



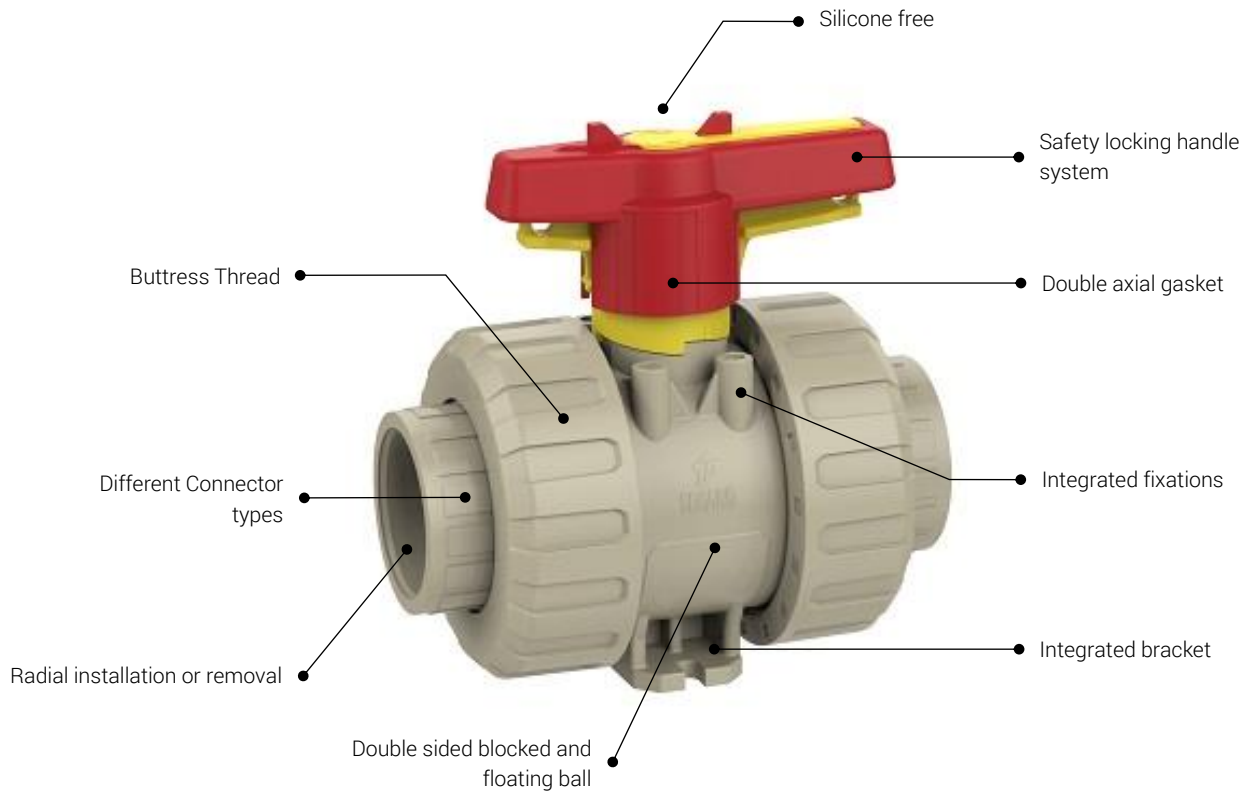
**Kugelhahn
Ball Valve**

M1

PP-H

**DATENBLATT
DATASHEET**

2-way Ball Valve M1



Overview

General

| | | |
|--------------------|--|--|
| Material | Body material Seal material Ball seating joint | PP-H EPDM / FPM PTFE |
| Dimensions | DN10 – DN80 d16 – d110 3/8" – 4" | |
| Connector types | Fusion socket Fusion spigot Fusion spigot long Threaded socket PE fusion socket PE fusion spigot PE fusion spigot lang Backing flange | metric / ASTM metric metric BSP / NPT metric metric metric DIN / ANSI |
| Operating pressure | DN10 – DN80 d110 | PN10 |

Range summary

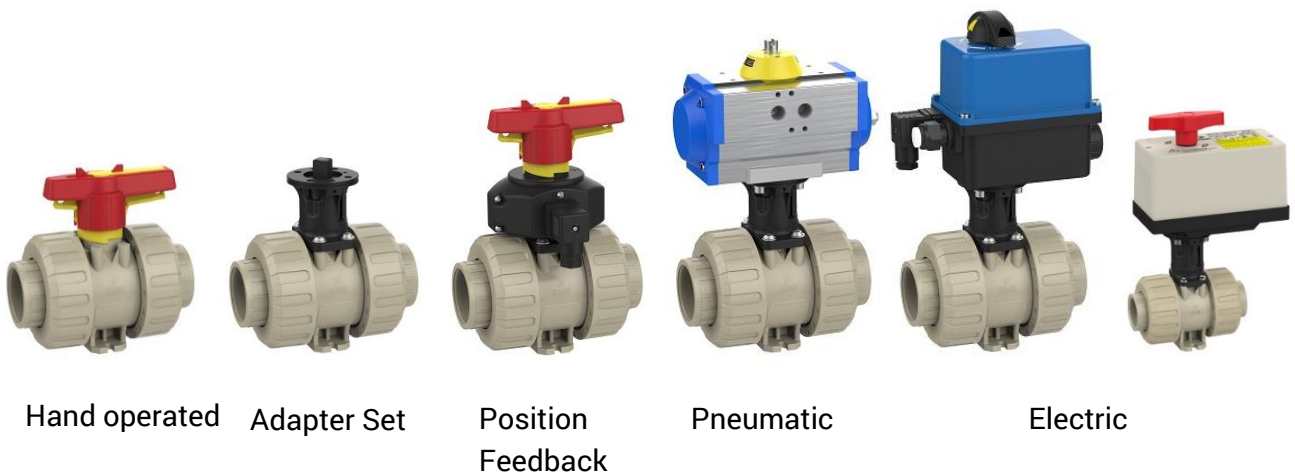








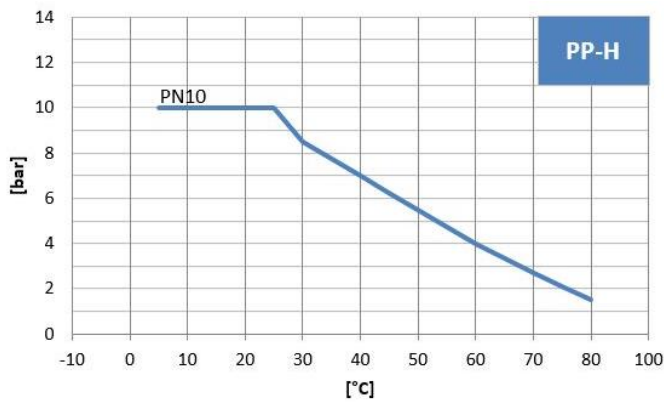


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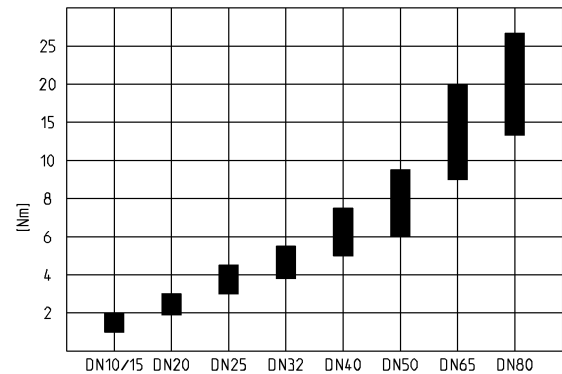
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Technical data

Pressure – temperature - diagram

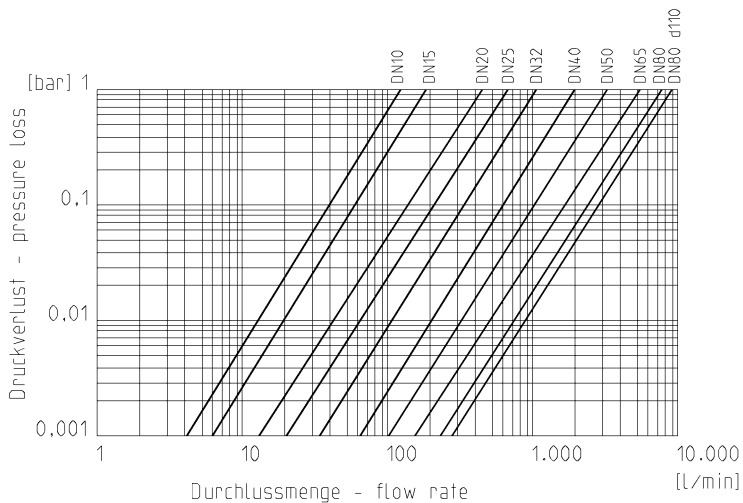


Torque at the shaft

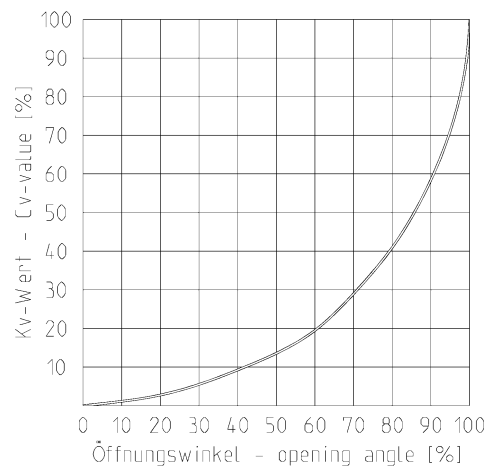


The values of the pressure-temperature-diagram are based on a service life of 25 years at static pressure load and apply to water-like media.

Flow rate – pressure loss



Flow characteristics

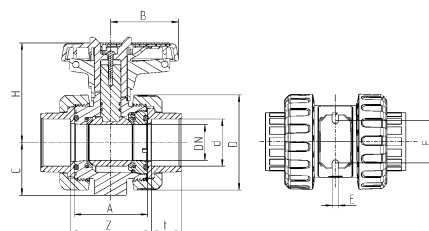


Cv-value-table

| 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 | 179,8 |
| 1,0 bar | 130 | 190 | 440 | 650 | 1080 | 1980 | 3240 | 5200 | 7500 | 8850 |

Specification in l/min

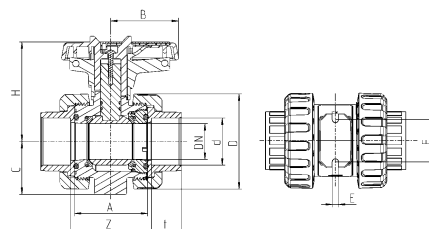
Dimensions hand operated



Connector type

PP-H fusion socket metric (dimensions in mm)

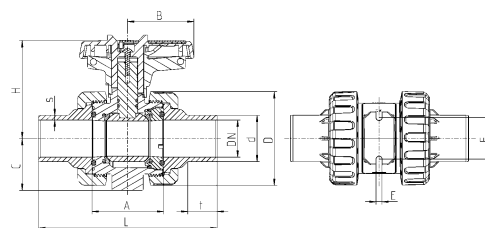
| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|------|------|------|------|------|--------|--------|-------|--------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| inch | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 4" |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| B | 39,5 | 39,5 | 51 | 51 | 63,5 | 72 | 84 | 110 | 132 | 132 |
| 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 | 71,5 | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 | 143 | 161 | 161 |
| t | 14,5 | 16 | 17,5 | 19,5 | 22 | 25,5 | 29 | 34,5 | 38,5 | 42 |
| Z | 65,5 | 64 | 73 | 78,2 | 89 | 102,5 | 121,5 | 145 | 179 | 180,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



Connector type

PP-H fusion socket ASTM (dimensions in mm)

| 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" |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 |
| B | 39,5 | 51 | 51 | 63,5 | 72 | 84 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 |
| D | 58 | 68,5 | 75,5 | 92 | 108 | 127,5 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 |
| F | 34 | 36 | 38 | 40 | 45 | 50 |
| H | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 |
| t | 16 | 19 | 21 | 23 | 31 | 38 |
| Z | 67 | 75 | 81,5 | 95 | 102 | 118 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 |



Connector type

PP-H fusion spigot metric (dimensions in mm)

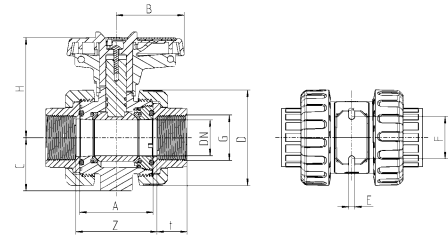
| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| B | 39,5 | 39,5 | 51 | 51 | 63,5 | 72 | 84 | 110 | 132 | 132 |
| 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 | 71,5 | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 | 143 | 161 | 161 |
| L | 113,5 | 124,5 | 145,5 | 156 | 172,5 | 193 | 223 | 275 | 292 | 316,5 |
| s | 1,8 | 1,9 | 2,3 | 2,9 | 3,7 | 4,6 | 5,8 | 6,8 | 8,2 | 10 |
| t | 13 | 13,5 | 15,5 | 18,5 | 20,5 | 23,5 | 28,5 | 31 | 36 | 40 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

Dimensions hand operated

Connector type

PP-H threaded socket BSP / NPT (dimensions in mm)

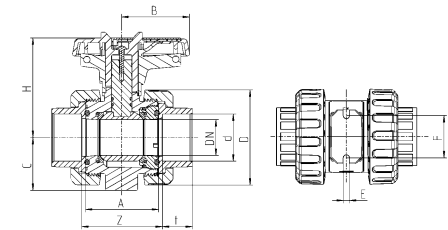
| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 |
|------|------|------|------|------|--------|--------|-------|
| inch | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 109 |
| B | 39,5 | 39,5 | 51 | 51 | 63,5 | 72 | 84 |
| C | 33 | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 |
| 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 | 71,5 | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 |
| t | 16 | 16 | 19,5 | 22,5 | 26 | 30,5 | 37 |
| Z | 64 | 64 | 71 | 75,2 | 85 | 97,5 | 113,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



