→ Page
	Cube MEB	Central round		Internal	External	Pneumatic	Mechanical	single solenoid	double solenoid		
		M8x1	M12x1						Equal	Dominant	
<b>Single solenoid valve</b>											
MN2H	■	-	-	■	■	■	■	■	-	-	2 / 1.1-18
MN2H-...-ZSR	-	-	■	■	■	■	■	■	-	-	2 / 1.1-18
VSVA-...-M52-...R...	-	■	■	■	■	■	■	■	-	-	2 / 1.1-40
<b>Double solenoid valve</b>											
JMN2H	■	-	-	■	■	-	-	-	■	-	2 / 1.1-24
JMN2DH	■	-	-	■	■	-	-	-	-	■	2 / 1.1-24
JMN2H-...-ZSR	-	-	■	■	■	-	-	-	■	-	2 / 1.1-24
VSVA-...-B52-...R...	-	■	■	■	■	-	-	-	■	-	2 / 1.1-44
JMN2DH-...-ZSR	-	-	■	■	■	-	-	-	-	■	2 / 1.1-24
VSVA-...-D52-...R...	-	■	■	■	■	-	-	-	-	■	2 / 1.1-44

Type	Design			Pilot air supply		Neutral position (normal position)			→ Page
	Cube MEB	Central round		Internal	External	Closed	Exhausted	Pressurised	
		M8x1	M12x1						
<b>Solenoid valve</b>									
MN2H-5/3...	■	-	-	■	■	■	■	■	2 / 1.1-30
MN2H-5/3-...-ZSR	-	-	■	■	■	■	■	■	2 / 1.1-30
VSVA-...-P53-...R...	-	■	■	■	■	■	■	■	2 / 1.1-48

## Pneumatic valves, ISO 15 407-1

Product range overview

Function	Design	Type	ISO size	Nominal flow rate [l/min]	Pneumatic working port on sub-base	Type of reset		→ Page
						pneumatic spring	mechanical spring	
5/2-way valves	<b>Pneumatic valve</b>							
		VL-5/2	02	500	G1/8	■	■	2 / 1.1-56
			01	1,000	G1/4	■	■	
	<b>Double pilot valve</b>							
		J-5/2	02	500	G1/8	-	-	2 / 1.1-59
			01	1,000	G1/4	-	-	
	<b>Double pilot valve with dominant signal</b>							
		JD-5/2	02	500	G1/8	-	-	2 / 1.1-59
			01	1,000	G1/4	-	-	

Function	Design	Type	ISO size	Nominal flow rate [l/min]	Pneumatic working port on sub-base	Normal position			→ Page
						Closed	Exhausted	Pressurised	
5/3-way valves	<b>Pneumatic valve</b>								
		VL-5/3...	02	500	G1/8	■	■	■	2 / 1.1-62
01			1,000	G1/4	■	■	■		

## Solenoid valves MN2H, ISO 15 407-1

Type codes

MN2H		5/3	G	01			ZSR	
<b>Type</b>								
MN2H	Single solenoid, with N2 solenoid coil							
JMN2H	Double solenoid, with N2 solenoid coil							
JMN2DH	Double solenoid, with N2 solenoid coil, with dominant signal							
<b>Valve function</b>								
2x3	2x 3/2-way valve							
5/2	5/2-way valve							
5/3	5/3-way valve							
<b>Normal position</b>								
O	Open							
G	Closed							
E	Exhausted							
B	Pressurised							
O-G	1x open, 1x closed							
<b>Size</b>								
02	ISO size 02							
D-02	ISO size 02							
01	ISO size 01							
D-01	ISO size 01							
<b>Type of reset</b>								
FR	Mechanical spring							
	Pneumatic spring							
<b>Pilot air supply</b>								
	Internal							
S	External							
<b>Electrical connection, operating voltage</b>								
Plug, square design to DIN EN 175301-803, type C								
12DCA	12 V DC							
110AC	110 V AC							
110VAC	110 V AC							
230AC	230 V AC							
230VAC	230 V AC							
Central plug, round design, M12x1								
ZSR	24 V DC							
<b>Generation</b>								
B	Series B							

# Solenoid valves VSVA, ISO 15 407-1

Type codes

VSVA - B - T 32 C - A Z H - A1 - 1 - R2 L

**Valve family**

VSVA	Standard valves ISO 15 407-1/-2
------	---------------------------------

**Valve type**

B	Sub-base valve
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**Valve function**

M	Single solenoid
B	Double solenoid
D	Double pilot with dominance on one side
P	Mid-position
T	2 single solenoid valves in one housing

**Connections / switching positions**

32	3/2-way valve
52	5/2-way valve
53	5/3-way valve

**Normal position**

C	Closed
U	Open
E	Exhausted
H	T with 1x open, 1x closed
	Double solenoid valve

**Type of reset**

A	Pneumatic spring
M	Mechanical spring
	Double solenoid valve

**Pilot air supply**

Z	External
	Internal

**Manual override facility**

H	By pushing
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**Standard**

A1	ISO size 01
A2	ISO size 02

**Operating voltage**

1	24 V
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**Type of voltage**

	DC
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**Electrical connection**

R2	Central plug M8x1
R5	Central plug M12x1

**LED**

L	Integrated
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Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

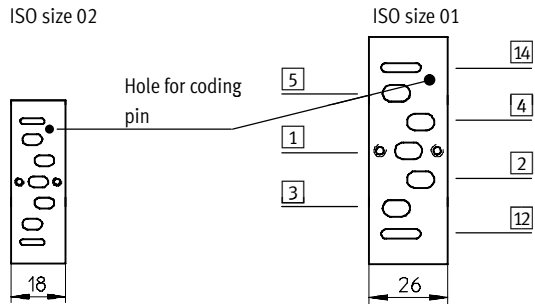
**1.1**

# Solenoid valves, ISO 15 407-1

Peripherals overview

## Port pattern on sub-base to ISO 15 407-1

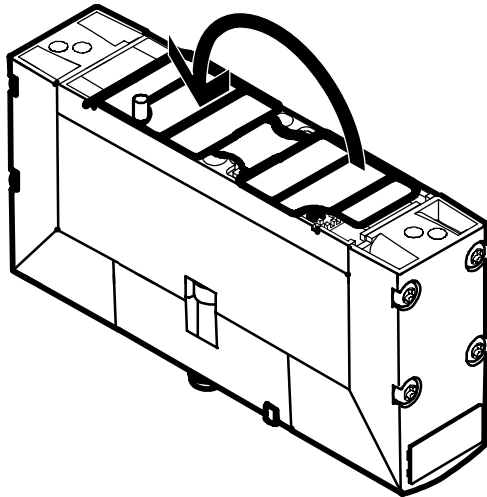
Extension of the standard given below



## VSVA

Conversion of pilot air exhaust

VSVA valve manifolds are supplied with unducted the pilot air exhaust. By turning the seal between the valve and manifold block, the exhaust can be diverted into the pilot duct 12 and it can thus be contained and silenced (see Figure).



# Solenoid valves, ISO 15 407-1

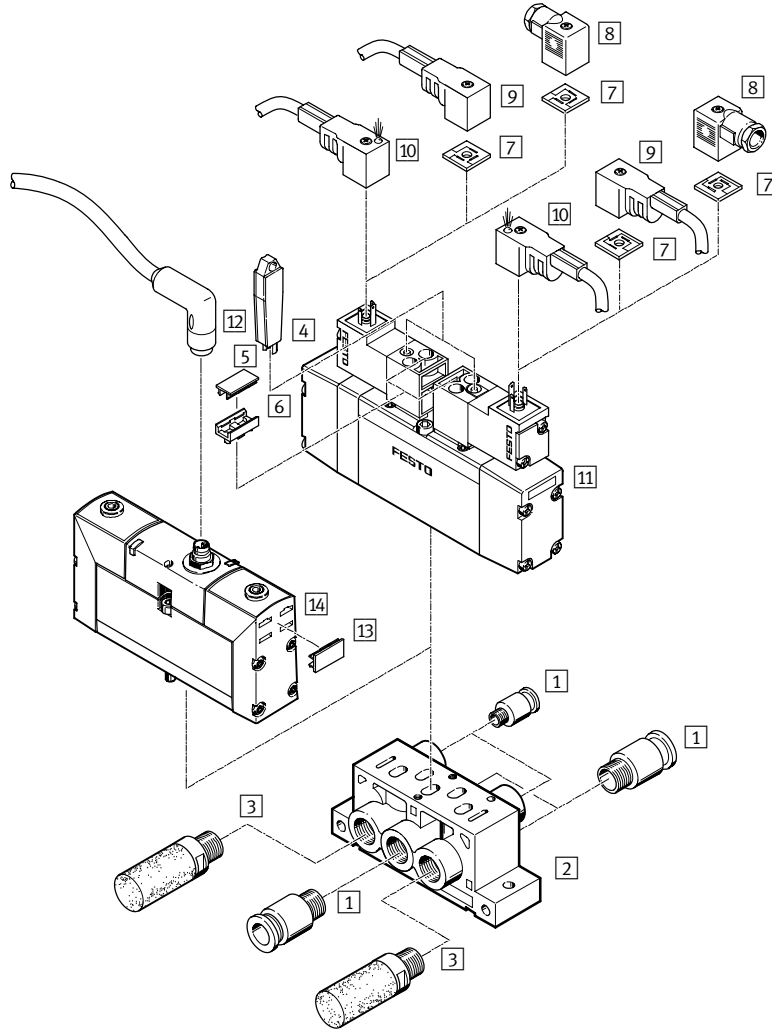
Peripherals overview



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

## 1.1

### Individual mounting



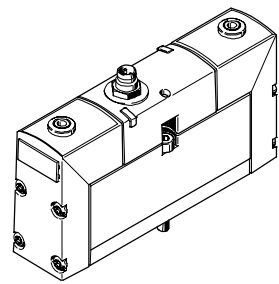
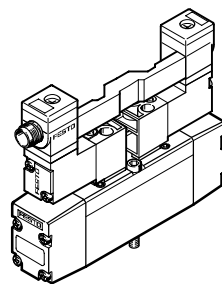
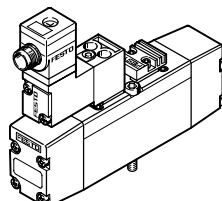
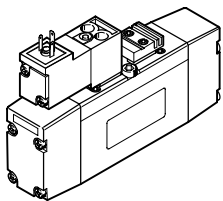
### Variants

MN2H-5/2-...

MN2H-5/2-...-ZSR

MN2H-2x3-...-  
ZSR, JMN2H-5/2-...-  
ZSR, MN2H-5/3-...-ZSR

VSVA-B-...-A1-1R2L  
VSVA-B-...-A1-1R5L



# Solenoid valves, ISO 15 407-1

Peripherals overview

Accessories		
	Brief description	→ Page
1	Push-in fitting QS	For connecting compressed air tubing with standard O.D. to CETOP RP 54 P Volume 3 www.festo.com
2	Individual sub-base NAS	With lateral ports 2 / 1.1-65
-	Individual sub-base NAU	With ports underneath 2 / 1.1-66
3	Silencers U	For fitting in exhaust ports Volume 3 www.festo.com
4	Manual override tool AHB-MEB	Detenting 2 / 1.1-70
5	Inscription labels IBS-9x17	For identifying the valves MN2H 2 / 1.1-70
6	Inscription clip MN2H	For holding the inscription label 2 / 1.1-69
7	Illuminating seal MEB-LD	For indicating the switching status 2 / 1.1-73
8	Plug socket MSSD-EB	- 2 / 1.1-71
9	Plug socket with cable KMEB	- 2 / 1.1-71
10	Plug socket with cable and LED KMEB-...-LED	For indicating the switching status 2 / 1.1-71
11	Solenoid valve MN2H	Port pattern to ISO 15 407-1 2 / 1.1-2
12	Plug socket with cable	Round plug M12x1 or M8x1 2 / 1.1-70
13	Inscription labels IBS-9x20	For identifying the valves VSVA 2 / 1.1-71
14	Solenoid valve VSVA	Port pattern to ISO 15 407-1 2 / 1.1-2

# Solenoid valves, ISO 15 407-1

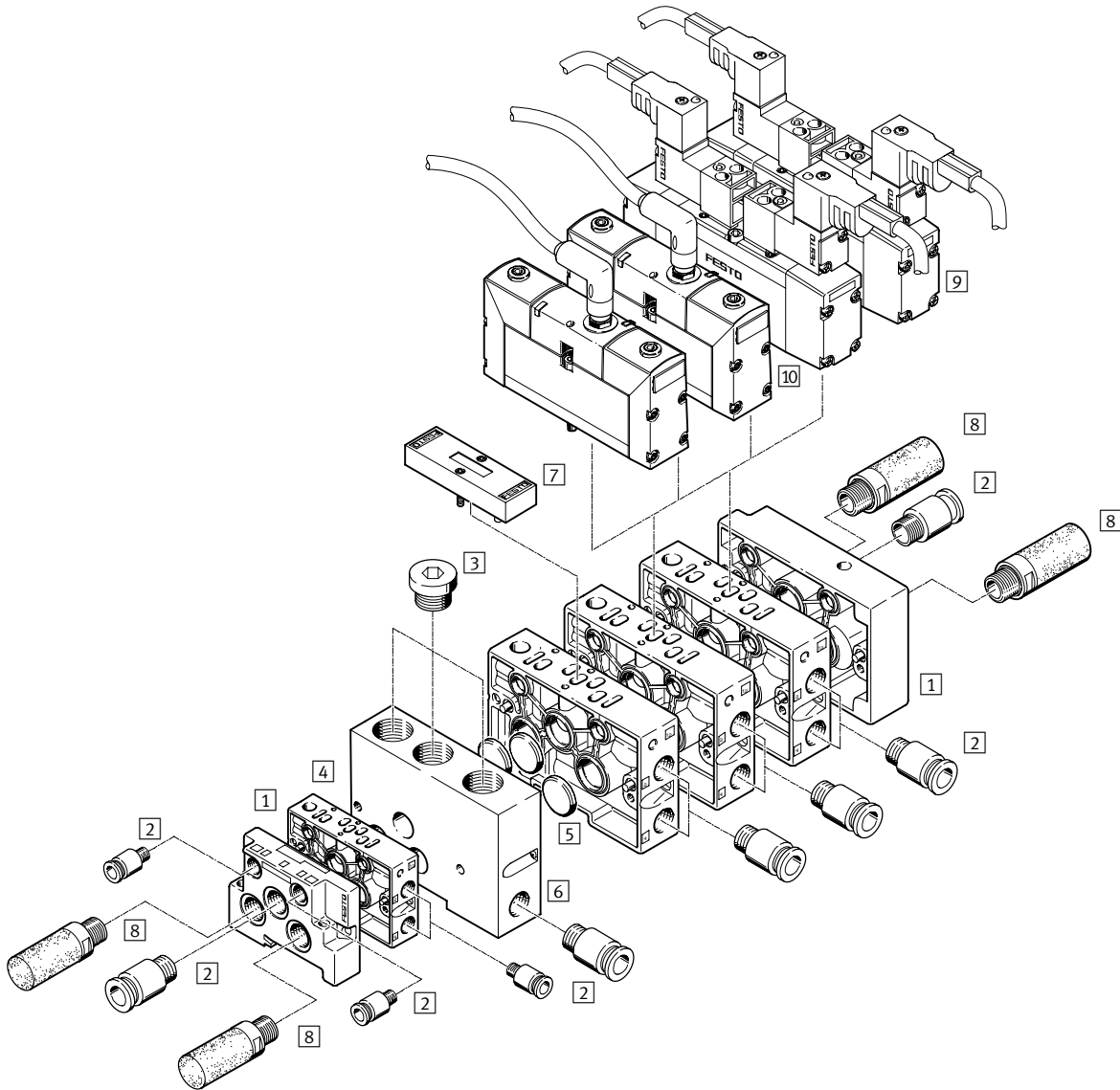
Peripherals overview

FESTO

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

## 1.1

### Manifold mounting



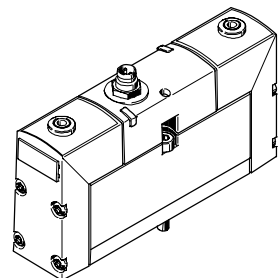
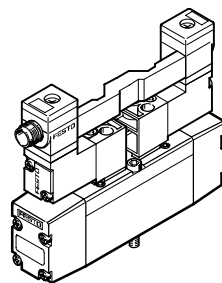
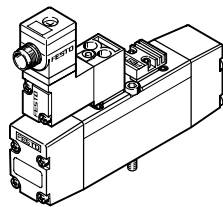
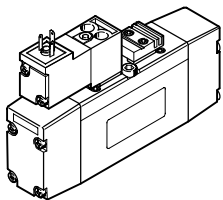
### Variants

MN2H-5/2-...

MN2H-5/2-...-ZSR

MN2H-2x3-...-  
ZSR, JMN2H-5/2-...-  
ZSR, MN2H-5/3-...-ZSR


VSVA-B-...-A1-1R2L  
VSVA-B-...-A1-1R5L



# Solenoid valves, ISO 15 407-1

Peripherals overview

Accessories		
	Brief description	→ Page
1	End plate kit NEV	For sealing the manifold sub-bases 2 / 1.1-66
2	Push-in fitting QS	For connecting compressed air tubing with standard O.D. to CETOP RP 54 P Volume 3 www.festo.com
3	Blanking plugs B	For sealing unused ports 2 / 1.1-71
4	Manifold sub-base NAW	With lateral ports 2 and 4 2 / 1.1-66
5	Isolating disc NSC	For sealing the common lines 1, 3, 5 on the manifold sub-base or to create a seal between 2 manifold sub-bases for creating pressure zones 2 / 1.1-69
6	Intermediate plate NZV	For connecting ISO size 01 and ISO size 02 manifold sub-bases 2 / 1.1-67
7	Blanking plate NDV	For sealing vacant valve positions 2 / 1.1-67
8	Silencers U	For fitting in exhaust ports Volume 3 www.festo.com
9	Solenoid valve MN2H	Port pattern to ISO 15 407-1, corresponding plug sockets → 2 / 1.1-71 2 / 1.1-2
10	Solenoid valve VSVA	Port pattern to ISO 15 407-1, corresponding plug sockets → 2 / 1.1-71 2 / 1.1-2

 Note


When supplying different pressure zones, both a left and right isolating disc for the pressure supply and for the pilot line are needed for pilot air.


For design reasons, only the silencer U-3/8-B can be screwed into ports 3 and 5 when assembling ISO size 02 mounting rails.

