

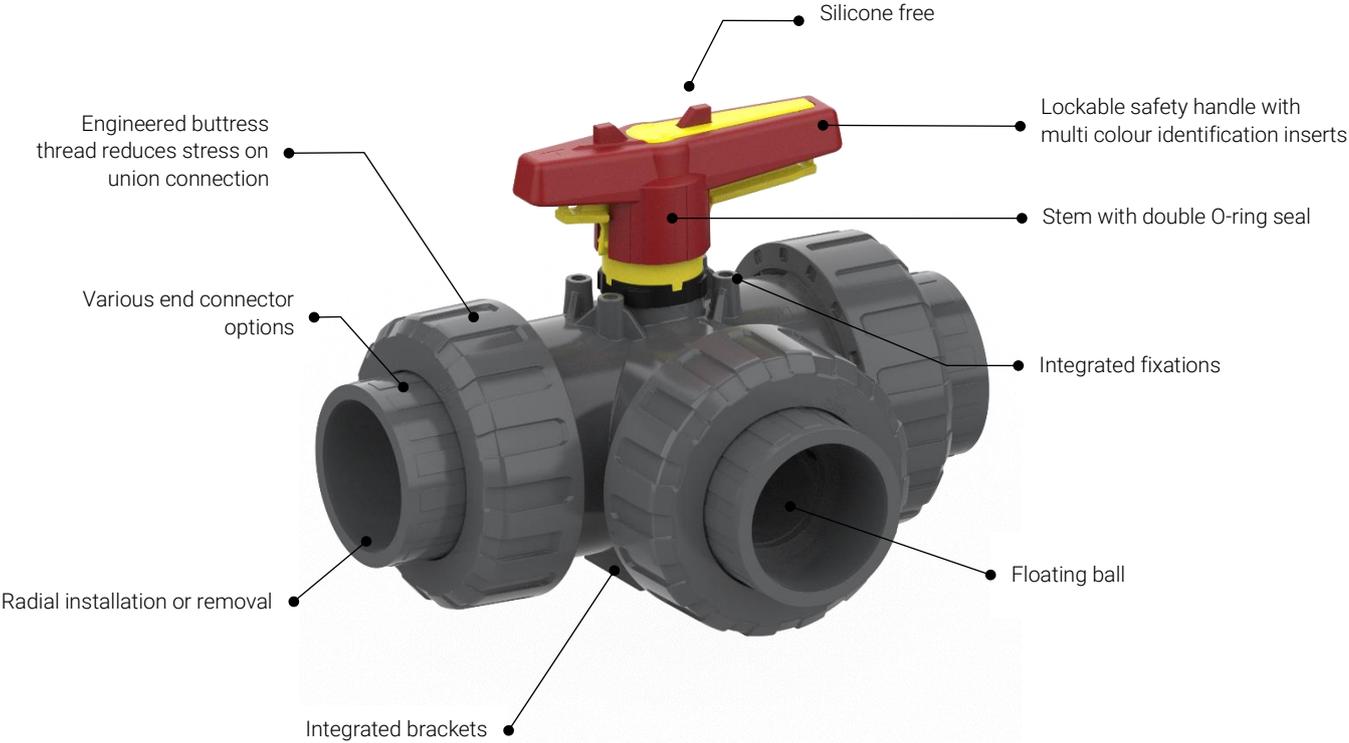


Ball Valve **M1**

PVC

DATASHEET

3- way Ball Valve M1



Overview

General		
Material	Body Material Seal Material Ball Seat	PVC-U EPDM / FPM PTFE
Dimensions	DN10 – DN50 d16 – d63 3/8" – 2"	
Operating pressure	DN10 – DN25 DN32 – DN40 DN50	PN16 PN12,5 PN10
Connector types	Solvent socket Solvent spigot Threaded socket	metrisch / ASTM metrisch BSP
Connector types as accessories	Solvent socket Solvent spigot Threaded socket PE fusion socket PE fusion spigot PE fusion spigot long Fix flange Backing flange	metrisch / ASTM metrisch BSP / NPT metrisch metrisch metrisch DIN / ANSI / JIS DIN

Range summary



Hand operated

Adapter Set

Position
Feedback

Pneumatic

Electric

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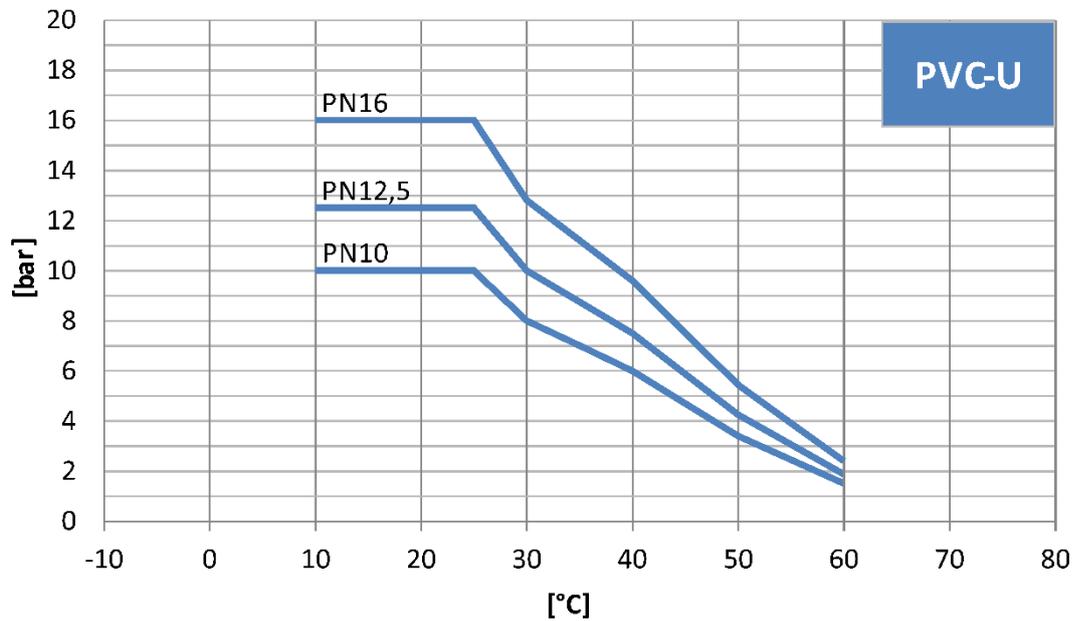


Accessories / spare parts

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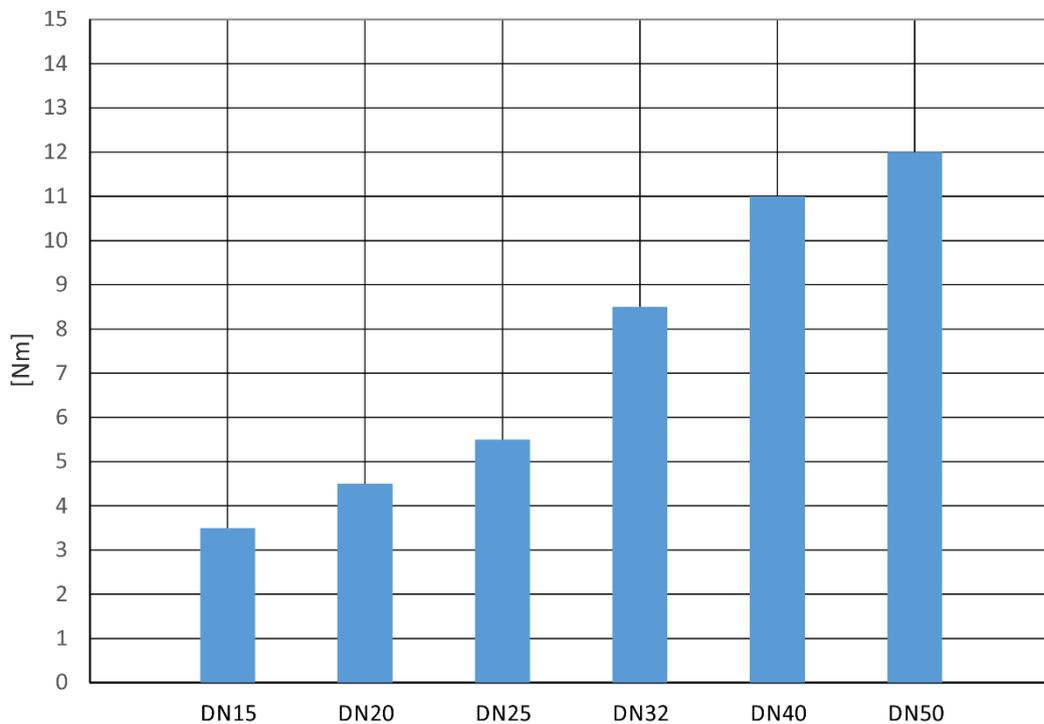
Technical data

Pressure – temperature – diagram



The values of the pressure-temperature-diagram are based on a service life of 25 years at static pressure load and apply to water or water-like media.

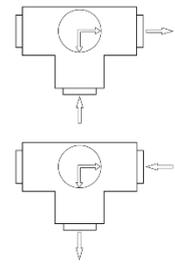
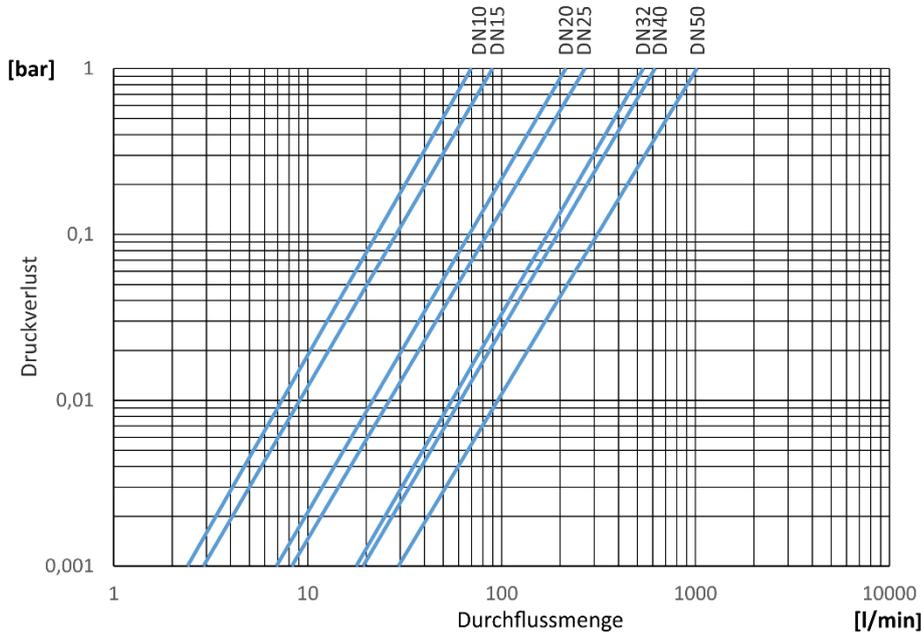
Torque at the shaft