Connector type

PE fusion socket metric (dimensions in mm)

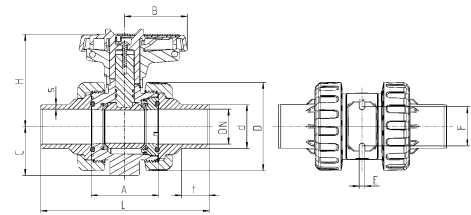
| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 |
|----|------|------|------|------|------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 109 |
| B | 39,5 | 39,5 | 51 | 51 | 63,5 | 72 | 84 |
| C | 33 | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 |
| D | 58 | 58 | 68,5 | 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 | 71,5 | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 |
| t | 14,5 | 16 | 17,5 | 19,5 | 22 | 25,5 | 29 |
| Z | 65,5 | 64 | 73 | 78,2 | 89 | 102,5 | 121,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



Connector type

PE fusion spigot metric (dimensions mm)

| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----|-------|------|------|------|------|-------|-------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| B | 39,5 | 39,5 | 51 | 51 | 63,5 | 72 | 84 | 110 | 132 | 132 |
| 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 | 71,5 | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 | 143 | 161 | 161 |
| L | 114,5 | 124 | 144 | 154 | 173 | 198 | 223 | 247 | 286,5 | 316 |
| s | 1,8 | 1,9 | 2,3 | 2,9 | 3,7 | 4,6 | 5,8 | 6,8 | 8,2 | 10 |
| t | 13 | 13,5 | 15,5 | 18,5 | 22,5 | 26 | 30 | 32 | 30 | 35,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

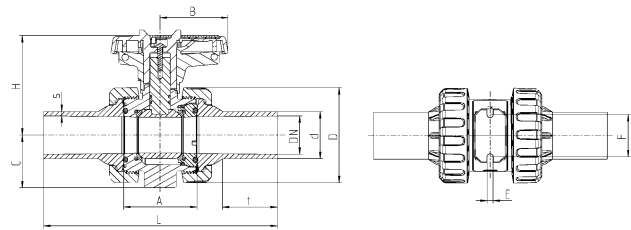


Dimensions hand operated

Connector type

PP-H fusion spigot long metric (dimensions in mm)

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----|------|------|------|-------|-------|-------|-------|-------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| B | 39,5 | 51 | 51 | 63,5 | 72 | 84 | 110 | 132 | 132 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| D | 58 | 68,5 | 75,5 | 92 | 108 | 127,5 | 160 | 196,5 | 196,5 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 | 143 | 161 | 161 |
| L | 192 | 213 | 223 | 241,5 | 262 | 292 | 373 | 441 | 474 |
| s | 3 | 3 | 3 | 3,7 | 4,6 | 5,8 | 6,8 | 8,2 | 10 |
| t | 47,4 | 49,4 | 52 | 54,9 | 58 | 63 | 87,2 | 78,5 | 113,7 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

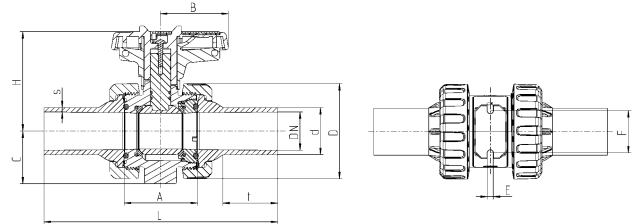


Connector types

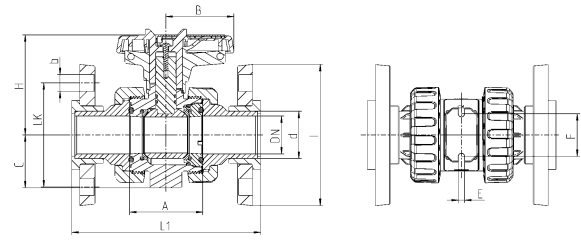
PE fusion spigot long metric

(dimensions in mm)

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----|------|-------|------|------|-------|-------|-------|-------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| B | 39,5 | 51 | 51 | 63,5 | 72 | 84 | 110 | 132 | 132 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| D | 58 | 68,5 | 75,5 | 92 | 108 | 127,5 | 160 | 196,5 | 196,5 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 | 143 | 161 | 161 |
| L | 188 | 207,5 | 218 | 242 | 264 | 292 | 379 | 441 | 468 |
| s | 3 | 3 | 3 | 3,7 | 4,6 | 5,8 | 6,8 | 8,2 | 10 |
| t | 45,5 | 46,5 | 50 | 54,5 | 58 | 63 | 85 | 81 | 114 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



Dimensions hand operated

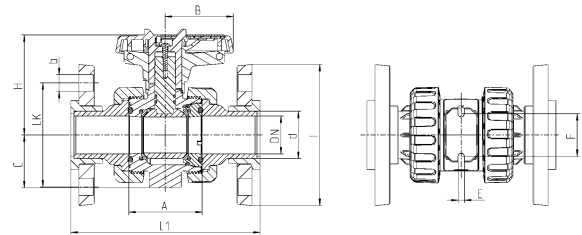


Connector type

PP-GF backing flange DIN with steel insert

(dimensions in mm)

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----|------|-----|------|------|-------|-------|-------|-------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| B | 39,5 | 51 | 51 | 63,5 | 72 | 84 | 110 | 132 | 132 |
| b | 14 | 14 | 14 | 18 | 18 | 18 | 18 | 18 | 18 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 | 143 | 161 | 161 |
| I | 95 | 108 | 115 | 140 | 150 | 165 | 186 | 202 | 220 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 | 420 | 380 | 437 |
| LK | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 180 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



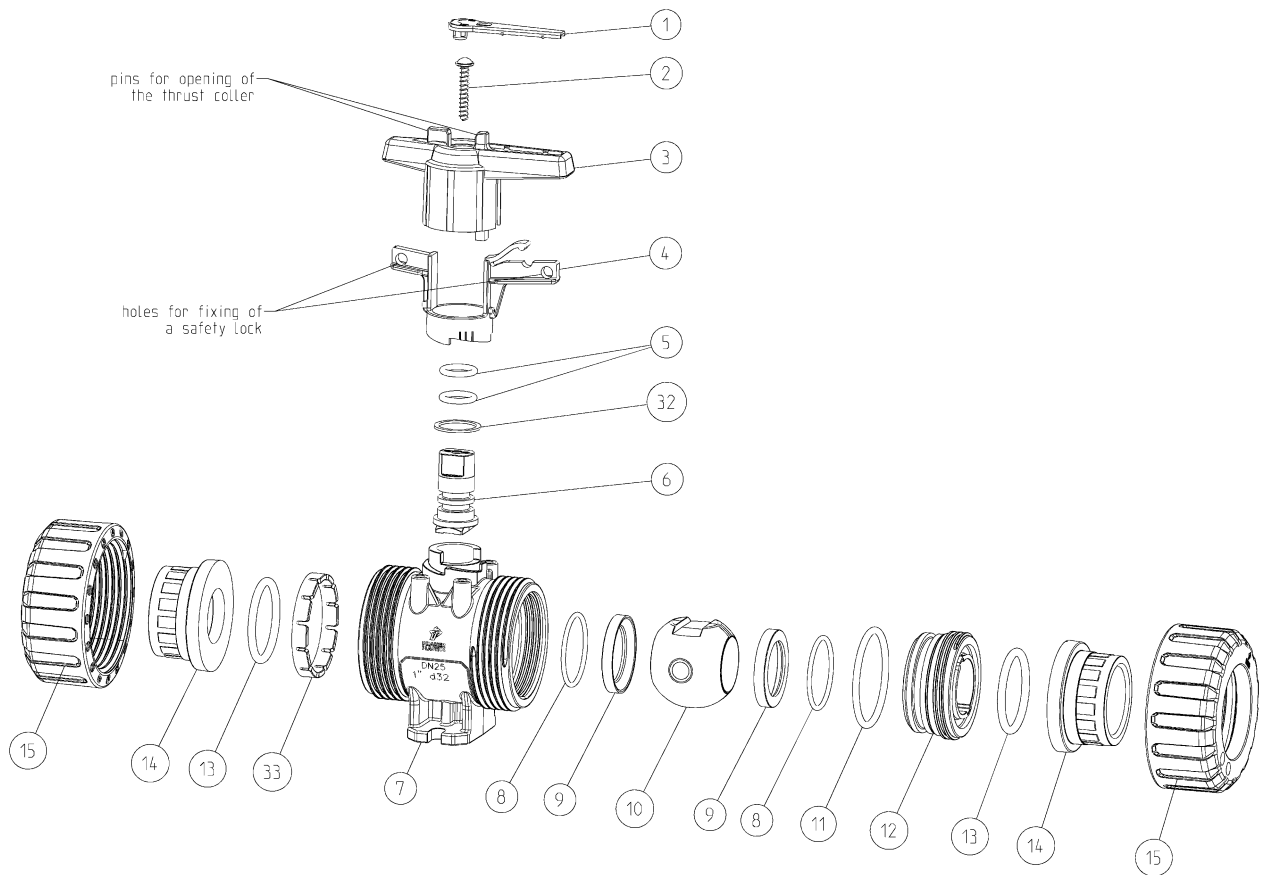
Connector type

PP-GF backing flange ANSI with steel insert

(dimensions in mm)

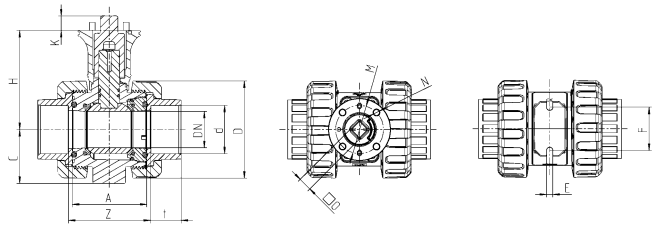
| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|------|------|------|------|--------|--------|-------|--------|-------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| inch | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 4" |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| B | 39,5 | 51 | 51 | 63,5 | 72 | 84 | 110 | 132 | 132 |
| b | 16 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 71,5 | 78 | 80 | 98,5 | 106,5 | 113,5 | 143 | 161 | 161 |
| I | 95 | 102 | 114 | 130 | 133 | 162 | 184 | 194 | 229 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 | 420 | 380 | 437 |
| LK | 60,4 | 69,8 | 79,3 | 89 | 98,5 | 120,6 | 139,7 | 152,4 | 190,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

Exploded drawing hand operated



| No. | Description | Material |
|-----|------------------------------|-------------------------|
| 01. | Labeling plate | PBT |
| 02. | Screw | A2 |
| 03. | Handle | PP-GF |
| 04. | Spring loaded locking sleeve | PBT |
| 05. | O-ring | EPDM / FPM |
| 06. | Shaft | PP-H |
| 07. | Body | PP-H |
| 08. | O-ring | EPDM / FPM |
| 09. | Ball seating joint | PTFE |
| 10. | Ball | PP-H |
| 11. | O-ring | EPDM / FPM |
| 12. | Thrust collar | PP-H |
| 13. | O-ring | EPDM / FPM |
| 14. | Connector types | |
| | Fusion socket /-spigot | PP-H |
| | Threaded socket | PP-H |
| | Fusion socket /-spigot | PE100 |
| | Flange | PP-GF with steel insert |
| 15. | Union nut | PP-GF |
| 32. | Washer | PTFE |
| 33. | Retaining ring | PP-GF |

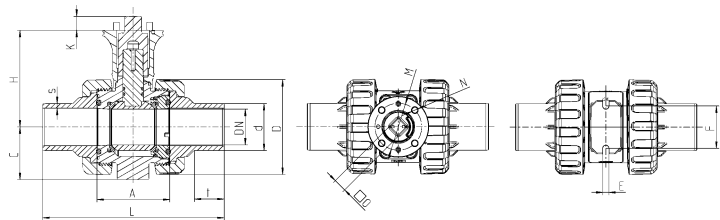
Dimensions adapter set



Connector type

PP-H fusion socket metric (dimensions in mm)

| 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 |
| 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 |
| K | 11 | 11 | 11 | 11 | 15 | 15 | 15 | 18 | 18 | 18 |
| M | 42 | 42 | 42 | 42 | 50 | 50 | 50 | 70 | 70 | 70 |
| N | 5,5 | 5,5 | 5,5 | 5,5 | 6,5 | 6,5 | 6,5 | 8,5 | 8,5 | 8,5 |
| O | 11 | 11 | 11 | 11 | 14 | 14 | 14 | 17 | 17 | 17 |
| t | 14,5 | 16 | 17,5 | 19,5 | 22 | 25,5 | 29 | 34,5 | 38,5 | 42 |
| Z | 65,5 | 64 | 73 | 78,2 | 89 | 102,5 | 121,5 | 145 | 179 | 180,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