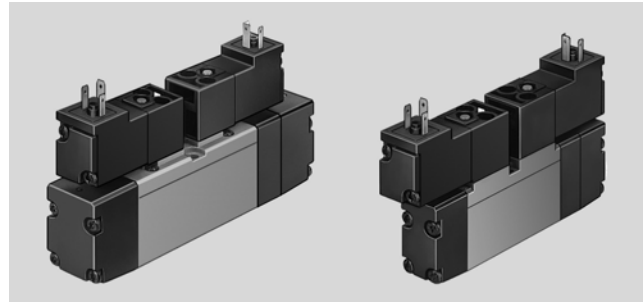
# Solenoid valves MN2H, ISO 15 407-1

FESTO

Technical data – 2x 3/2-way valves

-  - Flow rate  
490 ... 950 l/min

-  - Voltage  
12, 24 V DC  
24, 110, 230 V AC



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

General technical data			
ISO size	02		01
Valve function	2x 3/2-way, single solenoid		
Constructional design	Piston spool		
Sealing principle	Soft		
Actuation type	Electrical		
Type of reset	Pneumatic spring		
Type of control	Piloted		
Pilot air supply	Internal		
Direction of flow	Non reversible		
Exhaust function	Flow control		
Manual override facility	Via tool accessory, detenting		
Type of mounting	Via through-holes		
Assembly position	Any		
Nominal size	[mm]	6	8
Standard nominal flow rate	[l/min]	440	950
Grid dimension	[mm]	19	27
Pneumatic connection	1, 2, 3, 4, 5	G $\frac{3}{8}$	G $\frac{1}{4}$
	12, 14	M5	M5
Product weight	[g]	210	320
Noise level	[dB (A)]	75	

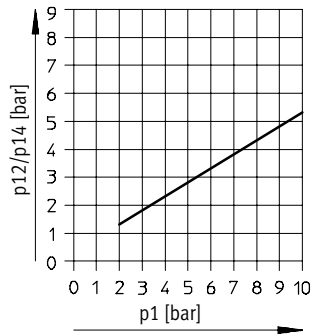
Operating and environmental conditions			
ISO size	02		01
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum		
Operating pressure	Internal pilot air supply	[bar]	2 ... 10
	External pilot air supply	[bar]	-0.9 ... 10      -0.9 ... 16
Pilot pressure	[bar]	2 ... 10 <sup>1)</sup>	
Ambient temperature	[°C]	-10 ... +50	
Temperature of medium	[°C]	-10 ... +50	

1) Pilot pressure dependent on operating pressure → Graph

# Solenoid valves MN2H, ISO 15 407-1

Technical data – 2x 3/2-way valves

## Minimum pilot pressure p12, p14 as a function of the operating pressure p1 (external pilot air supply)



## Valve response times [ms]

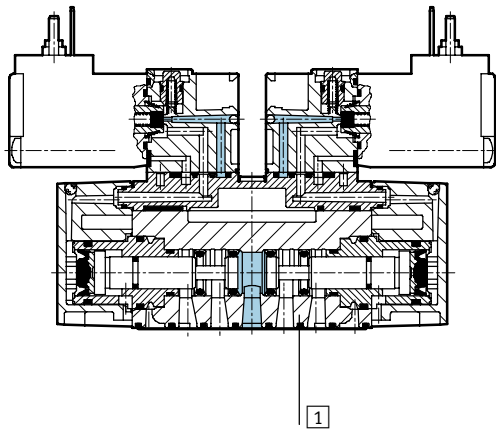
ISO size	02	01
On	15	20
Off	16	33

## Electrical data

Electrical connection	Plug, square design to EN 175301-803, type C		
	Central plug, round design, M12x1		
Operating voltage	D.C. voltage	[V DC]	12, 24 +10%/-15%
	AC voltage	[V AC]	24, 110/230 ±10% (50 ... 60 Hz)
Coil characteristics	D.C. voltage	[W]	1.5
	AC voltage	[VA]	Pull: 3 Hold: 2.4
Protection class to EN 60 529	IP65 (in combination with plug socket)		
CE symbol	73/23/EEC (low voltage)		

## Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber
	Material note	Designs free of copper and PTFE → Ordering data

# Solenoid valves MN2H, ISO 15 407-1

Technical data – 2x 3/2-way valves

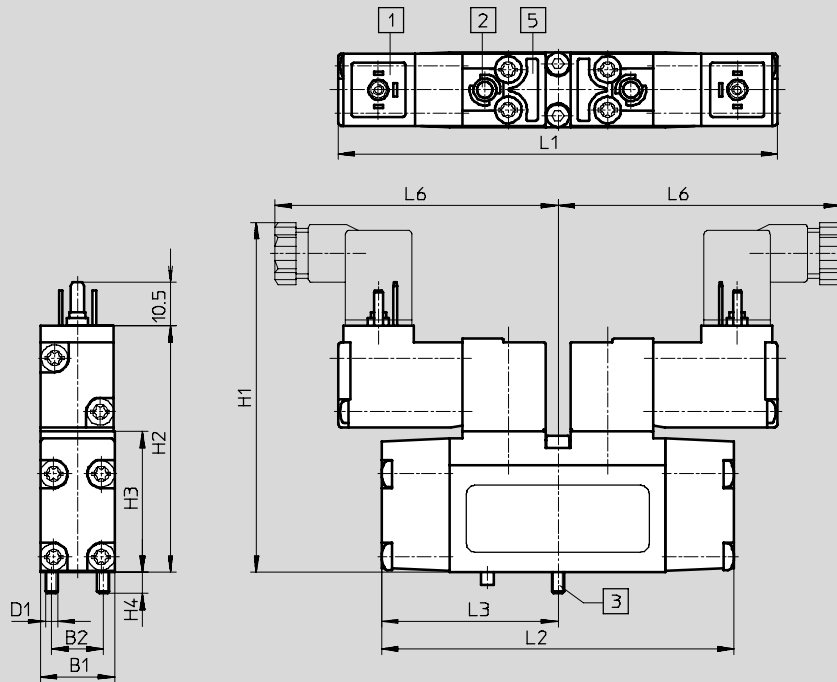
FESTO

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

## Dimensions

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



- 1 Plug socket connection pattern to EN 175301-803, type C
- 2 Manual override
- 3 Captive mounting screws
- 5 Slot for inscription clip

ISO size	B1	B2	D1	H1	H2	H3	H4	L1	L2	L3	L6
02	18	12.5	M3	92	59.5	34	5	106	85	42.5	70
01	26.2	19	M4	93	60.5	35	7	108	110	55	71

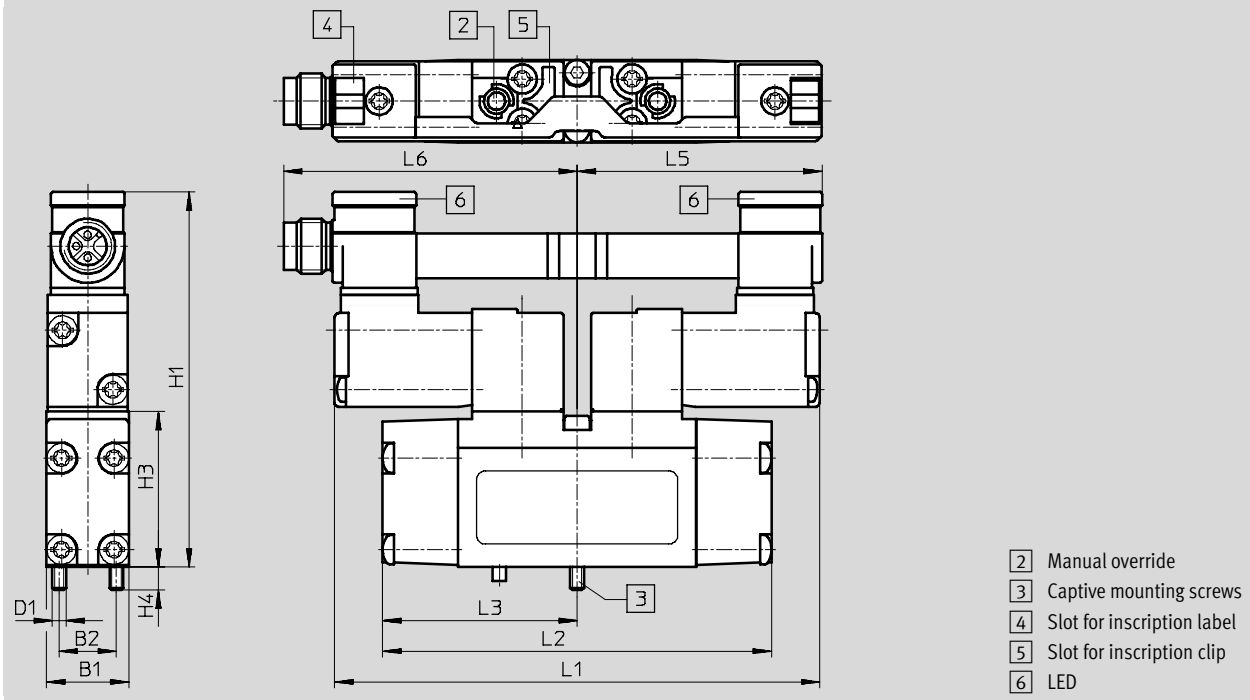
# Solenoid valves MN2H, ISO 15 407-1

Technical data – 2x 3/2-way valves

## Dimensions

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

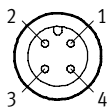
MN2H-...-ZSR with round central plug



ISO size	B1	B2	D1	H1	H3	H4	L2	L3	L5	L6
02	18	12.5	M3	82	34	5	85	42.5	52.5	64.2
01	26.2	19	M4	85	35	7	110	55	53.5	65.2

## M12 central plug – Terminal allocation

Duo connection



- 1 Unused
- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14

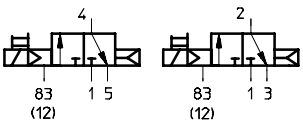
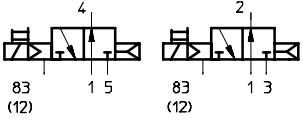
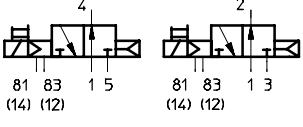
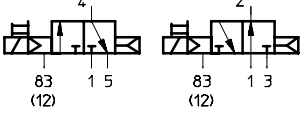
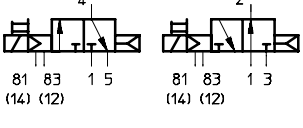
# Solenoid valves MN2H, ISO 15 407-1

FESTO

Technical data – 2x 3/2-way valves

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

## 1.1

Ordering data – ISO size 02					
Circuit symbol	Description	Voltage	Central plug <sup>1)</sup>	Part No.	Type
	Normally closed, internal pilot air supply	24 V DC	–	<b>187 976</b>	<b>MN2H-2x3G-02<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 372</b>	<b>MN2H-2x3G-02-12DCA</b>
		110 V AC	–	<b>191 374</b>	<b>MN2H-2x3G-02-110VAC</b>
		230 V AC	–	<b>191 376</b>	<b>MN2H-2x3G-02-230AC</b>
		24 V DC	■	<b>191 370</b>	<b>MN2H-2x3G-02-ZSR</b>
	Normally closed, external pilot air supply	24 V DC	–	<b>187 979</b>	<b>MN2H-2x3G-02-S<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 373</b>	<b>MN2H-2x3G-02-S-12DCA</b>
		110 V AC	–	<b>191 375</b>	<b>MN2H-2x3G-02-S-110AC</b>
		230 V AC	–	<b>191 377</b>	<b>MN2H-2x3G-02-S-230AC</b>
		24 V DC	■	<b>191 371</b>	<b>MN2H-2x3G-02-S-ZSR</b>
	Normally open, internal pilot air supply	24 V DC	–	<b>187 977</b>	<b>MN2H-2x30-02<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 380</b>	<b>MN2H-2x30-02-12DCA</b>
		110 V AC	–	<b>191 382</b>	<b>MN2H-2x30-02-110VAC</b>
		230 V AC	–	<b>191 384</b>	<b>MN2H-2x30-02-230VAC</b>
		24 V DC	■	<b>191 378</b>	<b>MN2H-2x30-02-ZSR</b>
	Normally open, external pilot air supply	24 V DC	–	<b>187 980</b>	<b>MN2H-2x30-02-S<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 381</b>	<b>MN2H-2x30-02-S-12DCA</b>
		110 V AC	–	<b>191 383</b>	<b>MN2H-2x30-02-S-110VAC</b>
		230 V AC	–	<b>191 385</b>	<b>MN2H-2x30-02-S-230VAC</b>
		24 V DC	■	<b>191 379</b>	<b>MN2H-2x30-02-S-ZSR</b>
	Normally 1x closed, 1x open, internal pilot air supply	24 V DC	–	<b>187 978</b>	<b>MN2H-2x30-G-02<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 388</b>	<b>MN2H-2x30-G-02-12DCA</b>
		110 V AC	–	<b>191 390</b>	<b>MN2H-2x30-G-02-110VAC</b>
		230 V AC	–	<b>191 392</b>	<b>MN2H-2x30-G-02-230AC</b>
		24 V DC	■	<b>191 386</b>	<b>MN2H-2x30-G-02-ZSR</b>
	Normally 1x closed, 1x open, external pilot air supply	24 V DC	–	<b>187 981</b>	<b>MN2H-2x30-G-02-S<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 389</b>	<b>MN2H-2x30-G-02-S-12DCA</b>
		110 V AC	–	<b>191 391</b>	<b>MN2H-2x30-G-02-S-110AC</b>
		230 V AC	–	<b>191 393</b>	<b>MN2H-2x30-G-02-S-230AC</b>
		24 V DC	■	<b>191 387</b>	<b>MN2H-2x30-G-02-S-ZSR</b>

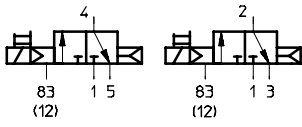
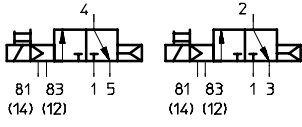
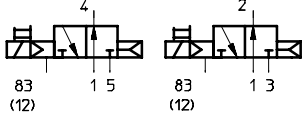
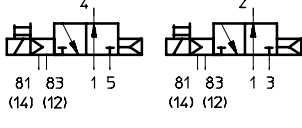
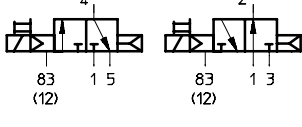
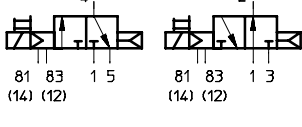
1) Included in the scope of delivery

2) Free of copper and PTFE

# Solenoid valves MN2H, ISO 15 407-1

FESTO

Technical data – 2x 3/2-way valves

Ordering data – ISO size 01					
Circuit symbol	Description	Voltage	Central plug <sup>1)</sup>	Part No.	Type
	Normally closed, internal pilot air supply	24 V DC	–	<b>187 970</b>	<b>MN2H-2x3G-01<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 342</b>	<b>MN2H-2x3G-01-12DCA</b>
		110 V AC	–	<b>191 344</b>	<b>MN2H-2x3G-01-110VAC</b>
		230 V AC	–	<b>191 346</b>	<b>MN2H-2x3G-01-230AC</b>
		24 V DC	■	<b>191 340</b>	<b>MN2H-2x3G-01-ZSR</b>
	Normally closed, external pilot air supply	24 V DC	–	<b>187 973</b>	<b>MN2H-2x3G-01-S<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 343</b>	<b>MN2H-2x3G-01-S-12DCA</b>
		110 V AC	–	<b>191 345</b>	<b>MN2H-2x3G-01-S-110AC</b>
		230 V AC	–	<b>191 347</b>	<b>MN2H-2x3G-01-S-230AC</b>
		24 V DC	■	<b>191 341</b>	<b>MN2H-2x3G-01-S-ZSR</b>
	Normally open, internal pilot air supply	24 V DC	–	<b>187 971</b>	<b>MN2H-2x3O-01<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 350</b>	<b>MN2H-2x3O-01-12DCA</b>
		110 V AC	–	<b>191 352</b>	<b>MN2H-2x3O-01-110VAC</b>
		230 V AC	–	<b>191 354</b>	<b>MN2H-2x3O-01-230VAC</b>
		24 V DC	■	<b>191 348</b>	<b>MN2H-2x3O-01-ZSR</b>
	Normally open, external pilot air supply	24 V DC	–	<b>187 974</b>	<b>MN2H-2x3O-01-S<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 351</b>	<b>MN2H-2x3O-01-S-12DCA</b>
		110 V AC	–	<b>191 353</b>	<b>MN2H-2x3O-01-S-110VAC</b>
		–	–	<b>191 355</b>	<b>MN2H-2x3O-01-S-230VAC</b>
		24 V DC	■	<b>191 349</b>	<b>MN2H-2x3O-01-S-ZSR</b>
	Normally 1x closed, 1x open, internal pilot air supply	24 V DC	–	<b>187 972</b>	<b>MN2H-2x3O-G-01<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 358</b>	<b>MN2H-2x3O-G-01-12DCA</b>
		110 V AC	–	<b>191 360</b>	<b>MN2H-2x3O-G-01-110VAC</b>
		230 V AC	–	<b>191 362</b>	<b>MN2H-2x3O-G-01-230AC</b>
		24 V DC	■	<b>191 356</b>	<b>MN2H-2x3O-G-01-ZSR</b>
	Normally 1x closed, 1x open, external pilot air supply	24 V DC	–	<b>187 975</b>	<b>MN2H-2x3O-G-01-S<sup>2)</sup></b>
		12 V DC, 24 V AC	–	<b>191 359</b>	<b>MN2H-2x3O-G-01-S-12DCA</b>
		110 V AC	–	<b>191 361</b>	<b>MN2H-2x3O-G-01-S-110AC</b>
		230 V AC	–	<b>191 363</b>	<b>MN2H-2x3O-G-01-S-230AC</b>
		24 V DC	■	<b>191 357</b>	<b>MN2H-2x3O-G-01-S-ZSR</b>


1) Included in the scope of delivery


2) Free of copper and PTFE

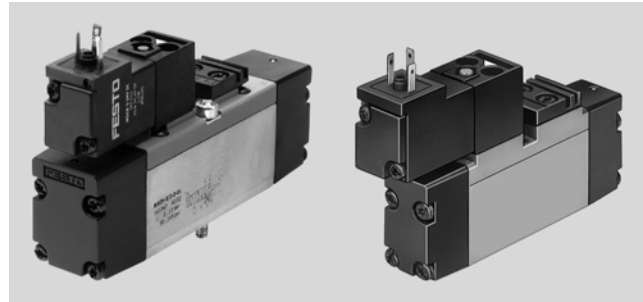
# Solenoid valves MN2H, ISO 15 407-1

FESTO

Technical data 5/2-way valves

-  - Flow rate  
500 ... 1,000 l/min

-  - Voltage  
12, 24 V DC  
24, 110, 230 V AC



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

General technical data			
ISO size	02		01
Valve function	5/2-way, single solenoid		
Constructional design	Piston spool		
Sealing principle	Soft		
Actuation type	Electrical		
Type of reset	Mechanical or pneumatic spring		
Type of control	Piloted		
Pilot air supply	Internal or external		
Direction of flow	Non reversible		
Exhaust function	Flow control		
Manual override facility	Via tool accessory, detenting		
Type of mounting	Via through-holes		
Assembly position	Any		
Nominal size	[mm]	6	8
Standard nominal flow rate	[l/min]	500	1,000
Grid dimension	[mm]	19	27
Pneumatic connection	1, 2, 3, 4, 5	G $\frac{3}{8}$	G $\frac{1}{4}$
	12, 14	M5	M5
Product weight	[g]	160	270
Noise level	[dB (A)]	75	

Operating and environmental conditions						
ISO size	02		01			
Type of reset	Pneumatic	Mechanical	Pneumatic	Mechanical		
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum					
Operating pressure	Internal pilot air supply	[bar]	2 ... 10	3 ... 10	2 ... 10	3 ... 10
	External pilot air supply	[bar]	-0.9 ... +10	-0.9 ... +10	-0.9 ... +16	-0.9 ... +16
Pilot pressure	[bar]	2 ... 10	3 ... 10	2 ... 10	3 ... 10	
Ambient temperature	[°C]	-10 ... +50				
Temperature of medium	[°C]	-5 ... +50				

Valve response times [ms]				
ISO size	02		01	
Type of reset	Pneumatic	Mechanical	Pneumatic	Mechanical
On	23	18	31	24
Off	27	34	43	58

# Solenoid valves MN2H, ISO 15 407-1

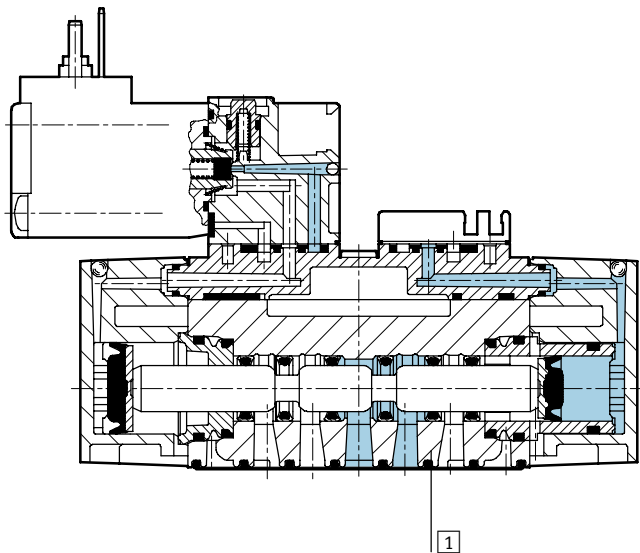
FESTO

Technical data – 5/2-way valves

Electrical data			
Electrical connection		Plug, square design to EN 175301-803, type C	
		Central plug, round design, M12x1	
Operating voltage	D.C. voltage	[V DC]	12, 24 +10%/–15%
	AC voltage	[V AC]	24, 110/230 ±10% (50 ... 60 Hz)
Coil characteristics	D.C. voltage	[W]	1.5
	AC voltage	[VA]	Pull: 3 Hold: 2.4
Protection class to EN 60 529		IP65 (in combination with plug socket)	
CE symbol		73/23/EEC (low voltage)	

## Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber
	Material note	Designs free of copper and PTFE → Ordering data

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

# Solenoid valves MN2H, ISO 15 407-1

Technical data – 5/2-way valves

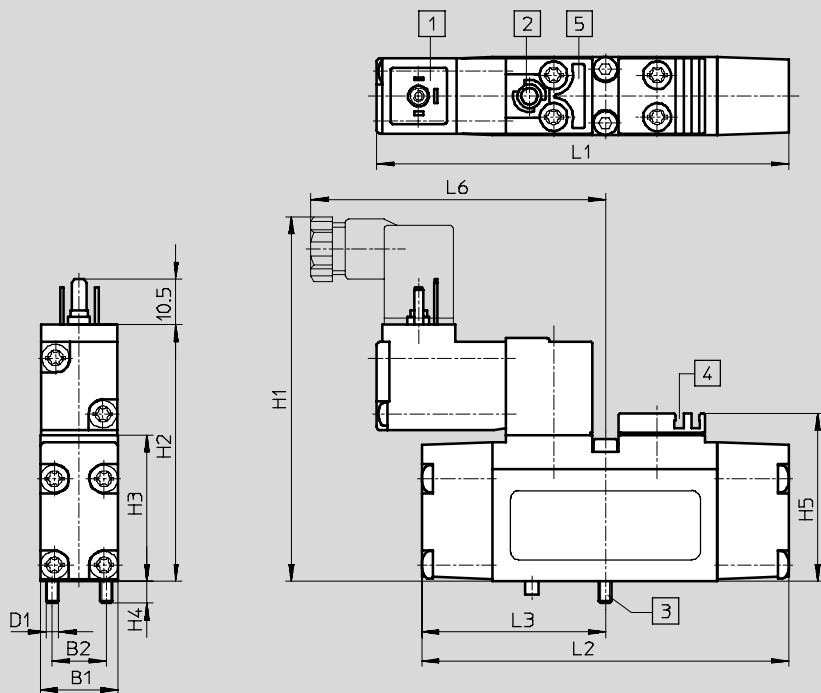


Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

## Dimensions

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



- 1 Plug socket connection pattern to EN 175301-803, type C
- 2 Manual override
- 3 Captive mounting screws
- 4 Slot for inscription label
- 5 Slot for inscription clip

