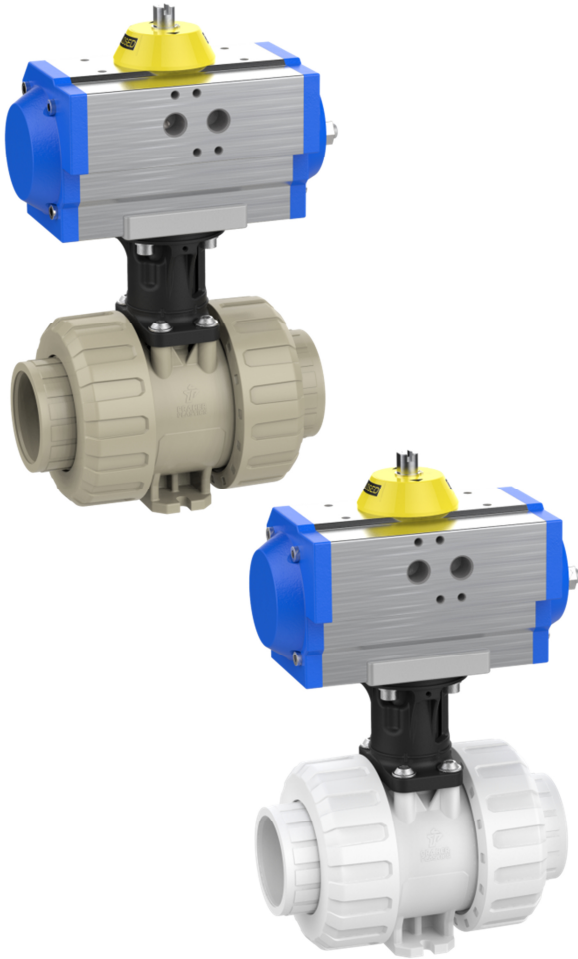


2 way ball valve M1 with pneumatic actuator



General:

- Body material: PP-H / PVDF
- Seal material: EPDM / FPM
- Ball seating joint: PTFE
- Dimensions: DN10 – DN80
d16 – d110
d3/8" – d4"

Connector types:

PP-H

- Fusion socket DIN
- Fusion spigot DIN
- Backing flange DIN / ANSI

PVDF

- Fusion socket DIN
- Fusion spigot DIN
- Backing flange DIN / ANSI

Operating pressure:

- PP DN10 – DN80 d110 PN10
- PVDF DN10 – DN80 d110 PN16

Technical features:

Ball valve

- Silicone free
- Union with buttress thread
- Double axial gasket
- Floating ball
- Double sided blocked ball
- Adjustable ball seating joint
- Integrated bottom mounting stand
- Radial installation or removal
- Maintenance free

Actuator

- Technical details on page 6

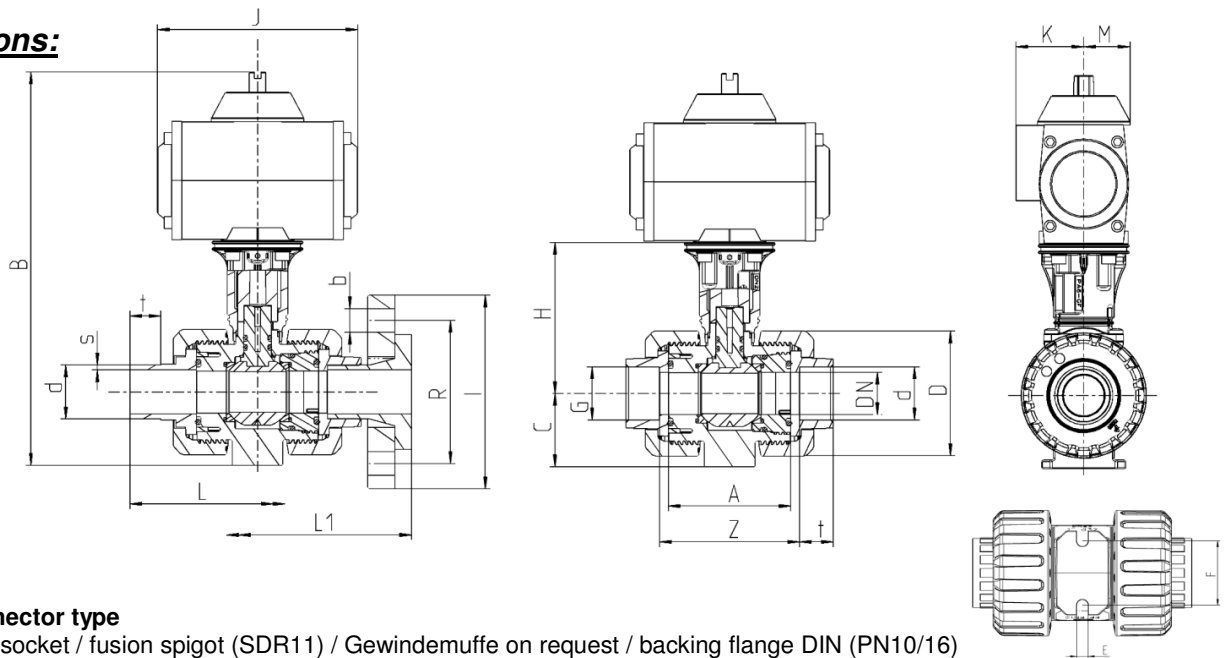
Accessories:

- Limit switch
- Solenoid valve
- Clamping / spacing element

This document does not constitute a guarantee, it is for initial information purposes only. The product range is continually upgraded, the designs and types therefore only reflect the state of the art at the time of printing.
Subject to technical modifications!

2 way ball valve M1 with pneumatic actuator

Dimensions:



PP-H Connector type

PP-H fusion socket / fusion spigot (SDR11) / Gewindemuffe on request / backing flange DIN (PN10/16)

PE fusion socket / fusion spigot (SDR11) *auf Anfrage*

DN	10	15	20	25	32	40	50	65	80	80
d	16	20	25	32	40	50	63	75	90	110
ISO flange	F04	F04	F04	F04	F05	F05	F05	F07	F07	F07
G ¹ TSO	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	-
A	61,5	61,5	69	73	83	94	109	131,5	156,5	156,5
C	33	33	40	43,5	51	56,5	64,5	85	100	100
D	58	58	68,5	75,5	92	108	127,5	160	196,5	196,5
E	5,4	5,4	5,4	6,4	6,4	6,4	6,4	8,3	10,3	10,3
F	34	34	36	38	40	45	50	65	80	80
H	81	81	86,5	89,5	97	104,5	111,5	138,5	168	168
I DIN	-	95	108	115	140	150	165	-	-	-
R DIN	-	65	75	85	100	110	125	-	-	-
b DIN	-	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	-	-	-
I ANSI	-	95	102	114	130	133	162	-	-	-
R ANSI	-	60,45	69,85	79,25	88,9	98,55	120,65	-	-	-
b ANSI	-	4 x 16	4 x 16	4 x 16	4 x 16	4 x 16	4 x 20	-	-	-
t ² FSO	14,5	16	17,5	19,5	22	25,5	29	34,5	38,5	42
t ³ FSP	13	14	15,5	18	20,5	23,5	27,5	31	36	40
s ³ FSP	1,8 ^{+0,4}	1,9 ^{+0,4}	2,3 ^{+0,5}	2,9 ^{+0,5}	3,7 ^{+0,6}	4,6 ^{+0,7}	5,8 ^{+0,8}	6,8 ^{+0,9}	8,2 ^{+1,1}	10 ^{+1,2}
t ⁴ FSP PE	13	13,5	15,5	18	15	29	31	32	30	35,5
s ⁴ FSP PE	1,8 ^{+0,4}	1,9 ^{+0,4}	2,3 ^{+0,5}	2,9 ^{+0,5}	3,7 ^{+0,6}	4,6 ^{+0,7}	5,8 ^{+0,8}	6,8 ^{+0,9}	8,2 ^{+1,1}	10 ^{+1,2}
t ⁵ FSO PE	14,5	16	17	19,5	22	25	29	34,5	38	42
Z ² FSO	69,5	66,5	78	84	97	114	136,5	162	206,5	207,5
Z ¹ TSO	66,5	66,5	74	80	89	103	119	142	173,5	-
Z ⁵ FSO PE	68,5	66,5	79	83	96	112	137	159,5	202,5	204,5
L ³ FSP	113,5	124	143	151	171	191	221	275	292	316,5
L ⁴ FSP PE	111,5	123	141,5	150	141	179	197	247	286,5	316
L1 ⁶ BF	-	168	185	190	206	321	385	-	-	-
PN	10	10	10	10	10	10	10	10	10	10

