

Pressure Measurement

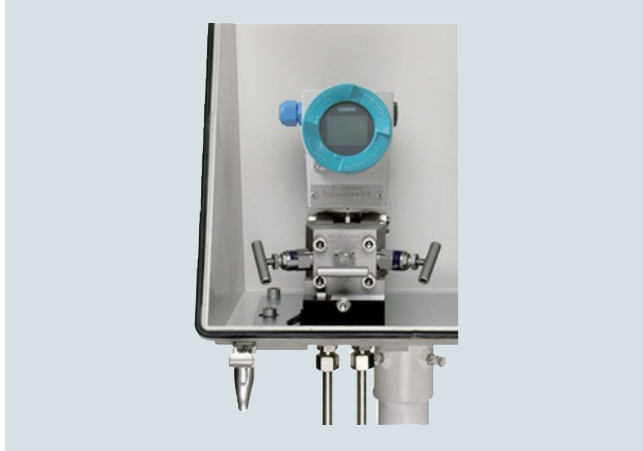
Fittings

Shut-off valves for differential pressure transmitters

1

2-, 3- and 5-spindle valve manifolds for installing in protective boxes

Overview



The 2-spindle, 3-spindle and 5-spindle valve manifolds (7MF9412-1..) are used to shut off the differential pressure lines and to check the transmitter zero.

The five-spindle valve manifold permits venting on the transmitter side and checking of the transmitter characteristic.

These valve manifolds are preferentially used when mounting in protective boxes. In addition, they can also be used for wall, frame or pipe mounting together with the mounting bracket.

Transmitters of the DS series can be operated and read from the front when using these valve manifolds.

Application

The valve manifolds DN 5 are designed for liquids and vapors and for installing in protective boxes.

Each is available in a version for oxygen on request

Design

All versions of the spindle manifolds have a process connection 1/2-14 NPT.

The connection for the pressure transmitter is always designed as a flange connection to IEC 61518/DIN EN 61518, Form A.

The 2-spindle and the 5-spindle valve manifold have in addition a vent and test connection 1/4-18 NPT.

The valves have an external spindle thread.

Materials used

Components	Material	Mat. No.
Housing	X 2 CrNiMo 17 13 2	1.4404/316L
Cones	X 6 CrNiMoTi 17 12 2	1.4571/316Ti
Spindles	X 2 CrNiMo 18 10	1.4404/316L
Head parts	X 5 CrNiMo 18 10	1.4401/316
Packings	PTFE	-

Functions

Functions of all valve manifolds:

- Shutting off the differential pressure lines
- Checking the pressure transmitter zero

Additional functions of the 2-spindle and 5-spindle valve manifolds through the vent and test connection:

- Venting on the transmitter side
- Checking the pressure transmitter characteristic

Selection and Ordering data

Valve manifolds DN 5 for mounting in protective boxes

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

for liquids and gases
for flanging to pressure transmitters for absolute and differential pressure
Material: stainless steel, mat. No: 1.4404/316L
max. working pressure 420 bar (6092 psi)
(order accessory set with Order code), without certificate

- 2-spindle valve manifold with rotating sleeve G1/2
- 2-spindle valve manifold with flange connection
- 3-spindle valve manifold
- 5-spindle valve manifold

Accessories

Factory test certificate EN 10204-2.2

Material acceptance test certificate EN 10204-3.1

Article No.

7MF9412-1A

1 B

1 B

1 C

1 D

1 E

7MF9000-8AB

7MF9000-8AD

Selection and Ordering data

Further designs¹⁾

Please add "-Z" to Article No. and specify Order code.

Accessory set to EN

(connection between valve manifold and pressure transmitter)

for valve manifold 7MF9412-1C.

2x screws 7/16-20 UNF x 2 inch to ASME B18.2.1; chromized steel
1x O-ring to DIN 3771, 20 x 2.65 - S - FPM90, max. permissible 420 bar (6092 psi), 120 °C (248 °F)

F32

7MF9412-6CA

2x screws 7/16-20 UNF x 2 inch to ASME B18.2.1; chromized steel
1x gasket made of PTFE, max. permissible 420 bar (6092 psi), 80 °C (176 °F)²⁾

F35

7MF9412-6DA

for valve manifold 7MF9412-1D and -1E.