Type	B1	B2	D1	H1	H2	H3	H4	H5	L1	L2	L3	L6
ISO size 02												
MN2H-5/2-...	18	12.5	M3	92	59.5	34	5	39	95.5	85	42.5	70
MN2H-5/2-...-FR									107.5	97		
ISO size 01												
MN2H-5/2-...	26.2	19	M4	93	60.5	35	7	42	109	110	55	71
MN2H-5/2-...-FR												

# Solenoid valves MN2H, ISO 15 407-1

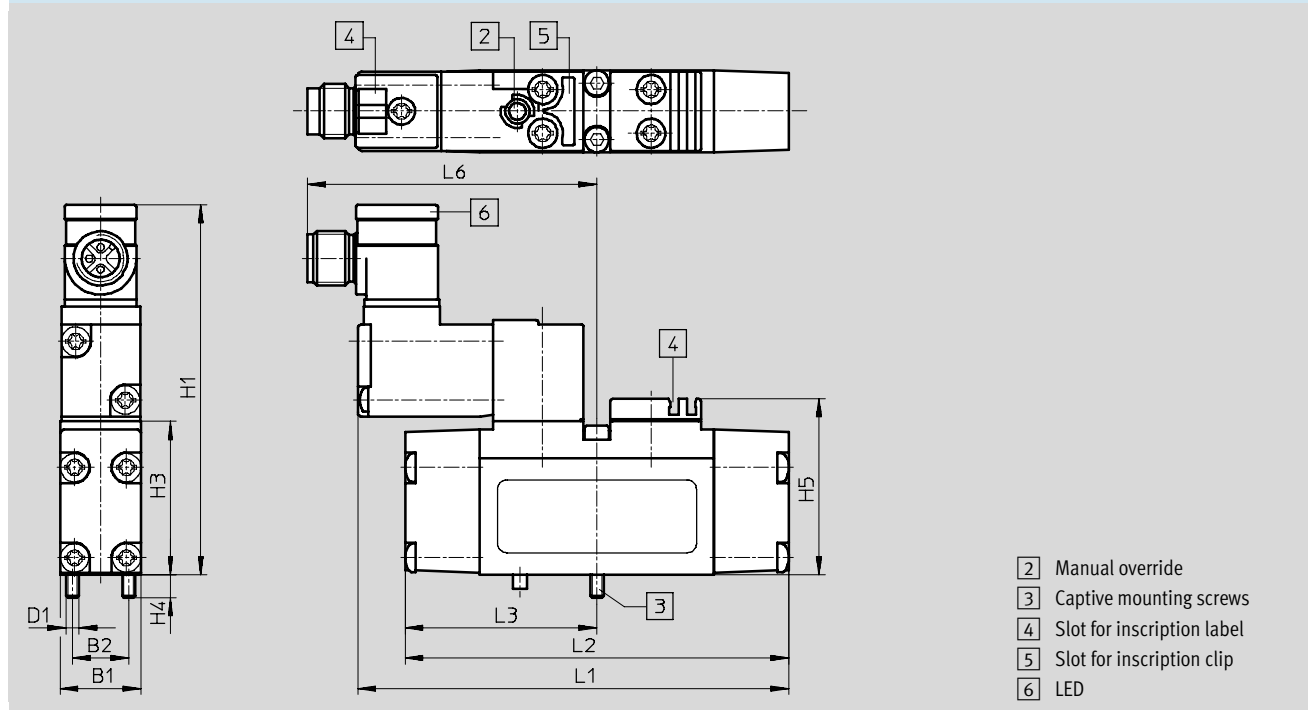
Technical data – 5/2-way valves



## Dimensions

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

MN2H-...-ZSR with round central plug



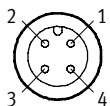
Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

Type	B1	B2	D1	H1	H3	H4	H5	L1	L2	L3	L6
ISO size 02											
MN2H-5/2-...ZSR	18	12.5	M3	82	34	5	39	95.5	85	42.5	64.2
MN2H-5/2-...-FR-ZSR								107.5	97		
ISO size 01											
MN2H-5/2-...-ZSR	26.2	19	M4	85	35	7	42	109	110	55	65.2
MN2H-5/2-...-FR-ZSR											

## M12 central plug – Terminal allocation

Mono connection



- 1 Unused
- 2 Unused
- 3 com (-)
- 4 Signal (+) Solenoid 14

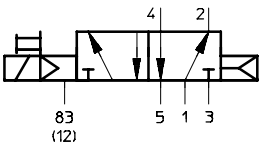
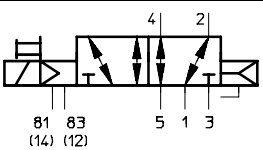
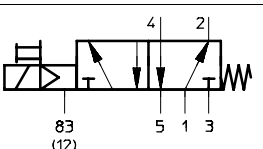
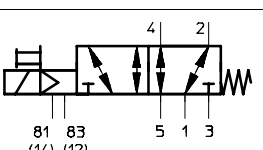
# Solenoid valves MN2H, ISO 15 407-1

FESTO

Technical data – 5/2-way valves

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

Ordering data – ISO size 02					
Circuit symbol	Description	Voltage	Central plug <sup>1)</sup>	Part No.	Type
 <p>83 (12)</p>	Pneumatic reset, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 890</b>	<b>MN2H-5/2-02-12DCA</b>
		24 V DC	–	<b>161 088</b>	<b>MN2H-5/2-D-02</b>
		24 V DC	–	<b>184 308</b>	<b>MN2H-5/2-D-02-B<sup>2)</sup></b>
		110 V AC	–	<b>161 908</b>	<b>MN2H-5/2-D-02-110AC</b>
		230 V AC	–	<b>161 922</b>	<b>MN2H-5/2-D-02-230AC</b>
		24 V DC	■	<b>191 323</b>	<b>MN2H-5/2-02-ZSR</b>
 <p>81 83 (14) (12)</p>	Pneumatic reset, external pilot air supply	12 V DC, 24 V AC	–	<b>187 891</b>	<b>MN2H-5/2-02-S-12DCA</b>
		24 V DC	–	<b>161 089</b>	<b>MN2H-5/2-D-02-S</b>
		24 V DC	–	<b>184 309</b>	<b>MN2H-5/2-D-02-S-B<sup>2)</sup></b>
		110 V AC	–	<b>161 909</b>	<b>MN2H-5/2-D-02-S-110AC</b>
		230 V AC	–	<b>161 923</b>	<b>MN2H-5/2-D-02-S-230AC</b>
		24 V DC	■	<b>191 324</b>	<b>MN2H-5/2-02-S-ZSR</b>
 <p>83 (12)</p>	Mechanical reset, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 926</b>	<b>MN2H-5/2-02-FR-12DCA</b>
		24 V DC	–	<b>161 090</b>	<b>MN2H-5/2-D-02-FR</b>
		24 V DC	–	<b>184 310</b>	<b>MN2H-5/2-D-02-FR-B<sup>2)</sup></b>
		110 V AC	–	<b>161 910</b>	<b>MN2H-5/2-D-02-FR-110AC</b>
		230 V AC	–	<b>161 924</b>	<b>MN2H-5/2-D-02-FR-230AC</b>
		24 V DC	■	<b>191 325</b>	<b>MN2H-5/2-02-FR-ZSR</b>
 <p>81 83 (14) (12)</p>	Mechanical reset, external pilot air supply	12 V DC, 24 V AC	–	<b>187 927</b>	<b>MN2H-5/2-02-FR-S-12DCA</b>
		24 V DC	–	<b>161 091</b>	<b>MN2H-5/2-D-02-FR-S</b>
		24 V DC	–	<b>184 311</b>	<b>MN2H-5/2-D-02-FR-S-B<sup>2)</sup></b>
		110 V AC	–	<b>161 911</b>	<b>MN2H-5/2-D-02-FR-S-110AC</b>
		230 V AC	–	<b>161 925</b>	<b>MN2H-5/2-D-02-FR-S-230AC</b>
		24 V DC	■	<b>191 326</b>	<b>MN2H-5/2-02-FR-S-ZSR</b>

1) Included in the scope of delivery

2) Free of copper and PTFE

# Solenoid valves MN2H, ISO 15 407-1

FESTO

Technical data – 5/2-way valves

Ordering data – ISO size 01					
Circuit symbol	Description	Voltage	Central plug <sup>1)</sup>	Part No.	Type
	Pneumatic reset, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 876</b>	<b>MN2H-5/2-01-12DCA</b>
		24 V DC	–	<b>161 067</b>	<b>MN2H-5/2-D-01<sup>2)</sup></b>
		110 V AC	–	<b>161 880</b>	<b>MN2H-5/2-D-01-110AC</b>
		230 V AC	–	<b>161 894</b>	<b>MN2H-5/2-D-01-230AC</b>
		24 V DC	■	<b>191 309</b>	<b>MN2H-5/2-01-ZSR<sup>2)</sup></b>
	Pneumatic reset, external pilot air supply	12 V DC, 24 V AC	–	<b>187 877</b>	<b>MN2H-5/2-01-S-12DCA</b>
		24 V DC	–	<b>161 068</b>	<b>MN2H-5/2-D-01-S<sup>2)</sup></b>
		110 V AC	–	<b>161 881</b>	<b>MN2H-5/2-D-01-S-110AC</b>
		230 V AC	–	<b>161 895</b>	<b>MN2H-5/2-D-01-S-230AC</b>
		24 V DC	■	<b>191 310</b>	<b>MN2H-5/2-01-S-ZSR<sup>2)</sup></b>
	Mechanical reset, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 878</b>	<b>MN2H-5/2-01-FR-12DCA</b>
		24 V DC	–	<b>161 069</b>	<b>MN2H-5/2-D-01-FR<sup>2)</sup></b>
		110 V AC	–	<b>161 882</b>	<b>MN2H-5/2-D-01-FR-110AC</b>
		230 V AC	–	<b>161 896</b>	<b>MN2H-5/2-D-01-FR-230AC</b>
		24 V DC	■	<b>191 311</b>	<b>MN2H-5/2-01-FR-ZSR<sup>2)</sup></b>
	Mechanical reset, external pilot air supply	12 V DC, 24 V AC	–	<b>187 879</b>	<b>MN2H-5/2-01-FR-S-12DCA</b>
		24 V DC	–	<b>161 070</b>	<b>MN2H-5/2-D-01-FR-S<sup>2)</sup></b>
		110 V AC	–	<b>161 883</b>	<b>MN2H-5/2-D-01-FR-S-110AC</b>
		230 V AC	–	<b>161 897</b>	<b>MN2H-5/2-D-01-FR-S-230AC</b>
		24 V DC	■	<b>191 312</b>	<b>MN2H-5/2-01-FR-S-ZSR<sup>2)</sup></b>



1) Included in the scope of delivery

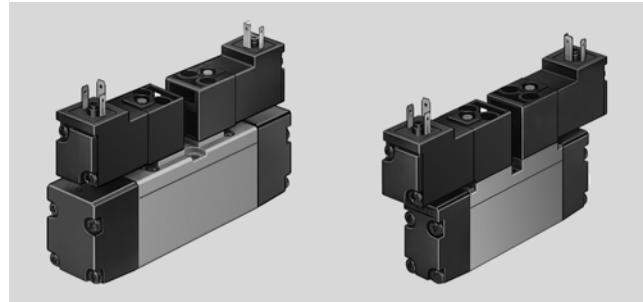
2) Free of copper and PTFE

# Solenoid valves JMN2H, ISO 15 407-1

FESTO

Technical data – 5/2-way valves, double solenoid

-  - Flow rate  
Size 01: 1,000 l/min.  
Size 02: 500 l/min
-  - Voltage  
12, 24 V DC  
24, 110, 230 V AC



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

General technical data			
ISO size	02		01
Valve function	5/2-way, double pilot		
Constructional design	Piston spool		
Sealing principle	Soft		
Actuation type	Electrical		
Type of control	Piloted		
Pilot air supply	Internal		
Direction of flow	Non reversible		
Exhaust function	Flow control		
Manual override facility	Via tool accessory, detenting		
Type of mounting	Via through-holes		
Assembly position	Any		
Nominal size	[mm]	6	8
Standard nominal flow rate	[l/min]	500	1,000
Grid dimension	[mm]	19	27
Pneumatic connection	1, 2, 3, 4, 5	G $\frac{1}{8}$	G $\frac{1}{4}$
	12, 14	M5	M5
Product weight	[g]	210	320
Noise level	[dB (A)]	75	

Operating and environmental conditions			
ISO size	02		01
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum		
Operating pressure	Internal pilot air supply	[bar]	2 ... 10
	External pilot air supply	[bar]	-0.9 ... +10
Pilot pressure	[bar]	2 ... 10	2 ... 10
Ambient temperature	[°C]	-10 ... +50	
Temperature of medium	[°C]	-5 ... +50	

Valve response times [ms]				
ISO size	02		01	
		Dominant signal at 14		Dominant signal at 14
On/changeover	-	16	-	16
Off/changeover	16	16	18	18

# Solenoid valves JMN2H, ISO 15 407-1

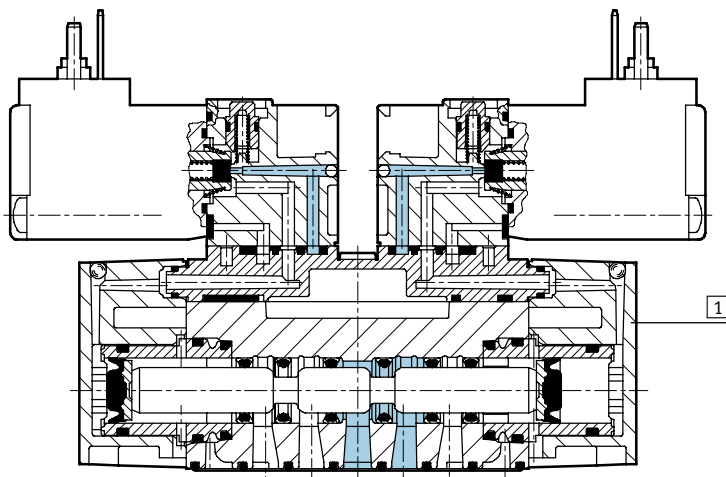
FESTO

Technical data – 5/2-way valves, double solenoid

Electrical data			
Electrical connection		Plug, square design to EN 175301-803, type C	
		Central plug, round design, M12x1	
Operating voltage	D.C. voltage	[V DC]	12, 24 +10%/–15%
	AC voltage	[V AC]	24, 110/230 ±10% (50 ... 60 Hz)
Coil characteristics	D.C. voltage	[W]	1.5
	AC voltage	[VA]	Pull: 3 Hold: 2.4
Protection class to EN 60 529		IP65 (in combination with plug socket)	
CE symbol		73/23/EEC (low voltage)	

## Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber
	Material note	Designs free of copper and PTFE → Ordering data

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

# Solenoid valves JMN2H, ISO 15 407-1

Technical data – 5/2-way valves, double solenoid

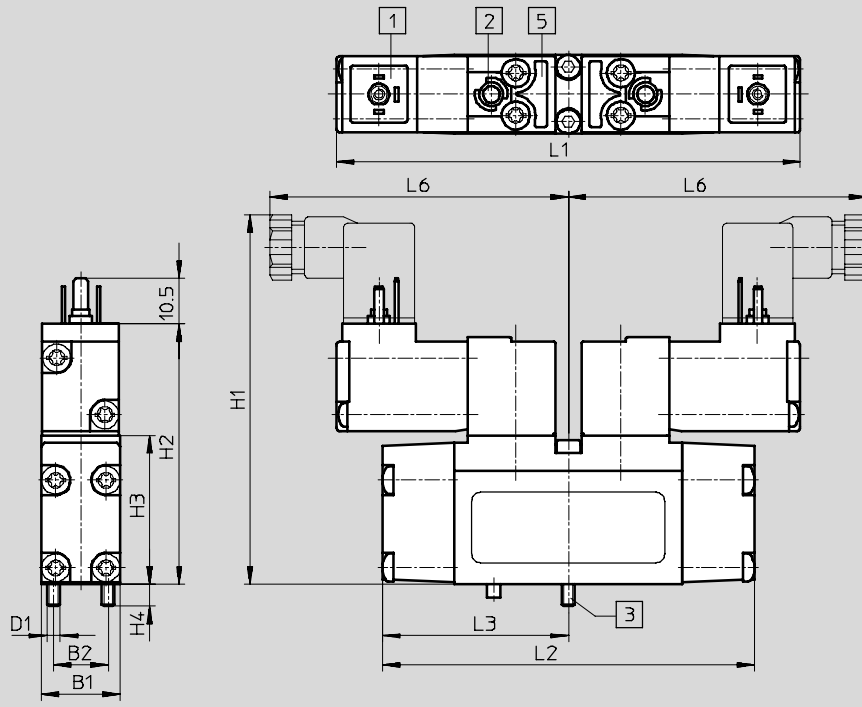


Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

## Dimensions

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



- 1 Plug socket connection pattern to EN 175301-803, type C
- 2 Manual override
- 3 Captive mounting screws
- 5 Slot for inscription clip

ISO size	B1	B2	D1	H1	H2	H3	H4	L1	L2	L3	L6
02	18	12.5	M3	92	59.5	34	5	106	85	42.5	70
01	26.2	19	M4	93	60.5	35	7	108	110	55	71

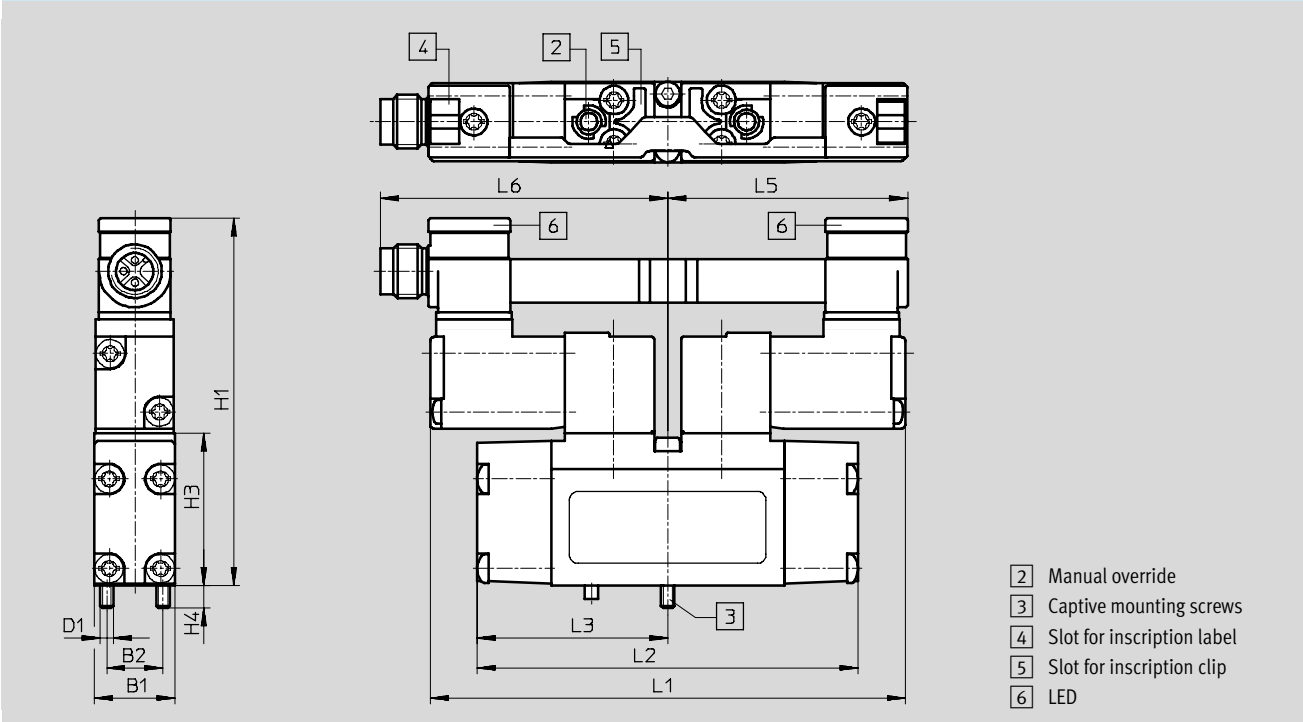
# Solenoid valves JMN2H, ISO 15 407-1

Technical data – 5/2-way valves, double solenoid

## Dimensions

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

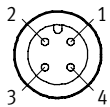
JMN2H/JMN2DH...-ZSR with round central plug



ISO size	B1	B2	D1	H1	H3	H4	L2	L3	L5	L6
02	18	12.5	M3	82	34	5	85	42.5	52.5	64.2
01	26.2	19	M4	85	35	7	110	55	53.5	65.2

## M12 central plug – Terminal allocation

Duo connection



- 1 Unused
- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14

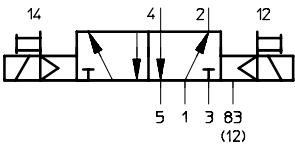
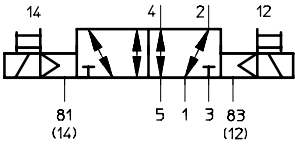
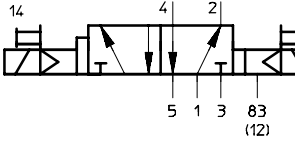
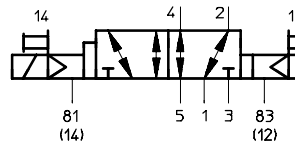
# Solenoid valves JMN2H, ISO 15 407-1