2 way ball valve M1 with pneumatic actuator



Actuator	UT05DA				UT15DA			UT20DA		
B	214	214	226,5	233	269	282	297	366,5	411	411
J	119	119	119	119	165	165	165	178	178	178
K	40	40	40	40	50	50	50	53	53	53
M	27	27	27	27	35	35	35	43	43	43
Actuator	UT05SR				UT15SR		UT17SR	UT30SR	UT35SR	
B	214	214	226,5	233	269	282	297	385,5	463,5	463,5
J	119	119	119	119	165	165	197	230	246	246
K	40	40	40	40	50	50	50	61,5	72,5	72,5
M	27	27	27	27	35	35	35	52	65,5	65,5

Dimensions in mm

¹ TSO = threaded socket

² FSP = fusion socket

⁴ FSP = fusion spigot PE

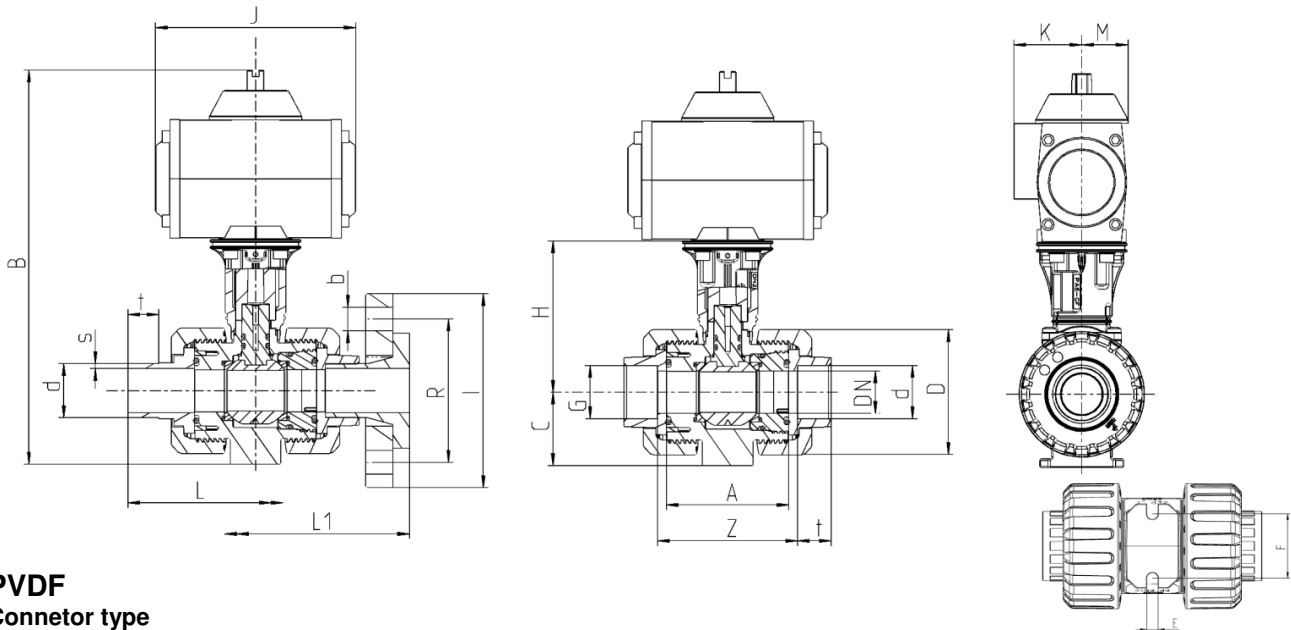
⁵ FSO = fusion socket PE

³ FSP = fusion spigot

⁶ BF = backing flange DIN

- = currently not realised

2 way ball valve M1 with pneumatic actuator



PVDF

Connector type

PVDF fusion socket / fusion spigot (SDR21)

