



Ball valve with electric rotary actuator, ball valve in plastic

- Suitable for aggressive media
- High flow rate value
- Actuator with adjustable limit switches
- Visual position indicator
- Safe blocked union nuts with Dual Block® Technology

Type 2659 can be combined with...



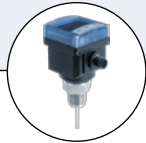
Type 3004

Heavy duty 3004 actuator, Ex



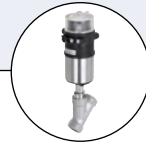
Type 8644

Electropneumatic control system



Type 8400

Temperature transmitter



Type 8801

ELEMENT on/off control valve

The electric ball valve Type 2659 consists of a ball valve made of plastic (PVC standard) mounted with an electric actuator. Different housings and materials are available for various applications.

This datasheet pertains to the assembly of a 3/2-Way plastic ball valve with the Type 3003 electric actuator. The rotary actuator is compactly built and has on/off and control versions. It can be used also as single device for the operation of other control members; see datasheet Type 3003. For other electric actuator options please see datasheets for 3005 (for heavy duty industrial electric actuation applications) and Type 3004 (hazardous areas).

Special features

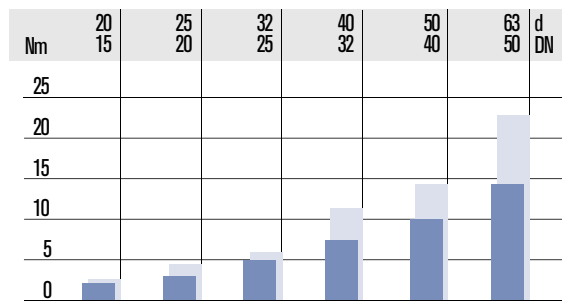
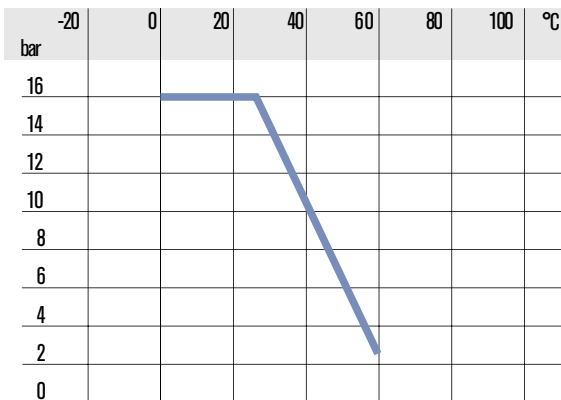
The ball valves are equipped with the Dual Block® Technology. This System allows you to lock the union nuts in the preset position. It prevents them separating during operation.

Applications

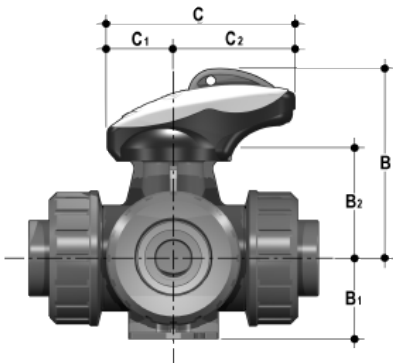
- Universal application
- Water treatment systems
- Aggressive chemical systems
- On/off & modulating control

| Technical data | |
|---|---|
| Body material | PVC-U, PP, (PVDF, PVC-C on request) |
| Seal material | PTFE/EPDM, PTFE/FKM |
| Media | Gaseous and liquid media, which do not attack the housing and sealing materials |
| Media temperature | (see diagram Pg. 3) |
| PVC-U | 0 to +60°C |
| PP | +10 to +80°C |
| PVDF | 0 to +120°C |
| Ambient temperature | -10 to +55°C |
| Port connections | |
| PVC-U, PP, (PVDF on request) | True union |
| Operating pressure | 0-16 bar |
| Connection between actuator and ball valve | Flange acc. to ISO 5211 |
| Operating voltage | 24 V AC/DC, 100-240 V AC/50-60 Hz (other voltages on request) |
| Voltage tolerance | DC: +/-20%; AC: +/-10% |
| Duty rating | At max. torque: 50% of the time |
| Electrical connection | |
| DC | 2 cable glands ISO M20 |
| AC | Cable plug EN175301-803 |
| Protection class | IP65 |
| Limit switches | 4 adjustable (2 for motor and 2 additional for feedback) max. 250 V AC/1.5 A |
| Material (Actuator) | |
| cover | ABS |
| housing | PA |
| axis/screws | Stainless steel |
| gear unit | Steel, PC |
| Installation | Don't mount the actuator upside down |