FESTO

Technical data – 5/2-way valves, double solenoid

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

## 1.1

Ordering data – ISO size 02					
Circuit symbol	Description	Voltage	Central plug <sup>1)</sup>	Part No.	Type
	Internal pilot air supply	12 V DC, 24 V AC	–	<b>187 928</b>	<b>JMN2H-5/2-02-12DCA</b>
		24 V DC	–	<b>161 092</b>	<b>JMN2H-5/2-D-02</b>
		110 V AC	–	<b>161 912</b>	<b>JMN2H-5/2-D-02-110AC</b>
		230 V AC	–	<b>161 926</b>	<b>JMN2H-5/2-D-02-230AC</b>
		24 V DC	■	<b>191 333</b>	<b>JMN2H-5/2-02-ZSR</b>
	External pilot air supply	12 V DC, 24 V AC	–	<b>187 929</b>	<b>JMN2H-5/2-02-S-12DCA</b>
		24 V DC	–	<b>161 093</b>	<b>JMN2H-5/2-D-02-S</b>
		110 V AC	–	<b>161 913</b>	<b>JMN2H-5/2-D-02-S-110AC</b>
		230 V AC	–	<b>161 927</b>	<b>JMN2H-5/2-D-02-S-230AC</b>
		24 V DC	■	<b>191 334</b>	<b>JMN2H-5/2-02-S-ZSR</b>
	With dominant signal at 14, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 930</b>	<b>JMN2DH-5/2-02-12DCA</b>
		24 V DC	–	<b>161 094</b>	<b>JMN2DH-5/2-D-02</b>
		110 V AC	–	<b>161 914</b>	<b>JMN2DH-5/2-D-02-110AC</b>
		230 V AC	–	<b>161 928</b>	<b>JMN2DH-5/2-D-02-230AC</b>
		24 V DC	■	<b>191 335</b>	<b>JMN2DH-5/2-02-ZSR</b>
	With dominant signal at 14, external pilot air supply	12 V DC, 24 V AC	–	<b>187 931</b>	<b>JMN2DH-5/2-02-S-12DCA</b>
		24 V DC	–	<b>161 095</b>	<b>JMN2DH-5/2-D-02-S</b>
		110 V AC	–	<b>161 915</b>	<b>JMN2DH-5/2-D-02-S-110AC</b>
		230 V AC	–	<b>161 929</b>	<b>JMN2DH-5/2-D-02-S-230AC</b>
		24 V DC	■	<b>191 336</b>	<b>JMN2DH-5/2-02-S-ZSR</b>

1) Included in the scope of delivery

# Solenoid valves JMN2H, ISO 15 407-1

FESTO

Technical data – 5/2-way valves, double solenoid

Ordering data – ISO size 01					
Circuit symbol	Description	Voltage	Central plug <sup>1)</sup>	Part No.	Type
	Internal pilot air supply	12 V DC, 24 V AC	-	<b>187 880</b>	<b>JMN2H-5/2-01-12DCA</b>
		24 V DC	-	<b>161 071</b>	<b>JMN2H-5/2-D-01<sup>2)</sup></b>
		110 V AC	-	<b>161 884</b>	<b>JMN2H-5/2-D-01-110AC</b>
		230 V AC	-	<b>161 898</b>	<b>JMN2H-5/2-D-01-230AC</b>
		24 V DC	■	<b>191 319</b>	<b>JMN2H-5/2-01-ZSR<sup>2)</sup></b>
	External pilot air supply	12 V DC, 24 V AC	-	<b>187 881</b>	<b>JMN2H-5/2-01-S-12DCA</b>
		24 V DC	-	<b>161 072</b>	<b>JMN2H-5/2-D-01-S<sup>2)</sup></b>
		110 V AC	-	<b>161 885</b>	<b>JMN2H-5/2-D-01-S-110AC</b>
		230 V AC	-	<b>161 899</b>	<b>JMN2H-5/2-D-01-S-230AC</b>
		24 V DC	■	<b>191 320</b>	<b>JMN2H-5/2-01-S-ZSR<sup>2)</sup></b>
	With dominant signal at 14, internal pilot air supply	12 V DC, 24 V AC	-	<b>187 882</b>	<b>JMN2DH-5/2-01-12DCA</b>
		24 V DC	-	<b>161 073</b>	<b>JMN2DH-5/2-D-01<sup>2)</sup></b>
		110 V AC	-	<b>161 886</b>	<b>JMN2DH-5/2-D-01-110AC</b>
		230 V AC	-	<b>161 900</b>	<b>JMN2DH-5/2-D-01-230AC</b>
		24 V DC	■	<b>191 321</b>	<b>JMN2DH-5/2-01-ZSR<sup>2)</sup></b>
	With dominant signal at 14, external pilot air supply	12 V DC, 24 V AC	-	<b>187 883</b>	<b>JMN2DH-5/2-01-S-12DCA</b>
		24 V DC	-	<b>161 074</b>	<b>JMN2DH-5/2-D-01-S<sup>2)</sup></b>
		110 V AC	-	<b>161 887</b>	<b>JMN2DH-5/2-D-01-S-110AC</b>
		230 V AC	-	<b>161 901</b>	<b>JMN2DH-5/2-D-01-S-230AC</b>
		24 V DC	■	<b>191 322</b>	<b>JMN2DH-5/2-01-S-ZSR<sup>2)</sup></b>

1) Included in the scope of delivery  
2) Free of copper and PTFE



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

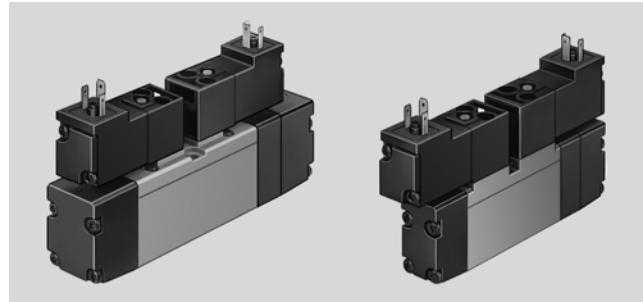
1.1

# Solenoid valves MN2H, ISO 15 407-1

Technical data – 5/3-way valves

FESTO

-  - Flow rate  
500 ... 1,000 l/min
-  - Voltage  
12, 24 V DC  
24, 110, 230 V AC



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

General technical data			
ISO size	02		01
Valve function	5/3-way, single solenoid		
Constructional design	Piston spool		
Sealing principle	Soft		
Actuation type	Electrical		
Type of reset	Mechanical spring		
Type of control	Piloted		
Pilot air supply	Internal		
Direction of flow	Non reversible		
Exhaust function	Flow control		
Manual override facility	Via tool accessory, detenting		
Type of mounting	Via through-holes		
Assembly position	Any		
Nominal size	[mm]	6	8
Standard nominal flow rate	[l/min]	500	1,000
Grid dimension	[mm]	19	27
Pneumatic connection	1, 2, 3, 4, 5	G $\frac{3}{8}$	G $\frac{1}{4}$
	12, 14	M5	M5
Product weight	[g]	220	340
Noise level	[dB (A)]	75	

Operating and environmental conditions			
ISO size	02		01
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum		
Operating pressure	Internal pilot air supply	[bar]	3 ... 10
	External pilot air supply	[bar]	-0.9 ... +10
Pilot pressure	[bar]	3 ... 10	3 ... 10
Ambient temperature	[°C]	-10 ... +50	
Temperature of medium	[°C]	-5 ... +50	

# Solenoid valves MN2H, ISO 15 407-1

FESTO

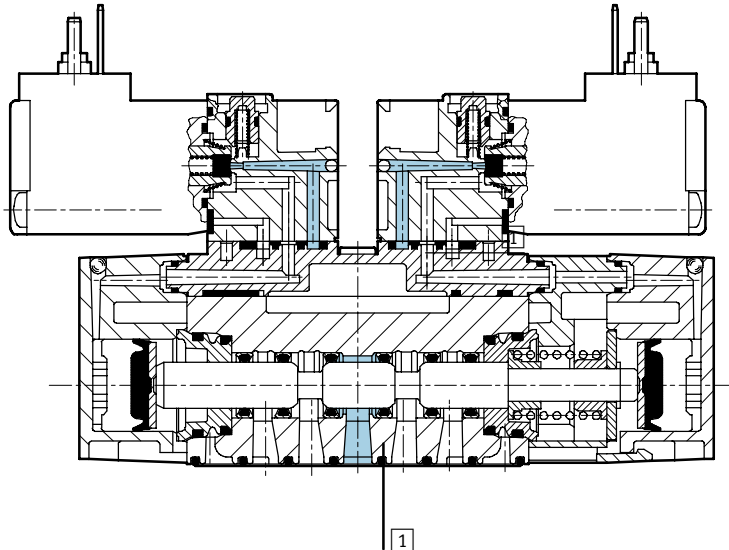
Technical data – 5/3-way valves

Valve response times [ms]			
ISO size		02	01
Closed	On	17	23
	Off	22	52
Exhausted	On	18	23
	Off	28	52
Pressurised	On	18	23
	Off	30	52

Electrical data			
Electrical connection	Construction		Plug, square design to EN 175301-803, type C Central plug, round design, M12x1
Operating voltage	D.C. voltage	[V DC]	12, 24 +10 %/-15 %
	AC voltage	[V AC]	24, 110/230 ±10 % (50 ... 60 Hz)
Coil characteristics	D.C. voltage	[W]	1.5
	AC voltage	[VA]	Pull: 3 Hold: 2.4
Protection class to EN 60 529			IP65 (in combination with plug socket)
CE certification			In accordance with EU Directive 73/23/EEC

## Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber
	Material note	Designs free of copper and PTFE → Ordering data

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

# Solenoid valves MN2H, ISO 15 407-1

Technical data – 5/3-way valves

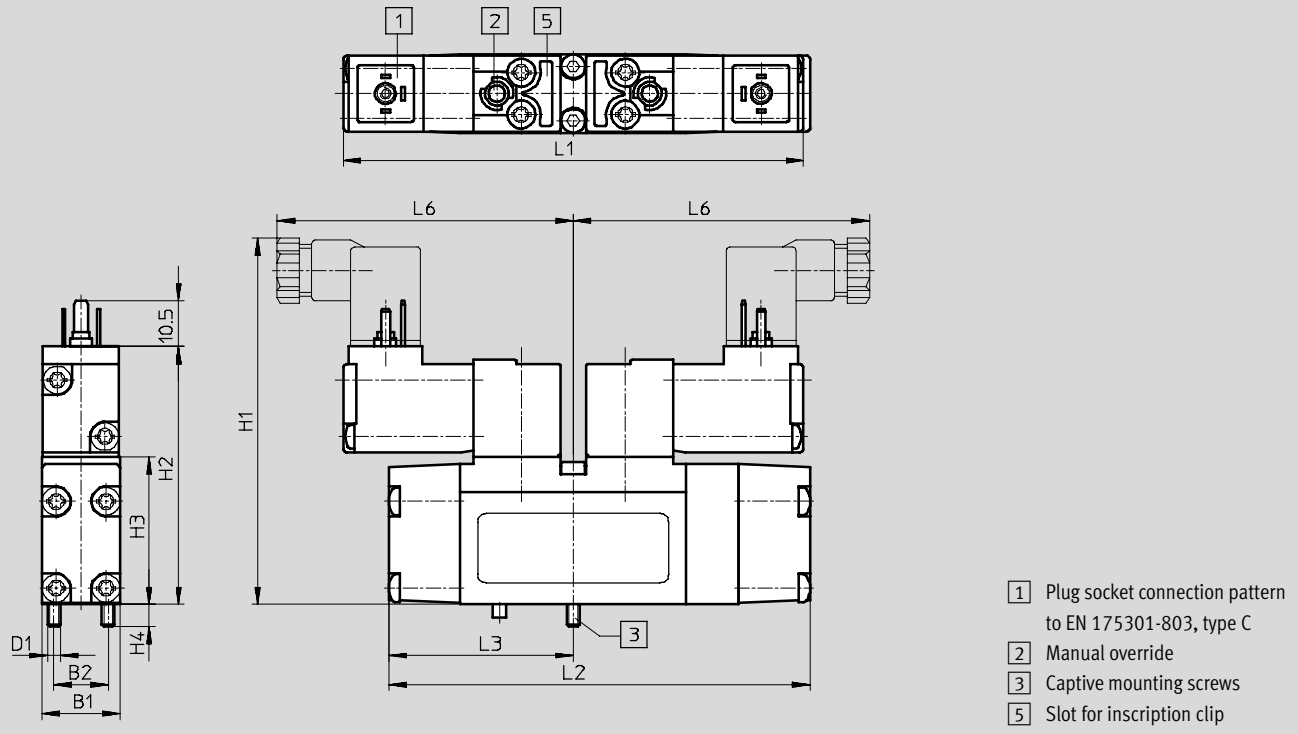
FESTO

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

## Dimensions

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



ISO size	B1	B2	D1	H1	H2	H3	H4	L1	L2	L3	L6
02	18	12.5	M3	92	59.5	34	5	106	97	42.5	70
01	26.2	19	M4	93	60.5	35	7	108	124	55	71

# Solenoid valves MN2H, ISO 15 407-1

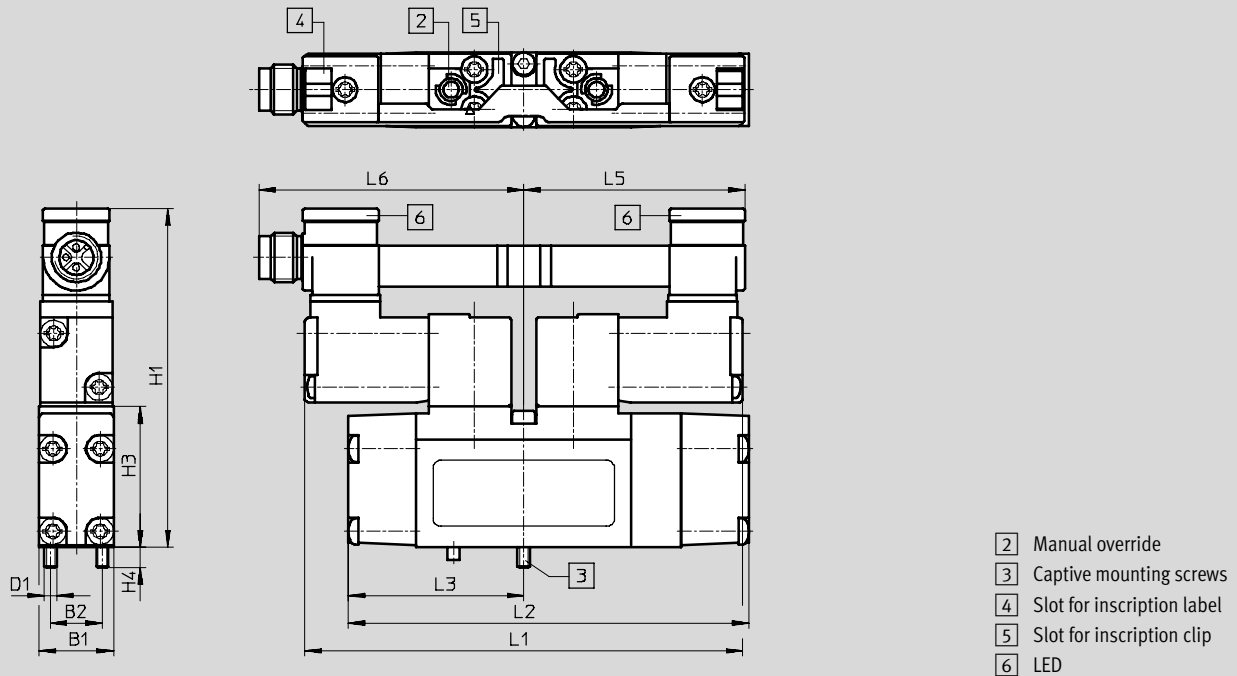
Technical data – 5/3-way valves



## Dimensions

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

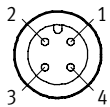
MN2H-...-ZSR with round central plug



ISO size	B1	B2	D1	H1	H3	H4	L2	L3	L4	L6
02	18	12.5	M3	82	34	5	97	42.5	52.5	64.2
01	26.2	19	M4	85	35	7	124	55	53.5	65.2

## M12 central plug – Terminal allocation

Duo connection



- 1 Unused
- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14

Standard directional control valves  
 ISO 15 407-1 (VDMA 24 563)

1.1

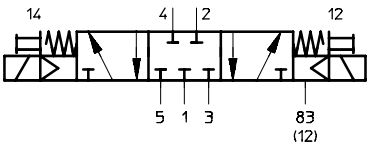
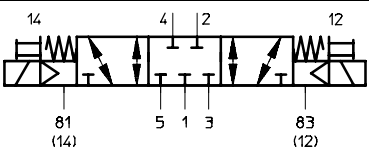
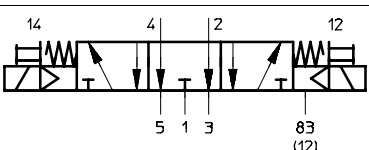
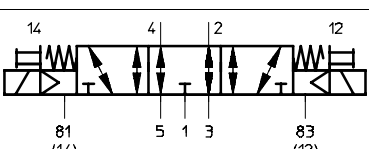
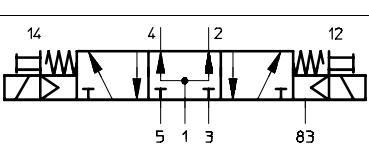
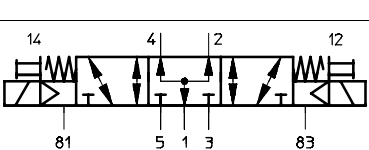
# Solenoid valves MN2H, ISO 15 407-1

FESTO

Technical data – 5/3-way valves

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

Ordering data – ISO size 02					
Circuit symbol	Description	Voltage	Central plug <sup>1)</sup>	Part No.	Type
	Normally closed, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 932</b>	<b>MN2H-5/3G-02-12DCA</b>
		24 V DC	–	<b>161 096</b>	<b>MN2H-5/3G-D-02</b>
		24 V DC	–	<b>184 316</b>	<b>MN2H-5/3G-D-02-B<sup>2)</sup></b>
		110 V AC	–	<b>161 916</b>	<b>MN2H-5/3G-D-02-110AC</b>
		230 V AC	–	<b>161 930</b>	<b>MN2H-5/3G-D-02-230AC</b>
		24 V DC	■	<b>191 327</b>	<b>MN2H-5/3G-02-ZSR</b>
	Normally closed, external pilot air supply	12 V DC, 24 V AC	–	<b>187 933</b>	<b>MN2H-5/3G-02-S-12DCA</b>
		24 V DC	–	<b>161 097</b>	<b>MN2H-5/3G-D-02-S</b>
		24 V DC	–	<b>184 317</b>	<b>MN2H-5/3G-D-02-S-B<sup>2)</sup></b>
		230 V AC	–	<b>161 917</b>	<b>MN2H-5/3G-D-02-S-110AC</b>
		230 V AC	–	<b>161 931</b>	<b>MN2H-5/3G-D-02-S-230AC</b>
		24 V DC	■	<b>191 328</b>	<b>MN2H-5/3G-02-S-ZSR</b>
	Normally exhausted, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 934</b>	<b>MN2H-5/3E-02-12DCA</b>
		24 V DC	–	<b>161 098</b>	<b>MN2H-5/3E-D-02</b>
		24 V DC	–	<b>184 314</b>	<b>MN2H-5/3E-D-02-B<sup>2)</sup></b>
		110 V AC	–	<b>161 918</b>	<b>MN2H-5/3E-D-02-110AC</b>
		230 V AC	–	<b>161 932</b>	<b>MN2H-5/3E-D-02-230AC</b>
		24 V DC	■	<b>191 329</b>	<b>MN2H-5/3E-02-ZSR</b>
	Normally exhausted, external pilot air supply	12 V DC, 24 V AC	–	<b>187 935</b>	<b>MN2H-5/3E-02-S-12DCA</b>
		24 V DC	–	<b>161 099</b>	<b>MN2H-5/3E-D-02-S</b>
		24 V DC	–	<b>184 315</b>	<b>MN2H-5/3E-D-02-S-B<sup>2)</sup></b>
		110 V AC	–	<b>161 919</b>	<b>MN2H-5/3E-D-02-S-110AC</b>
		230 V AC	–	<b>161 933</b>	<b>MN2H-5/3E-D-02-S-230AC</b>
		24 V DC	■	<b>191 330</b>	<b>MN2H-5/3E-02-S-ZSR</b>
	Normally pressurised, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 936</b>	<b>MN2H-5/3B-02-12DCA</b>
		24 V DC	–	<b>161 100</b>	<b>MN2H-5/3B-D-02</b>
		24 V DC	–	<b>184 312</b>	<b>MN2H-5/3B-D-02-B<sup>2)</sup></b>
		110 V AC	–	<b>161 920</b>	<b>MN2H-5/3B-D-02-110AC</b>
		230 V AC	–	<b>161 934</b>	<b>MN2H-5/3B-D-02-230AC</b>
		24 V DC	■	<b>191 331</b>	<b>MN2H-5/3B-02-ZSR</b>
	Normally pressurised, external pilot air supply	12 V DC, 24 V AC	–	<b>187 937</b>	<b>MN2H-5/3B-02-S-12DCA</b>
		24 V DC	–	<b>161 101</b>	<b>MN2H-5/3B-D-02-S</b>
		24 V DC	–	<b>184 313</b>	<b>MN2H-5/3B-D-02-S-B<sup>2)</sup></b>
		110 V AC	–	<b>161 921</b>	<b>MN2H-5/3B-D-02-S-110AC</b>
		230 V AC	–	<b>161 935</b>	<b>MN2H-5/3B-D-02-S-230AC</b>
		24 V DC	■	<b>191 332</b>	<b>MN2H-5/3B-02-S-ZSR</b>