4x screws 7/16-20 UNF x 2 inch to ASME B18.2.1; chromized steel
2x O-rings to DIN 3771, 20 x 2.65 - S - FPM90, max. permissible 420 bar (6092 psi), 120 °C (248 °F)²⁾

F34

7MF9412-6GA

4x screws 7/16-20 UNF x 2 inch to ASME B18.2.1; chromized steel
2x flat gaskets made of PTFE, max. permissible 420 bar (6092 psi), 80 °C (176 °F)²⁾

F36

7MF9412-6HA

Selection and Ordering data	Order code	Article No.
Further designs¹⁾		
Please add "-Z" to Article No. and specify Order code.		
Accessory set to DIN (connection between valve manifold and pressure transmitter) <u>For valve manifold 7MF9412-1C.</u>		
2x screws M10x50 to DIN EN 24014; chromized steel 2x washers Ø 10.5 mm to DIN 125; 1x O-ring to DIN 3771, 20 x 2.65 - S - FPM90, max. permissible 420 bar (6092 psi), 120 °C (248 °F) ²⁾	F12	7MF9412-6AA
2x screws M10x50 to DIN EN 24014; chromized steel 2x washers Ø 10.5 mm to DIN 125; 1x gasket made of PTFE, max. permissible 420 bar (6092 psi), 80 °C (176 °F) ²⁾	F15	7MF9412-6BA
<u>For valve manifold 7MF9412-1D and -1E.</u>		
4x screws M10x50 to DIN EN 24014; chromized steel 4x washers Ø 10.5 mm to DIN 125; 2x O-rings to DIN 3771, 20 x 2.65 - S - FPM90, max. permissible 420 bar (6092 psi), 120 °C (248 °F) ²⁾	F14	7MF9412-6EA
4x screws M10x50 to DIN EN 24014; chromized steel 4x washers Ø 10.5 mm to DIN 125; 2x flat gaskets made of PTFE, max. permissible 420 bar (6092 psi), 80 °C (176 °F) ²⁾	F16	7MF9412-6FA
Mounting bracket required for wall mounting or for securing to mounting rack, with bolts for mounting on valve manifold		
• for valve manifolds 7MF9412-1B. and -1C.	M14	7MF9006-6LA
• for valve manifold 7MF9412-1D.	M17	7MF9006-6NA
• for valve manifold 7MF9412-1E.	M18	7MF9006-6PA
Mounting clip 2 off, to secure mounting bracket to pipe	M16	7MF9006-6KA
Valve manifold 100 bar Oil- and grease-free cleaning for oxygen applications, max. pressure PN 100 (1450 psi) and max. temperature 60 °C (140 °F)		
• for valve manifolds 7MF9412-1B. and -1C.	S12	
• for valve manifold 7MF9412-1D.	S13	
• for valve manifold 7MF9412-1E.	S14	
NACE MR-0175-certified incl. acceptance test certificate 3.1 to EN 10204	D07	

- 1) When ordering accessory set or mounting together with the valve manifolds, please use Order code; otherwise use Article No.
2) Flange connections with M10 screws only permissible up to PN 160 (2321 psi)!

Accessories

Accessory set for 2-, 3- and 5-spindle valve manifolds (Connection between valve manifold and transmitter)

2-spindle valve manifold DN 5 with flange connection

- F32: 2 screws 7/16 20 UNF x 2 inch to ASME B 18.2.1, 1 O Ring (FPM90)
- F35: 2 screws 7/16 20 UNF x 2 inch to ASME B 18.2.1, 1 flat-gasket
- F12: 2 screws M10x50 to DIN EN 24014, 2 washers, 1 O-ring (FPM90)
- F15: 2 screws M10x50 to DIN EN 24014, 2 washers, 1 flat gasket

3-spindle and 5-way valve manifold DN 5

- F34: 4 screws 7/16 20 UNF x 2 inch to ASME B 18.2.1, 2 O-rings (FPM90)
- F36: 4 screws 7/16 20 UNF x 2 inch to ASME B 18.2.1, 2 flat-gaskets
- F14: 4 screws M10x50 to DIN EN 24014, 4 washers, 2 O-rings (FPM90)
- F16: 4 screws M10x50 to DIN EN 24014, 4 washers, 2 flat-gaskets

Washers Ø 10.5 to DIN 125

Flat-gaskets made of PTFE, max. 420 bar (6092 psi), 80 °C (176 °F)

O-ring to DIN 3771, 20 x 2.65 - S - FPM90; max. 420 bar (6092 psi), 120 °C (248 °F)

Note:

Flange connections with M10 screws only permissible up to PN 160 (2321 psi)!