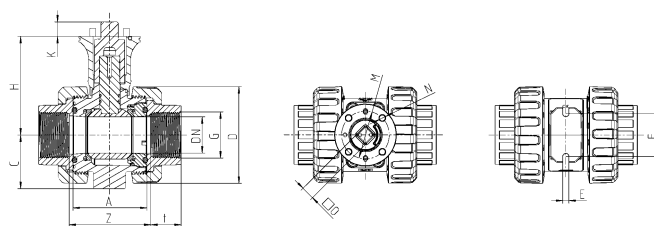
Connector type

PP-H fusion spigot metric

(dimensions in mm)

| 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 |
| 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 |
| K | 11 | 11 | 11 | 11 | 15 | 15 | 15 | 18 | 18 | 18 |
| L | 113,5 | 124,5 | 145,5 | 156 | 172,5 | 193 | 223 | 275 | 292 | 316,5 |
| M | 42 | 42 | 42 | 42 | 50 | 50 | 50 | 70 | 70 | 70 |
| N | 5,5 | 5,5 | 5,5 | 5,5 | 6,5 | 6,5 | 6,5 | 8,5 | 8,5 | 8,5 |
| O | 11 | 11 | 11 | 11 | 14 | 14 | 14 | 17 | 17 | 17 |
| s | 1,8 | 1,9 | 2,3 | 2,9 | 3,7 | 4,6 | 5,8 | 6,8 | 8,2 | 10 |
| t | 13 | 13,5 | 15,5 | 18,5 | 20,5 | 23,5 | 28,5 | 31 | 36 | 40 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

Dimensions adapter set

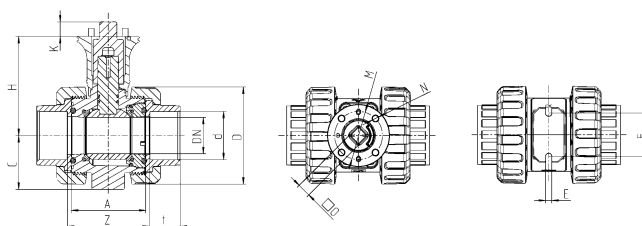


Connector type

PP-H threaded socket BSP / NPT

(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 | 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 |
| E | 5,4 | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 |
| F | 34 | 34 | 36 | 38 | 40 | 45 | 50 |
| H | 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 | 16 | 16 | 19,5 | 22,5 | 26 | 30,5 | 37 |
| Z | 64 | 64 | 71 | 75,2 | 85 | 97,5 | 113,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



Connector type

PE fusion socket 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 | 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 |
| E | 5,4 | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 |
| F | 34 | 34 | 36 | 38 | 40 | 45 | 50 |
| H | 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 | 65,5 | 64 | 73 | 78,2 | 89 | 102,5 | 121,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

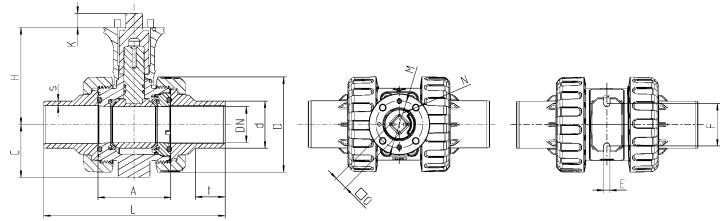
Dimensions adapter set

Connector type

PE fusion 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 | 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 |
| E | 5,4 | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 |
| F | 34 | 34 | 36 | 38 | 40 | 45 | 50 |
| H | 81 | 81 | 86,5 | 89,5 | 97 | 104,5 | 111,5 |
| K | 11 | 11 | 11 | 11 | 15 | 15 | 15 |
| L | 114,5 | 124 | 144 | 154 | 173 | 198 | 223 |
| 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 |
| s | 1,8 | 1,9 | 2,3 | 2,9 | 3,7 | 4,6 | 5,8 |
| t | 13 | 13,5 | 15,5 | 18,5 | 22,5 | 26 | 30 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

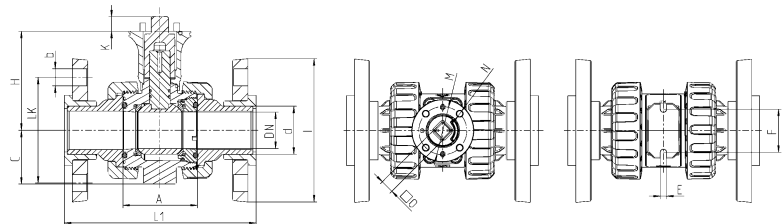


Connector type

PP-GF backing flange DIN with steel insert

(dimensions in mm)

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|------------|------|------|------|-----|-------|-------|-------|-------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| ISO flange | F04 | F04 | F04 | F04 | F05 | F05 | F05 | F07 | F07 |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| b | 14 | 14 | 14 | 18 | 18 | 18 | 18 | 18 | 18 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 81 | 86,5 | 89,5 | 97 | 104,5 | 111,5 | 138,5 | 168 | 168 |
| I | 95 | 108 | 115 | 140 | 150 | 165 | 186 | 202 | 220 |
| K | 11 | 11 | 11 | 11 | 15 | 15 | 15 | 18 | 18 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 | 420 | 380 | 437 |
| LK | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 180 |
| M | 42 | 42 | 42 | 50 | 50 | 50 | 70 | 70 | 70 |
| N | 5,5 | 5,5 | 5,5 | 6,5 | 6,5 | 6,5 | 8,5 | 8,5 | 8,5 |
| O | 11 | 11 | 11 | 14 | 14 | 14 | 17 | 17 | 17 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



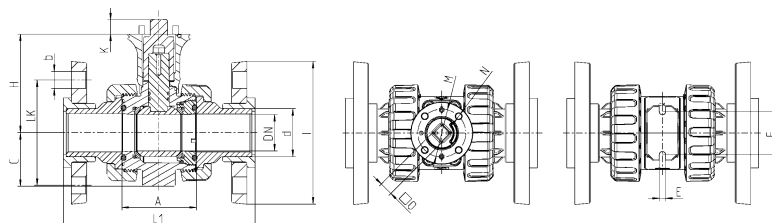
Dimensions adapter set

Connector type

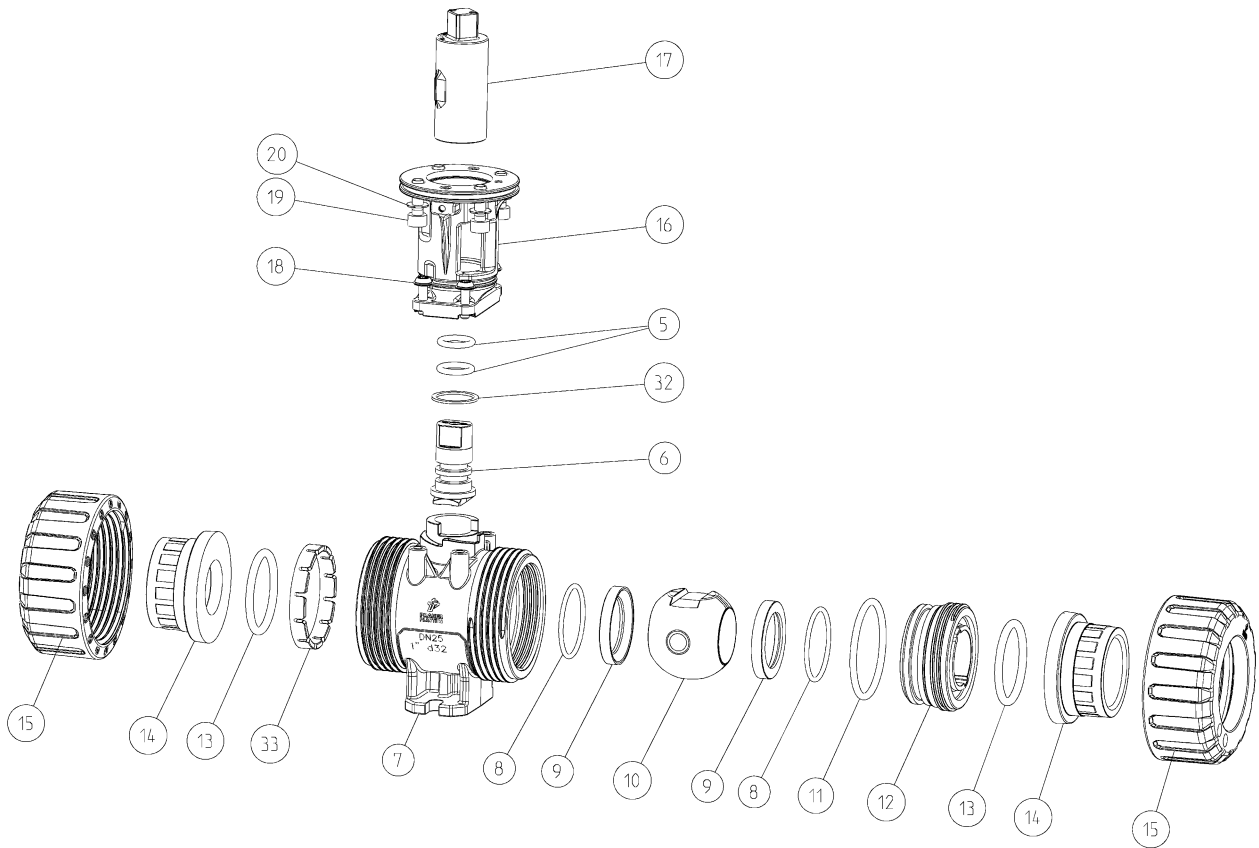
PP-GF backing flange ANSI with steel insert

(dimensions in mm)

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|------------|------|------|------|--------|--------|-------|--------|-------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| inch | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 4" |
| ISO flange | F04 | F04 | F04 | F04 | F05 | F05 | F05 | F07 | F07 |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| b | 16 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 81 | 86,5 | 89,5 | 97 | 104,5 | 111,5 | 138,5 | 168 | 168 |
| I | 95 | 102 | 114 | 130 | 133 | 162 | 184 | 194 | 229 |
| K | 11 | 11 | 11 | 11 | 15 | 15 | 15 | 18 | 18 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 | 420 | 380 | 437 |
| LK | 60,4 | 69,8 | 79,3 | 89 | 98,5 | 120,6 | 139,7 | 152,4 | 190,5 |
| M | 42 | 42 | 42 | 50 | 50 | 50 | 70 | 70 | 70 |
| N | 5,5 | 5,5 | 5,5 | 6,5 | 6,5 | 6,5 | 8,5 | 8,5 | 8,5 |
| O | 11 | 11 | 11 | 14 | 14 | 14 | 17 | 17 | 17 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



Exploded drawing adapter set



| Nr. | Description | Material |
|-----|------------------------|-------------------------|
| 05. | O-ring | EPDM / FPM |
| 06. | Shaft | PP-H |
| 07. | Body | PP-H |
| 08. | O-ring | EPDM / FPM |
| 09. | Ball seating joint | PTFE |
| 10. | Ball | PP-H |
| 11. | O-ring | EPDM / FPM |
| 12. | Thrust collar | PP-H |
| 13. | O-ring | EPDM / FPM |
| 14. | Connector types | |
| | Fusion socket /-spigot | PP-H |
| | Threaded socket | PP-H |
| | Fusion socket /-spigot | PE100 |
| | Flange | PP-GF with steel insert |
| 15. | Union nut | PP-GF |
| 16. | Bracket | PA-GF |
| 17. | Coupling shaft | PA-GF |
| 18. | Screw | A2 |
| 19. | Screw | A4 |
| 20. | Toothed washer | A2 / A4 from DN65 |
| 32. | Washer | PTFE |
| 33. | Retaining ring | PP-GF |

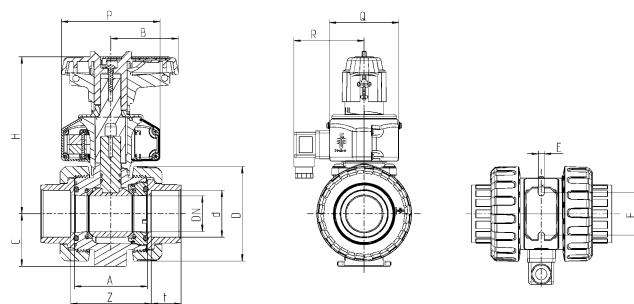
Dimension position feedback

Connector type

PP-H fusion socket metric

(dimensions in mm)

| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----|------|------|------|------|-------|-------|-------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| B | 39,5 | 39,5 | 51 | 51 | 63,5 | 72 | 84 | 110 | 132 | 132 |
| 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 | 127 | 127 | 138 | 141 | 159,5 | 168,5 | 177,5 | 215 | 246,5 | 246,5 |
| P | 98 | 98 | 102 | 102 | 105 | 105 | 105 | 116 | 116 | 116 |
| Q | 64 | 64 | 64 | 64 | 74 | 74 | 74 | 99 | 99 | 99 |
| R | 70 | 70 | 70 | 70 | 75 | 75 | 75 | 88 | 88 | 88 |
| t | 14,5 | 16 | 17,5 | 19,5 | 22 | 25,5 | 29 | 34,5 | 38,5 | 42 |
| Z | 65,5 | 64 | 73 | 78,2 | 89 | 102,5 | 121,5 | 145 | 179 | 180,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

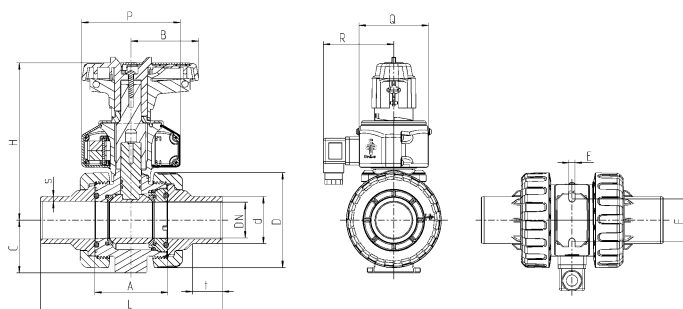


Connector type

PP-H fusion spigot metric

(dimensions in mm)

| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| B | 39,5 | 39,5 | 51 | 51 | 63,5 | 72 | 84 | 110 | 132 | 132 |
| 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 | 127 | 127 | 138 | 141 | 159,5 | 168,5 | 177,5 | 215 | 246,5 | 246,5 |
| L | 113,5 | 124,5 | 145,5 | 156 | 172,5 | 193 | 223 | 275 | 292 | 316,5 |
| P | 98 | 98 | 102 | 102 | 105 | 105 | 105 | 116 | 116 | 116 |
| Q | 64 | 64 | 64 | 64 | 74 | 74 | 74 | 99 | 99 | 99 |
| R | 70 | 70 | 70 | 70 | 75 | 75 | 75 | 88 | 88 | 88 |
| s | 1,8 | 1,9 | 2,3 | 2,9 | 3,7 | 4,6 | 5,8 | 6,8 | 8,2 | 10 |
| t | 13 | 13,5 | 15,5 | 18,5 | 20,5 | 23,5 | 28,5 | 31 | 36 | 40 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