Technical data

Flow rate – pressure loss

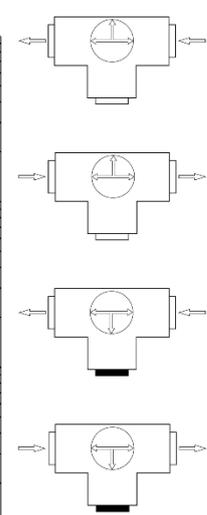
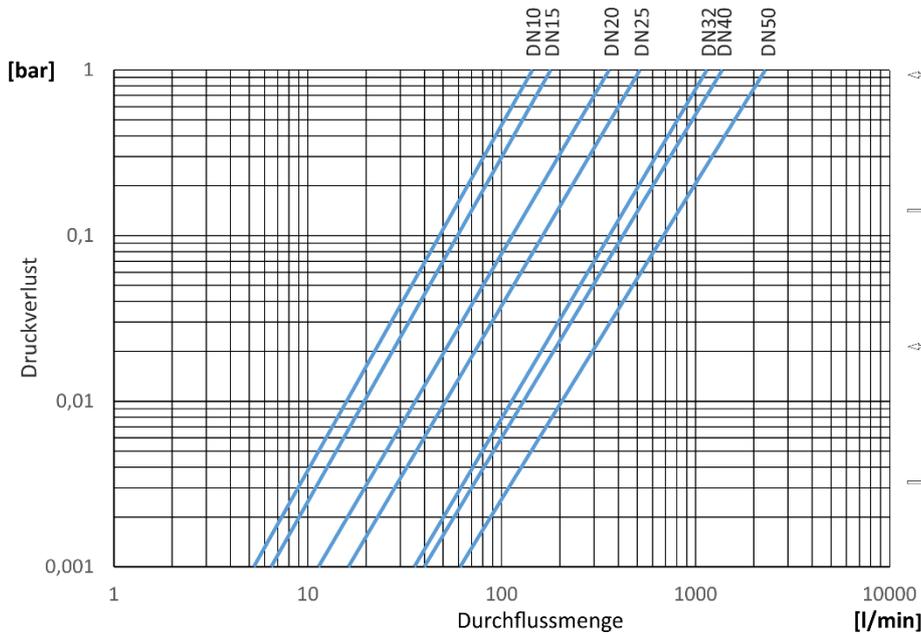
3-Wege Kugelhahn / L-Kugel



pressure loss	DN10 d16	DN15 d20	DN20 d25	DN25 d32	DN32 d40	DN40 d50	DN50 d63
0,001 bar	2,4	2,9	6,9	8,3	17,8	19,3	29,4
1,0 bar	70	90	215	270	540	620	1020

specification in l/min (PN16 pipe)

3-Wege Kugelhahn / T-Kugel / -Stellung



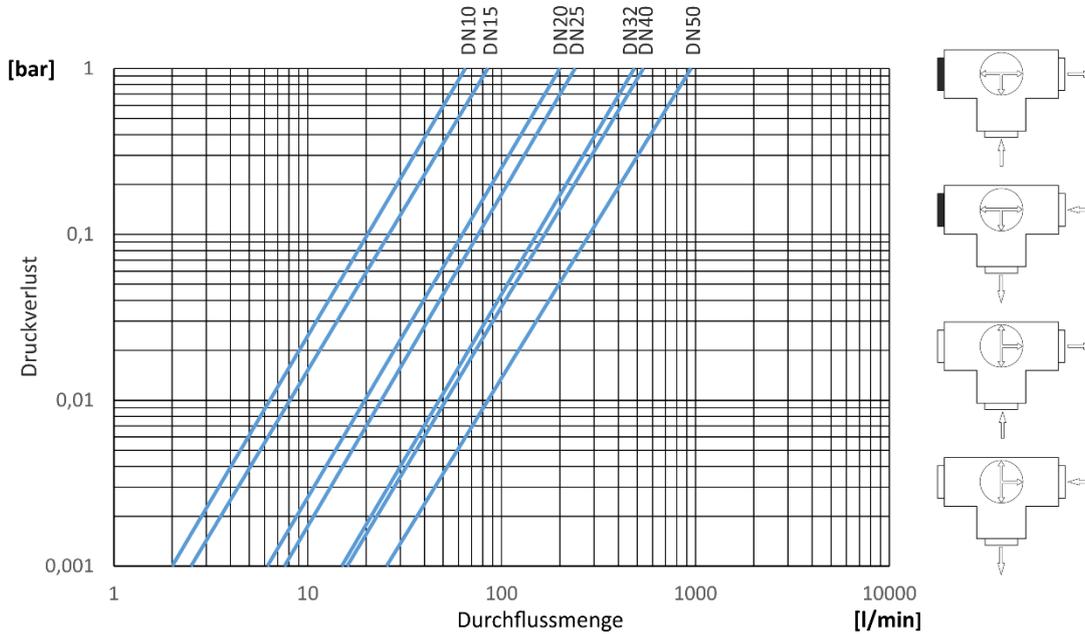
pressure loss	DN10 d16	DN15 d20	DN20 d25	DN25 d32	DN32 d40	DN40 d50	DN50 d63
0,001 bar	5,3	6,5	11,4	16,3	35,6	40	61,3
1,0 bar	145	180	360	520	1150	1380	2300

specification in l/min (PN16 pipe)

Technical data

Flow rate – pressure loss

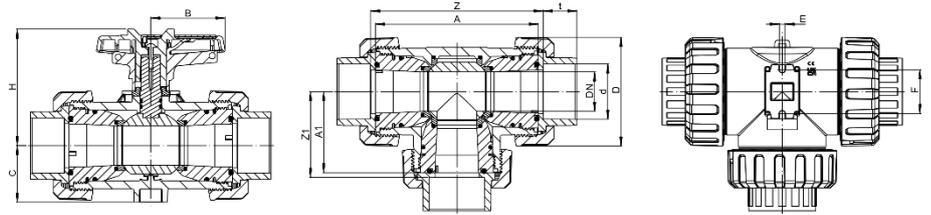
3-Wege Kugelhahn / T-Kugel / L&T-Stellung



pressure loss	DN10 d16	DN15 d20	DN20 d25	DN25 d32	DN32 d40	DN40 d50	DN50 d63
0,001 bar	2	2,5	6,2	7,6	15	16	25,5
1,0 bar	65	85	200	240	485	540	950

specification in l/min (PN16 pipe)

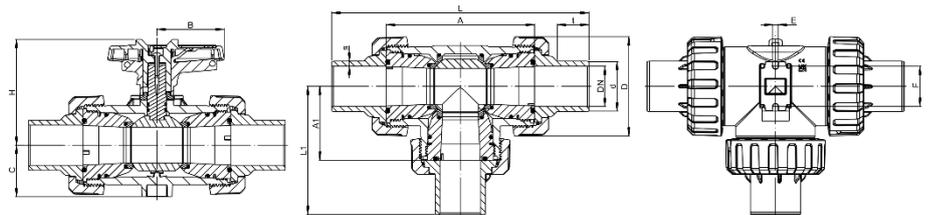
Dimensions hand operated



Connector type

PVC-U solvent socket metric / ASTM (Dimensions in mm)

DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
inch	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	100	100	110	120	140	160	185
A1	50	50	55	60	70	80	92,5
B	39,5	39,5	51	51	63,5	72	84
C	33	33	40	43	51	56	64
D	56,5	56,5	65,5	74,5	88,5	106	124
E	5,5	5,5	5,5	6,5	6,5	6,5	6,5
F	34	34	36	38	40	45	50
H	81	81	91,5	94	113	122	132,5
t	16	16,5	19,5	23	26,5	31,5	38,5
Z	106	105	116	126	146,5	168	196
Z1	53	52,5	58	63	73,25	84	98
PN	16	16	16	16	12,5	12,5	10

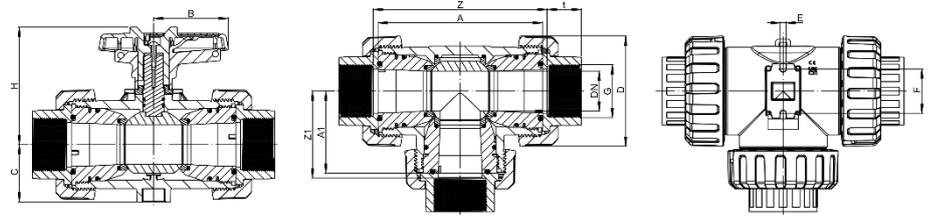


Connector type

PVC-U solvent spigot metric (Dimensions in mm)

DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
A	100	100	110	120	140	160	185
A1	50	50	55	60	70	80	92,5
B	39,5	39,5	51	51	63,5	72	84
C	33	33	40	43	51	56	64
D	56,5	56,5	65,5	74,5	88,5	106	124
E	5,5	5,5	5,5	6,5	6,5	6,5	6,5
F	34	34	36	38	40	45	50
H	81	81	91,5	94	113	122	132,5
t	17	17	20,5	23,5	27	32	40
s	2,8	2	2,5	3,5	4	5	6,5
L	153	178,5	200	219,5	251,5	276	321
L1	76,5	89,25	100	109,75	125,75	138	160,5
PN	16	16	16	16	12,5	12,5	10

