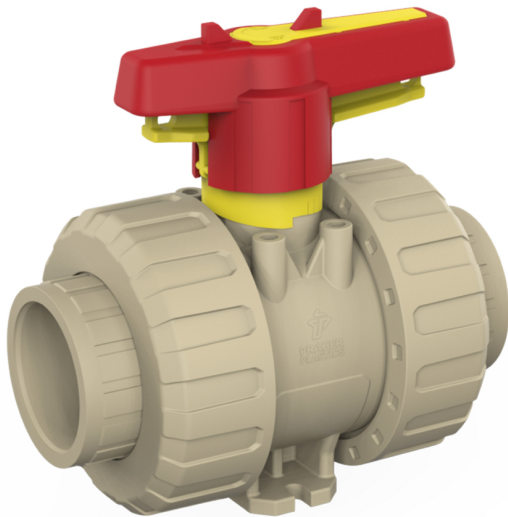


ball valve series BA651, BA652



General:

- Body material: PP / PVDF
- Seal material: EPDM / FPM
- Ball seating joint: PTFE
- Dimensions: DN10 – DN50
d16 – d63
d3/8" – d2"

Connector types:

PP

- Fusion socket DIN / ASTM
- Fusion spigot DIN
- Threaded socket BSP / NPT
- PE fusion spigot DIN
- PE fusion socket DIN
- Backing flange DIN / ANSI

PVDF

- Fusion socket DIN / ASTM
- Fusion spigot DIN
- Threaded socket BSP / NPT
- Backing flange DIN / ANSI

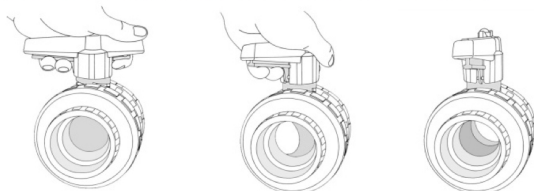
Operating pressure:

- PP DN10 – DN50 PN10
- PVDF DN10 – DN50 PN16

Technical features:

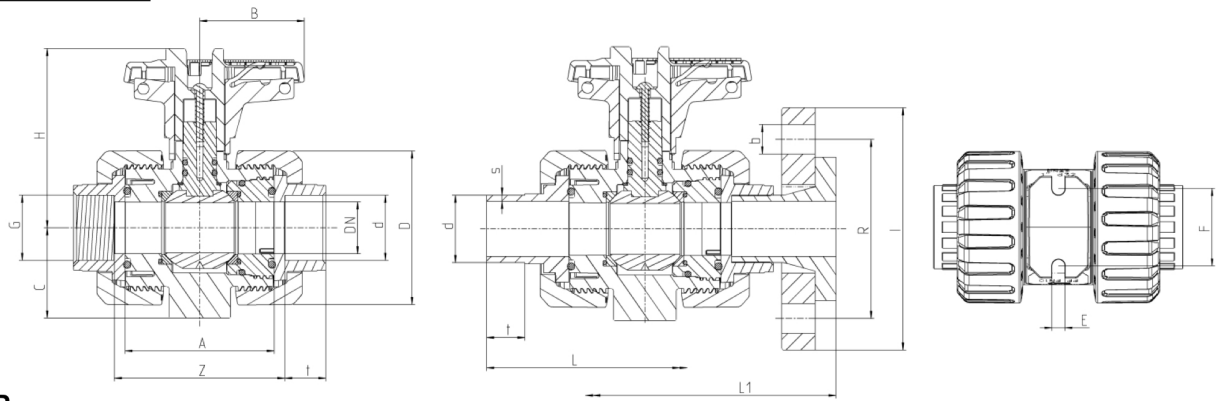
- Silicone free
- Union with buttress thread
- Safety locking handle
- Double axial gasket
- Floating ball
- Double sided blocked ball
- Adjustable ball seating joint
- Integrated fixations for bracket mounting
- Integrated bottom mounting stand
- Radial installation or removal
- Maintenance free

SAFETY LOCKABLE HANDLE SYSTEM



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!