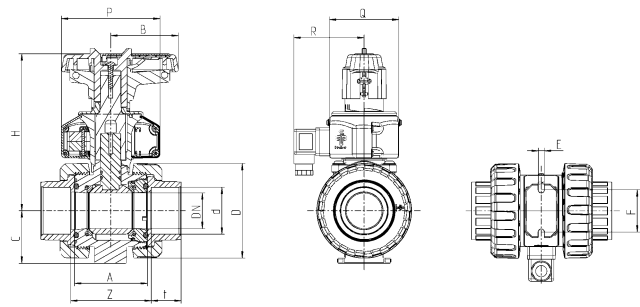
Dimension position feedback

Connector type

PE fusion socket metric

(dimensions in mm)

| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 |
|----|------|------|------|------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 61,5 |
| B | 39,5 | 39,5 | 51 | 51 | 63,5 | 72 | 84 |
| C | 33 | 33 | 40 | 43,5 | 51 | 56,5 | 33 |
| D | 58 | 58 | 68,5 | 75,5 | 92 | 108 | 58 |
| E | 5,4 | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 5,4 |
| F | 34 | 34 | 36 | 38 | 40 | 45 | 34 |
| H | 127 | 127 | 138 | 141 | 159,5 | 168,5 | 177,5 |
| P | 98 | 98 | 102 | 102 | 105 | 105 | 105 |
| Q | 64 | 64 | 64 | 64 | 74 | 74 | 74 |
| R | 70 | 70 | 70 | 70 | 75 | 75 | 75 |
| t | 14,5 | 16 | 17,5 | 19,5 | 22 | 25,5 | 29 |
| Z | 65,5 | 64 | 73 | 78,2 | 89 | 102,5 | 121,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

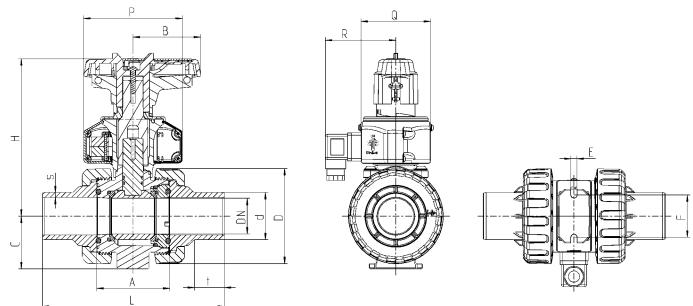


Connector type

PE fusion spigot metric

(dimensions in mm)

| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 |
|----|-------|------|------|------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 61,5 |
| B | 39,5 | 39,5 | 51 | 51 | 63,5 | 72 | 84 |
| C | 33 | 33 | 40 | 43,5 | 51 | 56,5 | 33 |
| D | 58 | 58 | 68,5 | 75,5 | 92 | 108 | 58 |
| E | 5,4 | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 5,4 |
| F | 34 | 34 | 36 | 38 | 40 | 45 | 34 |
| H | 127 | 127 | 138 | 141 | 159,5 | 168,5 | 177,5 |
| L | 114,5 | 124 | 144 | 154 | 173 | 198 | 223 |
| 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 | 1,8 | 1,9 | 2,3 | 2,9 | 3,7 | 4,6 | 5,8 |
| t | 13 | 13,5 | 15,5 | 18,5 | 22,5 | 26 | 30 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



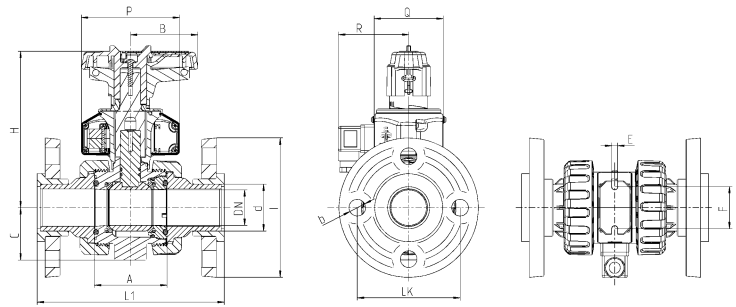
Dimension position feedback

Connector type

PP-GF backing flange DIN with steel insert

(dimensions in mm)

| DN | 15 | 20 | 25 | 32 | 40 | 50 |
|----|------|-----|------|-------|-------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 |
| B | 39,5 | 51 | 51 | 63,5 | 72 | 84 |
| b | 14 | 14 | 14 | 18 | 18 | 18 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 |
| F | 34 | 36 | 38 | 40 | 45 | 50 |
| H | 127 | 138 | 141 | 159,5 | 168,5 | 177,5 |
| I | 95 | 108 | 115 | 140 | 150 | 165 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 |
| LK | 65 | 75 | 85 | 100 | 110 | 125 |
| P | 98 | 102 | 102 | 105 | 105 | 105 |
| Q | 64 | 64 | 64 | 74 | 74 | 74 |
| R | 70 | 70 | 70 | 75 | 75 | 75 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 |

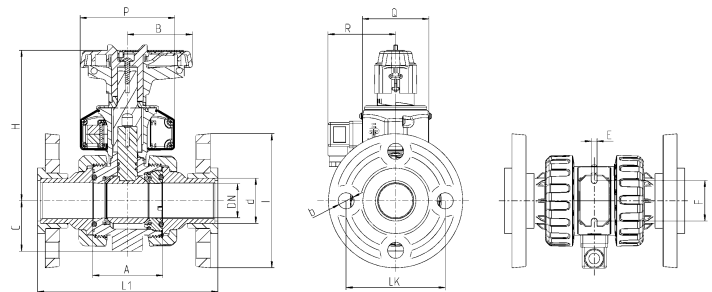


Connector type

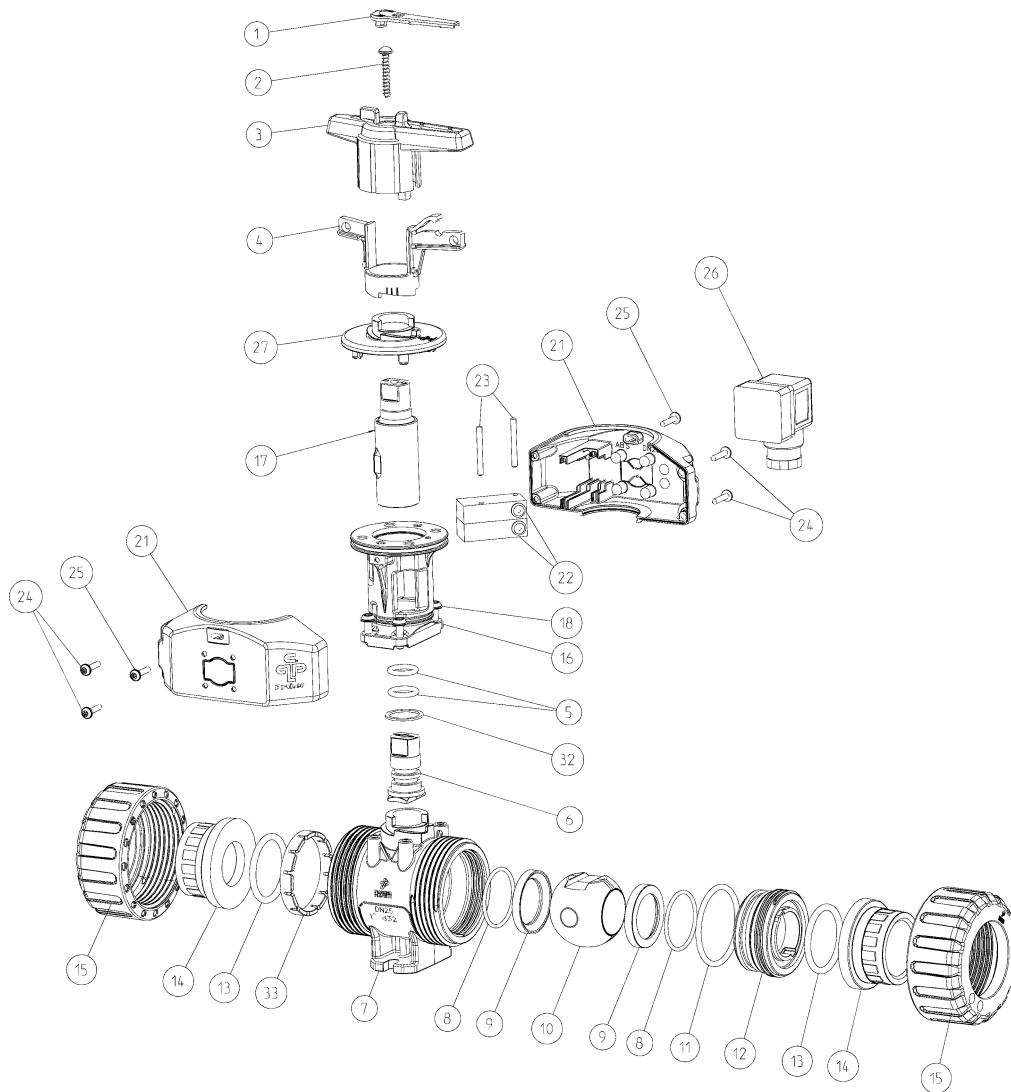
PP-GF backing flange ANSI with steel insert

(dimensions in mm)

| 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" |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 |
| B | 39,5 | 51 | 51 | 63,5 | 72 | 84 |
| b | 16 | 16 | 16 | 16 | 16 | 20 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 |
| F | 34 | 36 | 38 | 40 | 45 | 50 |
| H | 127 | 138 | 141 | 159,5 | 168,5 | 177,5 |
| I | 95 | 102 | 114 | 130 | 133 | 162 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 |
| LK | 60,4 | 69,8 | 79,3 | 89 | 98,5 | 120,6 |
| P | 98 | 102 | 102 | 105 | 105 | 105 |
| Q | 64 | 64 | 64 | 74 | 74 | 74 |
| R | 70 | 70 | 70 | 75 | 75 | 75 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 |

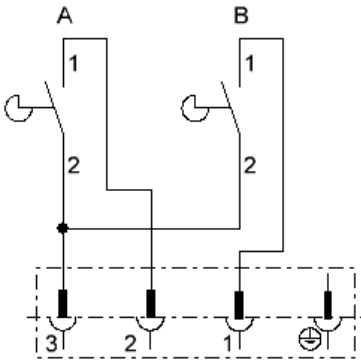
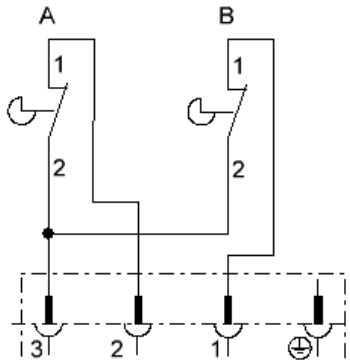


Exploded drawing position feedback

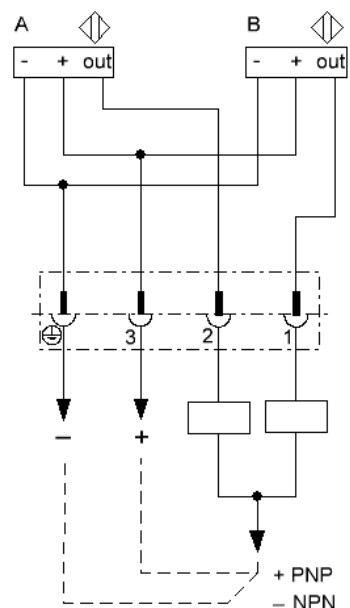
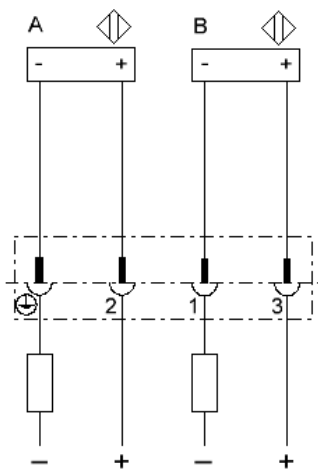


| No. | Description | Material | No. | Description | Material |
|-----|------------------------------|-------------------------|-----|-------------------|-------------------|
| 01. | Labeling plate | PBT | 15. | Union nut | PP-H |
| 02. | Screw | A2 | 16. | Bracket | PA-GF |
| 03. | Handle | PP-GF | 17. | Coupling shaft | PA-GF |
| 04. | Spring loaded locking sleeve | PBT | 18. | Screw | A2 |
| 05. | O-ring | EPDM / FPM | 19. | Screw | A2 |
| 06. | Shaft | PP-H | 20. | Toothed washer | A2 |
| 07. | Body | PP-H | 21. | Half shells | ABS |
| 08. | O-ring | EPDM / FPM | 22. | Limit switch IP67 | - |
| 09. | Ball seating joint | PTFE | 23. | Pin | A2 |
| 10. | Ball | PP-H | 24. | Screw | A4 |
| 11. | O-ring | EPDM / FPM | 25. | Locking screw | A2 / A4 from DN65 |
| 12. | Thrust collar | PP-H | 26. | Device plug IP65 | - |
| 13. | O-ring | EPDM / FPM | 27. | Cover | ABS |
| 14. | Connector types | | 32. | Washer | PTFE |
| | Fusion socket /-spigot | PP-H | 33. | Retaining ring | PP-GF |
| | Fusion socket /-spigot | PE100 | | | |
| | Flange | PP-GF with steel insert | | | |