Dimensions hand operated

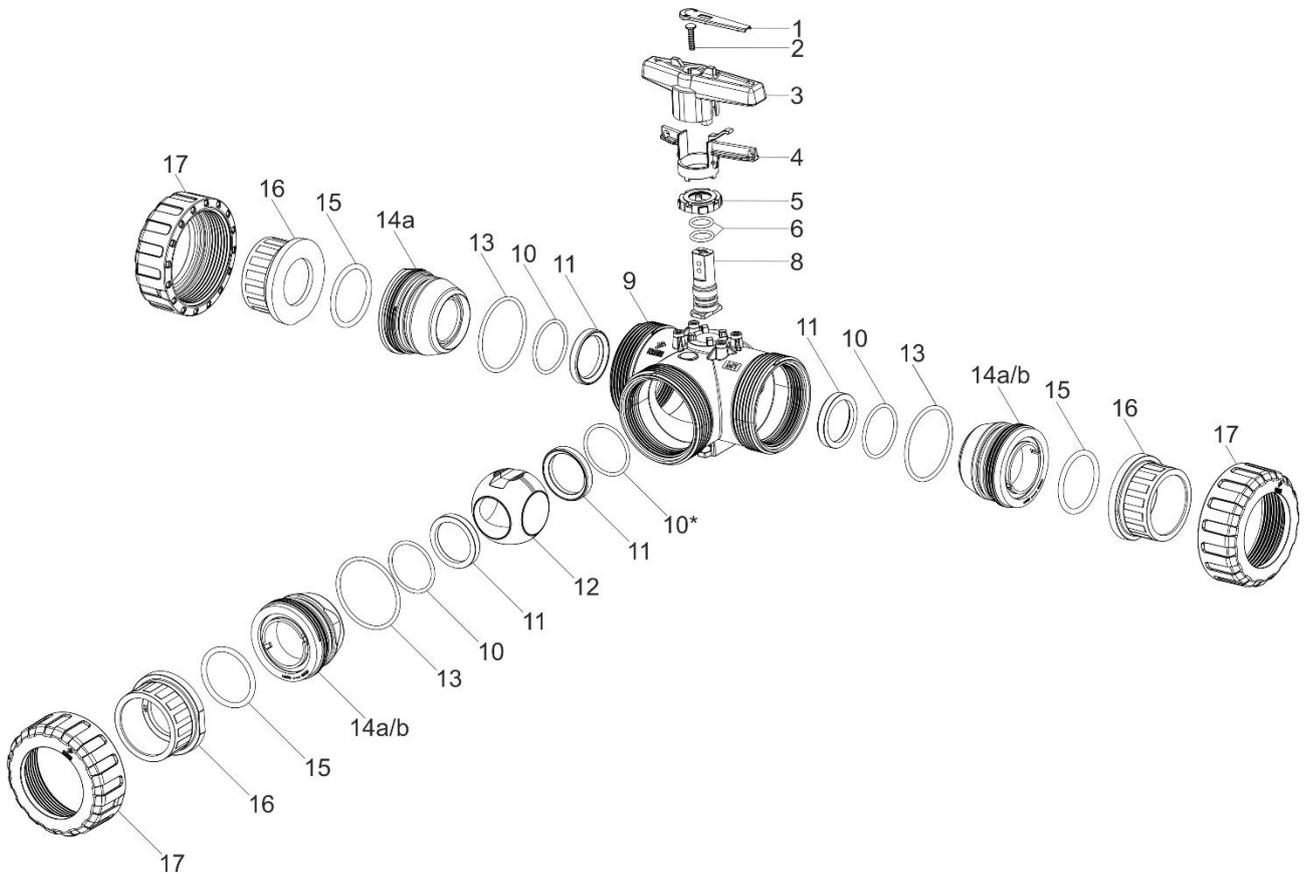


Connector type

PVC-U threaded socket BSP (Dimensions in mm)

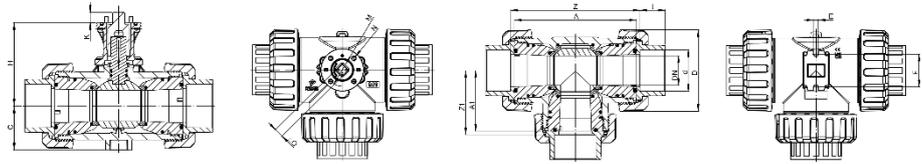
DN	10	15	20	25	32	40	50
inch	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	100	100	110	120	140	160	185
A1	50	50	55	60	70	80	92,5
B	39,5	39,5	51	51	63,5	72	84
C	33	33	40	43	51	56	64
D	56,5	56,5	65,5	74,5	88,5	106	124
E	5,5	5,5	5,5	6,5	6,5	6,5	6,5
F	34	34	36	38	40	45	50
H	81	81	91,5	94	113	122	132,5
t	17	17	19,5	23	26	31,5	38,5
Z	103,5	104,5	116	125	146,5	168	196
Z1	51,75	52,25	58	62,5	73,25	84	98
PN	16	16	16	16	12,5	12,5	10

Exploded drawing hand operated



Nr.	Description	Material	Nr.	Description	Material
01.	Labeling plate	PBT	16.	Connector type	PVC-U
02.	Screw	A2		Solvent socket /-spigot	PVC-U
03.	Handle	PP-GF		Threaded socket	PVC-U
04.	Spring loaded locking sleeve	PBT	17.	Union nut	PVC-U
05.	Locking ring	PBT			
06.	O-ring	EPDM / FPM			
08.	Shaft (L or T)	PVC-U			
09.	Body	PVC-U			
10.	O-ring (*only for DN40 & DN50)	EPDM / FPM			
11.	Ball seat	PTFE			
12.	Ball (L or T)	PVC-U			
13.	O-ring	EPDM / FPM			
14a.	Retaining ring (with waistband)	PVC-U			
14b.	Retaining ring (without collar - only for DN40 & DN50)	PVC-U			
15.	O-ring	EPDM / FPM			

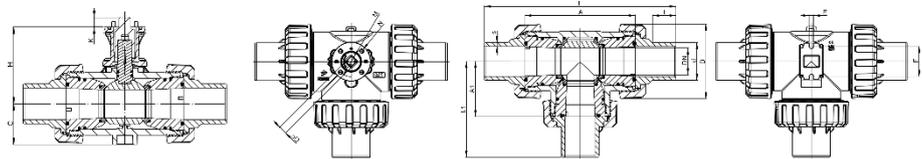
Dimensions adapter set



Connector type

PVC-U solvent socket metric / ASTM (Dimensions in mm)

DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
Inch	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
ISO flange	F04	F04	F04	F04	F05	F05	F05
A	100	100	110	120	140	160	185
A1	50	50	55	60	70	80	92,5
C	33	33	40	43	51	56	64
D	56,5	56,5	65,5	74,5	88,5	106	124
E	5,5	5,5	5,5	6,5	6,5	6,5	6,5
F	34	34	36	38	40	45	50
H	87	87	94,5	97	106,5	114	121,5
K	11	11	11	11	15	15	15
M	42	42	42	42	50	50	50
N	5,5	5,5	5,5	5,5	6,5	6,5	6,5
O	11	11	11	11	14	14	14
t	16	16,5	19,5	23	26,5	31,5	38,5
Z	106	105	116	126	146,5	168	196
Z1	53	52,5	58	63	73,25	84	98
PN	16	16	16	16	12,5	12,5	10

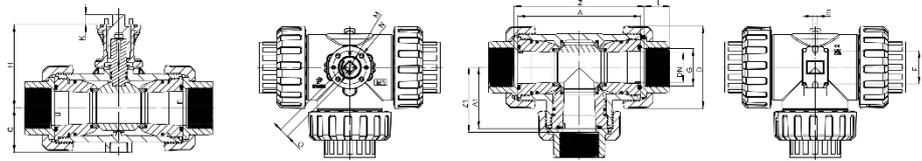


Connector type

PVC-U solvent spigot metric (Dimensions in mm)

DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
ISO flange	F04	F04	F04	F04	F05	F05	F05
A	100	100	110	120	140	160	185
A1	50	50	55	60	70	80	92,5
C	33	33	40	43	51	56	64
D	56,5	56,5	65,5	74,5	88,5	106	124
E	5,5	5,5	5,5	6,5	6,5	6,5	6,5
F	34	34	36	38	40	45	50
H	87	87	94,5	97	106,5	114	121,5
K	11	11	11	11	15	15	15
M	42	42	42	42	50	50	50
N	5,5	5,5	5,5	5,5	6,5	6,5	6,5
O	11	11	11	11	14	14	14
t	17	17	20,5	23,5	27	32	40
s	2,8	2	2,5	3,5	4	5	6,5
L	153	178,5	200	219,5	251,5	276	321
L1	76,5	89,25	100	109,75	125,75	138	160,5
PN	16	16	16	16	12,5	12,5	10

Dimensions adapter set

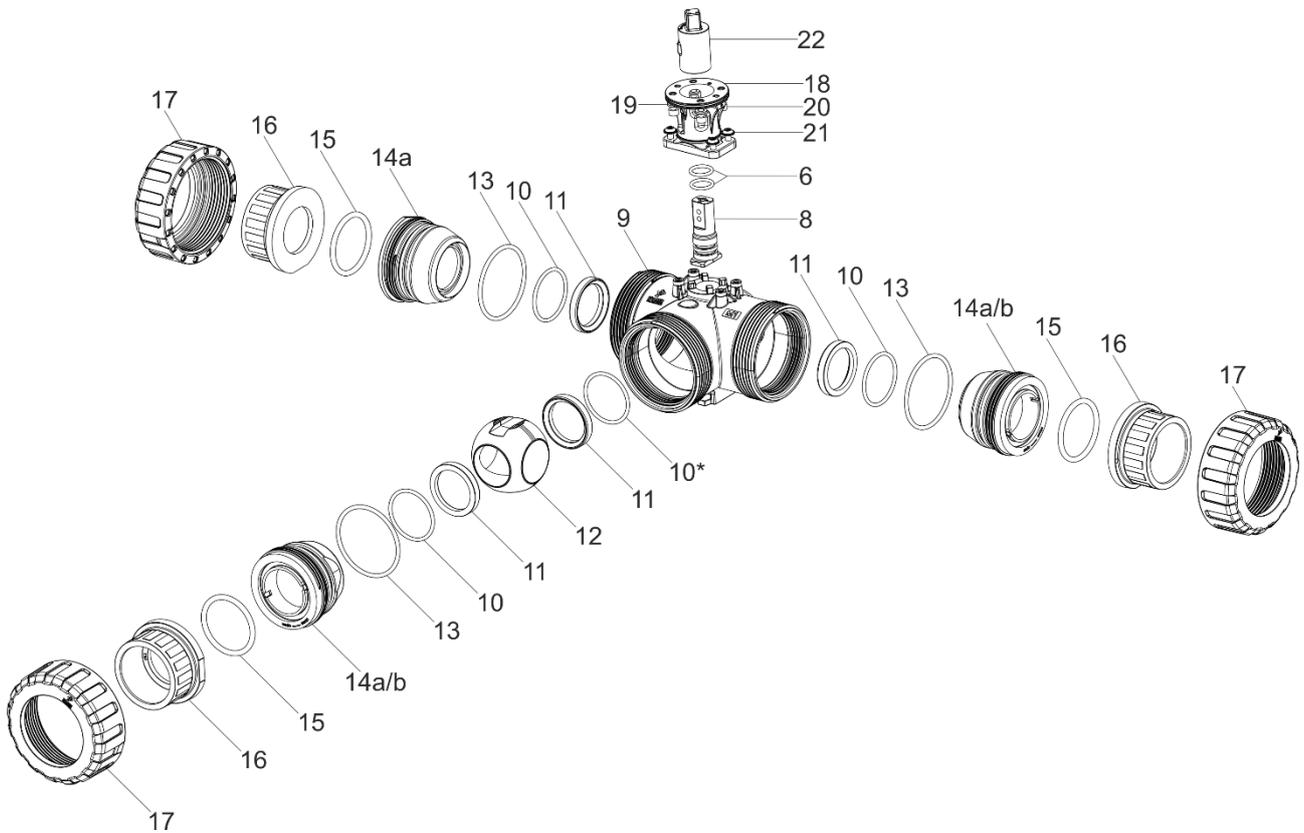


Connector type

PVC-U threaded socket BSP (Dimensions in mm)