Dimensions:



PP

Connector types

PP fusion socket / fusion spigot (SDR11)/ threaded socket / backing flange DIN ANSI

PE fusion socket / fusion spigot (SDR11 / SDR17 on request)

DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
G ¹ _{TSO}	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	61,5	61,5	69	73	83	94	109
B	40	40	51,5	51,5	64	73	85
C	33	33	40	43,5	51	56,5	64,5
D	58	58	68,5	75,5	92	108	127,5
E	5,4	5,4	5,4	6,4	6,4	6,4	6,4
F	34	34	36	38	40	45	50
H	74,5	74,5	83	85,5	104,5	113	121,5
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 _{FSO} ²	14,5	16	17,5	19,5	22	25,5	29
t _{FSP} ³	13	14	15,5	18	20,5	23,5	27,5
s _{FSP} ³	1,8	1,9	2,3	2,9	3,7	4,6	5,8
t _{FSP} ⁴ _{PE}	13	13,5	15,5	18	15	29	31
s _{FSP} ⁴ _{PE}	1,8	1,9	2,3	2,9	3,7	4,6	5,8
t _{FSO} ⁵ _{PE}	14,5	16	17	19,5	22	25	29
Z _{FSO} ²	69,5	66,5	78	84	97	114	136,5
Z _{TSO} ¹	66,5	66,5	74	80	89	103	119
Z _{FSO} ⁵ _{PE}	68,5	66,5	79	83	96	112	137
L _{FSP} ³	113,5	124	143	151	171	191	221
L _{FSP} ⁴ _{PE}	111,5	123	141,5	150	141	179	197
L1 _{BF} ⁶	-	168	185	190	206	321	385
PN	10	10	10	10	10	10	10

Dimensions in mm

¹ TSO = threaded socket

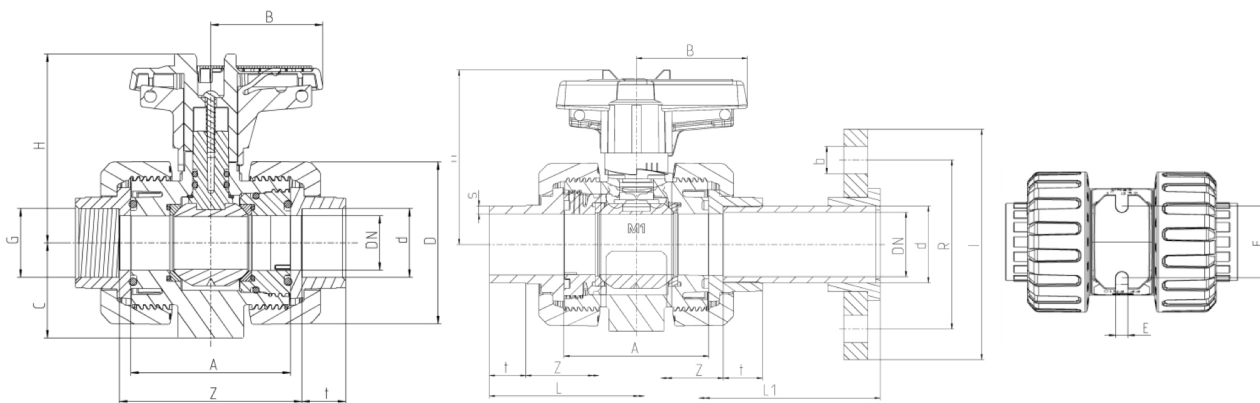
² FSO = fusion socket

³ FSP = fusion spigot

⁴ FSP = fusion spigot PE

⁵ FSO = fusion socket PE

⁶ BF = backing flange DIN



PVDF

Connector types

PVDF fusion socket / fusion spigot (SDR21) / threaded socket / backing flange DIN ANSI

DN	10	15	20	25	32	40	50
d	16	20	25	32	40	50	63
G _{TSO} ¹	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	61,5	61,5	69	73	83	94	108,5
B	40	40	51,5	51,5	64	73	85
C	33	33	40	43,5	51	56,5	64,5
D	56,5	56,5	67	73,5	90	105,5	124,5
E	5,4	5,4	5,4	6,4	6,4	6,4	6,4
F	34	34	36	38	40	45	50
H	74,5	74,5	83	85,5	104,5	113	121,5
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 _{FSO} ²	14,5	16	17	19,5	22	25	29
t _{FSP} ³	13	14	15,5	18	20,5	23	27
s _{FSP} ³	1,9	1,9	1,9	2,4	2,4	3	3
Z _{FSO} ²	69,5	67	78	84	97	113	136
Z _{TSO} ¹	66	67,5	75	80	89	102	120
L _{FSP} ³	114	124	143	152	171	190	221
PN	16	16	16	16	16	16	16