1) Included in the scope of delivery  
2) Free of copper and PTFE

# Solenoid valves MN2H, ISO 15 407-1

FESTO

Technical data – 5/3-way valves

Ordering data – ISO size 01					
Circuit symbol	Description	Voltage	Central plug <sup>1)</sup>	Part No.	Type
	Normally closed, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 884</b>	<b>MN2H-5/3G-01-12DCA</b>
		24 V DC	–	<b>161 075</b>	<b>MN2H-5/3G-D-01-2)</b>
		110 V AC	–	<b>161 888</b>	<b>MN2H-5/3G-D-01-110AC</b>
		230 V AC	–	<b>161 902</b>	<b>MN2H-5/3G-D-01-230AC</b>
		24 V DC	■	<b>191 313</b>	<b>MN2H-5/3G-01-ZSR<sup>2)</sup></b>
	Normally closed, external pilot air supply	12 V DC, 24 V AC	–	<b>187 885</b>	<b>MN2H-5/3G-01-S-12DCA</b>
		24 V DC	–	<b>161 076</b>	<b>MN2H-5/3G-D-01-S<sup>2)</sup></b>
		110 V AC	–	<b>161 889</b>	<b>MN2H-5/3G-D-01-S-110AC</b>
		230 V AC	–	<b>161 903</b>	<b>MN2H-5/3G-D-01-S-230AC</b>
		24 V DC	■	<b>191 314</b>	<b>MN2H-5/3G-01-S-ZSR<sup>2)</sup></b>
	Normally exhausted, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 886</b>	<b>MN2H-5/3E-01-12DCA</b>
		24 V DC	–	<b>161 077</b>	<b>MN2H-5/3E-D-01-2)</b>
		110 V AC	–	<b>161 890</b>	<b>MN2H-5/3E-D-01-110AC</b>
		230 V AC	–	<b>161 904</b>	<b>MN2H-5/3E-D-01-230AC</b>
		24 V DC	■	<b>191 315</b>	<b>MN2H-5/3E-01-ZSR<sup>2)</sup></b>
	Normally exhausted, external pilot air supply	12 V DC, 24 V AC	–	<b>187 887</b>	<b>MN2H-5/3E-01-S-12DCA</b>
		24 V DC	–	<b>161 078</b>	<b>MN2H-5/3E-D-01-S<sup>2)</sup></b>
		110 V AC	–	<b>161 891</b>	<b>MN2H-5/3E-D-01-S-110AC</b>
		230 V AC	–	<b>161 905</b>	<b>MN2H-5/3E-D-01-S-230AC</b>
		24 V DC	■	<b>191 316</b>	<b>MN2H-5/3E-01-S-ZSR<sup>2)</sup></b>
	Normally pressurised, internal pilot air supply	12 V DC, 24 V AC	–	<b>187 888</b>	<b>MN2H-5/3B-01-12DCA</b>
		24 V DC	–	<b>161 079</b>	<b>MN2H-5/3B-D-01-2)</b>
		110 V AC	–	<b>161 892</b>	<b>MN2H-5/3B-D-01-110AC</b>
		230 V AC	–	<b>161 906</b>	<b>MN2H-5/3B-D-01-230AC</b>
		24 V DC	■	<b>191 317</b>	<b>MN2H-5/3B-01-ZSR<sup>2)</sup></b>
	Normally pressurised, external pilot air supply	12 V DC, 24 V AC	–	<b>187 889</b>	<b>MN2H-5/3B-01-S-12DCA</b>
		24 V DC	–	<b>161 080</b>	<b>MN2H-5/2-D-01-S<sup>2)</sup></b>
		110 V AC	–	<b>161 893</b>	<b>MN2H-5/3B-D-01-S-110AC</b>
		230 V AC	–	<b>161 907</b>	<b>MN2H-5/3B-D-01-S-230AC</b>
		24 V DC	■	<b>191 318</b>	<b>MN2H-5/3B-01-S-ZSR<sup>2)</sup></b>

1) Included in the scope of delivery


2) Free of copper and PTFE

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

## Solenoid valves VSVA, ISO 15 407-1

Technical data – 2x 3/2-way valves

-  - Flow rate  
500 / 1,000 l/min

-  - Voltage  
24 V DC



General technical data			
ISO size	02		01
Valve function	2x 3/2-way, monostable		
Constructional design	Piston spool		
Sealing principle	Soft		
Actuation type	Electrical		
Type of reset	Pneumatic spring		
Type of control	Piloted		
Pilot air supply	Internal or external		
Direction of flow	Non reversible		
Exhaust function	Flow control		
Manual override facility	Resetting		
Type of mounting	Via through-holes		
Tightening torque for valves mounting	[Nm]	0.68...0.92	1.62...218
Assembly position	Any		
Nominal size	[mm]	5	9
Standard nominal flow rate	[l/min]	500	1,000
Grid dimension	[mm]	19	27
Corrosion resistance class	CRC	2	
Pneumatic connection	1, 2, 3, 4, 5 12, 14	G $\frac{1}{8}$ M5	G $\frac{1}{4}$
Product weight	[g]	140	270

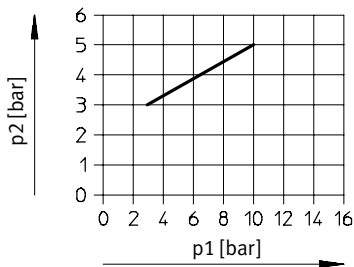
Operating and environmental conditions			
ISO size	02		01
Operating medium	Filtered compressed air, lubricated or unlubricated, 40µm filtration		
Operating pressure	Internal pilot air supply	[bar]	3 ... 8
	External pilot air supply	[bar]	3... 10
Pilot pressure	[bar]	3 ... 8 <sup>1)</sup>	
Ambient temperature	[°C]	-5 ... +50	
Temperature of medium	[°C]	-5 ... +50	
Flammability tested to UL94	V0		

1) Pilot pressure dependent on operating pressure → Graph

# Solenoid valves VSVA, ISO 15 407-1

Technical data – 2x 3/2-way valves

### Minimum pilot pressure p12, p14 as a function of the operating pressure p1 (external pilot air supply)



### Valve response times [ms]

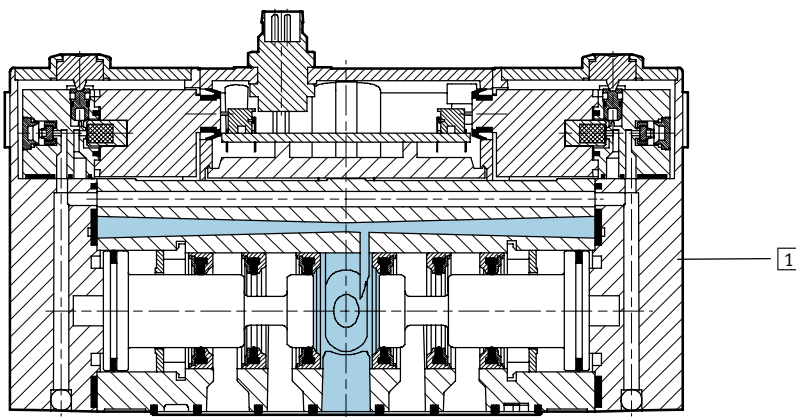
ISO size	02	01
On	10	20
Off	22	33

### Elektrische Daten/Electrical data

ISO size	02	01
Electrical connection according to IEC 60 947-5-2	Central plug, round design, M8x1	
		Central plug, round design, M12x1
Coil characteristics	Voltage [V DC]	21.6...26.4
	Power [W]	2.4
Duty cycle	%	
Protection class to EN 60 529	IP65 (in combination with plug socket)	
Protective circuit and LED	Integrated in the valve	
CE symbol	89/336/EEC (EMC)	

### Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber
-	Material note	Free of copper and PTFE

# Solenoid valves VSVA, ISO 15 407-1

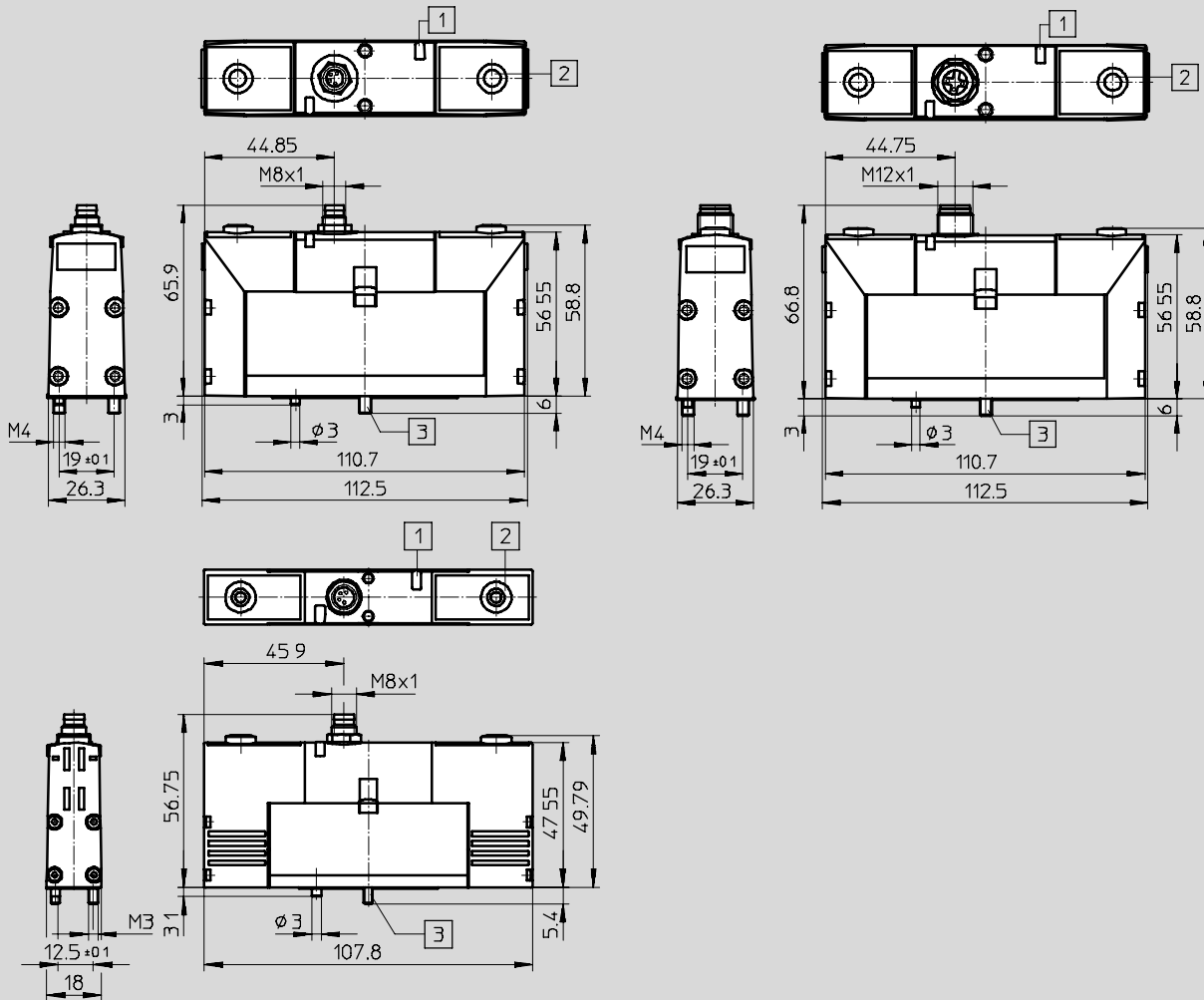
Technical data – 2x 3/2-way valves, solenoid valves

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

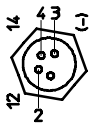
**Dimensions**

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



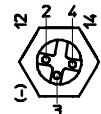
- 1 Light emitting diode (LED)
- 2 Manual override
- 3 Captive mounting screws

**M8x1 – Terminal allocation**



- 1 Unused
- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14

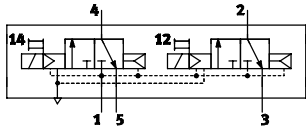
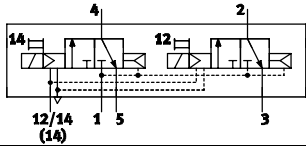
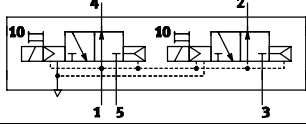
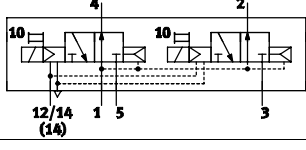
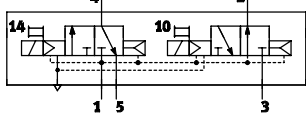
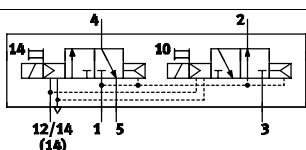
**M12x1 – Terminal allocation**



- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14


# Solenoid valves VSVA, ISO 15 407-1

Technical data – 2x 3/2-way valves

Ordering data					
Circuit symbol	Description	Central plug	ISO size	Part No.	Type
	Normally position: – closed Pilot air supply: – internal	M8x1	02	534 771	VSVA-B-T32C-AH-A2-1R2L
			01	534 532	VSVA-B-T32C-AH-A1-1R2L
		M12x1	01	534 552	VSVA-B-T32C-AH-A1-1R5L
	Normally position: – closed Pilot air supply: – external	M8x1	02	534 781	VSVA-B-T32C-AZH-A2-1R2L
			01	534 522	VSVA-B-T32C-AZH-A1-1R2L
		M12x1	01	534 542	VSVA-B-T32C-AZH-A1-1R5L
	Normally position: – open Pilot air supply: – internal	M8x1	02	534 772	VSVA-B-T32U-AH-A2-1R2L
			01	534 533	VSVA-B-T32U-AH-A1-1R2L
		M12x1	01	534 553	VSVA-B-T32U-AH-A1-1R5L
	Normally position: – open Pilot air supply: – external	M8x1	02	534 782	VSVA-B-T32U-AZH-A2-1R2L
			01	534 523	VSVA-B-T32U-AZH-A1-1R2L
		M12x1	01	534 543	VSVA-B-T32U-AZH-A1-1R5L
	Normally position: – 1x closed – 1x open Pilot air supply: – internal	M8x1	02	534 773	VSVA-B-T32H-AH-A2-1R2L
			01	534 534	VSVA-B-T32H-AH-A1-1R2L
		M12x1	01	534 554	VSVA-B-T32H-AH-A1-1R5L
	Normally position: – 1x closed – 1x open Pilot air supply: – external	M8x1	02	534 783	VSVA-B-T32H-AZH-A2-1R2L
			01	534 524	VSVA-B-T32H-AZH-A1-1R2L
		M12x1	01	534 544	VSVA-B-T32H-AZH-A1-1R5L

## Solenoid valves VSVA, ISO 15 407-1

Technical data 5/2-way valves, single solenoid

-  - Flow rate  
500/1,000 l/min

-  - Voltage  
24 V DC



General technical data			
ISO size	02		01
Valve function	5/2-way, monostable		
Constructional design	Piston spool		
Sealing principle	Soft		
Actuation type	Electrical		
Type of reset	Mechanical or pneumatic spring		
Type of control	Piloted		
Pilot air supply	Internal or external		
Direction of flow	Reversible with external pilot air supply		
Exhaust function	Flow control		
Manual override facility	Resetting		
Type of mounting	Via through-holes		
Tightening torque for valves mounting	[Nm]	0.68...0.92	1.62...218
Assembly position	Any		
Nominal size	[mm]	5	9
Standard nominal flow rate	[l/min]	500	1,000
Grid dimension	[mm]	19	27
Corrosion resistance class	CRC	2	
Pneumatic connection	1, 2, 3, 4, 5 12, 14	G $\frac{1}{8}$ M5	G $\frac{1}{4}$
Product weight	[g]	140	270

Operating and environmental conditions			
ISO size	02		01
Operating medium	Filtered compressed air, lubricated or unlubricated, 40 $\mu$ m filtration Vacuum		
Operating pressure	Internal pilot air supply [bar]	3 ... 8	
	External pilot air supply [bar]	-0.9 ... +10	-0.9 ... +16
Pilot pressure	[bar]	3 ... 8	
Ambient temperature	[°C]	-5 ... +50	
Temperature of medium	[°C]	-5 ... +50	
Flammability tested to UL94		V0	

Valve response times [ms]				
ISO size	02		01	
Type of reset	Pneumatic	Mechanical	Pneumatic	Mechanical
On	20	12	25	20
Off	25	34	40	52

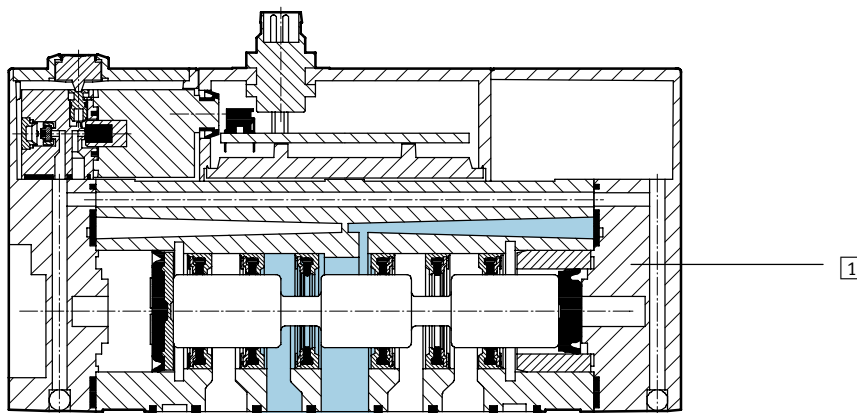
## Solenoid valves VSVA, ISO 15 407-1

Technical data – 5/2-way valves

Electrical data			
ISO size		02	01
Electrical connection according to IEC 60 947-5-2		Central plug, round design, M8x1	
			Central plug, round design, M12x1
Coil characteristics	Voltage	[V DC]	21.6...26.4
	Power	[W]	2.4
Duty cycle		%	100
Protection class to EN 60 529	IP65 (in combination with plug socket)		
Protective circuit and LED	Integrated in the valve		
CE symbol	89/336/EEC (EMC)		

### Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber
	Material note	Free of copper and PTFE

# Solenoid valves VSVA, ISO 15 407-1

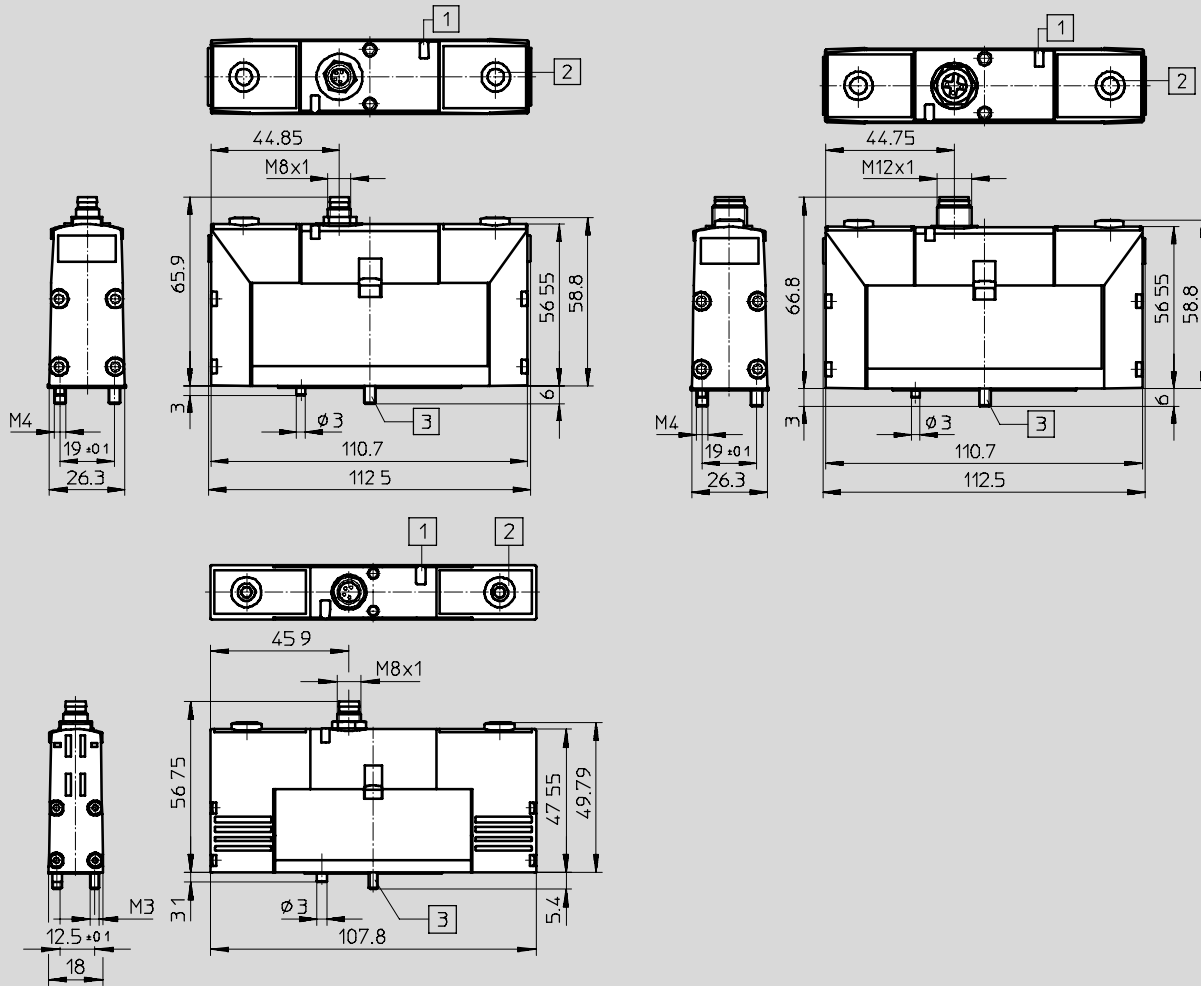
Technical data – 5/2-way valves

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

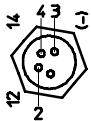
**Dimensions**

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



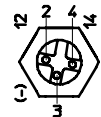
- 1 Light emitting diode (LED)
- 2 Manual override
- 3 Captive mounting screws