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 | -10°C bis +50°C | |
| Electric wiring A pressed .. open B pressed.. closed | <p>NO</p>  | <p>NC</p>  |

* 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 | -10°C bis +50°C | |
| Electric wiring |  |  |

* on request

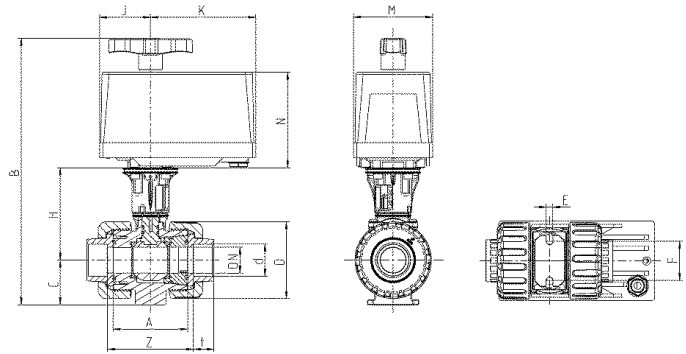
Dimension electric EO 510

Connector type

PP-H fusion socket metric

(dimensions in mm)

| DN | 10 | 15 | 20 | 25 |
|----------|---------------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 |
| A | 61,5 | 61,5 | 69 | 73 |
| C | 33 | 33 | 40 | 43,5 |
| D | 58 | 58 | 68,5 | 75,5 |
| E | 5,4 | 5,4 | 5,4 | 6,4 |
| F | 34 | 34 | 36 | 38 |
| H | 81 | 81 | 86,5 | 89,5 |
| t | 14,5 | 16 | 17,5 | 19,5 |
| PN | 10 | 10 | 10 | 10 |
| actuator | EO510 ECO/IND | | | |
| B | 239 | 239 | 251,5 | 257 |
| J | 49,5 | 49,5 | 49,5 | 49,5 |
| K | 102,5 | 102,5 | 102,5 | 102,5 |
| M | 77 | 77 | 77 | 77 |
| N | 93 | 93 | 93 | 93 |

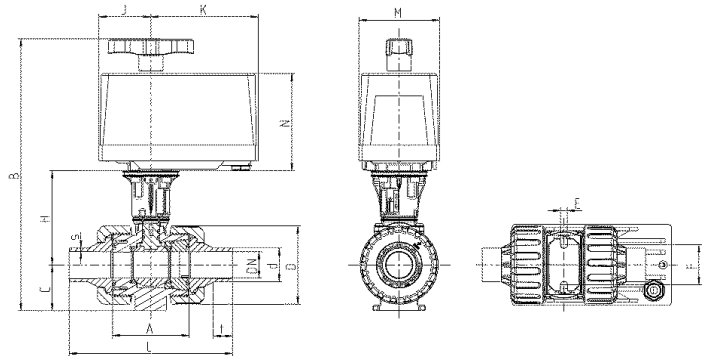


Connector type

PP-H fusion spigot metric

(dimensions in mm)

| DN | 10 | 15 | 20 | 25 |
|----------|---------------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 |
| inch | 3/8" | 1/2" | 3/4" | 1" |
| A | 61,5 | 61,5 | 69 | 73 |
| C | 33 | 33 | 40 | 43,5 |
| D | 58 | 58 | 68,5 | 75,5 |
| E | 5,4 | 5,4 | 5,4 | 6,4 |
| F | 34 | 34 | 36 | 38 |
| H | 81 | 81 | 86,5 | 89,5 |
| L | 113,5 | 124,5 | 145,5 | 156 |
| s | 1,8 | 1,9 | 2,3 | 2,9 |
| t | 13 | 13,5 | 15,5 | 18,5 |
| PN | 10 | 10 | 10 | 10 |
| actuator | EO510 ECO/IND | | | |
| B | 239 | 239 | 251,5 | 257 |
| J | 49,5 | 49,5 | 49,5 | 49,5 |
| K | 102,5 | 102,5 | 102,5 | 102,5 |
| M | 77 | 77 | 77 | 77 |
| N | 93 | 93 | 93 | 93 |



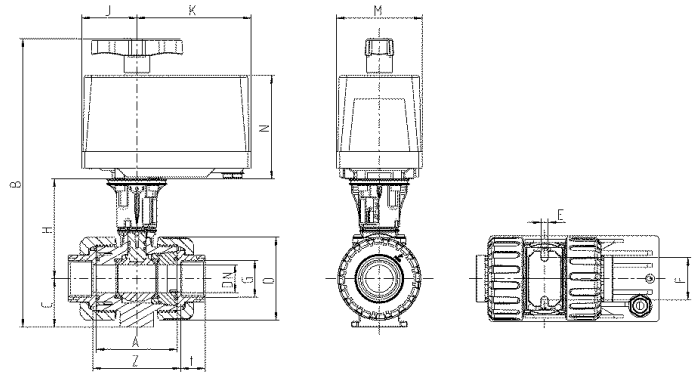
Dimensions electric EO 510

Connector type

PP-H threaded socket BSP / NPT

(dimensions in mm)

| DN | 10 | 15 | 20 | 25 |
|----------|---------------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 |
| inch | 3/8" | 1/2" | 3/4" | 1" |
| A | 61,5 | 61,5 | 69 | 73 |
| C | 33 | 33 | 40 | 43,5 |
| D | 58 | 58 | 68,5 | 75,5 |
| E | 5,4 | 5,4 | 5,4 | 6,4 |
| F | 34 | 34 | 36 | 38 |
| H | 81 | 81 | 86,5 | 89,5 |
| t | 16 | 16 | 19,5 | 22,5 |
| Z | 64 | 64 | 71 | 75,2 |
| PN | 10 | 10 | 10 | 10 |
| actuator | EO510 ECO/IND | | | |
| B | 239 | 239 | 251,5 | 257 |
| J | 49,5 | 49,5 | 49,5 | 49,5 |
| K | 102,5 | 102,5 | 102,5 | 102,5 |
| M | 77 | 77 | 77 | 77 |
| N | 93 | 93 | 93 | 93 |

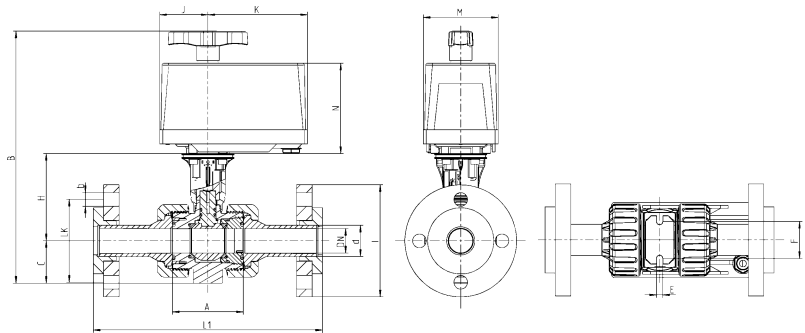


Connector type

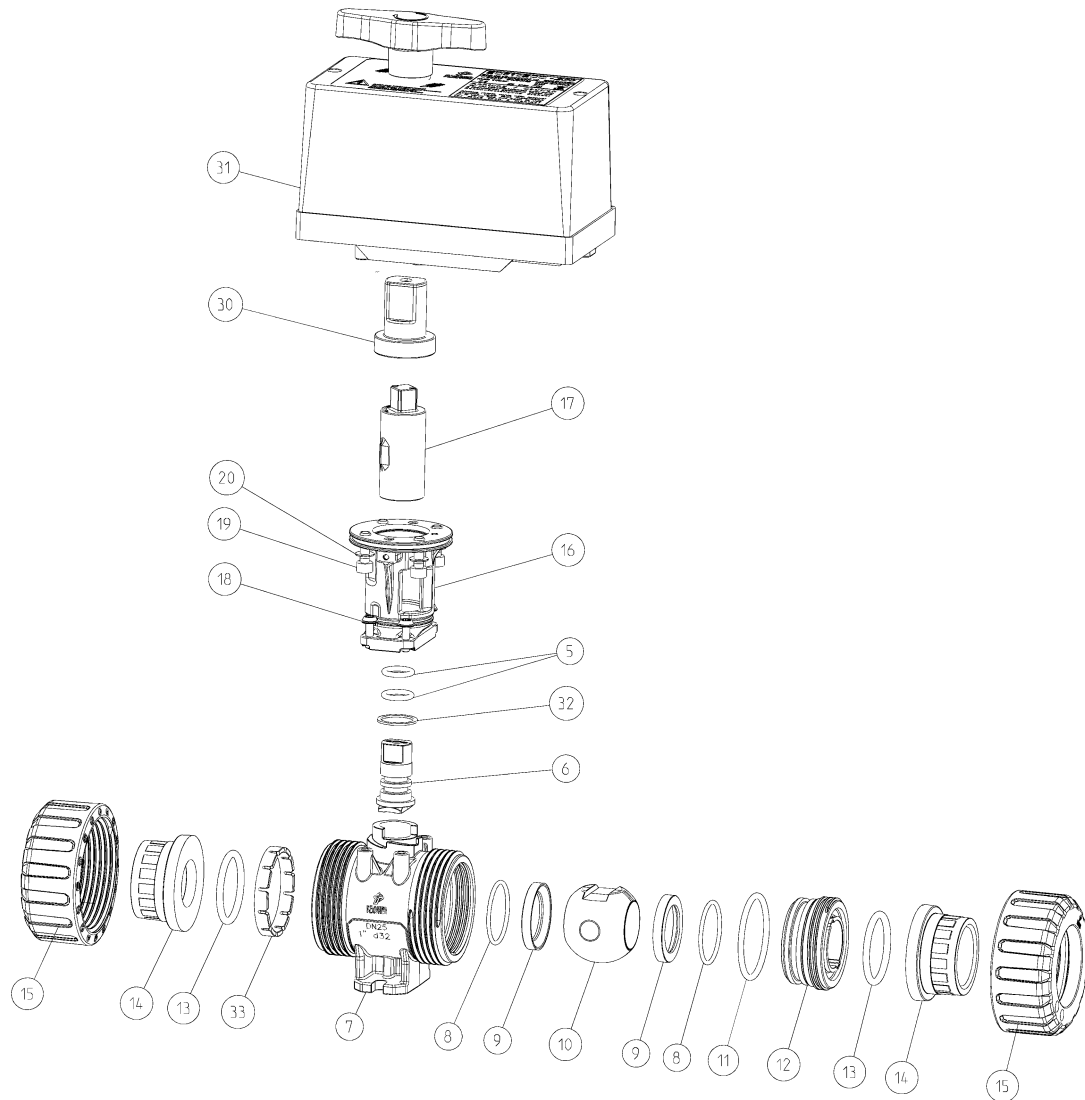
PP-GF backing flange DIN with steel insert

(dimensions in mm)

| DN | 15 | 20 | 25 |
|----------|---------------|-------|-------|
| d | 20 | 25 | 32 |
| A | 61,5 | 69 | 73 |
| b | 14 | 14 | 14 |
| C | 33 | 40 | 43,5 |
| E | 5,4 | 5,4 | 6,4 |
| F | 34 | 36 | 38 |
| H | 81 | 86,5 | 89,5 |
| I | 95 | 108 | 115 |
| L1 | 203 | 225 | 236 |
| LK | 65 | 75 | 85 |
| PN | 10 | 10 | 10 |
| actuator | EO510 ECO/IND | | |
| B | 239 | 251,5 | 257 |
| J | 49,5 | 49,5 | 49,5 |
| K | 102,5 | 102,5 | 102,5 |
| M | 77 | 77 | 77 |
| N | 93 | 93 | 93 |