DN	10	15	20	25	32	40	50	65	80	80
d	16	20	25	32	40	50	63	75	90	110
ISO flange	F04	F04	F04	F04	F05	F05	F05	F07	F07	F07
G ¹ _{TSO}	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	-
A	61,5	61,5	69	73	83	94	108,5	131,5	156,5	156,5
C	33	33	40	43,5	51	56,5	64,5	85	100	100
D	56,5	56,5	67	73,5	90	105,5	124,5	157,5	192,5	192,5
E	5,4	5,4	5,4	6,4	6,4	6,4	6,4	8,3	10,3	10,3
F	34	34	36	38	40	45	50	65	80	80
H	81	81	86,5	89,5	97	104,5	111,5	138,5	168	168
t ² _{FSP}	14,5	16	17	19,5	22	25	29	35	38,5	44
t ³ _{FSP}	13	14	15,5	18	20,5	23	27	31,5	36	40
s ³ _{FSP}	1,9 ^{+0,4}	1,9 ^{+0,4}	1,9 ^{+0,4}	2,4 ^{+0,5}	2,4 ^{+0,5}	3 ^{+0,6}	3 ^{+0,6}	3,6 ^{+0,6}	4,3 ^{+0,7}	5,3 ^{+0,8}
Z ² _{FSP}	69,5	67	78	84	97	113	136	158,5	205	163
Z ¹ _{TSO}	66	67,5	75	80	89	102	120	142,5	174,5	-
L ³ _{FSP}	114	124	143	152	171	190	221	278	290,5	318,5
PN	16	16	16	16	16	16	16	16	16	16
Actuator	UT05DA				UT15DA			UT20DA		
B	214	214	226,5	233	269	282	297	366,5	411	411
J	119	119	119	119	165	165	165	178	178	178
K	40	40	40	40	50	50	50	53	53	53
M	27	27	27	27	35	35	35	43	43	43
Actuator	UT05SR				UT15SR		UT17SR	UT30SR	UT35SR	
B	214	214	226,5	233	269	282	297	385,5	463,5	463,5
J	119	119	119	119	165	165	197	230	246	246
K	40	40	40	40	50	50	50	61,5	72,5	72,5
M	27	27	27	27	35	35	35	52	65,5	65,5

¹ TSO = threaded socket

² FSO = fusion socket

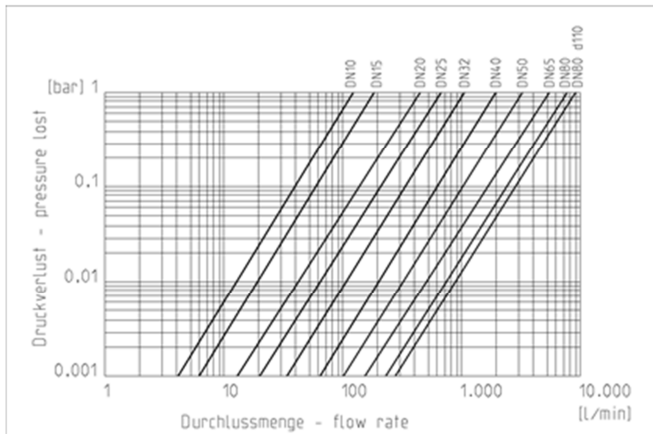
³ FSP = fusion spigot

Dimensions in mm

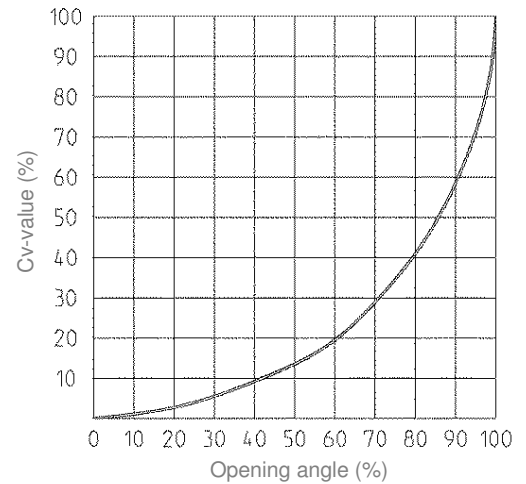
2 way ball valve M1 with pneumatic actuator

Diagrams:

Pressure loss diagram



Flow characteristic

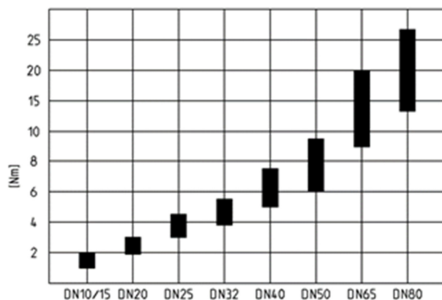


Cv value table

pressure loss	DN10 d16	DN15 d20	DN20 d25	DN25 d32	DN32 d40	DN40 d50	DN50 d63	DN65 d75	DN80 d90	DN80 d110
0,001 bar	4,1	6,0	13,9	20,6	34,2	62,6	102,5	164,4	237,1	279,8
1 bar	130	190	440	650	1080	1980	3240	5200	7500	8850

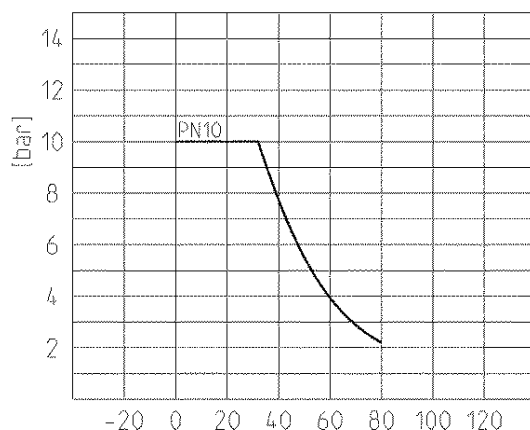
specifications in l/min

Torque

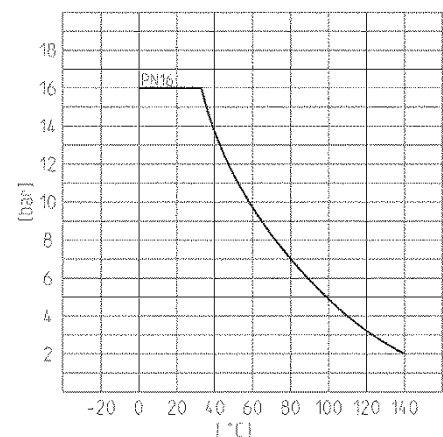


Pressure - temperature

PP



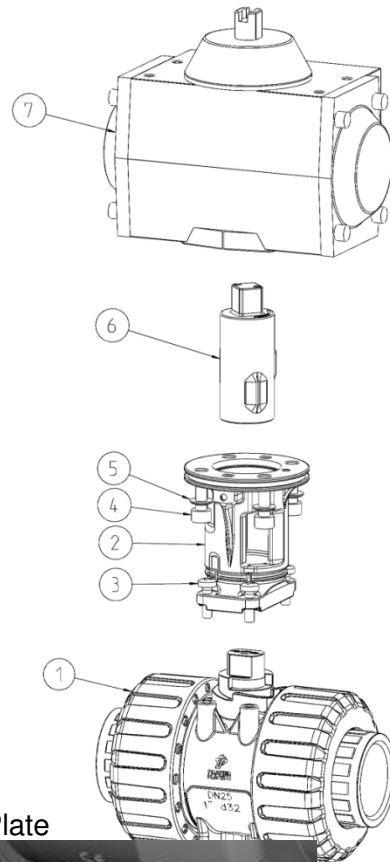
PVDF



2 way ball valve M1 with pneumatic actuator

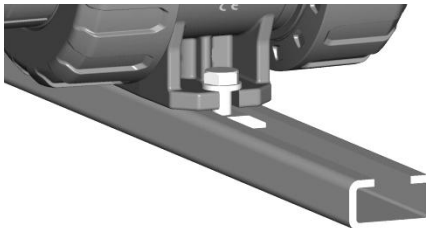
Exploded drawing:

- 01. ball valve
- 02. bracket (material: PA-GF)
- 03. screw
- 04. hexagon socket screw
- 05. toothed washer
- 06. coupling - actuator (material: PA-GF)
- 07. actuator

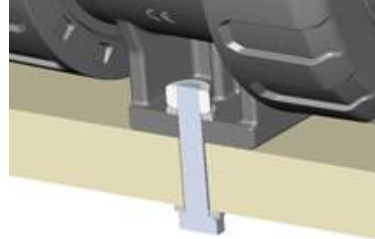


Bottom mounting stand – mounting possibilities:

- Assembly rail



- Plate



- Masonry / Concrete
 - Hanger screw and dowel required



Further mounting possibilities with clamping/spacing element – see page 9.