**M8x1 – Terminal allocation**



- 1 Unused
- 2 Unused
- 3 com (-)
- 4 Signal (+) Solenoid 14

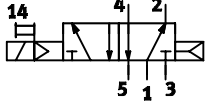
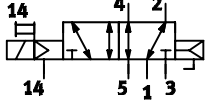
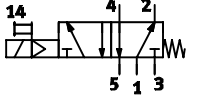
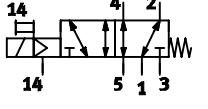
**M12x1 – Terminal allocation**



- 2 Unused
- 3 com (-)
- 4 Signal (+) Solenoid 14


# Solenoid valves VSVA, ISO 15 407-1

Technical data – 5/2-way valves

Ordering data					
Circuit symbol	Description	Central plug	ISOsize	Part No.	Type
	Reset: – pneumatic	M8x1	02	534 774	VSVA-B-M52-AH-A2-1R2L
			01	534 535	VSVA-B-M52-AH-A1-1R2L
	Pilot air supply: – internal	M12x1	01	534 555	VSVA-B-M52-AH-A1-1R5L
	Reset: – pneumatic	M8x1	02	534 784	VSVA-B-M52-AZH-A2-1R2L
			01	534 525	VSVA-B-M52-AZH-A1-1R2L
	Pilot air supply: – external	M12x1	01	534 545	VSVA-B-M52-AZH-A1-1R5L
	Reset: – mechanical	M8x1	02	534 775	VSVA-B-M52-MH-A2-1R2L
			01	534 536	VSVA-B-M52-MH-A1-1R2L
	Pilot air supply: – internal	M12x1	01	534 556	VSVA-B-M52-MH-A1-1R5L
	Reset: – mechanical	M8x1	02	534 785	VSVA-B-M52-MZH-A1-1R2L
			01	534 526	VSVA-B-M52-MZH-A2-1R2L
	Pilot air supply: – external	M12x1	01	534 546	VSVA-B-M52-MZH-A1-1R5L

## Solenoid valves VSVA, ISO 15 407-1

Technical data – 5/2-way valves, double solenoid valves

-  - Flow rate  
1,000 l/min

-  - Voltage  
24 V DC



General technical data			
ISO size		02	01
Valve function		5/2-way, bistable	
Constructional design		Piston spool	
Sealing principle		Soft	
Actuation type		Electrical	
Type of control		Piloted	
Pilot air supply		Internal or external	
Direction of flow		Reversible with external pilot air supply	
Exhaust function		Flow control	
Manual override facility		Resetting	
Type of mounting		Via through-holes	
Tightening torque for valves mounting		[Nm] 0.68...0.92	1.62...218
Assembly position		Any	
Nominal size		[mm] 5	9
Standard nominal flow rate		[l/min] 500	1,000
Grid dimension		[mm] 19	27
Corrosion resistance class		CRC 2	
Pneumatic connection		1, 2, 3, 4, 5 12, 14	G $\frac{1}{8}$ G $\frac{1}{4}$
Product weight		[g] 140	270

Operating and environmental conditions			
ISO size		02	01
Operating medium		Filtered compressed air, lubricated or unlubricated, 40 $\mu$ m filtration Vacuum	
Operating pressure		Internal pilot air supply [bar] 3 ... 8	External pilot air supply [bar] -0.9 ... +10
			-0.9 ... +16
Pilot pressure		[bar] 3 ... 8	
Ambient temperature		[°C] -5 ... +50	
Temperature of medium		[°C] -5 ... +50	
Flammability tested to UL94		V0	

Valve response times [ms]				
ISO size	02		01	
		Dominant signal at 14		Dominant signal at 14
Changeover	10	15	25	

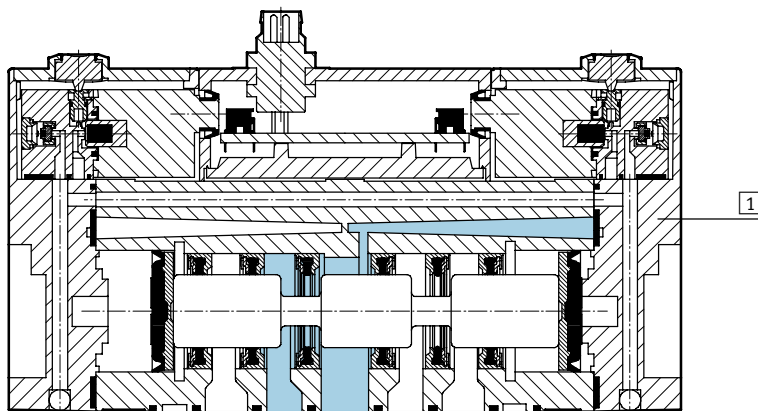
## Solenoid valves VSVA, ISO 15 407-1

Technical data – 5/2-way valves, double solenoid valves

Electrical data			
ISO size		02	01
Electrical connection according to IEC 60 947-5-2		Central plug, round design, M8x1	
			Central plug, round design, M12x1
Coil characteristics	Voltage	[V DC]	21.6...26.4
	Power	[W]	2.4
Duty cycle		%	100
Protection class to EN 60 529	IP65 (in combination with plug socket)		
Protective circuit and LED	Integrated in the valve		
CE symbol	89/336/EEC (EMC)		

### Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber
	Material note	Free of copper and PTFE

# Solenoid valves VSVA, ISO 15 407-1

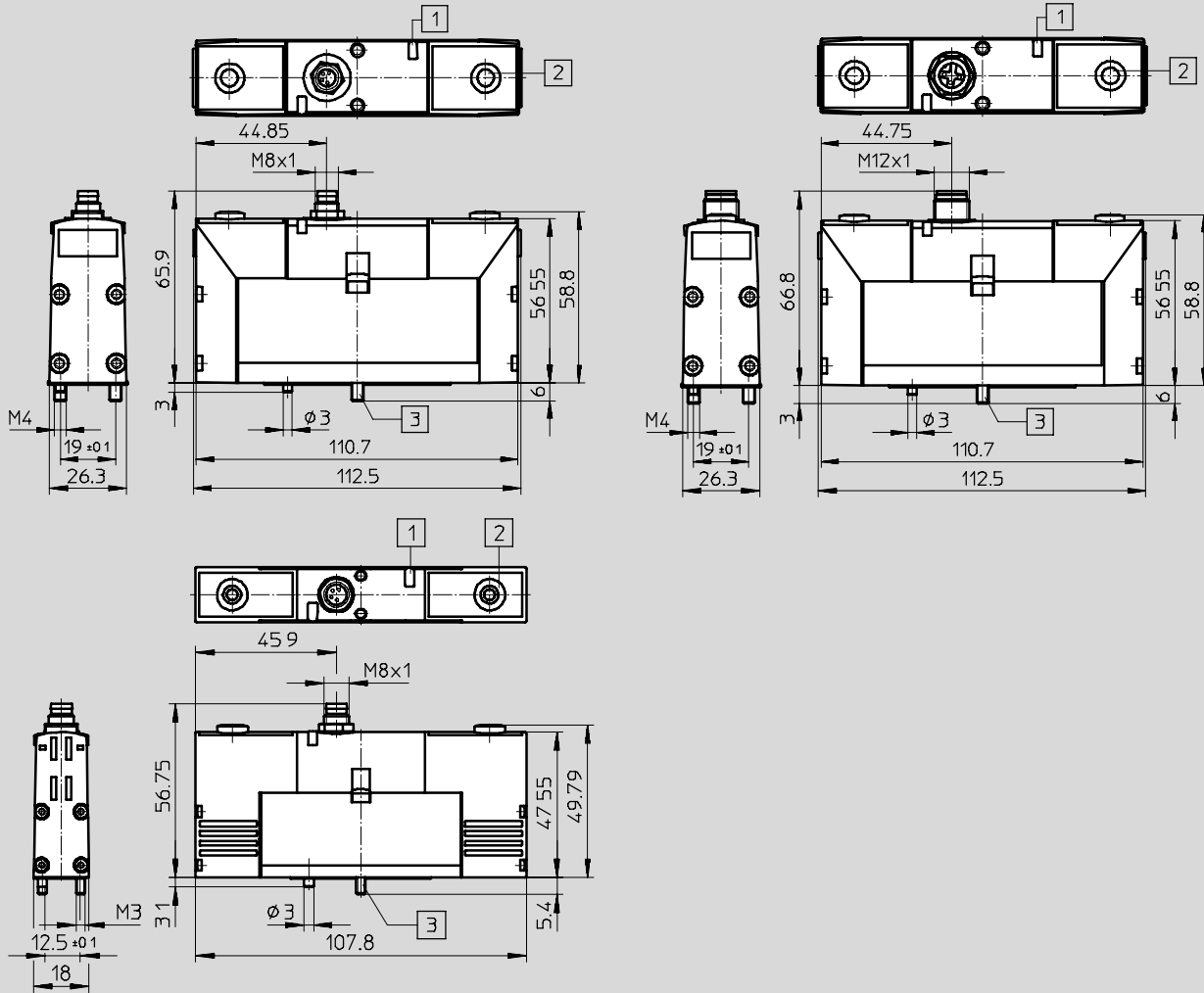
Technical data – 5/2-way valves, double solenoid valves

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

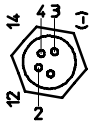
Dimensions

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



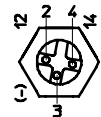
- 1 Light emitting diode (LED)
- 2 Manual override
- 3 Captive mounting screws

**M8x1 – Terminal allocation**



- 1 Unused
- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14

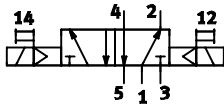
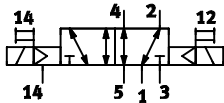
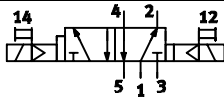
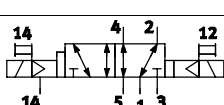
**M12x1 – Terminal allocation**



- 1 Unused
- 2 Signal (+) Solenoid 12
- 3 com (-)
- 4 Signal (+) Solenoid 14


# Solenoid valves VSVA, ISO 15 407-1

Technical data – 5/2-way valves, double solenoid valves

Ordering data					
Circuit symbol	Description	Central plug	ISOsize	Teile-Nr.	Typ
	Pilot air supply: – internal	M8x1	02	534 776	VSVA-B-B52-H-A2-1R2L
			01	534 537	VSVA-B-B52-H-A1-1R2L
		M12x1	01	534 557	VSVA-B-B52-H-A1-1R5L
	Pilot air supply: – external	M8x1	02	534 786	VSVA-B-B52-ZH-A2-1R2L
			01	534 527	VSVA-B-B52-ZH-A1-1R2L
		M12x1	01	534 547	VSVA-B-B52-ZH-A1-1R5L
	With dominant signal at 14 Pilot air supply: – internal	M8x1	02	534 777	VSVA-B-D52-H-A2-1R2L
			01	534 538	VSVA-B-D52-H-A1-1R2L
		M12x1	01	534 558	VSVA-B-D52-H-A1-1R5L
	With dominant signal at 14: Pilot air supply – external	M8x1	02	534 787	VSVA-B-D52-ZH-A2-1R2L
			01	534 528	VSVA-B-D52-ZH-A1-1R2L
		M12x1	01	534 548	VSVA-B-D52-ZH-A1-1R5L

# Solenoid valves VSVA, ISO 15 407-1

Technical data – 5/3-way valves

 Flow rate  
1,000 l/min

 Voltage  
24 V DC



General technical data			
ISO size		02	01
Valve function		5/3-way, monostable	
Constructional design		Piston spool	
Sealing principle		Soft	
Actuation type		Electrical	
Type of reset		Mechanical spring	
Type of control		Piloted	
Pilot air supply		Internal or external	
Direction of flow		Reversible with external pilot air supply	
Exhaust function		Flow control	
Manual override facility		Resetting	
Type of mounting		Via through-holes	
Tightening torque for valves mounting		[Nm] 0.68...0.92	1.62...218
Assembly position		Any	
Nominal size		[mm] 5	9
Standard nominal flow rate		[l/min] 500	1,000
Grid dimension		[mm] 19	27
Corrosion resistance class		CRC 2	
Pneumatic connection		1, 2, 3, 4, 5 12, 14	G $\frac{1}{8}$ M5 G $\frac{1}{4}$
Product weight		[g] 140	270

Operating and environmental conditions			
ISO size		02	01
Operating medium		Filtered compressed air, lubricated or unlubricated, 40 $\mu$ m filtration Vacuum	
Operating pressure		Internal pilot air supply [bar] 3 ... 8	External pilot air supply [bar] -0.9 ... +10
			-0.9 ... +16
Pilot pressure		[bar] 3 ... 8	
Ambient temperature		[°C] -5 ... +50	
Temperature of medium		[°C] -5 ... +50	
Flammability tested to UL94		V0	

# Solenoid valves VSVA, ISO 15 407-1

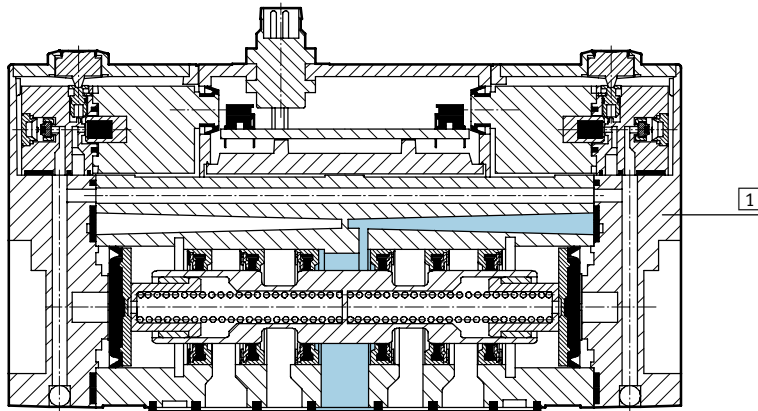
Technical data – 5/3-way valves

Valve response times [ms]		
ISO size	02	01
On	15	20
Off	36	52

Electrical data		
ISO size	02	01
Electrical connection according to IEC 60 947-5-2	Central plug, round design, M8x1	
		Central plug, round design, M12x1
Coil characteristics	Voltage [V DC]	21.6...26.4
	Power [W]	2.4
Duty cycle	%	100
Protection class to EN 60 529	IP65 (in combination with plug socket)	
Protective circuit and LED	Integrated in the valve	
CE symbol	89/336/EEC (EMC)	

## Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber
	Material note	Free of copper and PTFE

# Solenoid valves VSVA, ISO 15 407-1

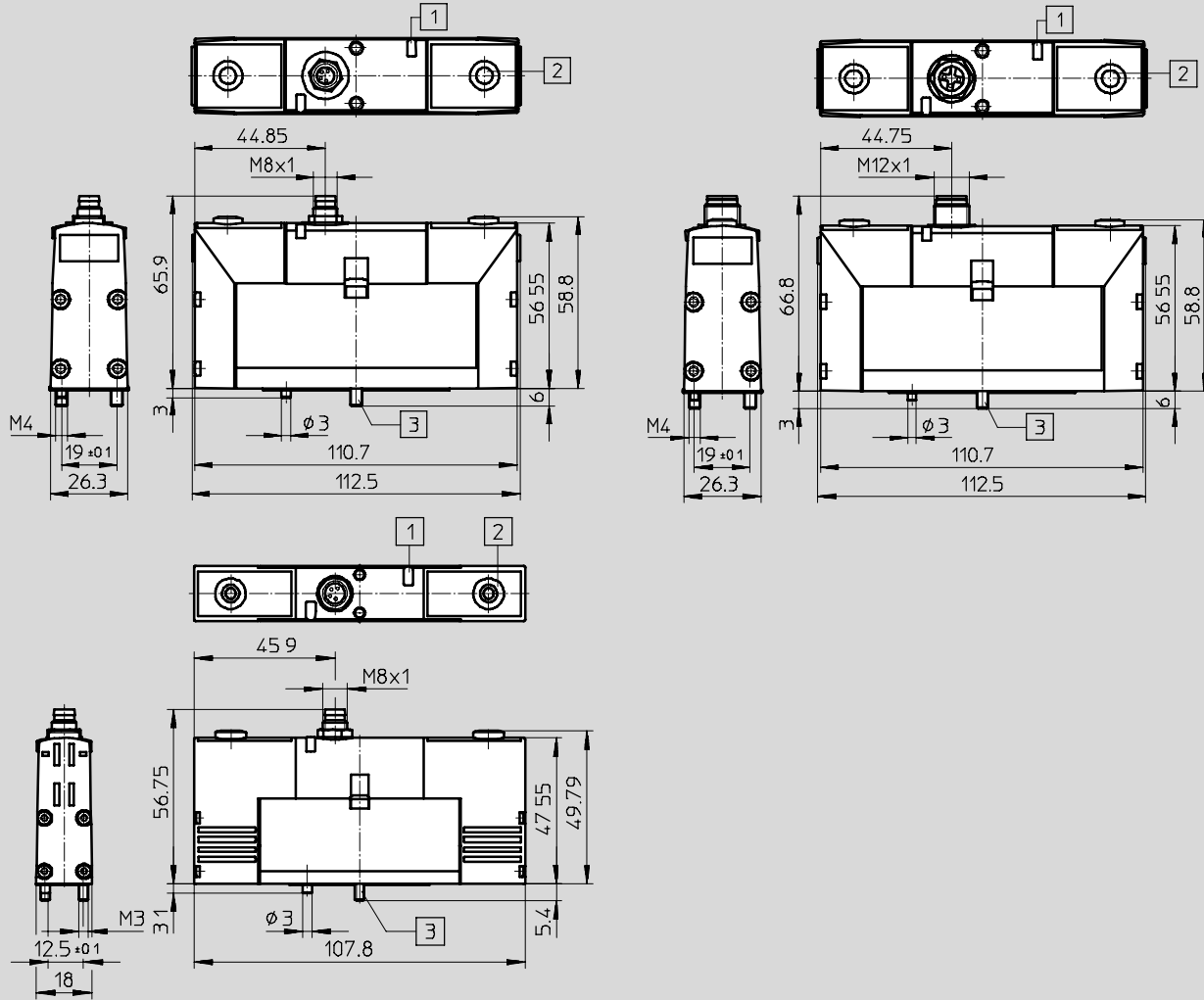
Technical data – 5/3-way valves

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

**1.1**

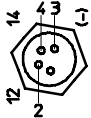
**Dimensions**

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



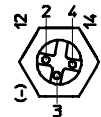
- 1 Light emitting diode (LED)
- 2 Manual override
- 3 Captive mounting screws

**M8x1 – Terminal allocation**



- 1 Unused
- 2 Unused
- 3 com (-)
- 4 Signal (+) Solenoid 14

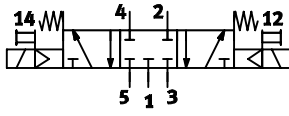
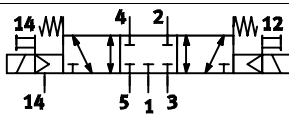
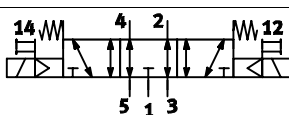
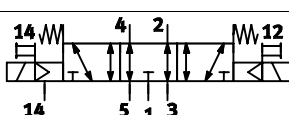
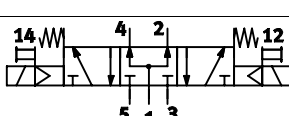
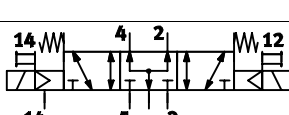
**M12x1 – Terminal allocation**