Exploded drawing EO 510

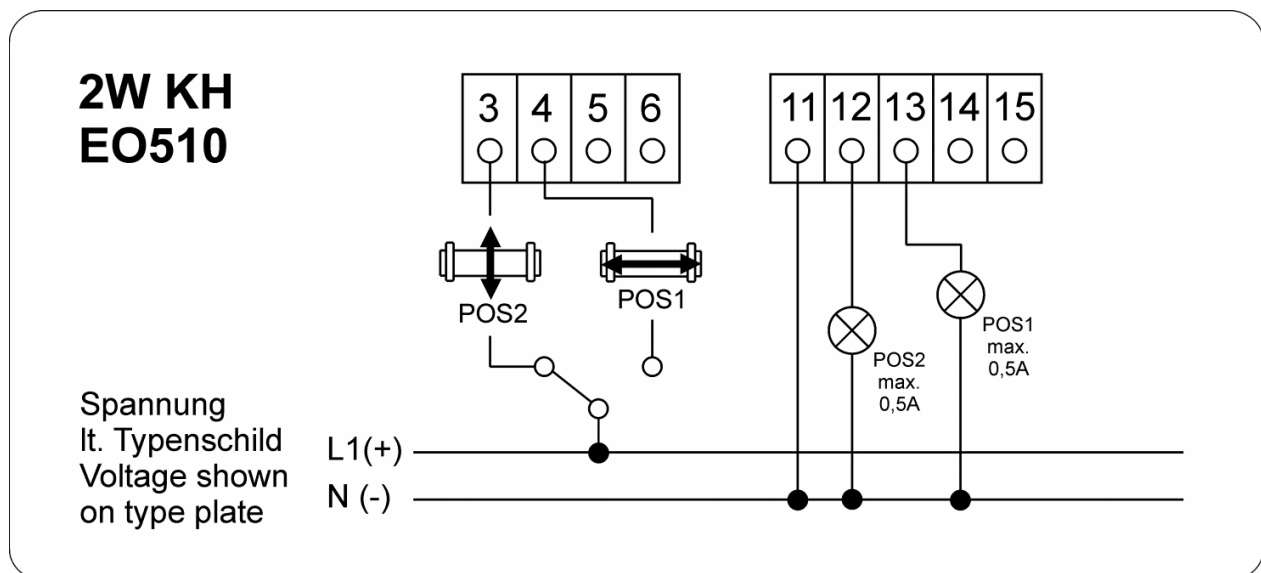


| No. | Description | Material | No. | Description | Material |
|-----|------------------------|-------------------------|-----|------------------|----------|
| 05. | O-ring | EPDM / FPM | 15. | Union nut | PP-H |
| 06. | Shaft | PP-H | 16. | Bracket | PA-GF |
| 07. | Body | PP-H | 17. | Coupling shaft | PA-GF |
| 08. | O-ring | EPDM / FPM | 18. | Screw | A2 |
| 09. | Ball seating joint | PTFE | 19. | Screw | A2 |
| 10. | Ball | PP-H | 20. | Toothed washer | A2 |
| 11. | O-ring | EPDM / FPM | 30. | Coupling | PA-GF |
| 12. | Thrust collar | PP-H | 31. | Actuator EO 5100 | - |
| 13. | O-ring | EPDM / FPM | 32. | Washer | PTFE |
| 14. | Connector types | | 33. | Retaining ring | PP-GF |
| | Fusion socket /-spigot | PP-H | | | |
| | Threaded socket | PP-H | | | |
| | Fusion socket /-spigot | PE100 | | | |
| | Flange | PP-GF with steel insert | | | |

Technical data electric EO 510

| electric actuator EO510 | | |
|-------------------------|------------------------------------|----------------------|
| Type | EO510 ECO-230 | EO510 IND-24 |
| Nominal torque | 7 Nm | |
| Peak torque | 9 Nm | |
| Voltage | 230V AC | 12 - 24V DC / 24V AC |
| Frequency range | 50 / 60Hz | DC / 50 / 60HZ |
| Operating time | 22 sec 90° | 12 sec 90° |
| Power consumption | 4W | |
| Rotation angle | 360° adjusted to 90° | |
| Duty cycle | 60% / max. 20 min | |
| Protection | IP65 | |
| Ambient temperature | 0°C bis + 50°C | |
| Weight | 0,7 kg | |
| Position indicator | optically (manual override handle) | |
| Manual override | integrated | |

Electric connection

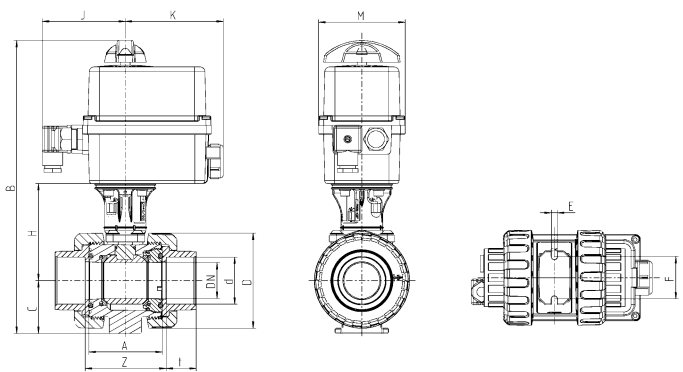


Dimension electric EO ER

Connector type

PP-H fusion socket metric

(dimensions in mm)

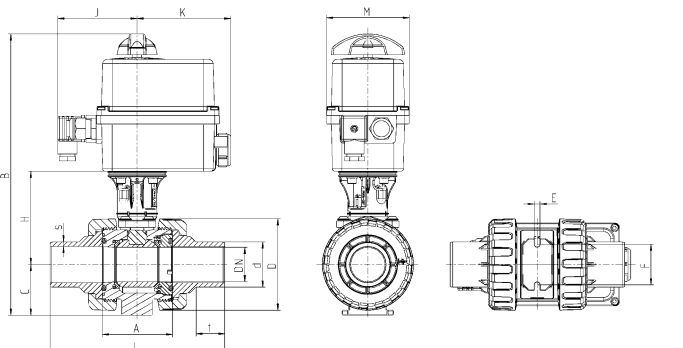


| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----------|------|------|-------|------|-----|-------|-------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| C | 33 | 33 | 40 | 43,5 | 51 | 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 |
| t | 14,5 | 16 | 17,5 | 19,5 | 22 | 25,5 | 29 | 34,5 | 38,5 | 42 |
| Z | 65,5 | 64 | 73 | 78,2 | 89 | 102,5 | 121,5 | 145 | 179 | 180,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| actuator | ER20 | | | | | | | ER60 | | |
| B | 266 | 266 | 278,5 | 285 | 300 | 313 | 328 | 400 | 445 | 445 |
| J | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 98 | 98 | 98 |
| K | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 |
| M | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 128 | 128 | 128 |

Connector type

PP-H fusion spigot metric

(dimensions in mm)



| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| 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 |
| L | 113,5 | 124,5 | 145,5 | 156 | 172,5 | 193 | 223 | 275 | 292 | 316,5 |
| s | 1,8 | 1,9 | 2,3 | 2,9 | 3,7 | 4,6 | 5,8 | 6,8 | 8,2 | 10 |
| t | 13 | 13,5 | 15,5 | 18,5 | 20,5 | 23,5 | 28,5 | 31 | 36 | 40 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| actuator | ER20 | | | | | | | ER60 | | |
| B | 266 | 266 | 278,5 | 285 | 300 | 313 | 328 | 400 | 445 | 445 |
| J | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 98 | 98 | 98 |
| K | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 |
| M | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 128 | 128 | 128 |

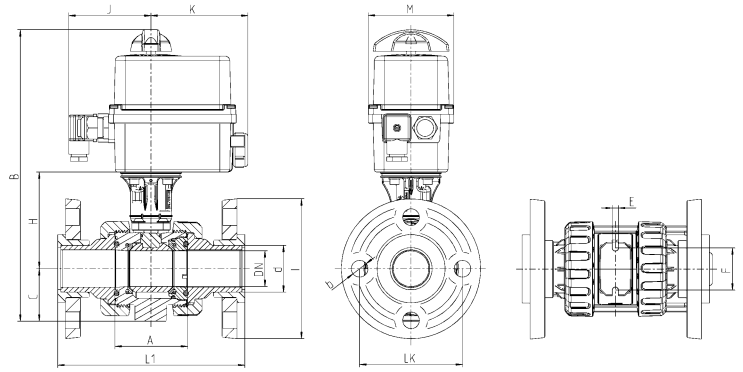
Dimensions electric EO ER

Connector type

PP-GF backing flange DIN with steel insert

(dimensions in mm)

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----------|------|-------|------|-----|-------|-------|-------|-------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| b | 14 | 14 | 14 | 18 | 18 | 18 | 18 | 18 | 18 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 81 | 86,5 | 89,5 | 97 | 104,5 | 111,5 | 138,5 | 168 | 168 |
| I | 95 | 108 | 115 | 140 | 150 | 165 | 186 | 202 | 220 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 | 420 | 380 | 437 |
| LK | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 180 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| actuator | ER20 | | | | | | ER60 | | |
| B | 266 | 278,5 | 285 | 300 | 313 | 328 | 400 | 445 | 445 |
| J | 90 | 90 | 90 | 90 | 90 | 90 | 98 | 98 | 98 |
| K | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 |
| M | 92 | 92 | 92 | 92 | 92 | 92 | 128 | 128 | 128 |

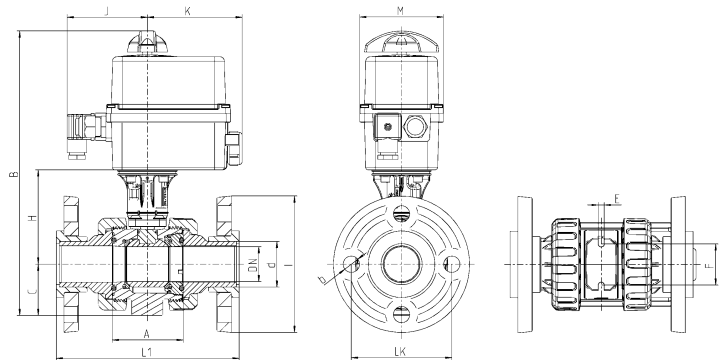


Connector type

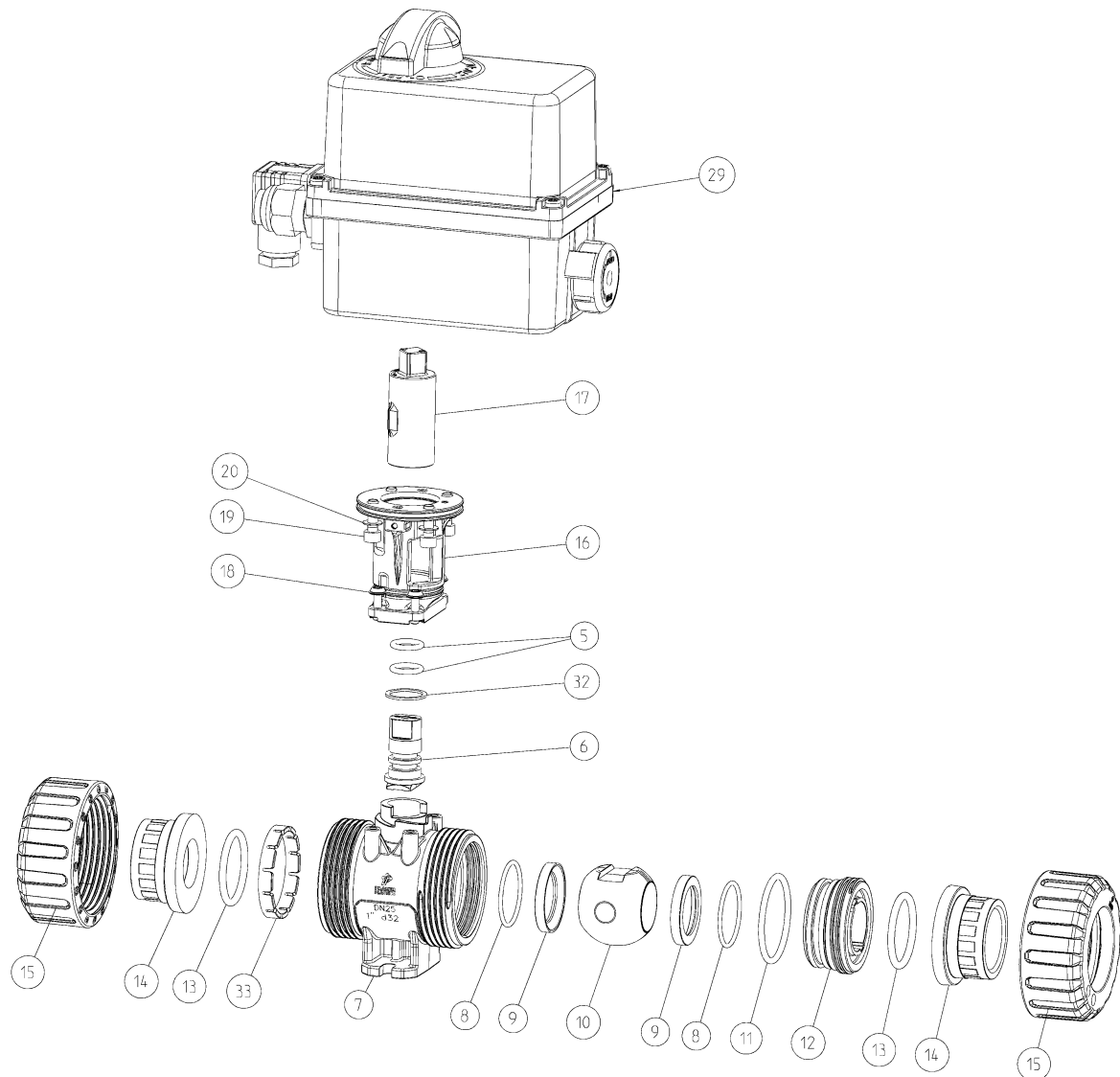
PP-GF backing flange ANSI with steel insert

(dimensions in mm)

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----------|------|-------|------|--------|--------|-------|--------|-------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| inch | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 4" |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| b | 16 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 81 | 86,5 | 89,5 | 97 | 104,5 | 111,5 | 138,5 | 168 | 168 |
| I | 95 | 102 | 114 | 130 | 133 | 162 | 184 | 194 | 229 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 | 420 | 380 | 437 |
| LK | 60,4 | 69,8 | 79,3 | 89 | 98,5 | 120,6 | 139,7 | 152,4 | 190,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| actuator | ER20 | | | | | | ER60 | | |
| B | 266 | 278,5 | 285 | 300 | 313 | 328 | 400 | 445 | 445 |
| J | 90 | 90 | 90 | 90 | 90 | 90 | 98 | 98 | 98 |
| K | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 | 107 |
| M | 92 | 92 | 92 | 92 | 92 | 92 | 128 | 128 | 128 |