Technical features pneumatic actuator

Description actuator

piston actuation with two opposed pistons, power transmission with tooth rack, seal elastic

Material actuator

- Body: aluminium anodized

2 way ball valve M1 with pneumatic actuator

- End caps: aluminium epoxy powder
- Screws and nuts: stainless steel

Ambient temperature: -20°C to +80°C

Control fluid

Filtered air according to PNEUROP/ISO class 4

Mounting

In every possible direction

Control function / control pressure

DA: double acting / max. 10 bar

SR: spring return / max. 8 bar

Rotation angle

90°; adjustment in both directions -10° to +10°

Installation

- actuator – valve: ISO 5211
- actuator – solenoid valve: NAMUR (VDI/VDE 3845)
- actuator – limit switch box: NAMUR (VDI/VDE 3845)

AIR CONSUMPTION (FULL CYCLE)

DA DOUBLE ACTING

actuator	MT52 DA	MT63 DA	MT63 DA
N. Lt.	0,22	0,41	0,55

AIR CONSUMPTION (FULL CYCLE)

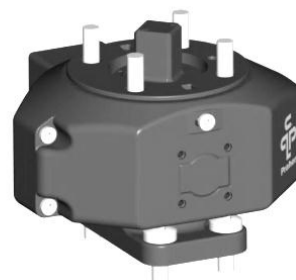
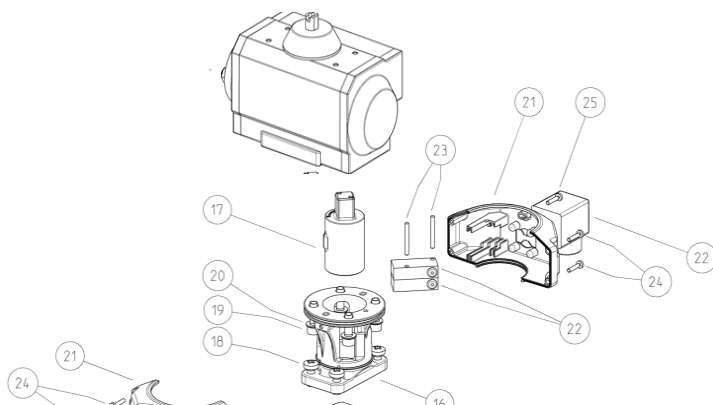
SR SPRING RETURN

actuator	MT52 SR	MT63 SR	MT63 SR	MT75 SR	MT83 SR
N. Lt.	0,13	0,18	0,25	0,48	0,65

ACCESSORIES:

Position feedback (bottom mounted)

- Mounted on adapter set -



2 way ball valve M1 with pneumatic actuator



- 16. Bracket (material : PA-GF)
- 17. Coupling shaft
- 18. Screw
- 19. Hexagon socket screw
- 20. Toothed washer
- 21. Half-shells (material: ABS)
- 22. Limit switch
- 23. Pin
- 24. Screw
- 25. Locking screw for adjusting position feedback
- 26. Cover

Technical data position feedback:

Limit switch mechanical		
Type	(Ag-Ni) NO/NC*	(Au) NO*/NC*
Voltage max.	15-250V AC (15-30V DC)	5-250V AC (5-30V DC)
Current max.	100mA-5A	1mA-3A
Protection limit switch	IP67	
Protection DIN-plug	IP65	
Ambient temperature	Operating: -10°C bis +50°C	
Electrical wiring	NO NC	
	* on request	

Inductive position feedback: on request

Limit switch box (top mounted)
- Mounted on actuator -

2 way ball valve M1 with pneumatic actuator



General:

- Limit switch box with two mechanical switches
- Protection IP65
- Cable gland M20*1,5

Material:

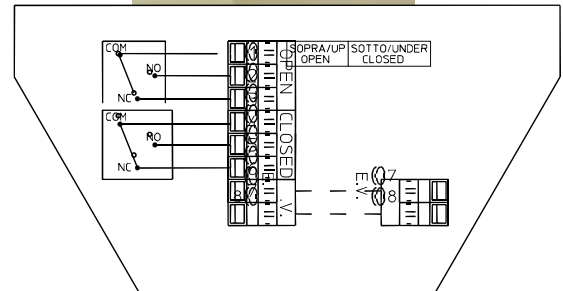
- Body: black polycarbonate
- Cover: clear polycarbonate
- Mounting bracket + screw: stainless steel
- Seals: EPDM