Dimensions in mm

¹TSO = threaded socket

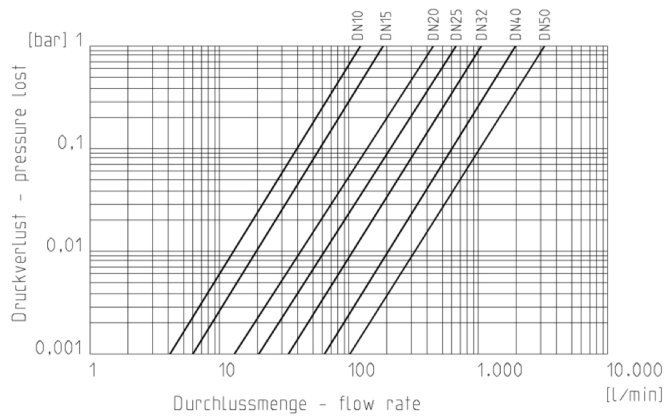
²FSO = fusion socket

³FSP = fusion spigot

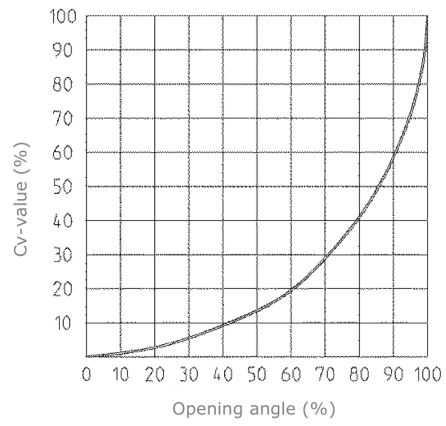
⁴BF = backing flange

Diagrams:

Pressure loss



Flow characteristics

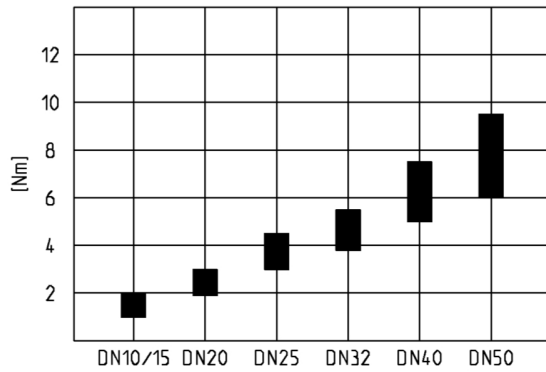


Cv value table

Pressure loss	DN10	DN15	DN20	DN25	DN32	DN40	DN50
0,001 bar	4,1	6,0	13,9	20,6	34,2	62,6	102,5
1 bar	130	190	440	650	1080	1980	3240

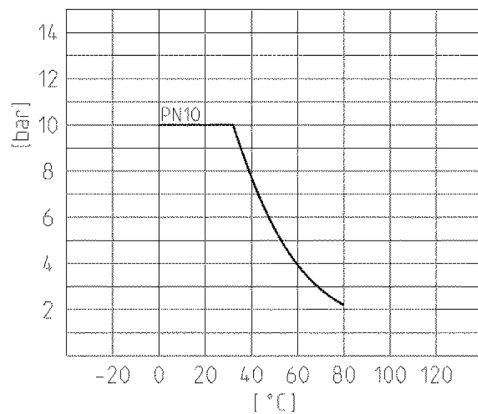
Specification in l/min

Torque

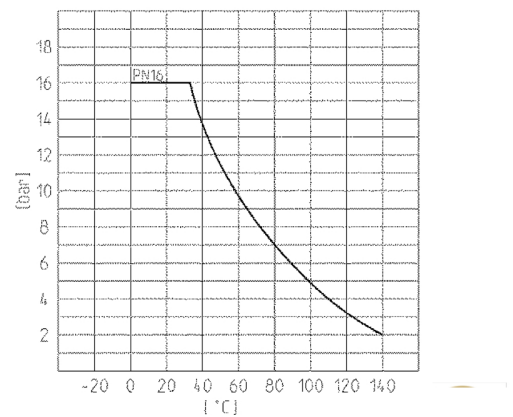


Pressure - Temperature

PP

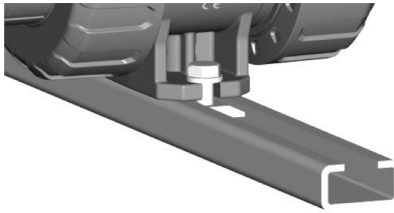


PVDF

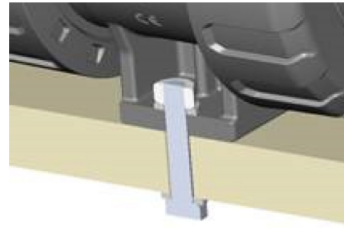


Bottom mounting stand – mounting possibilities:

- Assembly rail



- Plate



- Masonry / Concrete
 - Hanger screw and dowel required



Further mounting possibilities with clamping/spacing element – see page 7.