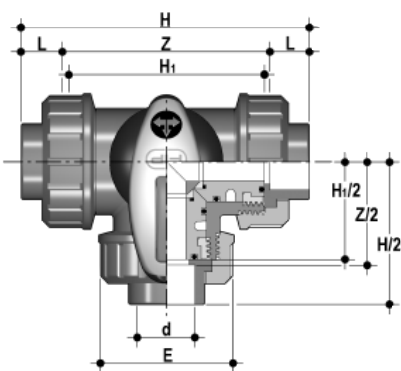
Valve: pressure temperature chart & torque chart



Valve: dimensions [mm]



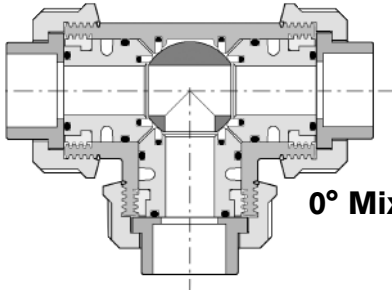
| C | C1 | C2 | B | B1 | B2 |
|-------|------|------|------|----|------|
| 83.5 | 29.5 | 54 | 87.5 | 33 | 50 |
| 83.5 | 29.5 | 54 | 87.5 | 33 | 50 |
| 98 | 35.5 | 62.5 | 98.5 | 39 | 56.5 |
| 105 | 37 | 68 | 106 | 45 | 61.5 |
| 139.5 | 51 | 88.5 | 135 | 51 | 76.5 |
| 139.5 | 51 | 88.5 | 139 | 57 | 80.5 |
| 154 | 51 | 103 | 159 | 69 | 97.5 |



| d | DN | PN | E | H | H1 | L | Z | Kg |
|----|----|----|-----|-------|-----|----|-------|------|
| 16 | 10 | 16 | 55 | 118 | 80 | 14 | 90 | 0.35 |
| 20 | 15 | 16 | 55 | 118 | 80 | 16 | 86 | 0.35 |
| 25 | 20 | 16 | 66 | 145 | 100 | 19 | 107 | 0.6 |
| 32 | 25 | 16 | 75 | 160 | 110 | 22 | 116 | 0.85 |
| 40 | 32 | 16 | 87 | 188.5 | 131 | 26 | 136.5 | 1.35 |
| 50 | 40 | 16 | 100 | 219 | 148 | 31 | 157 | 1.75 |
| 63 | 50 | 16 | 122 | 266.5 | 179 | 38 | 190.5 | 2.95 |