- 2 Unused
- 3 com (-)
- 4 Signal (+) Solenoid 14

# Solenoid valves VSVA, ISO 15 407-1

Technical data – 5/3-way valves

Ordering data					
Circuit symbol	Description	Central plug	ISOsize	Part No.	Type
	Normally position: – closed	M8x1	02	534 778	VSVA-B-P53C-H-A2-1R2L
			01	534 539	VSVA-B-P53C-H-A1-1R2L
	Pilot air supply: – internal	M12x1	01	534 559	VSVA-B-P53C-H-A1-1R5L
	Normally position: – closed	M8x1	02	534 788	VSVA-B-P53C-ZH-A2-1R2L
			01	534 529	VSVA-B-P53C-ZH-A1-1R2L
	Pilot air supply: – external	M12x1	01	534 549	VSVA-B-P53C-ZH-A1-1R5L
	Normally position: – exhausting	M8x1	02	534 779	VSVA-B-P53E-H-A2-1R2L
			01	534 540	VSVA-B-P53E-H-A1-1R2L
	Pilot air supply: – internal	M12x1	01	534 560	VSVA-B-P53E-H-A1-1R5L
	Normally position: – exhausting	M8x1	02	534 789	VSVA-B-P53E-ZH-A2-1R2L
			01	534 530	VSVA-B-P53E-ZH-A1-1R2L
	Pilot air supply: – external	M12x1	01	534 550	VSVA-B-P53E-ZH-A1-1R5L
	Normally position: – position pressurized	M8x1	02	534 780	VSVA-B-P53U-H-A2-1R2L
			01	534 541	VSVA-B-P53U-H-A1-1R2L
	Pilot air supply: – internal	M12x1	01	534 561	VSVA-B-P53U-H-A1-1R5L
	Normally position: – position pressurized	M8x1	02	534 790	VSVA-B-P53U-ZH-A2-1R2L
			01	534 531	VSVA-B-P53U-ZH-A1-1R2L
	Pilot air supply: – external	M12x1	01	534 551	VSVA-B-P53U-ZH-A1-1R5L

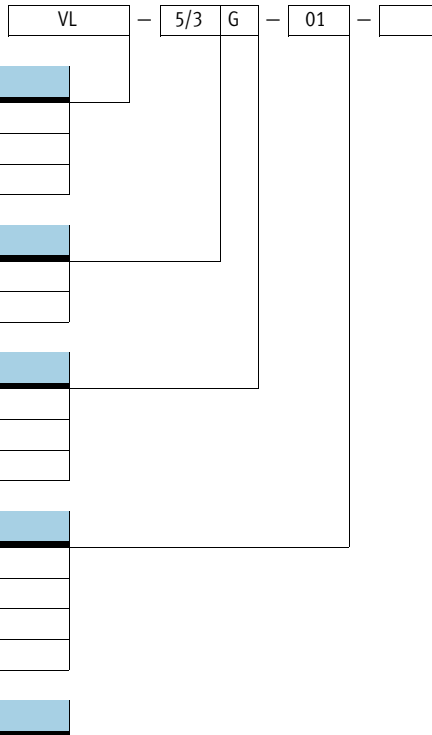
# Pneumatic valves, ISO 15 407-1

Type code



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

## 1.1



Type	
VL	Single pilot
J	Double pilot
JD	Double pilot, with dominant signal

Valve function	
5/2	5/2-way valve
5/3	5/3-way valve

Normal position	
G	Closed
E	Exhausted
B	Pressurised

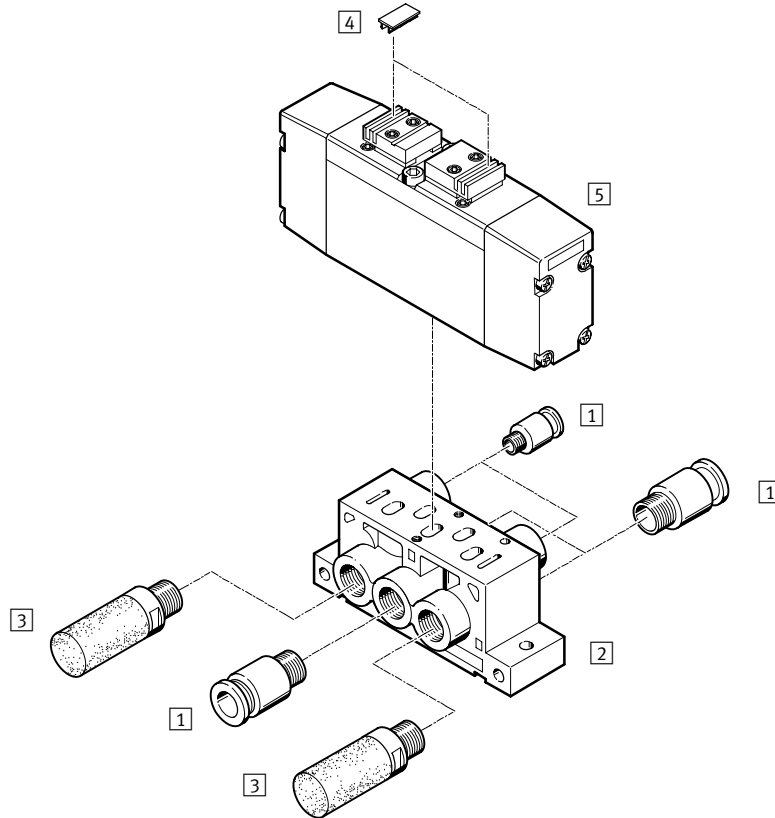
Size	
02	ISO size 02
D-02	ISO size 02
01	ISO size 01
D-01	ISO size 01

Type of reset	
FR	Mechanical spring
	Pneumatic spring

# Pneumatic valves, ISO 15 407-1

Peripherals overview

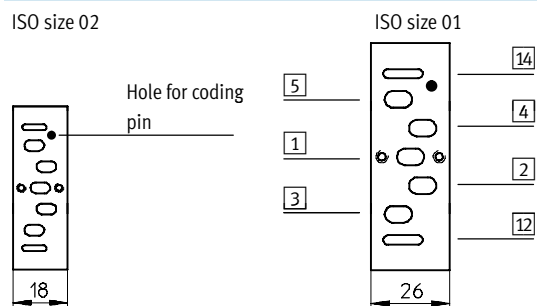
## Individual mounting



Accessories		
	Brief description	→ Page
1	Push-in fitting QS	Volume 3 www.festo.com
2	Individual sub-base NAS	2 / 1.1-65
-	Individual sub-base NAU	2 / 1.1-66
3	Silencer	Volume 3 www.festo.com
4	Inscription labels IBS-9x17	2 / 1.1-70
5	Pneumatic valve	2 / 1.1-4

### Port pattern on sub-base to ISO 15 407-1

Standard updates given below

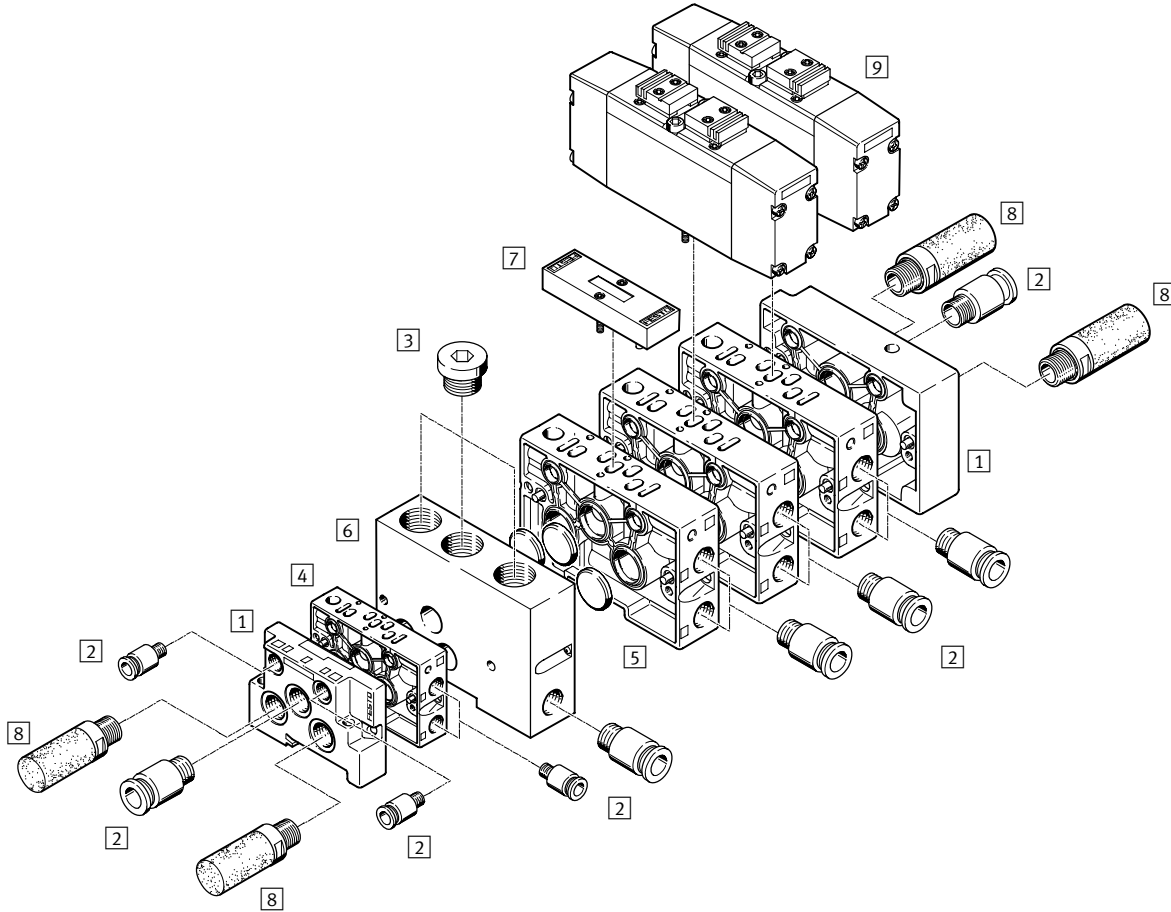


# Pneumatic valves, ISO 15 407-1

Peripherals overview

FESTO

## Manifold mounting




Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

# Pneumatic valves, ISO 15 407-1

Peripherals overview

Accessories			
	Brief description	→ Page	
1	End plate kit NEV	For sealing the manifold sub-bases	2 / 1.1-66
2	Push-in fitting QS	For connecting compressed air tubing with standard O.D.	Volume 3 www.festo.com
3	Blanking plug B	For sealing unused ports	2 / 1.1-71
4	Manifold sub-base NAW	With lateral ports 2 and 4	2 / 1.1-66
5	Isolating disc NSC	For sealing the common lines 1, 3, 5 on the manifold sub-base or to create a seal between 2 manifold sub-bases for creating pressure zones	2 / 1.1-69
6	Intermediate plate NZV	For connecting manifold sub-bases size 02 and size 01	2 / 1.1-67
7	Blanking plate NDV	For sealing vacant valve positions	2 / 1.1-67
8	Silencer	For fitting in exhaust ports	Volume 3 www.festo.com
9	Pneumatic valve	Port pattern to ISO 15 407-1	2 / 1.1-4

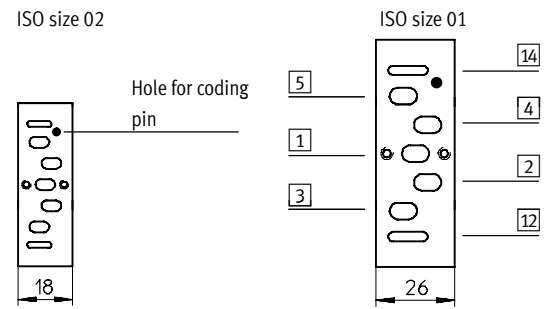
 Note

When supplying different pressure zones, both a left and right isolating disc for the pressure supply and for the pilot line are needed for pilot air.

For design reasons, only the silencer U-3/8-B can be screwed into ports 3 and 5 when assembling ISO size 02 mounting rails.

### Port pattern on sub-base to ISO 15 407-1


Standard updates given below

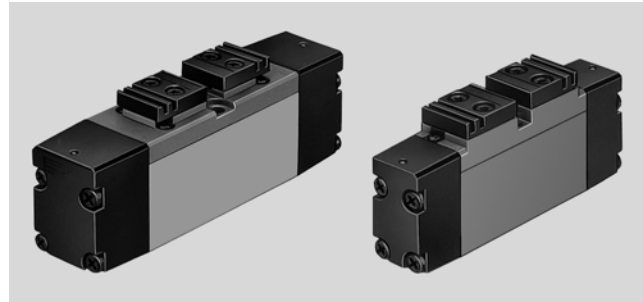


# Pneumatic valves VL, ISO 15 407-1

Technical data – 5/2-way valves

FESTO

-  - Flow rate  
500 ... 1000 l/min



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

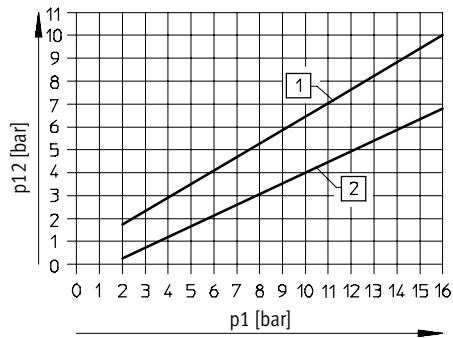
General technical data			
ISO size	02		01
Valve function	5/2-way, single pilot		
Constructional design	Piston spool		
Sealing principle	Soft		
Actuation type	Pneumatic		
Type of reset	Mechanical or pneumatic spring		
Type of pilot control	Direct		
Direction of flow	Pneumatic reset	Non-reversible	
	Mechanical reset	Reversible	
Exhaust function	With flow control		
Manual override	None		
Type of mounting	Via through-holes		
Mounting position	Any		
Nominal size	[mm]	6	8
Standard nominal flow rate	[l/min]	500	1000
Grid dimension	[mm]	19	27
Pneumatic connection	1, 2, 3, 4, 5	G $\frac{1}{8}$	G $\frac{1}{4}$
	12, 14	M5	M5
Product weight	[g]	120	230
Noise level	[dB (A)]	75	

Operating and environmental conditions					
ISO size	02		01		
Type of reset	Pneumatic	Mechanical	Pneumatic	Mechanical	
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum				
Operating pressure	[bar]	2 ... 10	-0.9 ... +10	2 ... 16	-0.9 ... +16
Pilot pressure	[bar]	2 ... 10	3 ... 10	2 ... 16	3 ... 16
Ambient temperature	[°C]	-10 ... +60			
Temperature of medium	[°C]	-10 ... +60			

# Pneumatic valves VL, ISO 15 407-1

Technical data – 5/2-way valves

## Minimum pilot pressure p12, p14 as a function of the operating pressure p1 with auxiliary pilot air



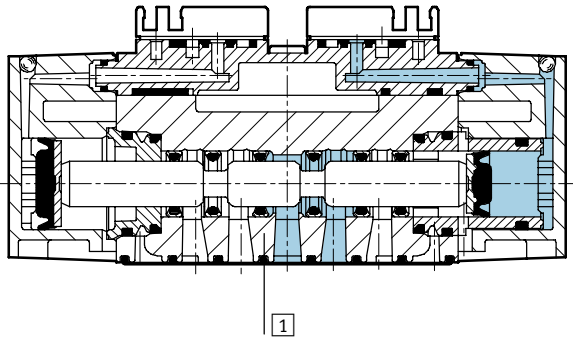
- 1 Switch-on pressure
- 2 Reset pressure

## Valve response times [ms]

ISO size	02		01	
Type of reset	Pneumatic	Mechanical	Pneumatic	Mechanical
On	11	8	18	10
Off	20	18	30	35

## Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber

# Pneumatic valves VL, ISO 15 407-1

Technical data – 5/2-way valves

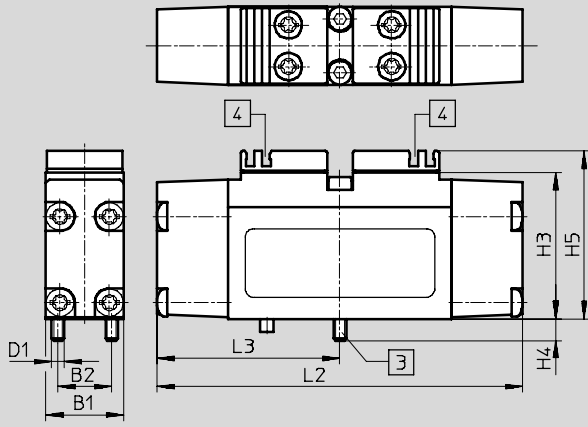
**FESTO**

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

## Dimensions

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



- 3 Captive mounting screws
- 4 Slot for inscription label

Type	B1	B2	D1	H3	H4	H5	L2	L3
ISO size 02								
VL-5/2-...	18	12.5	M3	34	5	39	85	42.5
VL-5/2-...-FR							97	
ISO size 01								
VL-5/2-...	26.2	19	M4	35	7	42	110	55
VL-5/2-...-FR								


## Ordering data

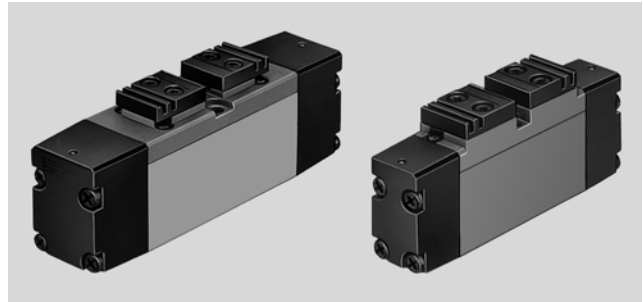
Circuit symbol	Description	02		01	
		Part No.	Type	Part No.	Type
	Pneumatic reset	161 081	VL-5/2-D-02	161 060	VL-5/2-D-01
	Mechanical reset	161 082	VL-5/2-D-02-FR	161 061	VL-5/2-D-01-FR

# Pneumatic valves J, ISO 15 407-1

FESTO

Technical data – 5/2-way valves, double pilot

-  - Flow rate  
500 ... 1000 l/min



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

General technical data			
ISO size	02		01
Valve function	5/2-way, double pilot or double pilot with dominant signal		
Constructional design	Piston spool		
Sealing principle	Soft		
Actuation type	Pneumatic		
Type of pilot control	Direct		
Pilot air supply	Internal		
Direction of flow	Reversible		
Exhaust function	With flow control		
Manual override	None		
Type of mounting	Via through-holes		
Mounting position	Any		
Nominal size	[mm]	6	8
Standard nominal flow rate	[l/min]	500	1000
Grid dimension	[mm]	19	27
Pneumatic connection	1, 2, 3, 4, 5	G $\frac{1}{8}$	G $\frac{1}{4}$
	12, 14	M5	M5
Product weight	[g]	110	230
Noise level	[dB (A)]	75	

Operating and environmental conditions			
ISO size	02		01
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum		
Operating pressure	[bar]	-0.9 ... +10	-0.9 ... +16
Pilot pressure	[bar]	2 ... 10	2 ... 16
Ambient temperature	[°C]	-10 ... +60	
Temperature of medium	[°C]	-10 ... +60	

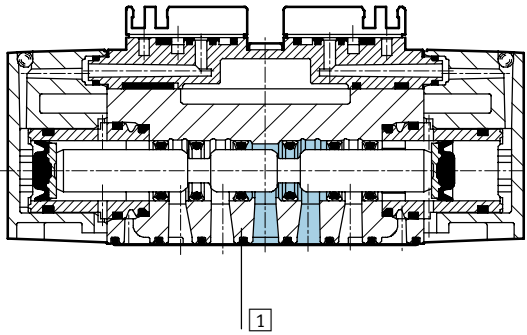
Valve response times [ms]				
ISO size	02	01		
		Dominant signal at 14	Dominant signal at 14	
On/changeover	-	6	9	
Off/changeover	6	6	10	

# Pneumatic valves J, ISO 15 407-1

Technical data – 5/2-way valves, double pilot

## Materials

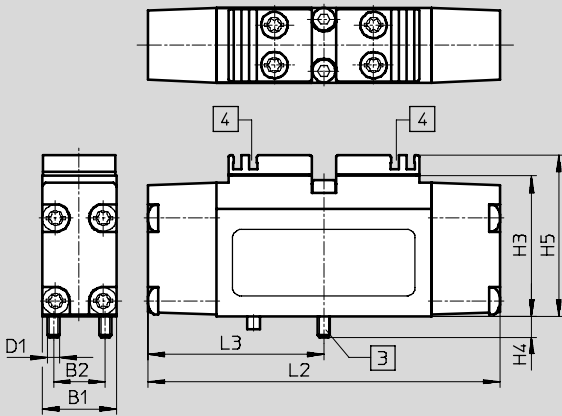
Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber

## Dimensions

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



- 3 Captive mounting screws
- 4 Slot for inscription label

ISO size	B1	B2	D1	H3	H4	H5	L2	L3
02	18	12.5	M3	34	5	39	85	42.5
01	26.2	19	M4	35	7	42	110	55

# Pneumatic valves J, ISO 15 407-1



Technical data – 5/2-way valves, double pilot

Ordering data					
ISO size		02		01	
Circuit symbol	Description	Part No.	Type	Part No.	Type
	Double pilot valve	<b>161 083</b>	<b>J-5/2-D-02</b>	<b>161 062</b>	<b>J-5/2-D-01</b>
	Double pilot valve with dominant signal at 14	<b>161 084</b>	<b>JD-5/2-D-02</b>	<b>161 063</b>	<b>JD-5/2-D-01</b>


Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

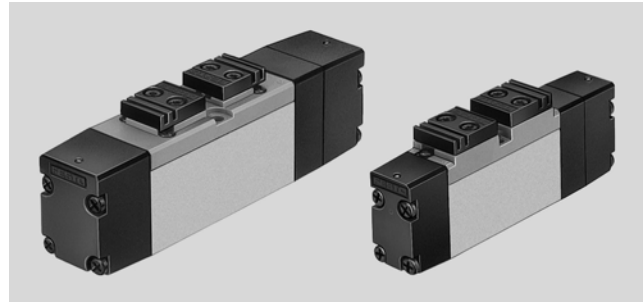
1.1

# Pneumatic valves VL, ISO 15 407-1

FESTO

Technical data – 5/3-way valves

-  - Flow rate  
500 ... 1000 l/min



Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

General technical data			
ISO size	02		01
Valve function	5/3-way, single pilot		
Constructional design	Piston spool		
Sealing principle	Soft		
Actuation type	Pneumatic		
Type of reset	Mechanical spring		
Type of pilot control	Direct		
Pilot air supply	Internal		
Direction of flow	Reversible		
Exhaust function	With flow control		
Manual override	None		
Type of mounting	Via through-holes		
Mounting position	Any		
Nominal size	[mm]	6	8
Standard nominal flow rate	[l/min]	500	1000
Grid dimension	[mm]	19	27
Pneumatic connection	1, 2, 3, 4, 5 12, 14	G $\frac{3}{8}$ M5	G $\frac{1}{4}$ M5
Product weight	[g]	120	330
Noise level	[dB (A)]	75	

Operating and environmental conditions			
ISO size	02		01
Operating medium	Filtered compressed air, lubricated or unlubricated Vacuum		
Operating pressure	[bar]	-0.9 ... +10	-0.9 ... +16
Pilot pressure	[bar]	3 ... 10	3 ... 16
Ambient temperature	[°C]	-10 ... +60	
Temperature of medium	[°C]	-10 ... +60	

Valve response times			
ISO size	02		01
Closed	On	9	13
	Off	18	32
Exhausted	On	8	13
	Off	18	38
Pressurised	On	9	13
	Off	18	33

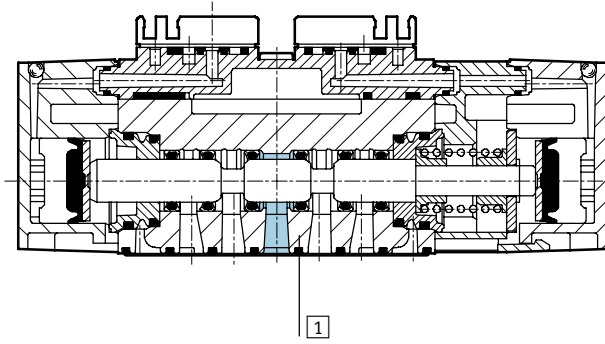
# Pneumatic valves VL, ISO 15 407-1

Technical data – 5/3-way valves

FESTO

## Materials

Sectional view



1	Housing	Die-cast aluminium, polyacetate
-	Seals	Nitrile rubber

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

# Pneumatic valves VL, ISO 15 407-1

Technical data – 5/3-way valves

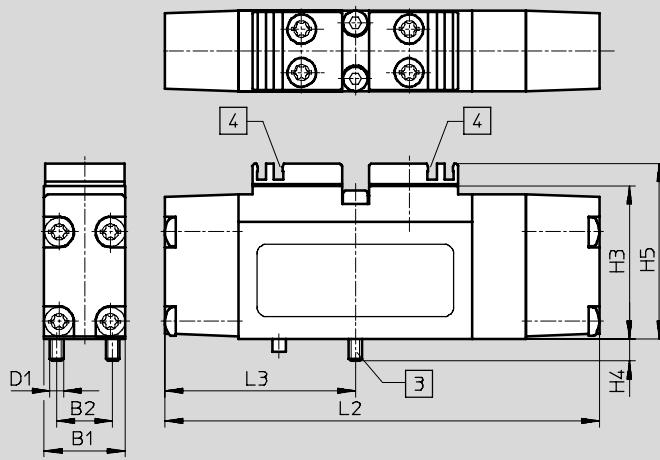
**FESTO**

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

1.1

## Dimensions

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



- 3 Captive mounting screws
- 4 Slot for inscription label

ISO size	B1	B2	D1	H3	H4	H5	L2	L3
02	18	12.5	M3	34	5	39	97	42.5
01	26.2	19	M4	35	7	42	124	55

## Ordering data

ISO size	02	01
Circuit symbol	Description	Part No. Type
	Normally closed	<b>161 085 VL-5/3G-D-02</b> <b>161 064 VL-5/3G-D-01</b>
	Normally exhausted	<b>161 086 VL-5/3E-D-02</b> <b>161 065 VL-5/3E-D-01</b>
	Normally pressurised	<b>161 087 VL-5/3B-D-02</b> <b>161 066 VL-5/3B-D-01</b>

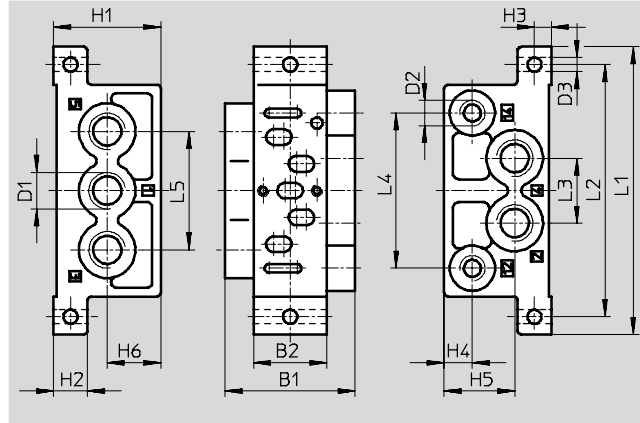
# Solenoid/pneumatic valves, ISO 15 407-1



Accessories

## Individual sub-base NAS

Materials:  
Die-cast aluminium  
Free of copper and PTFE



Dimensions and ordering data											
ISO size	B1	B2	D1	D2	D3 ∅	H1	H2	H3	H4	H5	H6
02	28.5	18	G $\frac{1}{8}$	M5	5.5	31	10	5	7	20	14.5
01	46	26	G $\frac{1}{4}$	G $\frac{1}{8}$	5	38	12	6	10	25	19

Dimensions and ordering data									
ISO size	L1	L2	L3	L4	L5	Weight [g]	Part No.	Type	
02	79	66.5	17	40	32	67	<b>161 115</b>	<b>NAS-<math>\frac{1}{8}</math>-02-VDMA</b>	
01	102	89.4	23	55	42	160	<b>161 109</b>	<b>NAS-<math>\frac{1}{4}</math>-01-VDMA</b>	

General technical data		
ISO size	02	01
Type of mounting	2 through-holes in housing	
Pneumatic connection	1, 2, 3, 4, 5	G $\frac{1}{8}$
	12, 14	M5
		G $\frac{1}{8}$

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

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# Solenoid/pneumatic valves, ISO 15 407-1

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Accessories

## Manifold sub-base NAW

Material:  
Die-cast aluminium



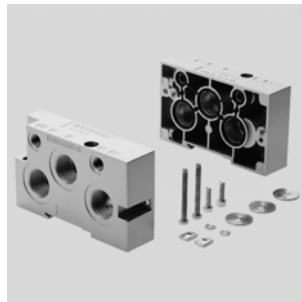
Ordering data – NAW for solenoid valves					
ISO size	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
02	G $\frac{1}{8}$	M5	130	161 110	NAW- $\frac{1}{8}$ -02-VDMA
01	G $\frac{1}{4}$	M5	225	161 102	NAW- $\frac{1}{4}$ -01-VDMA

Ordering data – NAW for pneumatic valves					
ISO size	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
02	G $\frac{1}{8}$	M5	130	161 111	NAW- $\frac{1}{8}$ -02-VDMA-VL
01	G $\frac{1}{4}$	M5	225	161 103	NAW- $\frac{1}{4}$ -01-VDMA-VL

Dimensions → 2 / 1.1-68

## End plate kit NEV

Material:  
Die-cast aluminium



Ordering data					
ISO size	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
02	G $\frac{3}{8}$	G $\frac{1}{8}$	280	161 112	NEV-02-VDMA
01	G $\frac{1}{2}$	G $\frac{1}{8}$	445	161 104	NEV-01-VDMA

Dimensions → 2 / 1.1-68

# Solenoid/pneumatic valves, ISO 15 407-1

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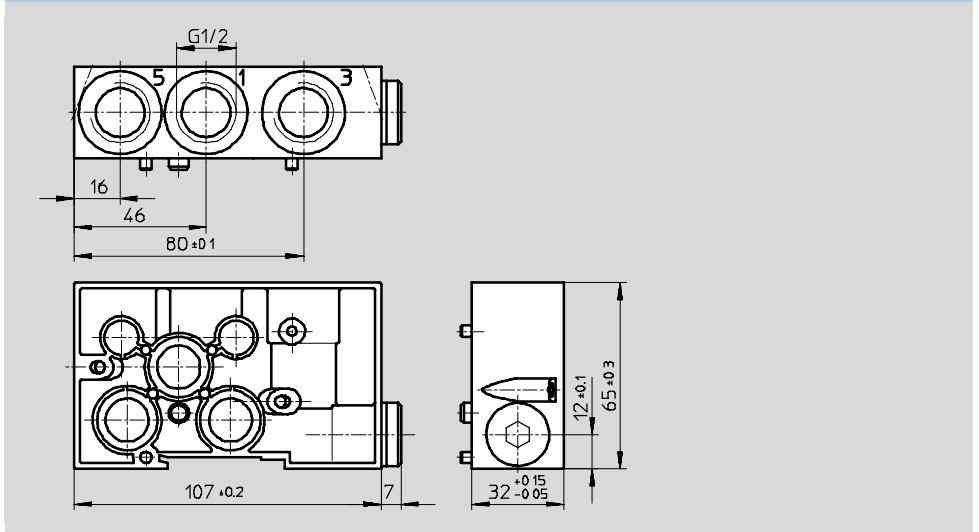
Accessories

## Intermediate plate NZV

Material:  
Die-cast aluminium  
Free of copper and PTFE



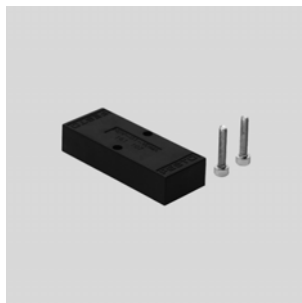
### Dimensions Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



Ordering data					
ISO size	Pneumatic connection		Weight [g]	Part No.	Type
	1, 2, 3, 4, 5	12, 14			
02, 01	G1/2	–	270	161 108	NZV-01/02-VDMA

## Blanking plate NDV

Material:  
Polymer  
Free of copper and PTFE



Ordering data					
ISO size	Weight [g]	Part No. Type			
02	22	161 114	NDV-02-VDMA		
01	36	161 107	NDV-01-VDMA		

Dimensions → 2 / 1.1-68

Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

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# Solenoid/pneumatic valves, ISO 15 407-1

Accessories

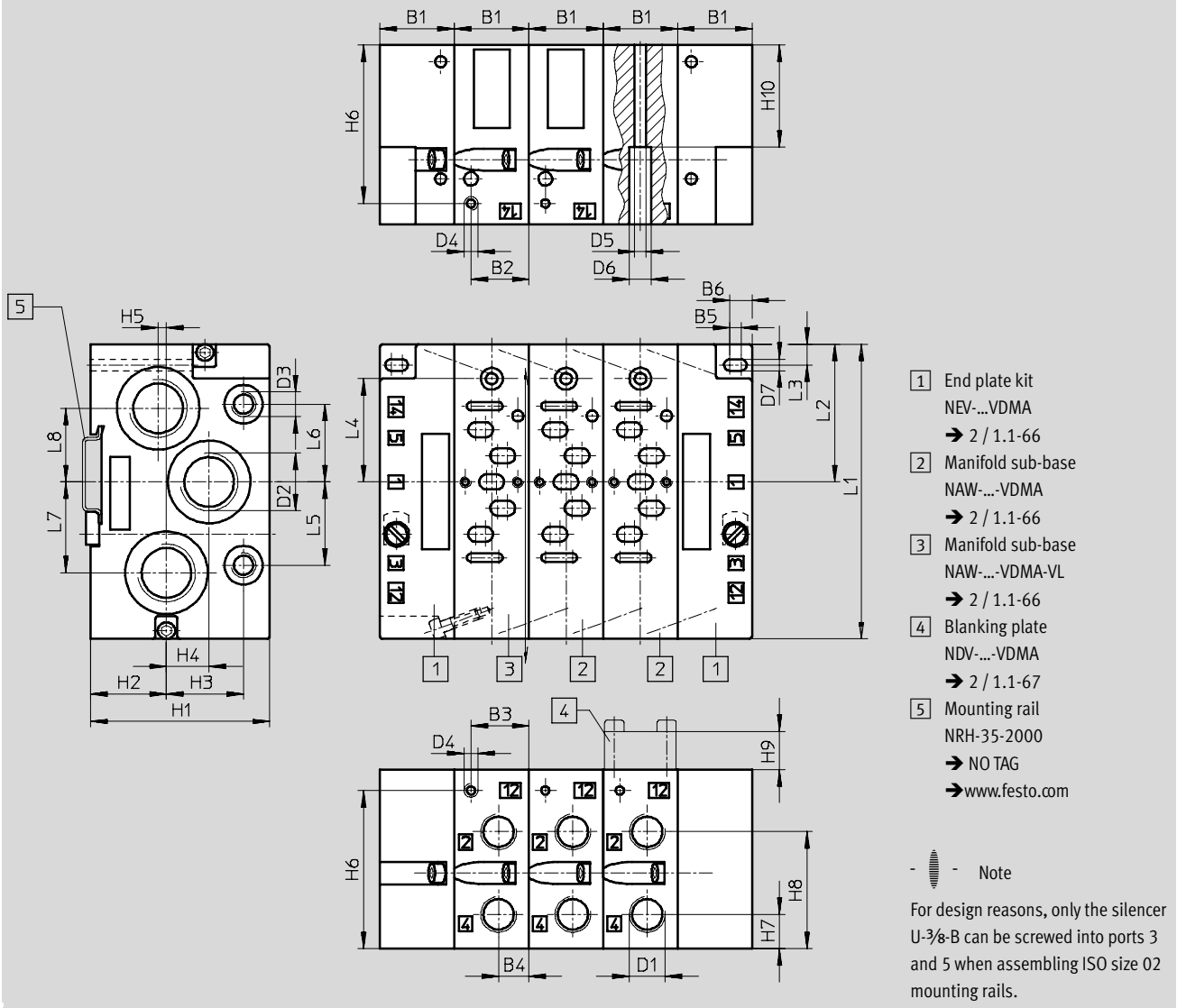
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Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

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## Dimensions – Manifold mounting

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



ISO size	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4
02	19	6	13	7.5	1	4.5	G1/8	G3/8	G1/8	M5
01	27	21	21	11	4	8	G1/4	G1/2	G1/8	M5

ISO size	D5	D6	D7	H1	H2	H3	H4	H5	H6	H7
02	3.3	6.3	4.3	55	17	28.8	18.5	-	48	10.5
01	4.2	8	4.2	65	27.5	28	15.5	3	57.5	12.5

ISO size	H8	H9	H10	L1	L2	L3	L4	L5	L6	L7	L8
02	35.5	12	40	81	36.5	5.6	30.9	20	20	18	18
01	42.5	14	37	107	50	7.5	37.5	30.3	28.3	33	26.8

# Solenoid/pneumatic valves, ISO 15 407-1

Accessories

## Isolating disc NSC

Material:  
Aluminium



Ordering data – NSC for ports 1, 2, 3 (solenoid/pneumatic valves)			
ISO size	Weight [g]	Part No.	Type
02	2	161 113	NSC-3/8-02-VDMA
01	2	161 105	NSC-1/2-01-VDMA

Ordering data – NSC for ports 12, 14 (pneumatic valves)			
ISO size	Weight [g]	Part No.	Type
02	2	161 106	NSC-1/8-01-VDMA
01	2	161 106	NSC-1/8-01-VDMA

## Inscription clip MN2H-BZT-10X

for holding the inscription label IBS



Ordering data			
	Weight [g]	Part No.	Type
Inscription clip for valves MN2H (10 included in scope of delivery)	7	161 936	MN2H-BZT-10X

# Solenoid/pneumatic valves, ISO 15 407-1

Accessories

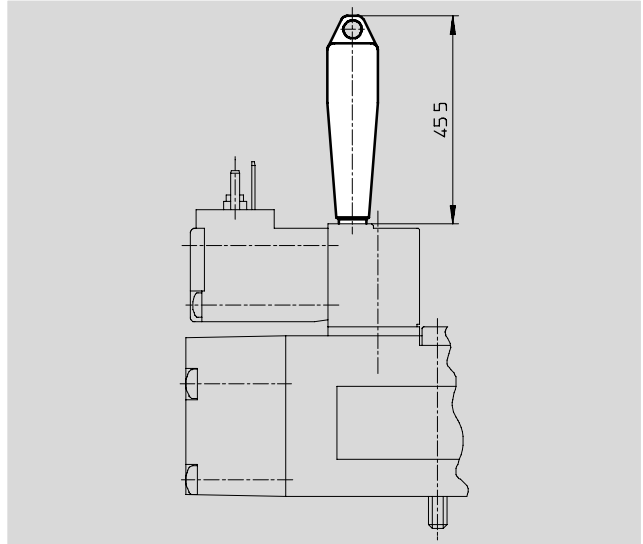


Standard directional control valves  
ISO 15 407-1 (VDMA 24 563)

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## Manual override tool AHB

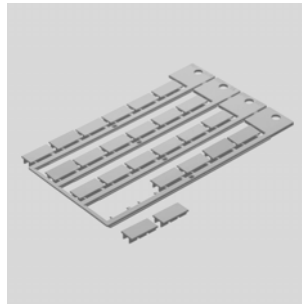
Material:  
Polymer



Ordering data			
For valve	Weight [g]	Part No.	Type
MN2H/JMN2H/JMN2DH/VSVA	5	157 601	AHB-MEB

## Inscription label IBS

Material:  
Polymer





Ordering data		
	Part No.	Type
Inscription label for valves MN2H (24 in frames included in scope of delivery)	161 937	IBS-9x17
Inscription label for valves VSVA (24 in frames included in scope of delivery)	18 182	ISB-9x20

Core Range




# Solenoid/pneumatic valves, ISO 15 407-1



Accessories


FESTO

Ordering data		Part No.	Type
Blanking plugs			
		3570	B-3/8 <sup>1)</sup>
Silencers			
		→ Volume 3 → www.festo.com	

1) Scope of delivery 10 pieces

Ordering data – Plug sockets, plug socket cables for EB and N2 solenoid coils				
	Voltage	Cable length [m]	Switching status display with LED	Part No. Type
Plug socket without cable				Technical data → NO TAG
Plug socket without cable				Technical data → www.festo.com
	–	–	–	151 687 MSSD-EB
	–	–	–	539 712 MSSD-EB-M12
Plug socket without cable with insulation displacement technology				Technical data → NO TAG
Plug socket without cable with insulation displacement technology				Technical data → www.festo.com
	–	–	–	192 745 MSSD-EB-S-M14
Plug socket with cable				Technical data → NO TAG
Plug socket with cable				Technical data → www.festo.com
	24 V DC	2.5	■	151 688 KMEB-1-24-2,5-LED
	24 V DC	5	■	151 689 KMEB-1-24-5-LED
	24 V DC	10	■	193 457 KMEB-1-24-10-LED
	Up to 240 V	2.5	–	151 690 KMEB-1-230AC-2,5
	Up to 240 V	5	–	151 691 KMEB-1-230AC-5



Ordering data – Plug sockets, plug socket with cable for valves with central plug				
	Voltage	Cable length [m]	LED	Part No. Type
Plug socket without cable				Technical data → NO TAG
Plug socket without cable				Technical data → www.festo.com
	–	–	–	185 498 SEA-M12-4WD-PG7
Plug socket with cable				Technical data → NO TAG
Plug socket with cable				Technical data → www.festo.com
	–	1	–	185 499 KM-12-M12-GSWD-1-4



 Core Range


# Solenoid/pneumatic valves, ISO 15 407-1

Accessories

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Ordering data – Plug sockets with cable M12x1 for VSVA valves						Technical data → Volume 4	
Ordering data – Plug sockets with cable M12x1						Technical data → www.festo.com	
	Mounting	Connection	Switch output		Cable length [m]	Part No.	Type
			PNP	NPN			
Straight plug socket							
	Locknut M12x1	4-pin	■	■	5	<b>164 259</b>	<b>SIM-M12-4GD-5-PU</b>
Angled plug socket							
	Locknut M12x1	4-pin	■	■	5	<b>164 258</b>	<b>SIM-M12-4WD-5-PU</b>

Ordering data – Plug sockets with cable M8x1 for VSVA valves						Technical data → Volume 4	
Ordering data – Plug sockets with cable M8x1						Technical data → www.festo.com	
	Mounting	Connection	Switch output		Cable length [m]	Part No.	Type
			PNP	NPN			
Straight plug socket							
	Locknut M8x1	4-pin	■	■	2.5	<b>158 960</b>	<b>SIM-M8-4GD-2,5-PU</b>
					5	<b>158 961</b>	<b>SIM-M8-4GD-5-PU</b>
Angled plug socket							
	Locknut M8x1	4-pin	■	■	2.5	<b>158 962</b>	<b>SIM-M8-4WD-2,5-PU</b>
					5	<b>158 963</b>	<b>SIM-M8-4WD-5-PU</b>

Ordering data – Illuminating seal for EB solenoid coils				Technical data → NO TAG	
Ordering data – Illuminating seal for EB solenoid coils				Technical data → www.festo.com	
	Voltage		Part No.	Type	
	[V DC]	[V AC]			
	12 ... 24	–	<b>151 717</b>	<b>MEB-LD-12-24DC</b>	
	–	230	<b>151 718</b>	<b>MEB-LD-230AC</b>	

Standard directional control valves  
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