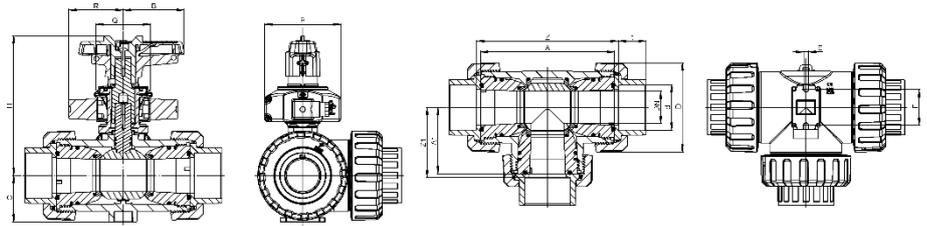
DN	10	15	20	25	32	40	50
Inch	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
ISO flange	F04	F04	F04	F04	F05	F05	F05
A	100	100	110	120	140	160	185
A1	50	50	55	60	70	80	92,5
C	33	33	40	43	51	56	64
D	56,5	56,5	65,5	74,5	88,5	106	124
E	5,5	5,5	5,5	6,5	6,5	6,5	6,5
F	34	34	36	38	40	45	50
H	87	87	94,5	97	106,5	114	121,5
K	11	11	11	11	15	15	15
M	42	42	42	42	50	50	50
N	5,5	5,5	5,5	5,5	6,5	6,5	6,5
O	11	11	11	11	14	14	14
t	16	16,6	19,5	23	26	31,5	38,5
Z	103,5	104,5	116	125	146,5	168	196
Z1	51,75	52,25	58	62,5	73,25	84	98
PN	16	16	16	16	12,5	12,5	10

Exploded drawing adapter set



Nr.	Description	Material	Nr.	Description	Material
06.	O-ring	EPDM / FPM	16.	Connector type solvent socket /-spigot	PVC-U
08.	Shaft (L or T)	PVC-U	17.	Threaded socket	PVC-U
09.	Body	PVC-U	17.	Union nut	PVC-U
10.	O-ring (*only for DN40 & DN50)	EPDM / FPM	18.	Bracket	PA-GF
11.	Ball seat	PTFE	19.	Toothed washer	A2
12.	Ball (L or T)	PVC-U	20.	Screw	A4
13.	O-ring	EPDM / FPM	21.	Screw	A2
14a.	Retaining ring (with waistband)	PVC-U	22.	Coupling shaft	PA-GF
14b.	Retaining ring (without collar - only for DN40 & DN50)	PVC-U			
15.	O-ring	EPDM / FPM			

Dimensions position feedback

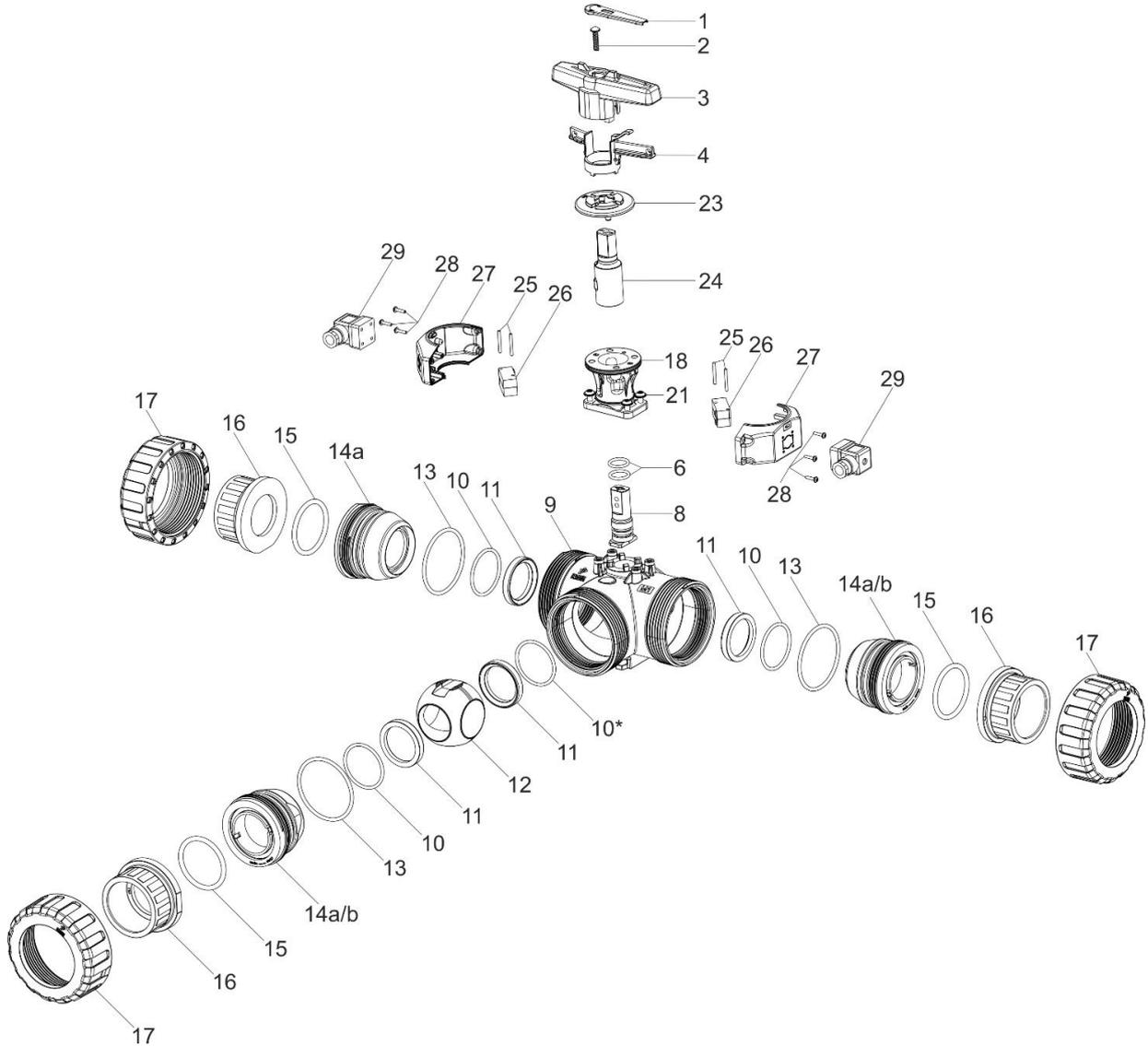


Connector type

PVC-U solvent socket metric (Dimensions in mm)

DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
Inch	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	100	100	110	120	140	160	185
A1	50	50	55	60	70	80	92,5
B	39,5	39,5	51	51	63,5	72	84
C	33	33	40	43	51	56	64
D	56,5	56,5	65,5	74,5	88,5	106	124
E	5,5	5,5	5,5	6,5	6,5	6,5	6,5
F	34	34	36	38	40	45	50
H	136,5	136,5	151,5	154	174	184	194
P	98	98	102	102	105	105	105
Q	64	64	64	64	74	74	74
R	70	70	70	70	75	75	75
t	16	16,5	19,5	23	26,5	31,5	38,5
Z	106	105	116	126	146,5	168	196
Z1	53	52,5	58	63	73,25	84	98
PN	16	16	16	16	12,5	12,5	10

Exploded drawing position feedback

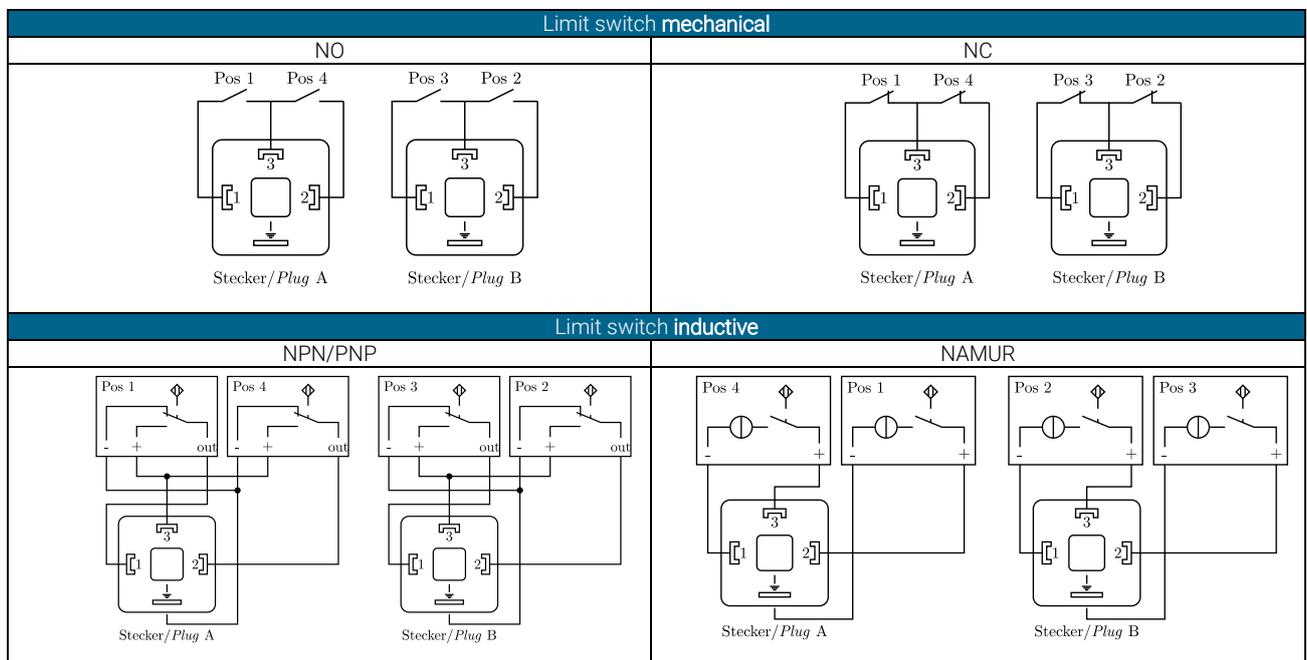
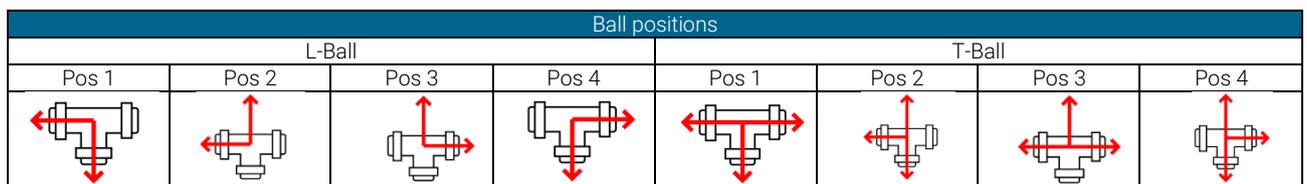
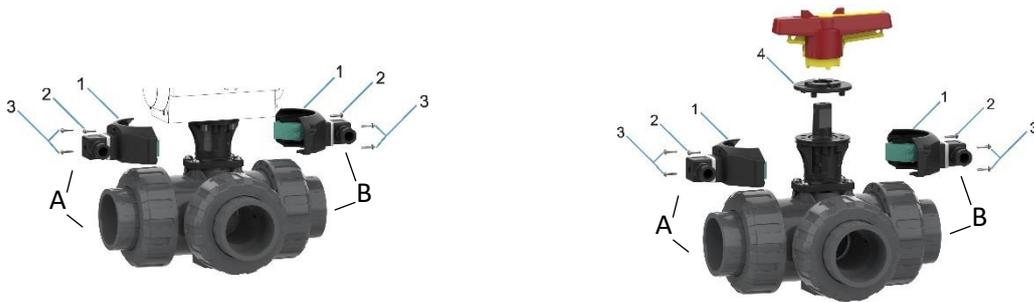