Mounting bracket for wall mounting or for securing to mounting rack

With bolts for mounting on valve manifold

- M14: For 2-spindle valve manifold DN 5
- M17: For 3-spindle valve manifold DN 5
- M18: For 5-spindle valve manifold DN 5

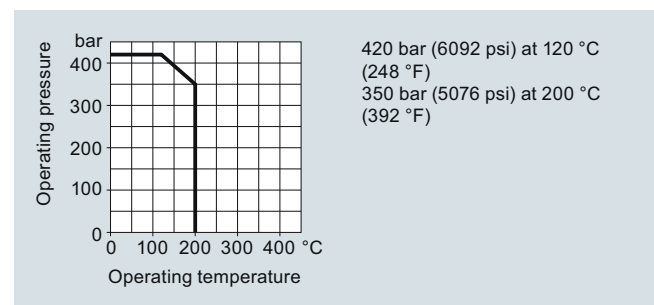
Mounting clips (2 off)

- M16: For securing the mounting brackets M14, M17 and M18 to pipe

Valve manifold 100 bar, suitable for oxygen

- S12: For 2-spindle valve manifold DN 5
- S13: For 3-spindle valve manifold DN 5
- S14: For 5-spindle valve manifold DN 5

Characteristic curves



Permissible operating pressure as a function of the permissible operating temperature

Pressure Measurement

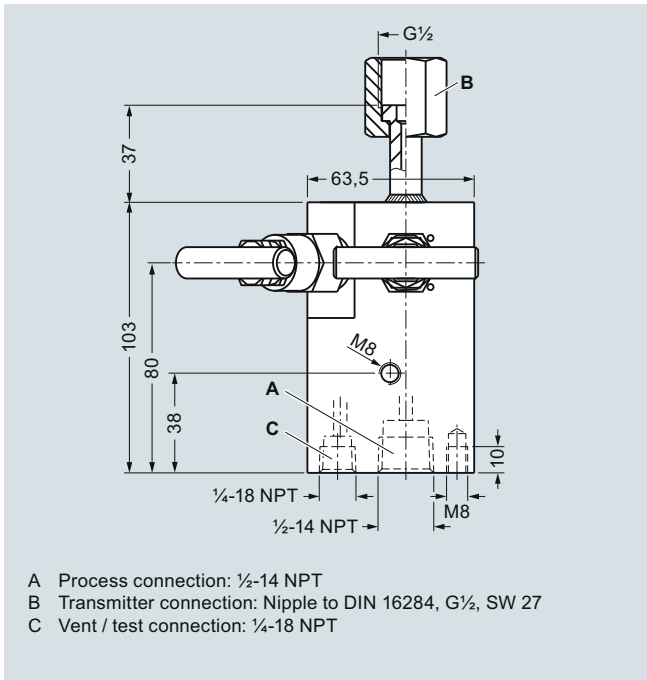
Fittings

Shut-off valves for differential pressure transmitters

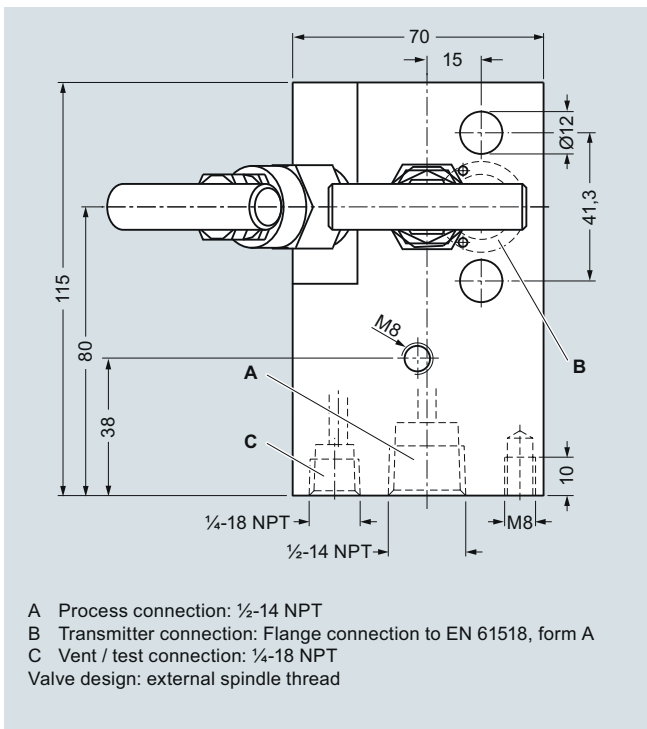
2-, 3- and 5-spindle valve manifolds for installing in protective boxes