ACCESSORIES

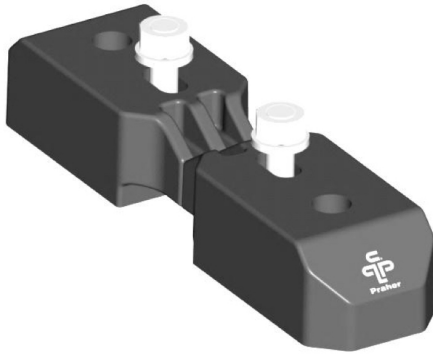
PLS – Labeling System



Technical features:

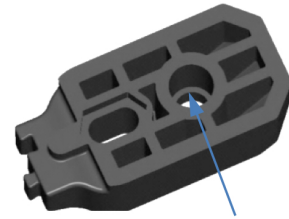
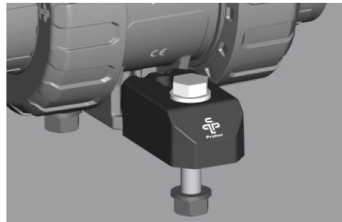
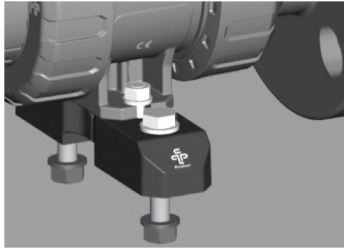
- Clear and durable label
- Convenient marking by touch-up pen or laser engraving
- Standard version available with yellow plate; other colors available in red, blue and green
- Simple and easy to change
- Corrosion-resistant
- No effect on the function of the handle

Clamping / spacing element:



Technical features:

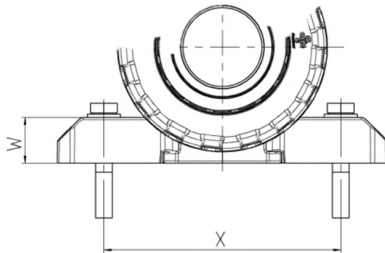
- Using for fixing as:
 - Clamping element
 - floors, walls, ceilings
 - plate
 - Spacing element
(screws additionally necessary)
 - for flange connection
- Bore for threaded bush



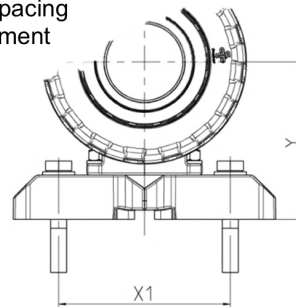
Bore for threaded bush

Dimensions:

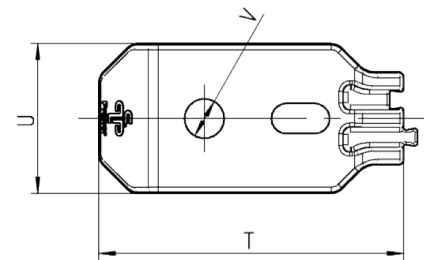
Use as clamping
element



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



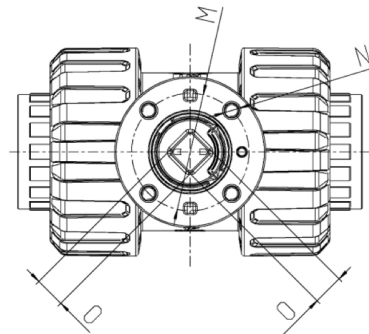
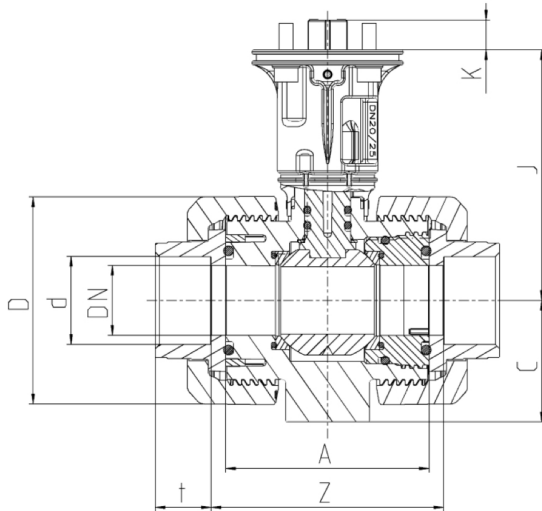
Dimensions in mm