Exploded drawing electric EO ER

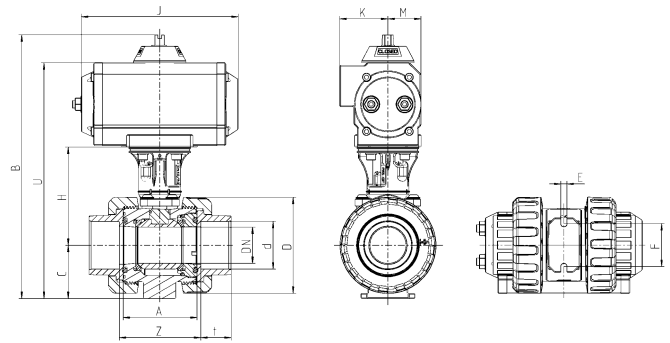


| No. | Description | Material | No. | Description | Material |
|-----|------------------------|-------------------------|-----|---------------------------|-------------------|
| 05. | O-ring | EPDM / FPM | 15. | Union nut | PP-H |
| 06. | Shaft | PP-H | 16. | Bracket | PA-GF |
| 07. | Body | PP-H | 17. | Coupling | PA-GF |
| 08. | O-ring | EPDM / FPM | 18. | Screw | A2 |
| 09. | Ball seating joint | PTFE | 19. | Screw | A4 |
| 10. | Ball | PP-H | 20. | Toothed washer | A2 / A4 from DN65 |
| 11. | O-ring | EPDM / FPM | 29. | Actuator | - |
| 12. | Thrust collar | PP-H | | Premier / Posi / Failsafe | |
| 13. | O-ring | EPDM / FPM | 32. | Washer | PTFE |
| 14. | Connector types | | 33. | Retaining ring | PP-GF |
| | Fusion socket /-spigot | PP-H | | | |
| | Flange | PP-GF with steel insert | | | |

Technical data electric EO ER

| electric actuator | | |
|---------------------|--|--|
| Type | ER20 | ER60 |
| Torque | 20 Nm | 60 Nm |
| Voltage | <p>Premier</p> <p>24V 50/60Hz (24V DC)</p> <p>100 - 240V 50/60Hz (100 – 350V DC)</p> <p>Posi</p> <p>15 – 30V AC 50/60 Hz (12V – 48V DC)</p> <p>100V – 240V AC 50/60 Hz (100 – 230V DC)</p> <p>Failsafe</p> <p>15 – 30V AC 50/60 Hz (24V – 48V DC)</p> <p>100V – 240V AC 50/60 Hz (100 – 230V DC)</p> | <p>Premier</p> <p>24V 50/60Hz (24V DC)</p> <p>90 - 240V 50/60Hz (90 – 350V DC)</p> <p>Posi</p> <p>15 – 30V AC 50/60 Hz (12V – 48V DC)</p> <p>100V – 240V AC 50/60 Hz (100 – 230V DC)</p> <p>Failsafe</p> <p>15 – 30V AC 50/60 Hz (24V – 48V DC)</p> <p>100V – 240V AC 50/60 Hz (100 – 230V DC)</p> |
| Operating time | <p>Premier: 13s</p> <p>Failsafe / Posi: 11s</p> | <p>Premier: 15s</p> <p>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</p> <p>Failsafe / Posi: IP66</p> | |
| Ambient temperature | <p>Premier / Posi: -10°C bis +55°C</p> <p>Failsafe: -10°C bis +40°C</p> | |
| Weight | 1 kg | 2,1 kg |

Dimensions pneumatic



Connector type

PP-H fusion socket metric

(dimensions in mm)

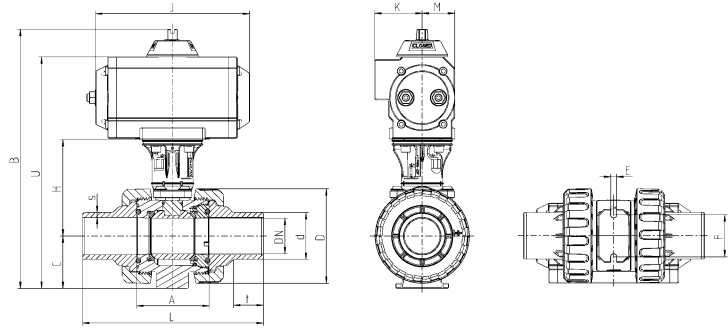
| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----------|----------|------|-------|------|--------|--------|--------|--------|--------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| inch | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 4" |
| A | 61,5 | 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 |
| t | 14,5 | 16 | 17,5 | 19,5 | 22 | 25,5 | 29 | 34,5 | 38,5 | 42 |
| Z | 65,5 | 64 | 73 | 78,2 | 89 | 102,5 | 121,5 | 145 | 179 | 180,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| 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 |
| U | 185 | 185 | 197,5 | 204 | 239 | 252 | 267 | 336,5 | 381 | 381 |
| 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 |
| U | 185 | 185 | 197,5 | 204 | 239 | 252 | 267 | 355,5 | 434 | 434 |

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

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

Additional information or dimensions for solenoid valve and position feedback see accessories and spare parts

Dimensions pneumatic



Connector type

PP-H fusion spigot metric

(dimensions in mm)

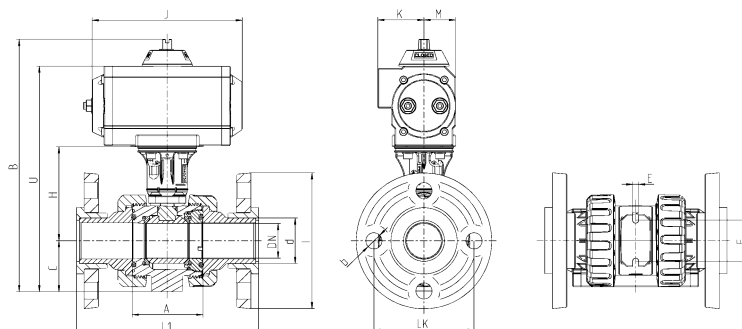
| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----------|--------|-------|-------|------|--------|-------|--------|-------|-------|-------|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| C | 33 | 33 | 40 | 43,5 | 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 |
| L | 113,5 | 124,5 | 145,5 | 156 | 172,5 | 193 | 223 | 275 | 292 | 316,5 |
| s | 1,8 | 1,9 | 2,3 | 2,9 | 3,7 | 4,6 | 5,8 | 6,8 | 8,2 | 10 |
| t | 13 | 13,5 | 15,5 | 18,5 | 20,5 | 23,5 | 28,5 | 31 | 36 | 40 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| actuator | UT05DA | | | | UT15DA | | | | | |
| 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 |
| U | 185 | 185 | 197,5 | 204 | 239 | 252 | 267 | 336,5 | 381 | 381 |
| actuator | UT05SR | | | | UT15SR | | UT17SR | | | |
| 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 |
| U | 185 | 185 | 197,5 | 204 | 239 | 252 | 267 | 335,5 | 434 | 434 |

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

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

Additional information and dimesions for solenoid valve and posiiion feedback see accessories and spare parts

Dimensions pneumatic



Connector type

PP-H backing flange DIN with steel insert

(dimensions in mm)

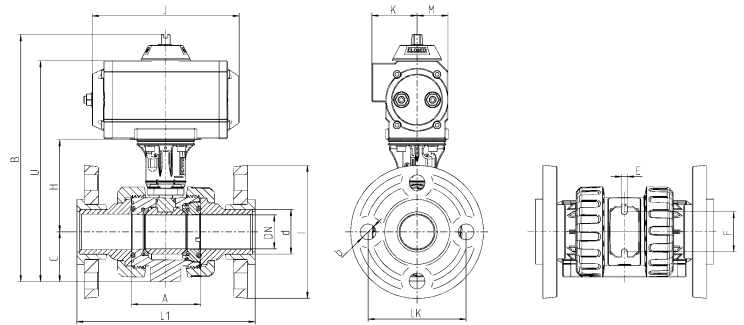
| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----------|--------|-------|------|--------|-------|-------|--------|--------|--------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| b | 14 | 14 | 14 | 18 | 18 | 18 | 18 | 18 | 18 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 81 | 86,5 | 89,5 | 97 | 104,5 | 111,5 | 138,5 | 168 | 168 |
| I | 95 | 108 | 115 | 140 | 150 | 165 | 186 | 202 | 220 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 | 420 | 380 | 437 |
| LK | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 180 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| actuator | UT05DA | | | UT15DA | | | UT20DA | | |
| B | 214 | 226,5 | 233 | 269 | 282 | 297 | 366,5 | 411 | 411 |
| J | 119 | 119 | 119 | 165 | 165 | 165 | 178 | 178 | 178 |
| K | 40 | 40 | 40 | 50 | 50 | 50 | 53 | 53 | 53 |
| M | 27 | 27 | 27 | 35 | 35 | 35 | 43 | 43 | 43 |
| U | 185 | 197,5 | 204 | 239 | 252 | 267 | 336,5 | 381 | 381 |
| actuator | UT05SR | | | UT15SR | | | UT17SR | UT30SR | UT35SR |
| B | 214 | 226,5 | 233 | 269 | 282 | 297 | 385,5 | 463,5 | 463,5 |
| J | 119 | 119 | 119 | 165 | 165 | 197 | 230 | 246 | 246 |
| K | 40 | 40 | 40 | 50 | 50 | 50 | 61,5 | 72,5 | 72,5 |
| M | 27 | 27 | 27 | 35 | 35 | 35 | 52 | 65,5 | 65,5 |
| U | 185 | 197,5 | 204 | 239 | 252 | 267 | 355,5 | 434 | 434 |

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

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

Additional information and dimensions for solenoid valve and position feedback see accessories and spare parts

Dimensions pneumatic



Connector type

PP-H backing flange ANSI with steel insert

(dimensions in mm)

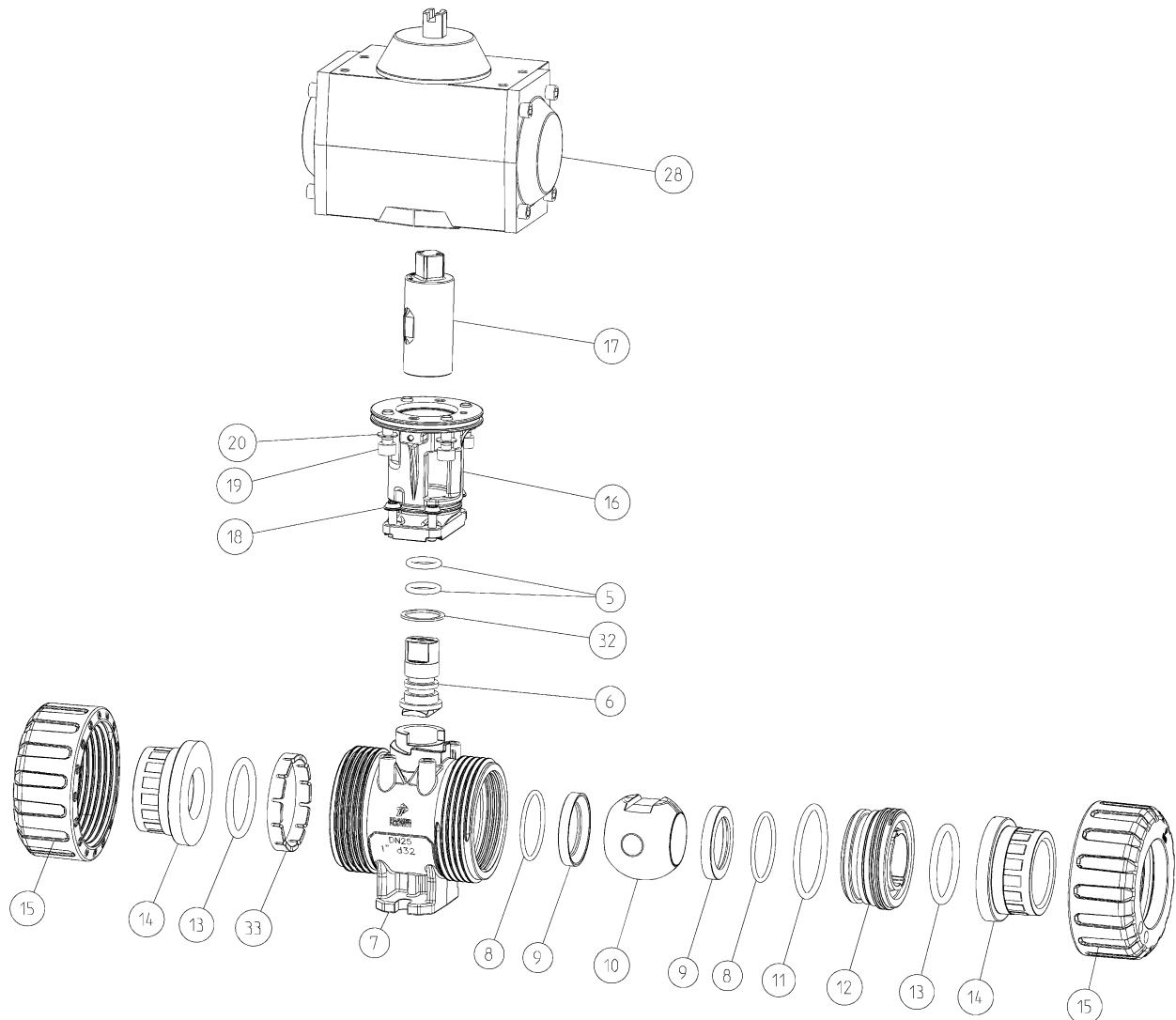
| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----------|--------|-------|------|--------|-------|--------|--------|--------|-------|
| d | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| A | 61,5 | 69 | 73 | 83 | 94 | 109 | 131,5 | 156,5 | 156,5 |
| b | 16 | 16 | 16 | 16 | 16 | 20 | 20 | 20 | 20 |
| C | 33 | 40 | 43,5 | 51 | 56,5 | 64,5 | 85 | 100 | 100 |
| E | 5,4 | 5,4 | 6,4 | 6,4 | 6,4 | 6,4 | 8,3 | 10,3 | 10,3 |
| F | 34 | 36 | 38 | 40 | 45 | 50 | 65 | 80 | 80 |
| H | 81 | 86,5 | 89,5 | 97 | 104,5 | 111,5 | 138,5 | 168 | 168 |
| I | 95 | 102 | 114 | 130 | 133 | 162 | 184 | 194 | 229 |
| L1 | 203 | 225 | 236 | 253 | 274 | 308 | 420 | 380 | 437 |
| LK | 60,4 | 69,8 | 79,3 | 89 | 98,5 | 120,6 | 139,7 | 152,4 | 190,5 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| actuator | UT05DA | | | UT15DA | | | UT20DA | | |
| B | 214 | 226,5 | 233 | 269 | 282 | 297 | 366,5 | 411 | 411 |
| J | 119 | 119 | 119 | 165 | 165 | 165 | 178 | 178 | 178 |
| K | 40 | 40 | 40 | 50 | 50 | 50 | 53 | 53 | 53 |
| M | 27 | 27 | 27 | 35 | 35 | 35 | 43 | 43 | 43 |
| U | 185 | 197,5 | 204 | 239 | 252 | 267 | 336,5 | 381 | 381 |
| actuator | UT05SR | | | UT15SR | | UT17SR | UT30SR | UT35SR | |
| B | 214 | 226,5 | 233 | 269 | 282 | 297 | 385,5 | 463,5 | 463,5 |
| J | 119 | 119 | 119 | 165 | 165 | 197 | 230 | 246 | 246 |
| K | 40 | 40 | 40 | 50 | 50 | 50 | 61,5 | 72,5 | 72,5 |
| M | 27 | 27 | 27 | 35 | 35 | 35 | 52 | 65,5 | 65,5 |
| U | 185 | 197,5 | 204 | 239 | 252 | 267 | 355,5 | 434 | 434 |