1

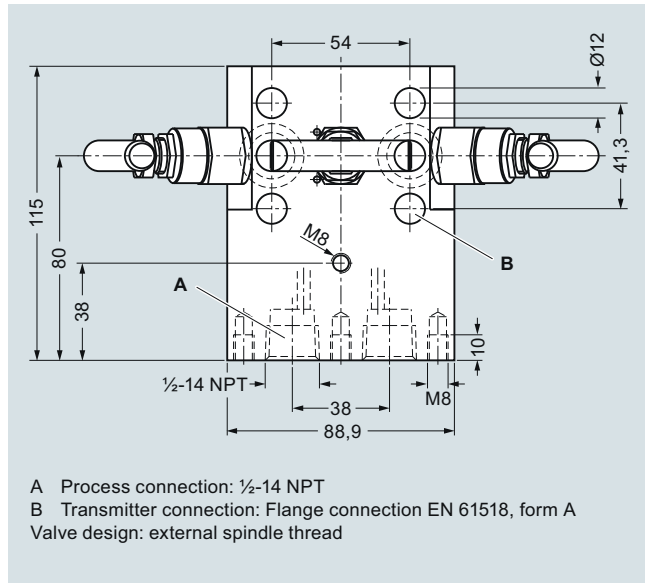
Dimensional drawings



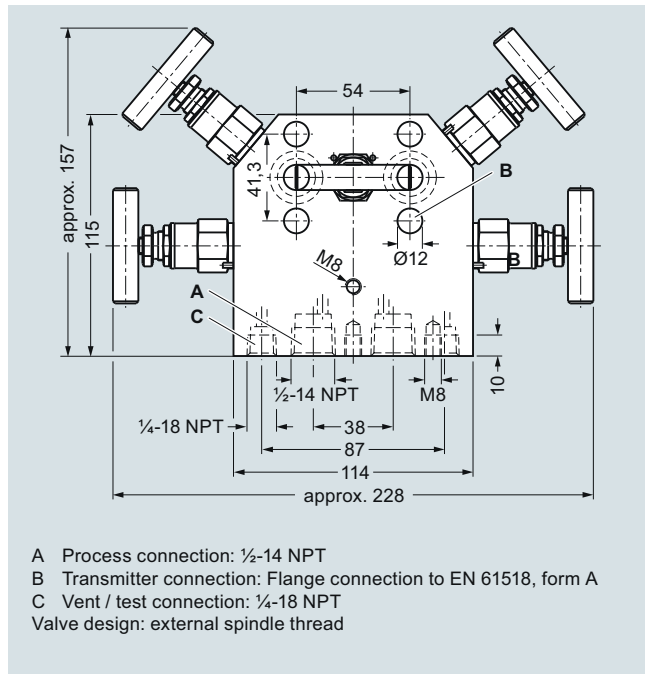
2-spindle valve manifold DN 5 (7MF9412-1B..) with rotating sleeve, dimensions in mm



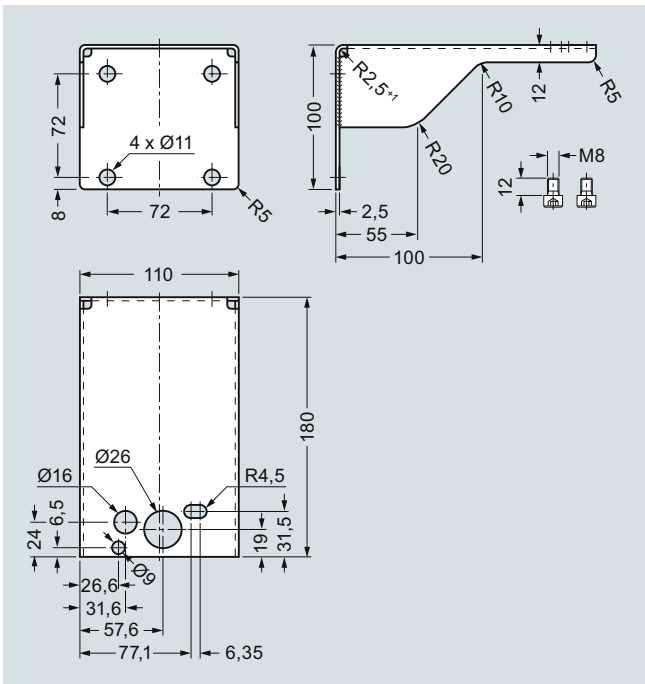
2-spindle valve manifold DN 5 (7MF9412-1C..), dimensions in mm