Nr.	Description	Material	Nr.	Description	Material
01.	Labeling plate	PBT	16.	Connector type solvent socket /-spigot	PVC-U
02.	Screw	A2	17.	Union nut	PVC-U
04.	Spring loaded locking sleeve	PBT	18.	Bracket	PA-GF
06.	O-ring	EPDM / FPM	21.	Screw	A2
08.	Shaft (L or T)	PVC-U	23.	Cover	ABS
09.	Body	PVC-U	24.	Coupling shaft	PA-GF
10.	O-ring (*only for DN40 & DN50)	EPDM / FPM	25.	Pin	A2
11.	Ball seat	PTFE	26.	Limit switch IP67	-
12.	Ball (L or T)	PVC-U	27.	Half shells	ABS
13.	O-ring	EPDM / FPM	28.	Screw	A2
14a.	Retaining ring (with waistband)	PVC-U	29.	Device plug IP65	-
14b.	Retaining ring (without collar - only for DN40 & DN50)	PVC-U			
15.	O-ring	EPDM / FPM			

Technical data position feedback

Typ	Limit switch mechanical		Limit switch inductive	
	(Ag-Ni) NO/NC*	(Au) NO*/NC*	NPN*/PNP	NAMUR
Voltage	15-250V AC (15-30V DC)	5-250V AC (5-30V DC)	10-30V DC	8V DC
Current	100mA-5A	1mA-3A	0-100mA	NAMUR Eigensicher
Output type	Potential-free output	Potential-free output	Voltage Output	Voltage Output

* on request

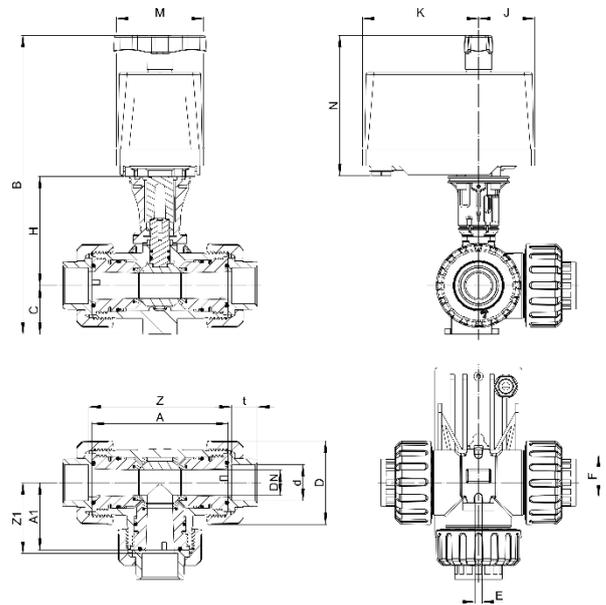


Dimensions electric EO 510

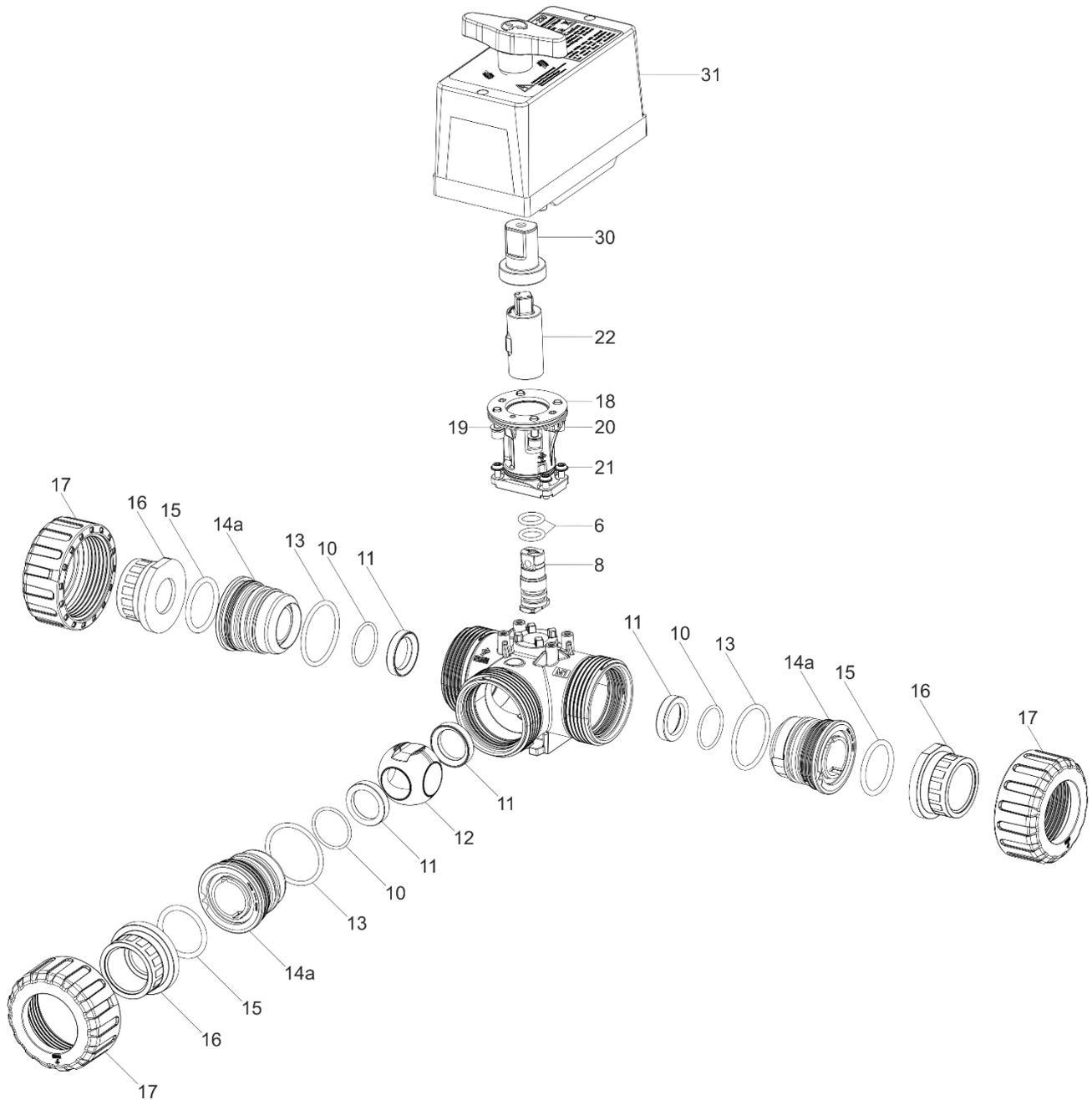
Connector type

PVC-U socket metric (Dimensions in mm)

DN	10	15	20	25
d	16	20	25	32
Inch	3/8"	1/2"	3/4"	1"
A	100	100	110	120
A1	50	50	55	60
C	33	33	40	43
D	56,5	56,5	65,5	74,5
E	5,5	5,5	5,5	6,5
F	34	34	36	38
H	87	87	94,5	97
t	16	16,5	19,5	23
Z	106	105	116	126
Z1	53	52,5	58	63
PN	16	16	16	16
actuator	EO510 ECO/IND			
B	246	246	260	266
J	49,5	49,5	49,5	49,5
K	102,5	102,5	102,5	102,5
M	77	77	77	77
N	125,5	125,5	125,5	125,5



Exploded drawing electric EO 510

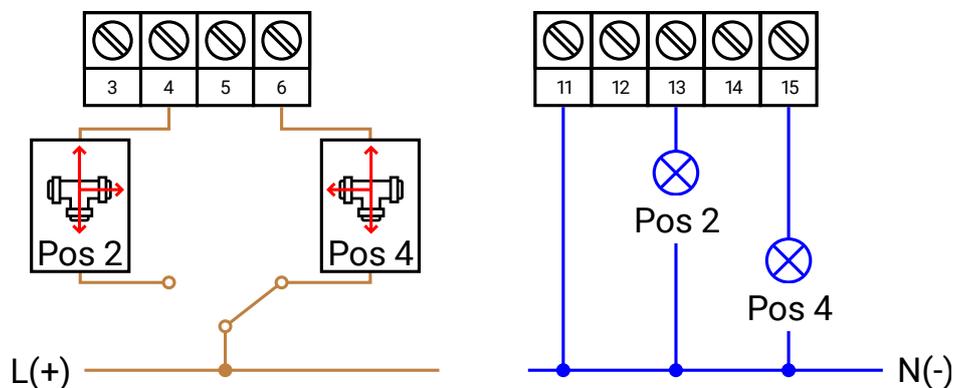


Nr.	Description	Material	Nr.	Description	Material
06.	O-ring - Shaft	EPDM / FPM	17.	Union nut	PVC-U
08.	Shaft (L or T)	PVC-U	18.	Bracket	PA-GF
09.	Body	PVC-U	19.	Toothed washer	A2
10.	O-ring	EPDM / FPM	20.	Screw	A4
11.	Ball seat	PTFE	21.	Screw	A2
12.	Ball (L or T)	PVC-U	22.	Coupling (Actuator)	PA-GF
13.	O-ring	EPDM / FPM	30.	Coupling (EO510)	PAGF
14a.	Retaining ring (with waistband)	PVC-U	31.	Actuator EO 510	-
15.	O-ring	EPDM / FPM			
16.	Connector type Solvent socket	PVC-U			