Adapter set for automation:



Technical features:

- Adapter set for mounting of actuator and position feedback
- Coupling – actuator
- Material bracket and coupling: PA-GF
- Includes stainless steel bolts



Dimensions PP:

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	61,5	61,5	69	73	83	94	109
C	33	33	40	43,5	51	56,5	64,5
D	58	58	68,5	75,5	92	108	127,5
J	81	81	86,5	89,5	97	104,5	111,5
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	14,5	16	17,5	19,5	22	25,5	29
Z	69,5	66,5	78	84	97	114	136,5
PN	10	10	10	10	10	10	10

Dimensions in mm

Dimensions PVDF:

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	61,5	61,5	69	73	83	94	108,5
C	33	33	40	43,5	51	56,5	64,5
D	56,5	56,5	67	73,5	90	105,5	124,5
J	81	81	86,5	89,5	97	104,5	111,5
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	14,5	16	17	19,5	22	25	29
Z	69,5	67	78	84	97	113	136
PN	16	16	16	16	16	16	16

Dimensions in mm

Position feedback:

For manual ball valve



For automated ball valve

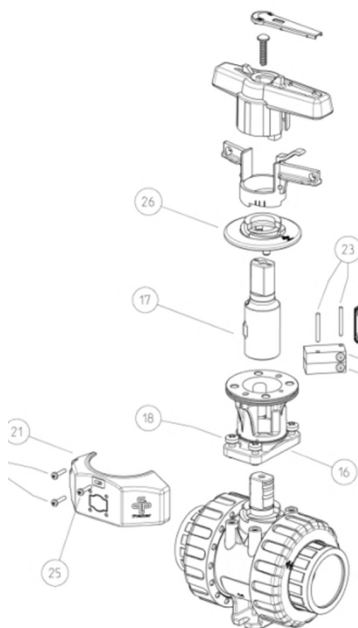


Technical features:

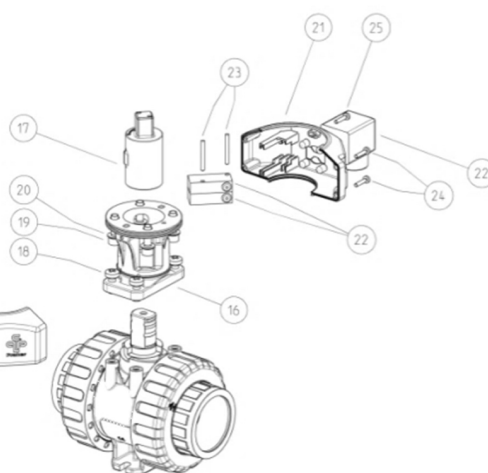
- Limit switch IP67
 - mechanical
 - Ag-Ni NO
 - Ag-Ni NC (on request)
 - Au NO (on request)
 - Au NC (on request)
 - inductive (on request)
 - NPN/PNP
 - Namur (on request)
- adjustable
- incl. stainless steel bolts
- incl. device plug

Exploded drawings:

Ball valve manual with position feedback:



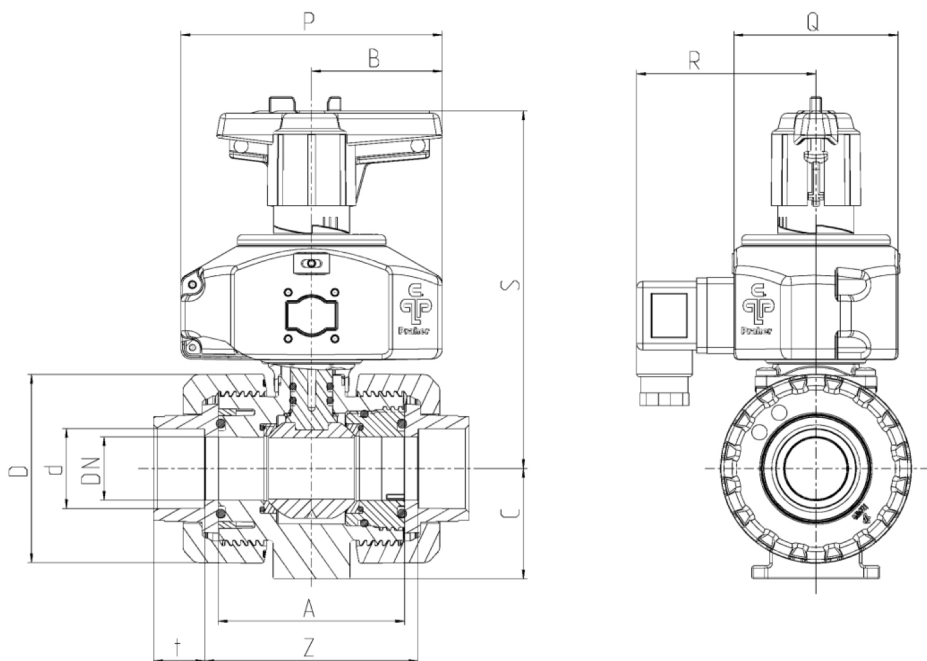
Ball valve with adapter set for automated version with position feedback



- 16. Bracket (material : PA-GF)
- 17. Coupling shaft (material: PA-GF)
- 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



Dimensions PP:

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	61,5	61,5	69	73	83	94	109
B	40	40	51,5	51,5	64	73	85
C	33	33	40	43,5	51	56,5	64,5
D	58	58	68,5	75,5	92	108	127,5
P	98	98	102	102	105	105	105
Q	64	64	64	64	74	74	74
R	70	70	70	70	75	75	75
S	127	127	138	141	159,5	168,5	177,5
t	14,5	16	17,5	19,5	22	25,5	29
Z	69,5	66,5	78	84	97	114	136,5
PN	10	10	10	10	10	10	10

Dimensions PVDF:

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	61,5	61,5	69	73	83	94	108,5
B	40	40	51,5	51,5	64	73	85
C	33	33	40	43,5	51	56,5	64,5
D	56,5	56,5	67	73,5	90	105,5	124,5
P	98	98	102	102	105	105	105
Q	64	64	64	64	74	74	74
R	70	70	70	70	75	75	75
S	127	127	138	141	159,5	168,5	177,5
t	14,5	16	17	19,5	22	25	29
Z	69,5	67	78	84	97	113	136
PN	16	16	16	16	16	16	16

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

Limit switch inductive		
Type	NPN*/PNP*	NAMUR* EMV acc. IEC / EN 60947-5-2:2004; NE 21 DIN EN 60947-5-6
Voltage max.	10-30V DC	8V DC
Current max.	0-100mA	NAMUR intrinsically safe
Protection limit switch	IP67	
Protection DIN-plug	IP65	
Ambient temperature	Operating: -10°C bis +50°C	
Electrical wiring	The left diagram illustrates the electrical wiring for NAMUR inductive limit switches. It shows two limit switches, A and B, each with terminals for power supply (+, -), output (+, -), and a common terminal (out). The output terminals of both switches are connected to a common load, which is then connected to a power supply. The power supply is connected to terminals 1 and 3 of the limit switches. The common terminal (out) is connected to terminals 2 and 4 of the limit switches. The load is connected to terminals 1 and 3 of the limit switches. The power supply is connected to terminals 2 and 4 of the limit switches. The load is connected to terminals 1 and 3 of the limit switches. The power supply is connected to terminals 2 and 4 of the limit switches. The load is connected to terminals 1 and 3 of the limit switches. The right diagram illustrates the electrical wiring for NAMUR intrinsically safe limit switches. It shows two limit switches, A and B, each with terminals for power supply (+, -), output (+, -), and a common terminal (out). The output terminals of both switches are connected to a common load, which is then connected to a power supply. The power supply is connected to terminals 1 and 3 of the limit switches. The common terminal (out) is connected to terminals 2 and 4 of the limit switches. The load is connected to terminals 1 and 3 of the limit switches. The power supply is connected to terminals 2 and 4 of the limit switches. The load is connected to terminals 1 and 3 of the limit switches. The power supply is connected to terminals 2 and 4 of the limit switches. The load is connected to terminals 1 and 3 of the limit switches.	

* on request

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all designs, configurations, measurements and materials are subject to change without prior notice