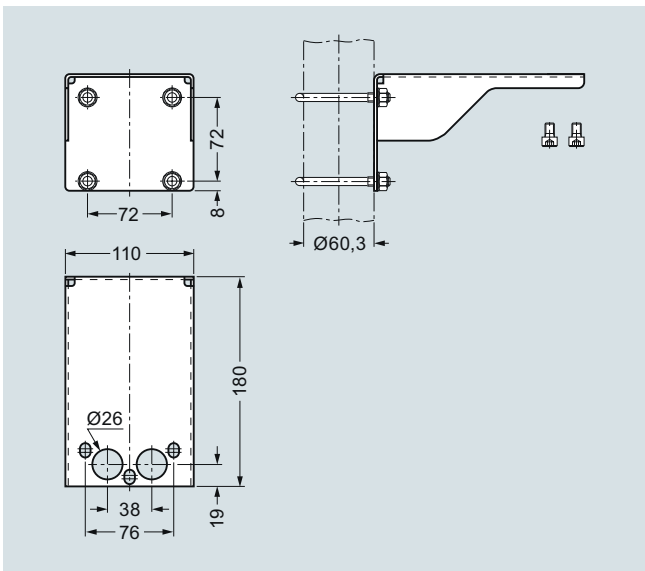
3-spindle valve manifold DN 5 (7MF9412-1D..), dimensions in mm



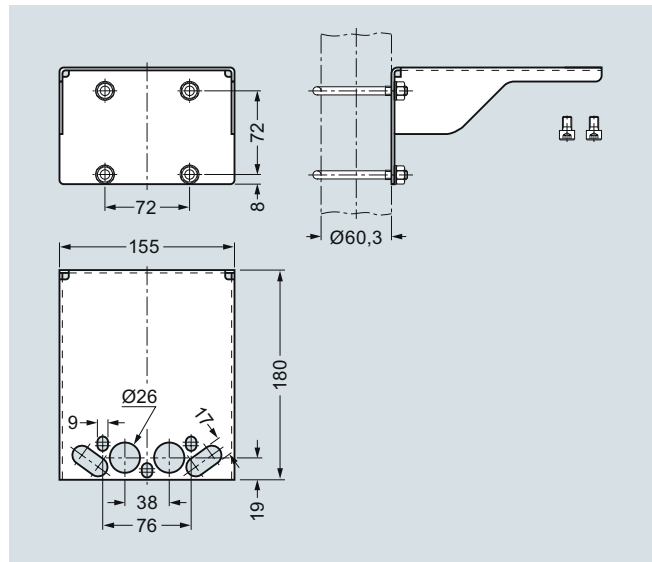
5-spindle valve manifold DN 5 (7MF9412-1E..), dimensions in mm



Mounting bracket (7MF9006-6LA)/(M14) for 2-spindle valve manifold, dimensions in mm

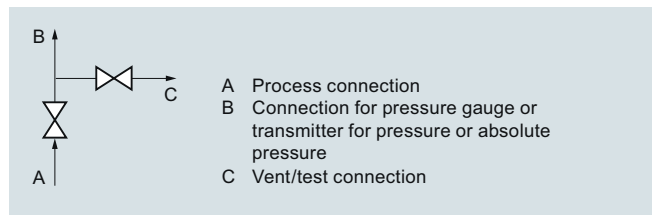


Mounting bracket (7MF9006-6NA)/(M17) for 3-spindle valve manifold, dimensions in mm

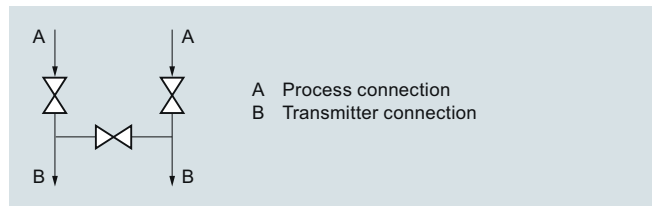


Mounting bracket (7MF9006-6PA)/(M18) for 5-spindle valve manifold, dimensions in mm

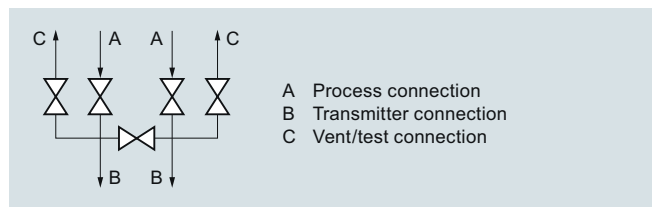
Schematics



2-spindle valve manifold DN 5 (with rotating sleeve G½ or flange connection), connections



3-spindle valve manifold DN 5, connections



5-spindle valve manifold DN 5, connections