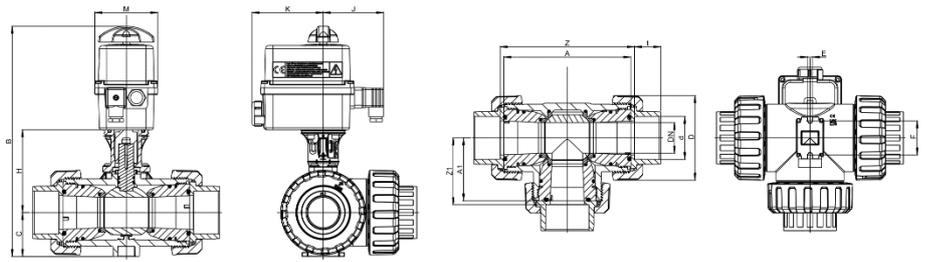
Technical data electric EO 510

Electric actuator EO510		
Typ	EO510 ECO-230	EO510 IND-24
Nominal torque	7 Nm	
Peak torque	9 Nm	
Voltage	230V AC $\pm 10\%$	12 – 24V DC / 24V AC
Frequency range	50 / 60Hz	DC / 50 / 60HZ
Power consumption	4W / 8W max.	
Duty cycle	60% / max. 20 min	
Max. switching cycles	5000	
Positions	2 Positionen in 180°	
Altitude	Up to 2000m	
Ambient operating temperature	-10°C bis +60°C	
Storage temperature	-20°C bis +70°C	
Overvoltage category	II	
Degree of soiling	2	
Installation position	Upright (handle pointing upwards), do not use outdoors	
Weight	0,7 kg	
Position indicator	Optically (manual override handle)	
Manual override	Integrated	

Electrical connection:



Dimensions electric EO ER

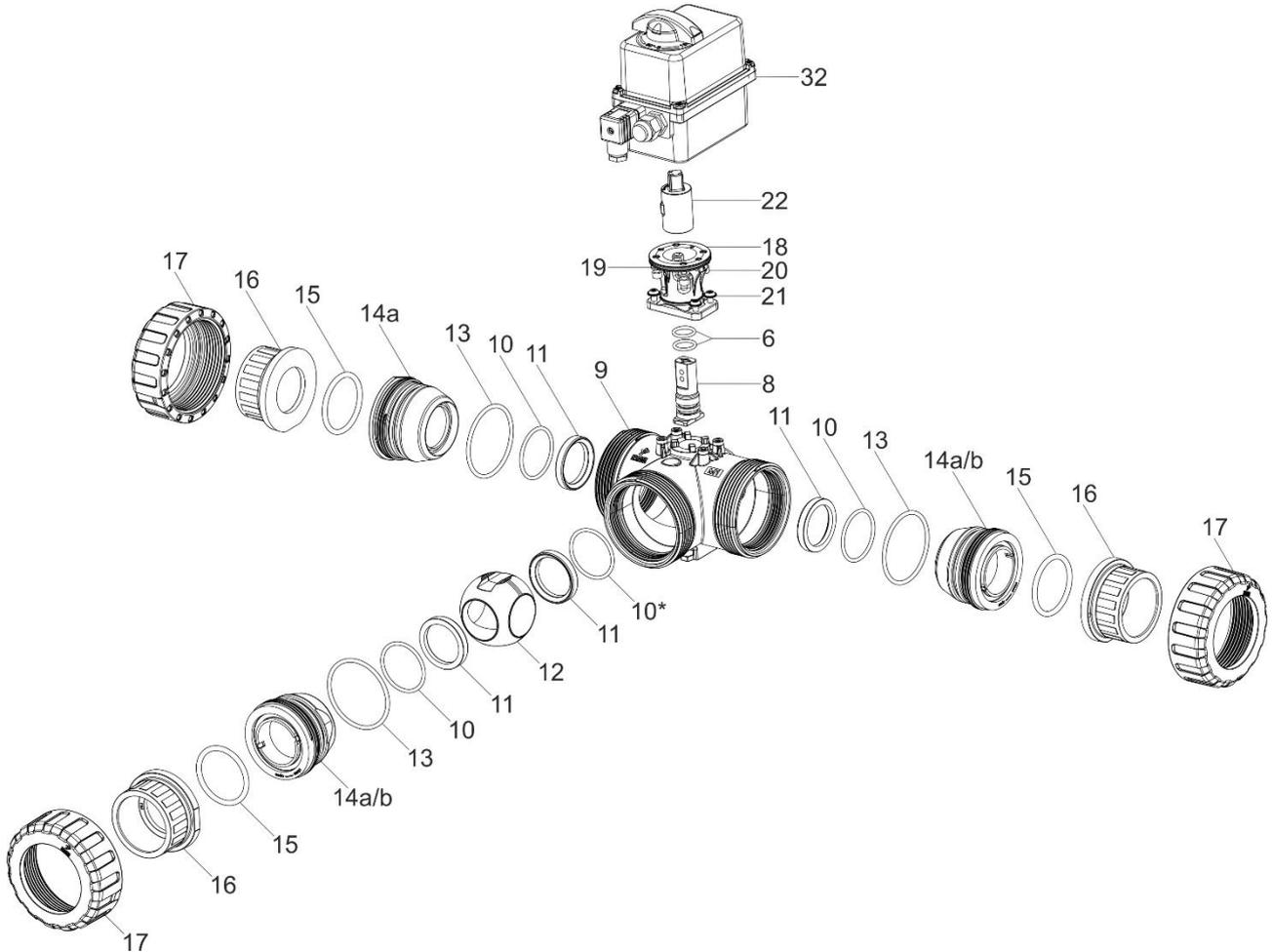


Connector type

PVC-U solvent socket metric (dimensions in mm)

DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
Inch	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	100	100	110	120	140	160	185
A1	50	50	55	60	70	80	92,5
C	33	33	40	43	51	56	64
D	56,5	56,5	65,5	74,5	88,5	106	124
E	5,5	5,5	5,5	6,5	6,5	6,5	6,5
F	34	34	36	38	40	45	50
H	87	87	94,5	97	106,5	114	121,5
t	16	16	19,5	23	26,5	31,5	38,5
Z	106	105	116	126	146,5	168	196
Z1	53	52,5	58	63	73,25	84	98
PN	16	16	16	16	12,5	12,5	10
actuator	ER20						
B	272	272	286,5	292,5	309,5	322	337,5
J	90	90	90	90	90	90	90
K	107	107	107	107	107	107	107
M	92	92	92	92	92	92	92

Exploded drawing electric EO ER

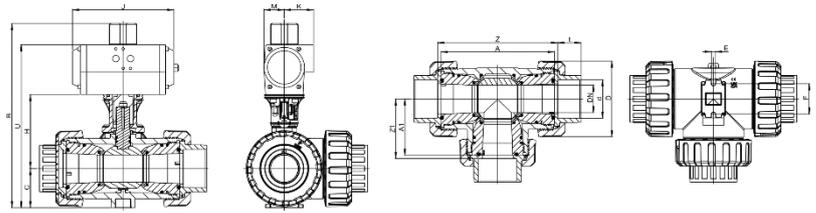


Nr.	Description	Material	Nr.	Description	Material
06.	O-ring - Shaft	EPDM / FPM	16.	Connector type	PVC-U
08.	Shaft (L or T)	PVC-U	17.	Union nut	PVC-U
09.	Body	PVC-U	18.	Bracket	PA-GF
10.	O-Ring-Unterlage (*nur für DN40 & DN50)	EPDM / FPM	19.	Toothed washer	A2
11.	Ball seat	PTFE	20.	Screw	A4
12.	Ball (L or T)	PVC-U	21.	Screw	A2
13.	O-ring - Retaining ring	EPDM / FPM	22.	Coupling (Actuator)	PA-GF
14a.	Retaining ring (with waistband)	PVC-U	32.	Actuator ER	-
14b.	Retaining ring (without collar - only for DN40 & DN50)	PVC-U			
15.	O-Ring-connector	EPDM / FPM			

Technical data electric EO ER

Electric actuator		
Type	ER20	ER60
Torque	20 Nm	60 Nm
Voltage	<p>Premier 24V 50/60Hz (24V DC) 100 - 240V 50/60Hz (100 - 350V DC)</p> <p>Posi 15 - 30V AC 50/60 Hz (12V - 48V DC) 100V - 240V AC 50/60 Hz (100 - 230V DC)</p> <p>Failsafe 15 - 30V AC 50/60 Hz (24V - 48V DC) 100V - 240V AC 50/60 Hz (100 - 230V DC)</p>	<p>Premier 24V 50/60Hz (24V DC) 90 - 240V 50/60Hz (90 - 350V DC)</p> <p>Posi 15 - 30V AC 50/60 Hz (12V - 48V DC) 100V - 240V AC 50/60 Hz (100 - 230V DC)</p> <p>Failsafe 15 - 30V AC 50/60 Hz (24V - 48V DC) 100V - 240V AC 50/60 Hz (100 - 230V DC)</p>
Operating time	<p>Premier: 13s Failsafe / Posi: 11s</p>	<p>Premier: 15s Failsafe / Posi: 12s</p>
Power	15W	45W
ISO flange	F03-F04-F05	F05-F07
Star drive nut	14	22
Rotation angle	90°	90°
Duration duty	30%	50%
Protection	<p>Premier: IP65 Failsafe / Posi: IP66</p>	
Ambient temperature	<p>Premier / Posi: -10°C bis +55°C Failsafe: -10°C bis +40°C</p>	
Weight	1 kg	2,1 kg

Dimensions pneumatic



Connector type

PVC-U solvent socket metric (dimensions in mm)