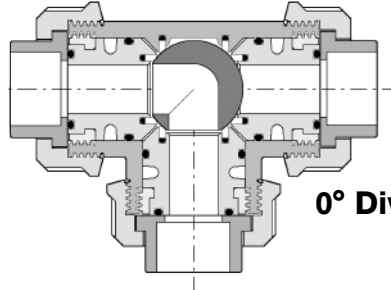
Valve: operating position

T Port Valves

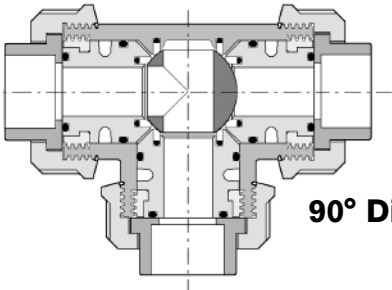


0° Mixing

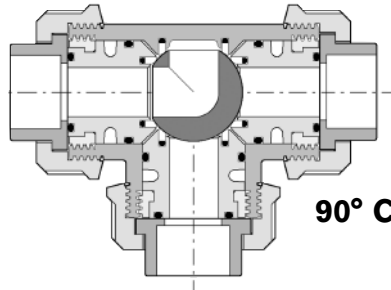
T Port Valves



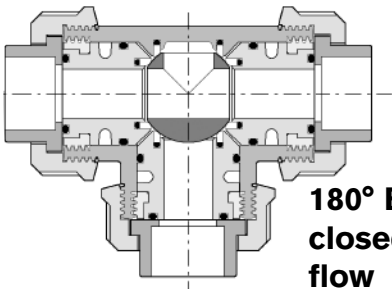
0° Diverting



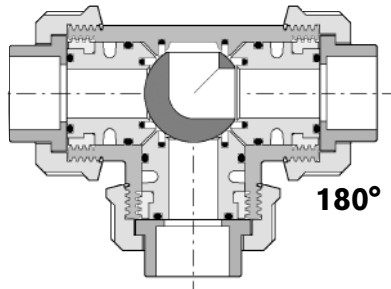
90° Diverting



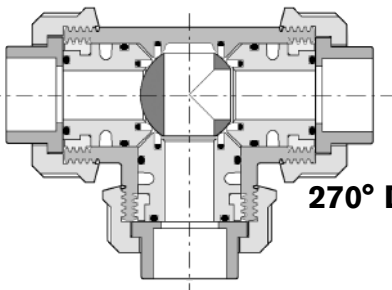
90° Closed



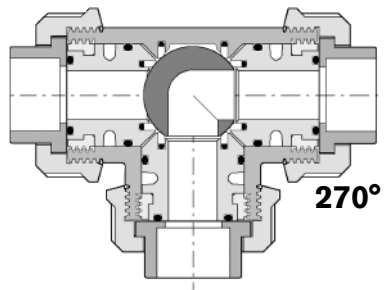
180° Branch closed/straight flow



180° Closed