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

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

Additional information and dimensions for solenoid valve and position feedback see accessories and spare parts

Exploded drawing pneumatic



| No. | Description | Material | No. | Description | Material |
|-----|------------------------|-------------------------|-----|----------------|-------------------|
| 05. | O-ring | EPDM / FPM | 15. | Union nut | PVC-U |
| 06. | Shaft | PP-H | 16. | Bracket | PA-GF |
| 07. | Body | PP-H | 17. | Coupling shaft | PA-GF |
| 08. | O-ring | EPDM / FPM | 18. | Screw | A2 |
| 09. | Ball seating joint | PTFE | 19. | Screw | A4 |
| 10. | Ball | PP-H | 20. | Toothed washer | A2 / A4 from DN65 |
| 11. | O-ring | EPDM / FPM | 28. | Actuator | - |
| 12. | Trust collar | PP-H | 32. | Washer | PTFE |
| 13. | O-ring | EPDM / FPM | 33. | Retaining ring | PP-GF |
| 14. | Connector types | | | | |
| | Fusion socket /-spigot | PP-H | | | |
| | Flange | PP-GF with steel insert | | | |

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

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° (UT15 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 | UT05 DA | UT15 DA | UT17 DA |
|----------|---------|---------|---------|
| N. Lt. | 0,22 | 0,41 | 0,55 |

AIR CONSUMPTION (FULL CYCLE)

SR SPRING RETURN

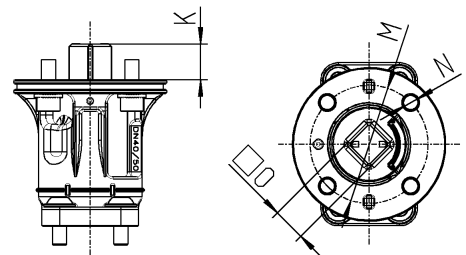
| actuator | UT05 SR | UT15 SR | UT17 SR | UT25 SR | UT30 SR |
|----------|---------|---------|---------|---------|---------|
| N. Lt. | 0,13 | 0,18 | 0,25 | 0,48 | 0,65 |

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



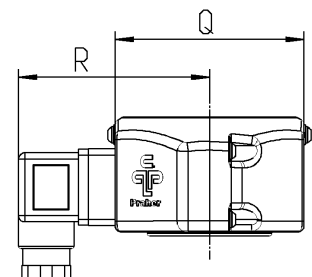
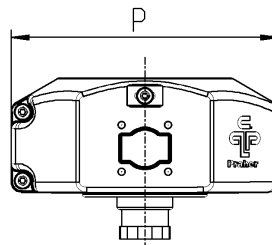
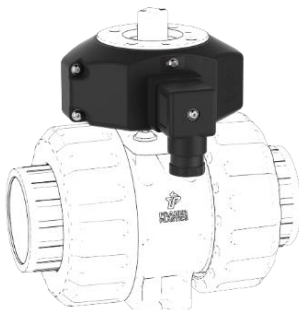
dimensions in mm

| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| K | 11 | 11 | 11 | 11 | 15 | 15 | 15 | 18 | 18 | 18 |
| M | 42 | 42 | 42 | 42 | 50 | 50 | 50 | 70 | 70 | 70 |
| N | 5,5 | 5,5 | 5,5 | 5,5 | 6,5 | 6,5 | 6,5 | 8,5 | 8,5 | 8,5 |
| O | 11 | 11 | 11 | 11 | 14 | 14 | 14 | 17 | 17 | 17 |

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

Consist of:

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



dimensions in mm

| DN | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 80 |
|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| d | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 75 | 90 | 110 |
| P | 98 | 98 | 102 | 102 | 105 | 105 | 105 | 116 | 116 | 116 |
| Q | 64 | 64 | 64 | 64 | 74 | 74 | 74 | 99 | 99 | 99 |
| R | 70 | 70 | 70 | 70 | 75 | 75 | 75 | 88 | 88 | 88 |

Accessories / spare parts

Feedback set for hand operated ball valve DN10 – DN80 d110



Consist of:

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

Feedback set for automatic ball valve DN10 – DN80 d110



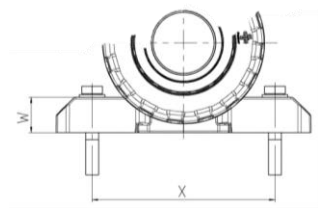
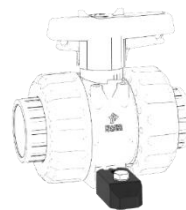
Consist of:

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

Clamping and spacing element

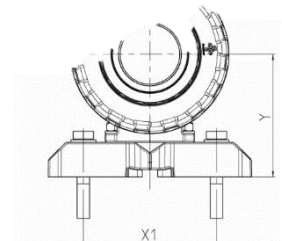
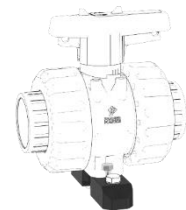
Use for mounting as a clamping element

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



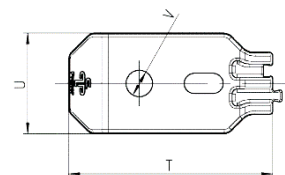
Use for mounting as a spacing element

- for flange connection
- additional screws necessary



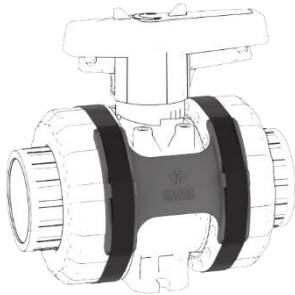
dimensions in mm

| 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 | 90 | 90 | 94 | 107 | 109 | 114 | 119 |
| X1 | 70 | 70 | 70 | 85 | 85 | 85 | 85 |
| Y | 49 | 49 | 56 | 65 | 73 | 78 | 86 |



Accessories / spare parts

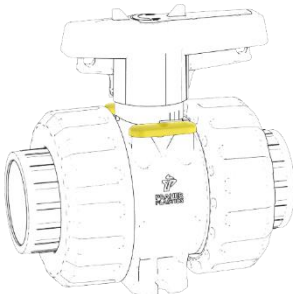
Union nut locking for ball valve DN10 – DN80 d110



Consist of:

- Plate for PVC-U or PP-H / PVDF ball valve
- Velcro straps for fixation

Cover for ball valve DN10 – DN80 d110

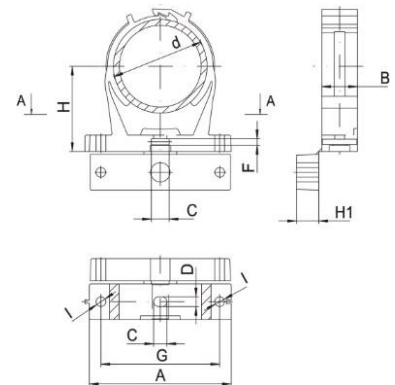


Consist of:

- 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 1/2" | 25 - 28 3/4" | 31 - 35 1" | 39 - 43 1 1/4" | 47 - 51 1 1/2" | 60 - 65 2" | 72 - 80 2 1/2" | 87 - 95 3" |
|----|-----------------|-----------------|---------------|-------------------|-------------------|---------------|-------------------|---------------|
| A | 56 | 61 | 67 | 80 | 84,5 | 96,5 | 126 | 137 |
| B | 14 | 16 | 16 | 17,5 | 20 | 24 | 26 | 26 |
| C | 9 | 9 | 9 | 9 | 9 | 9 | 12 | 12 |
| D | 6,5 | 6,5 | 6,5 | 6,5 | 6,5 | 6,5 | 8,5 | 8,5 |
| F | 3,5 | 3,5 | 3,5 | 3,5 | 3,5 | 3,5 | 4,3 | 4,3 |
| G | 41 | 47 | 52 | 64 | 70 | 80 | 106 | 117 |
| H | 27 | 30 | 31,5 | 37 | 41 | 49 | 70 | 80 |
| H1 | 6 | 10 | 11,5 | 14 | 15 | 15 | 15 | 20 |
| I | 6,5 | 6,5 | 6,5 | 6,5 | 6,5 | 6,5 | 8,5 | 8,5 |

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



Limit switch box for pneumatic actuator

General

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

Material

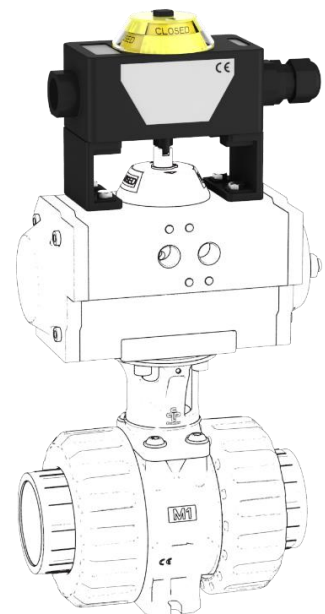
- Body: polycarbonat black
- Cover: polycarbonat clear
- Mounting bracket and screws: stainless steel
- Seals: EPDM

Voltage

- 1 – 250V

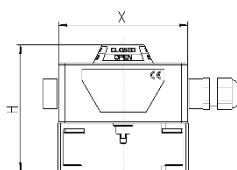
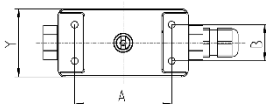
Current

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



dimensions in mm

| A | B | H | X | Y |
|----|----|-----|-----|----|
| 80 | 30 | 130 | 107 | 56 |



Accessories / spare parts

Solenoid valve

General

- Solenoid valve NAMUR with combined 5/2- and 3/2- ways function and standard coil
- Easy switch from 5/2- to 3/2- ways by turning the sealing plate
- Manual override as standard
- Protection IP65

Material

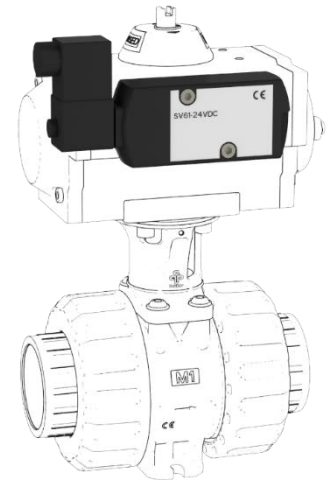
- Body: aluminium anodized
- Piston: aluminium
- Seals: NBR
- Screws and spring: stainless steel

Voltage

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

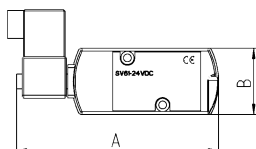
Accessories

- Flow control silencer
- Silencer



dimensions in mm

| A | B | C |
|-----|----|----|
| 139 | 45 | 33 |



Accessories / spare parts

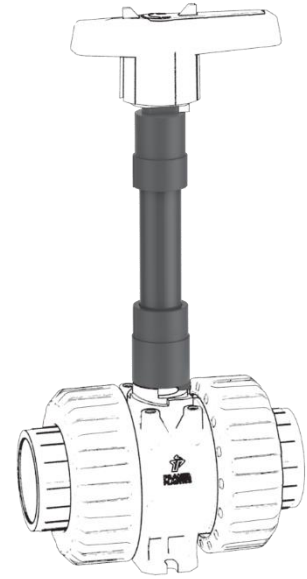
Handle elongation

| | |
|----------------------------|------------------|
| Material: | PVC-U |
| Dimensions: | DN10 – DN80 d110 |
| 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
- Direction arrows on the handle coupling show the flow direction of the ball valve when handle is removed

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





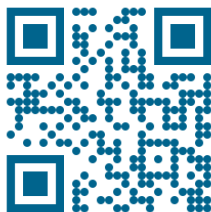
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