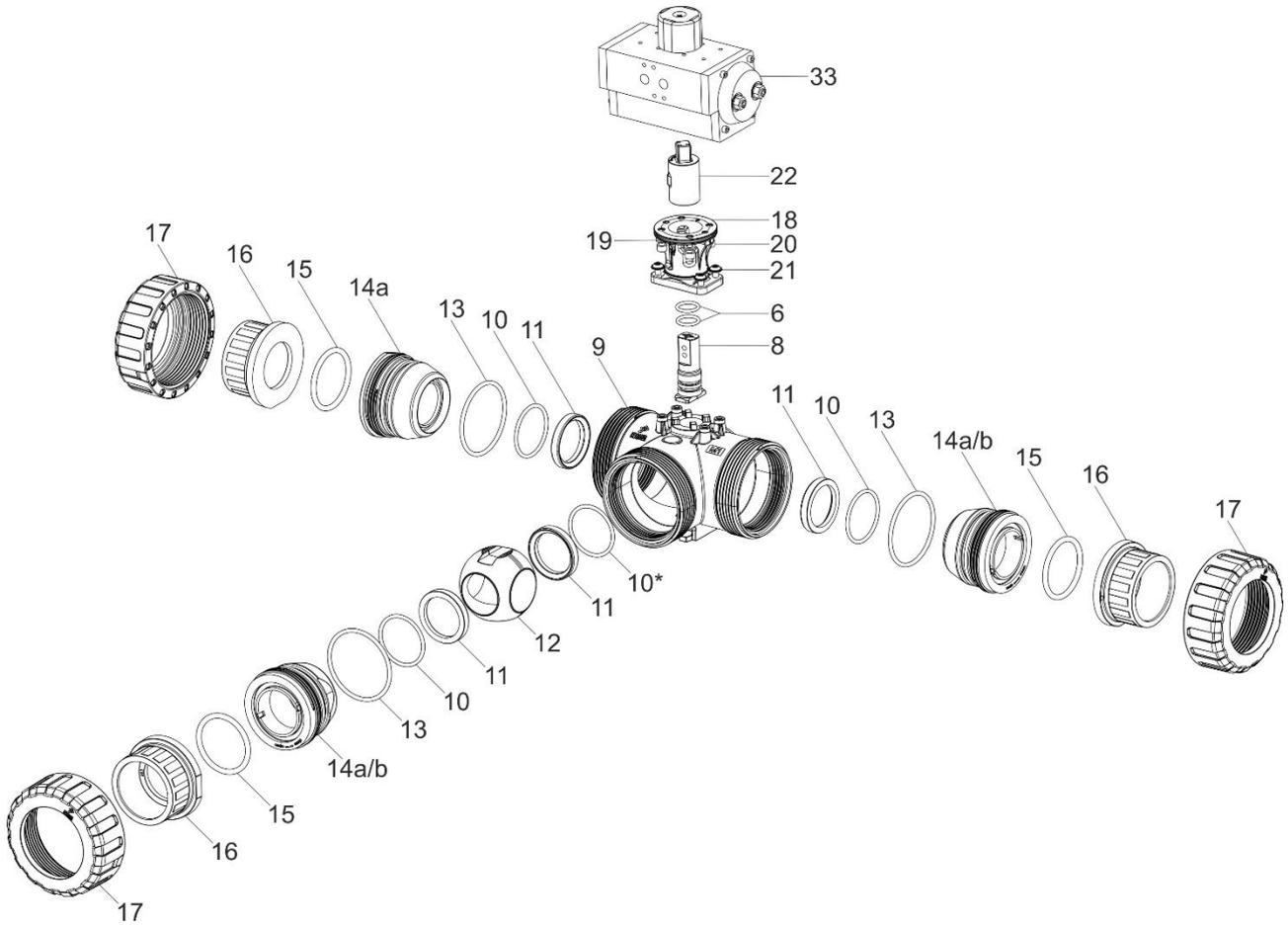
DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
Inch	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	100	100	110	120	140	160	185
A1	50	50	55	60	70	80	92,5
C	33	33	40	43	51	56	64
D	56,5	56,5	65,5	74,5	88,5	106	124
E	5,5	5,5	5,5	6,5	6,5	6,5	6,5
F	34	34	36	38	40	45	50
	87	87	94,5	97	106,5	114	121,5
t	16	16,5	19,5	23	26,5	31,5	38,4
Z	106	105	116	126	146,5	168	195,8
Z1	53	52,5	58	63	73,25	84	97,9
PN	16	16	16	16	12,5	12,5	10
actuator	MT05DA*				MT15DA*		
B	225	225	239,5	245,5	274	286,5	302
J	119	119	119	119	175	175	175
K	40	40	40	40	47	47	47
M	27	27	27	27	34	34	34
U	191	191	204,5	210,5	239	251,5	267
actuator	MT05SA**				MT15SA**		MT17SA**
B	225	225	239,5	245,5	274	286,5	302
J	119	119	119	119	175	175	207
K	40	40	40	40	47	47	47
M	27	27	27	27	34	34	34
U	191	191	204,5	210,5	239	251,5	267

*DA ... double acting (PO-DA)

**SR ... spring return (PO-NC / PO-NO)

We recommend using a damper and supporting the actuator accordingly when installing the valve in a vertical position
Additional information and dimensions for solenoid valve and position feedback see accessories and spare parts

Exploded drawing pneumatic



Nr.	Description	Material	Nr.	Description	Material
06.	O-ring - Shaft	EPDM / FPM	16.	Connector type	PVC-U
08.	Shaft (L or T)	PVC-U	17.	Union nut	PVC-U
09.	Body	PVC-U	18.	Bracket	PA-GF
10.	O-Ring-Unterlage (*nur für DN40 & DN50)	EPDM / FPM	19.	Toothed washer	A2
11.	Ball seat	PTFE	20.	Screw	A4
12.	Ball (L or T)	PVC-U	21.	Screw	A2
13.	O-ring - Retaining ring	EPDM / FPM	22.	Coupling (Actuator)	PA-GF
14a.	Retaining ring (with waistband)	PVC-U	32.	Actuator	-
14b.	Retaining ring (without collar - only for DN40 & DN50)	PVC-U			
15.	O-Ring-connector	EPDM / FPM			

Technical data pneumatic

Technical features of pneumatic actuator

Description actuator:

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

Material actuator:

- o Body: Aluminium anodized
- o End caps: Aluminium epoxy powder
- o Screws / nuts: Stainless steel

Ambient temperature: -20°C to +80°C

Control fluid:

Filtered air according to PNEUROP/ISO class 4 – Thread ¼"

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 from -10° to +10° (MT15 and bigger)

Installation:

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

AIR CONSUMPTION (FULL CYCLE)

DA DOUBLE ACTING

actuator	MT05 DA	MT15 DA
N. Lt.	0,22	0,41

AIR CONSUMPTION (FULL CYCLE)

SR SPRING RETURN

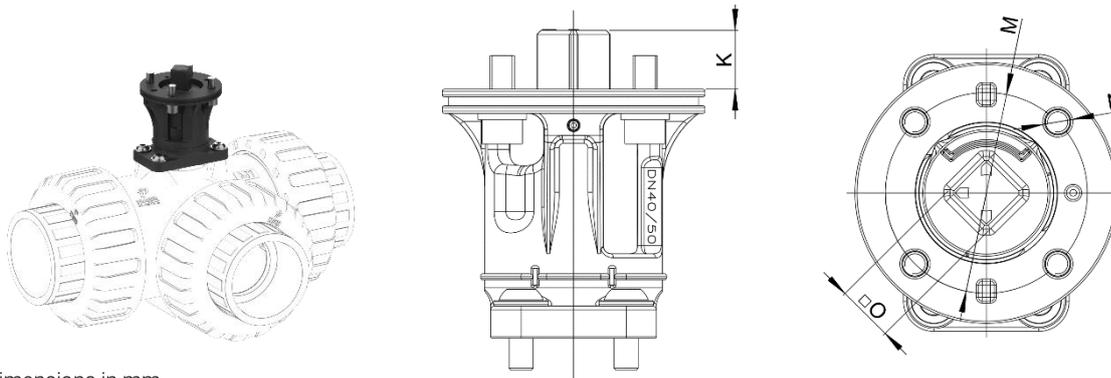
actuator	MT05 SA	MT15 SA	MT17 SA
N. Lt.	0,13	0,18	0,25

Accessories / spare parts

Adapter set for automation electric or pneumatic

Consist of:

- Bracket for mounting of actuator and position feedback
- Coupling for actuator
- Screws for mounting on ball valve and actuator



dimensions in mm

DN	10	15	20	25	32	40	50
D	16	20	25	32	40	50	63
K	11	11	11	11	15	15	15
M	42	42	42	42	50	50	50
N	5,5	5,5	5,5	5,5	6,5	6,5	6,5
O	11	11	11	11	14	14	14
ISO5211	F04	F04	F04	F04	F05	F05	F05

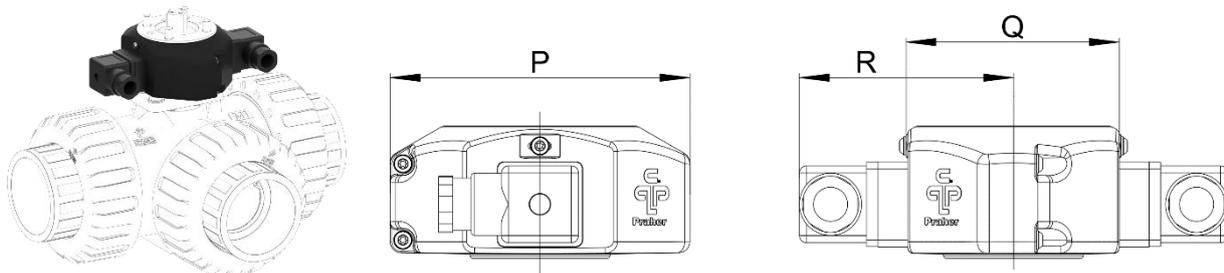
Material	PA-GF
Product line	high durability
Acid resistance	0
Tensile modulus of elasticity	++
Flexural modulus of elasticity	+++
Notch impact strength (23°C)	+
Main applications	Water applications Ultrafiltration Semiconductor industry
Recommended installation	Horizontal Vertical (support the actuator)
Recommended maintenance	Regular inspections
Recommended accessories	Silencer for pneumatic actuator
M1 Ball Valve	PVC-U / PP-H

Accessories / spare parts

Half shell set with position feedback for hand operated and automatic ball valves

Consist of:

- Half shells including limit switch mechanical, inductive or NAMUR
- Device plug
- Screws for half shells
- Locking screws for adjusting position feedback
- including coupling mechanical , inductive or NAMUR



dimensions in mm

DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
P	98	98	102	102	105	105	105
Q	64	64	64	64	74	74	74
R	70	70	70	70	75	75	75

Feedback set for hand operated ball valve DN10 – DN50 d63



Consisting of:

- Half shells including mechanical, inductive, or NAMUR limit switches
- Console for mounting the position feedback
- Cover
- Coupling for handle
- Device plug
- Screws for half shells
- Locking screws for adjusting the position feedback
- Screws for mounting on the ball valve

Accessories / spare parts

Feedback set for automatic valves DN10 – DN50 d63



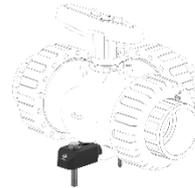
Consisting of:

- Half shells including mechanical, inductive, or NAMUR limit switches
- Bracket for mounting the actuator and position feedback
- Coupling for actuator
- Device plug
- Screws for half shells
- Locking screws for adjusting the position feedback
- Screws for mounting on the ball valve and actuator

Clamping and spacing element

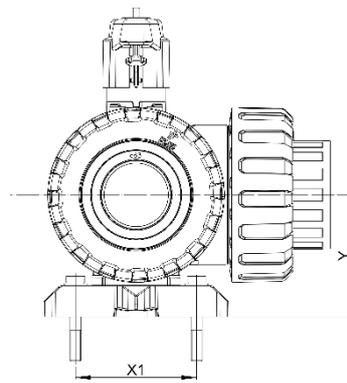
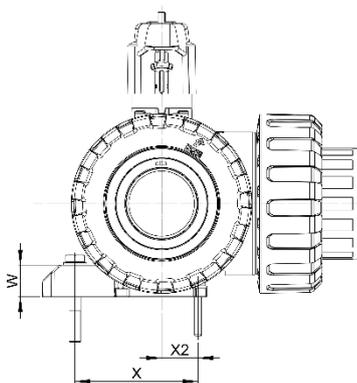
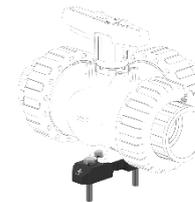
Use for mounting as a clamping element