Voltage:

- 1-250 V

Current:

- 16 A (250V AC)
- 2,5 A (24 DC)



Solenoid Valve

General:

- Solenoid valve NAMUR with combined 5/2- and 3/2- ways function + standard coil
- Easy switch from 5/2- to 3/2-ways by turning around the sealing-plate
- Manual override as standard

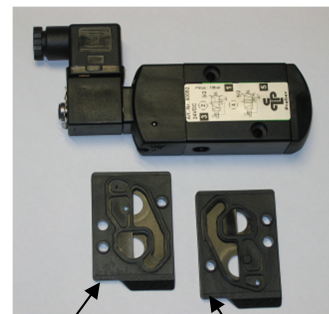
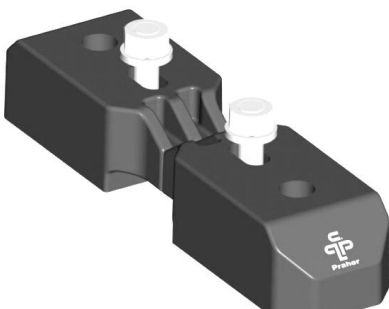
Material:

- Body: aluminium anodized
- Piston: aluminium
- Seals: NBR
- Screws and spring: stainless steel

Voltage:

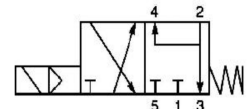
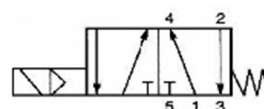
- 24 V DC (3W)
- 230 V AC (5VA)

Clamping / spacing element:



5/2 FUNCTION

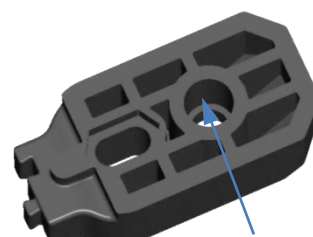
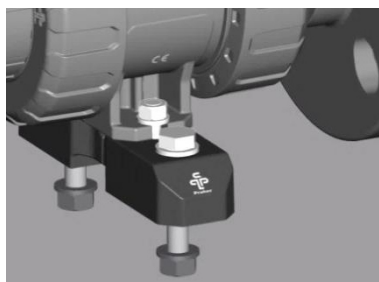
3/2 FUNCTION



Technical features:

- Using for fixing as:
 - Clamping element
 - floors, walls, ceilings
 - plate
 - Spacing element
(screws additionally necessary)
 - for flange connection
- Bore for threaded bush

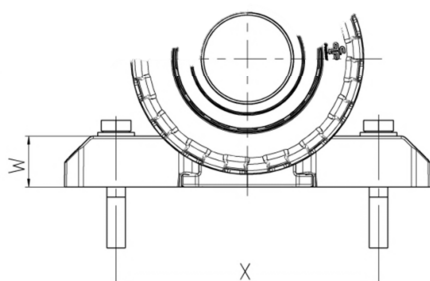
2 way ball valve M1 with pneumatic actuator



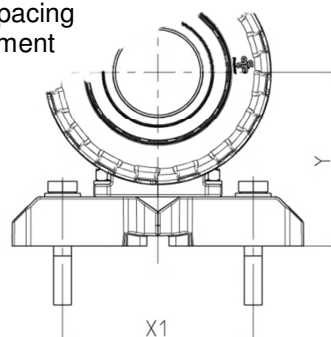
Bore for threaded bush

Dimensions:

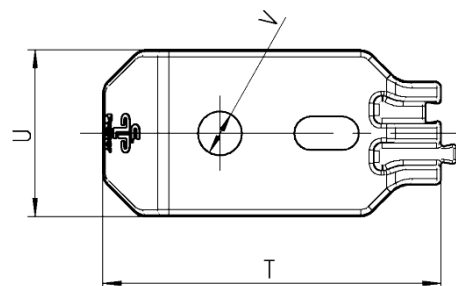
Use as clamping
element



Use as spacing
element



DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
T	54	54	54	65	65	65	65
U	25	25	25	32	32	32	32
V	6,5	6,5	6,5	8,5	8,5	8,5	8,5
W	16	16	16	22	22	22	22
X	90	90	94	107	109	114	119
X1	70	70	70	85	85	85	85
Y	49	49	56	65	73	78	86



Dimensions in mm