- Floor / ceiling / wall
- Plate
- Additional screws necessary



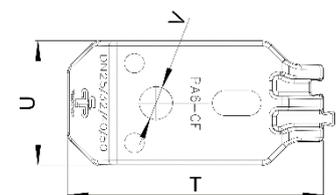
Use for mounting as a spacing element

- For flange connection
- Additional screws necessary



Dimensions in mm

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	63	63	65	75,5	77	81,5	84,5
X1	70	70	70	85	85	85	85
X2	13	13	12	13	20	22,5	25
Y	49	49	56	65	73	78	86

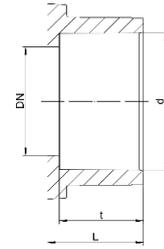


Connector typen

Solvent socket PVC metric / ASTM

Dimensions in mm

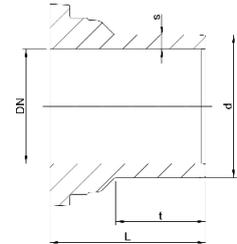
DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
Inch	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
t	16	16,5	19,5	23	26,5	31,5	38,5
L	19	19	22,5	26	30	35,5	44



Solvent spigot PVC metric

Dimensions in mm

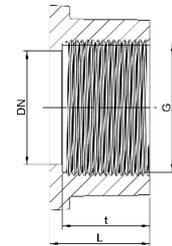
DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
t	17	17	20,5	23,5	27	32	40
s	2,8	2	2,5	3,5	4	5	6,5
L	26,5	39,5	45	50	56	58	68
SDR	-	11	11	11	11	11	11



Threaded socket PVC BSP / NPT

Dimensions in mm

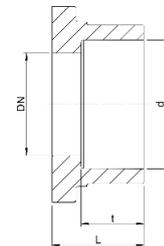
DN	10	15	20	25	32	40	50
BSP/NPT	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
t	17	17	19,5	23	26	31,5	38,5
L	19	19	22,5	25,5	29	35,5	44



PE fusion socket metric

Dimensions in mm

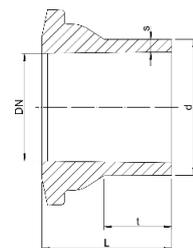
DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
t	14,5	16	17	19	21,5	25	29,5
L	18,5	18,5	21,5	24,5	28	34	41,5



PE fusion spigot metric

Dimensions in mm

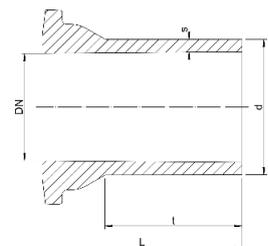
DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
t	12,5	13	15	18	20	26	30
s	1,8	1,9	2,3	2,9	3,7	4,6	5,8
L	26	31	37,5	40,5	46,5	51,5	59,5
SDR	11	11	11	11	11	11	11



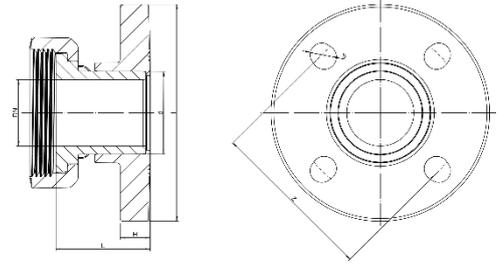
PE fusion spigot long metric

Dimensions in mm

DN	15	20	25	32	40	50
d	20	25	32	40	50	63
t	45,5	46,5	50	54,5	58	63
s	3	3	3	3,7	4,6	5,8
L	63	69,5	73	79,5	85	93
SDR	11	11	11	11	11	11



Connector typen



Fix flange PVC DIN / ANSI / JIS

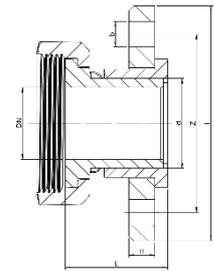
Dimensions in mm

Norm	DN	15	20	25	32	40	50
	d	20	25	32	40	50	63
	Inch	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	I	97	105	125	140	150	165
	H	11,7	13,2	15,2	16,7	20	22,5
	L	42,5	48	53	59	61	71,5
DIN 2501	Z	65	75	85	100	110	125
	b	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18
ANSI	Z	60,33	69,8	79,38	89	98,5	120,65
	b	4 x 15,5	4 x 19				
JIS	Z	70	75	90	100	105	120
	b	4 x 15	4 x 15	4 x 19	4 x 19	4 x 19	4 x 19

Backing flange PVC DIN

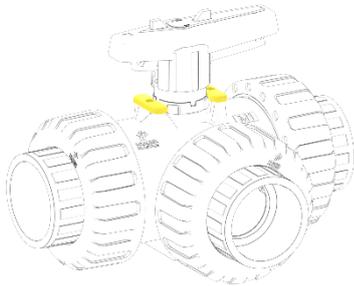
Dimensions in mm

Norm	DN	15	20	25	32	40	50
	d	20	25	32	40	50	63
	I	95	105	115	140	150	165
	H	11	12	14	15	16	18
	L	42,5	48	53	59	61	71,5
DIN 2501	Z	65	75	85	100	110	125
	b	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18
	PN	10	10	10	10	10	10



Accessories / spare parts

Cover for ball valve DN10 – DN50 d63

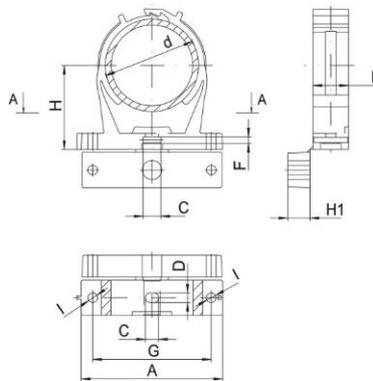


Consist of:

- Cover for PVC-U, PP-H and PVDF ball valve
- Pack unit 50 pieces
- Including eyelet for marking



Pipe clip type B



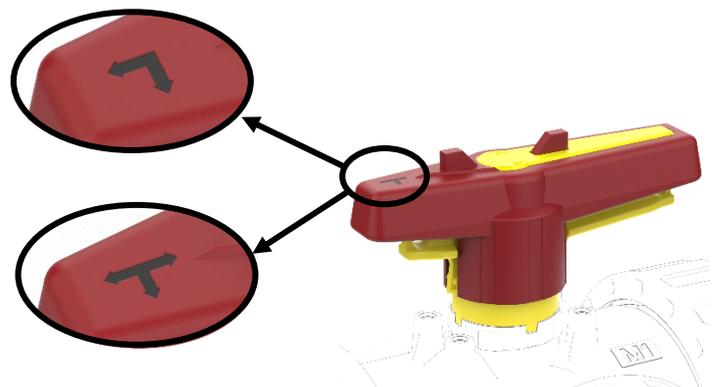
Dimensions in mm

d	20 - 23	25 - 28	31 - 35	39 - 43	47 - 51	60 - 65
d	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	56	61	67	80	84,5	96,5
B	14	16	16	17,5	20	24
C	9	9	9	9	9	9
D	6,5	6,5	6,5	6,5	6,5	6,5
F	3,5	3,5	3,5	3,5	3,5	3,5
G	41	47	52	64	70	80
H	27	30	31,5	37	41	49
H1	6	10	11,5	14	15	15
I	6,5	6,5	6,5	6,5	6,5	6,5

handle set

Set consisting of:

- Handle with L or T marking
- Shut-off sleeve
- Labeling system (yellow)
- Fastening screw



Accessories / spare parts

PLS – Praher Labeling System

Features

- Clear and durable label
- Convenient marking by touch-up pen or laser engraving
- Standard version in yellow, blue, green and red
- Simple and easy to change
- Corrosion-resistant
- No effect on the function of the handle

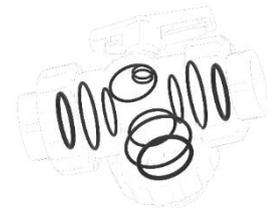


Union nut



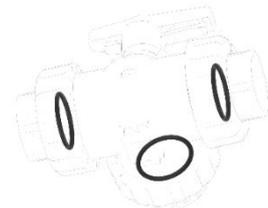
O-ring seal kit

Consisting of all O-rings
Available in EPDM / FPM / FFKM materials



Connection O-rings

Available in EPDM / FPM materials
Packaging unit 100 pcs. or 500 pcs.



locking rings

General

Handle can be locked every 90°
All variants can be attached every 90°.
This allows the stop positions to be set up variably.

variants

Without limitation



90° limited



180° limited

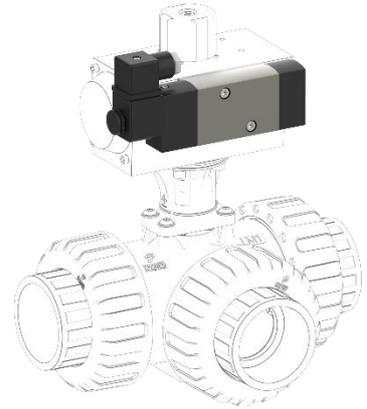


Accessories / spare parts

Solenoid valve

General

- Namur solenoid valve with combined 5/2- and 3/2-way function and standard coil
- Easy switching from 5/2- to 3/2-way function
- thanks to innovative reversible seal
- Standard with emergency actuation
- Protection class IP65
- Housing material: wrought aluminum alloy
- Operating pressure 2.5 bar – 8 bar
- Operating voltage 24 V DC, 110 V AC, 230 V AC
- Medium and ambient temperature -20°C – 60°C
- Screws: galvanized steel
- Optional Atex protection



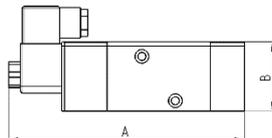
Accessories

- Throttle silencer
- Silencer

Dimensions

Dimensions in mm

A	B	C
170	50	32

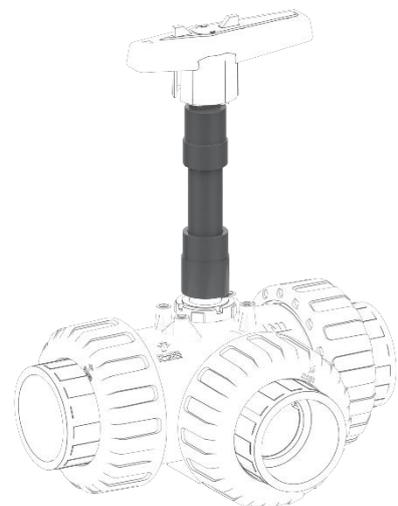


Handle elongation

Material:	PVC-U
Dimensions:	DN10 – DN50 d63
Standard pipe length:	200 mm
Max. pipe length possible:	1 m

Features

- Simple assembly by gluing the handle- and shaft-coupling with a metric pipe
- Marking on handle- and shaft-coupling for alignment to the ball valve
- Subsequent installation in existing installation possible



Further details see data sheet for handle extension 2W and 3W ball valve

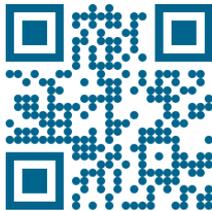
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M1 Kugelhahnserie – Modularität für jede
Anwendung

<https://youtu.be/LTgrXYBneR0>



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