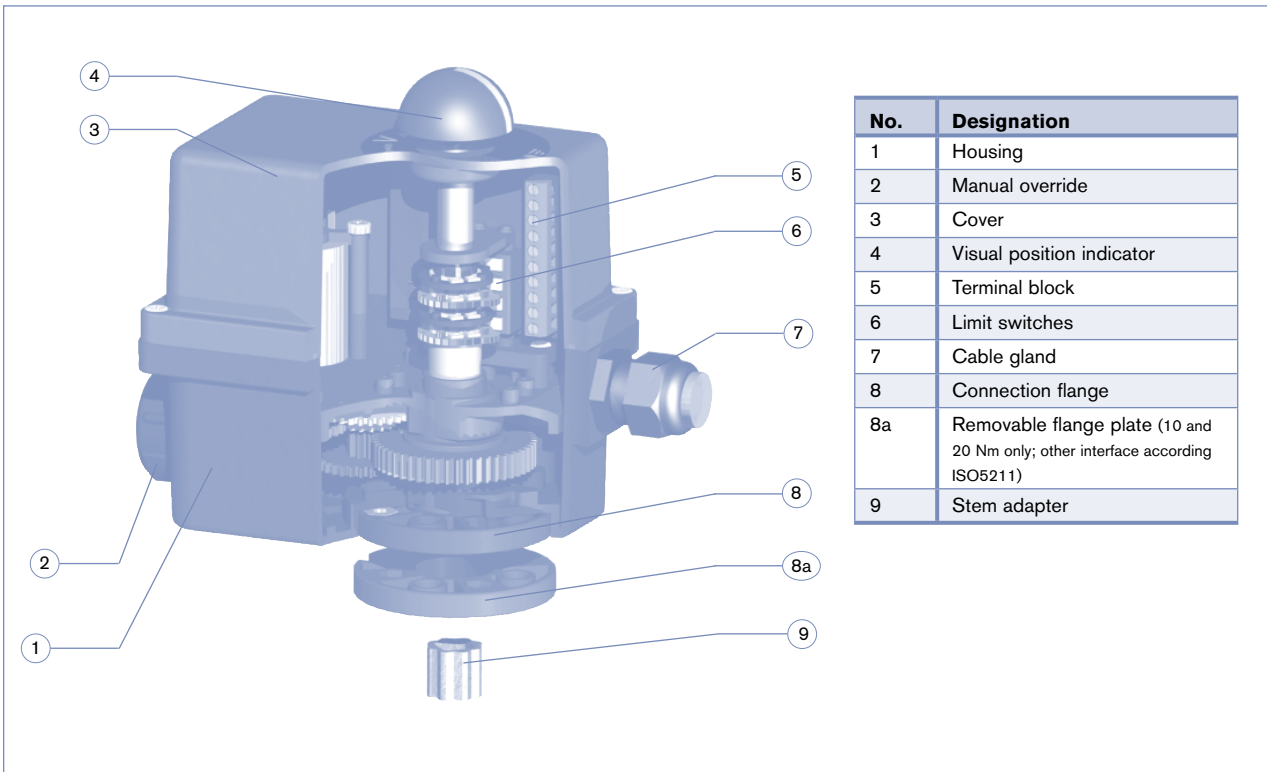


270° Diverting

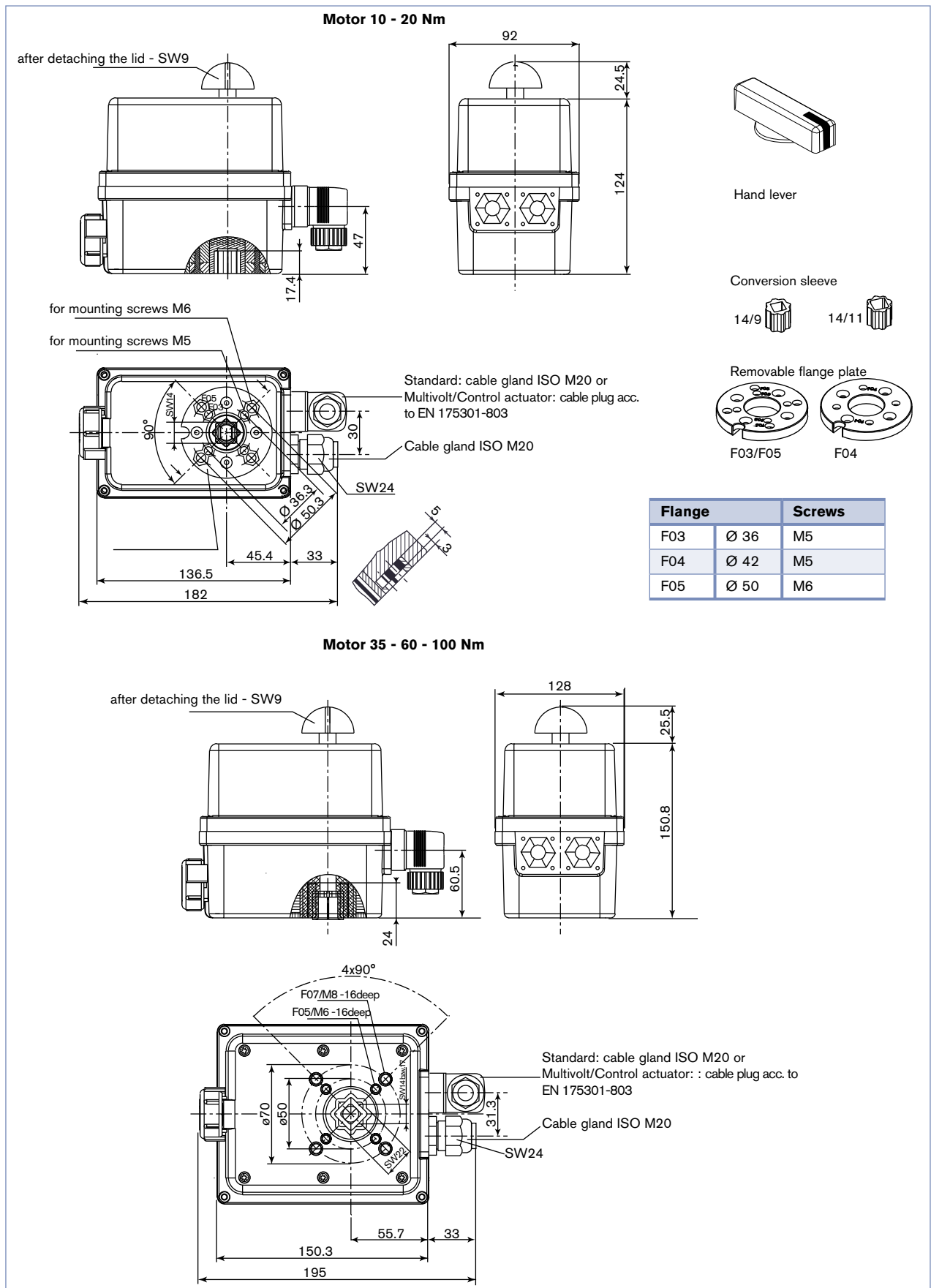


270° Diverting

Actuator Type 3003: exploded view



Actuator Type 3003: dimensions

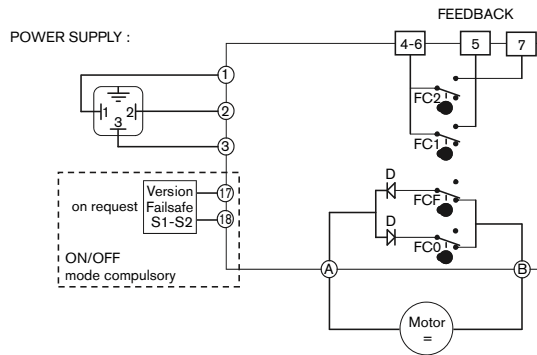
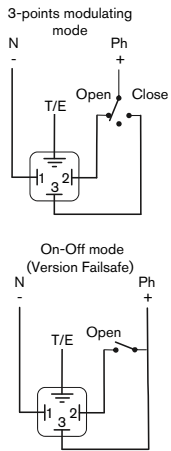


Actuator Type 3003: electrical connection

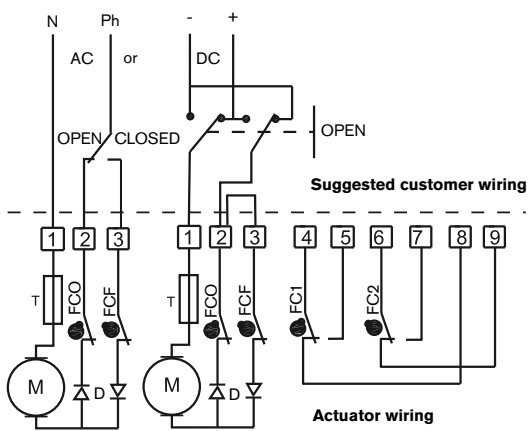
Switch drawings

100 - 240 V AC/50-60 Hz multivolt version

SUGGESTED CUSTOMER WIRING



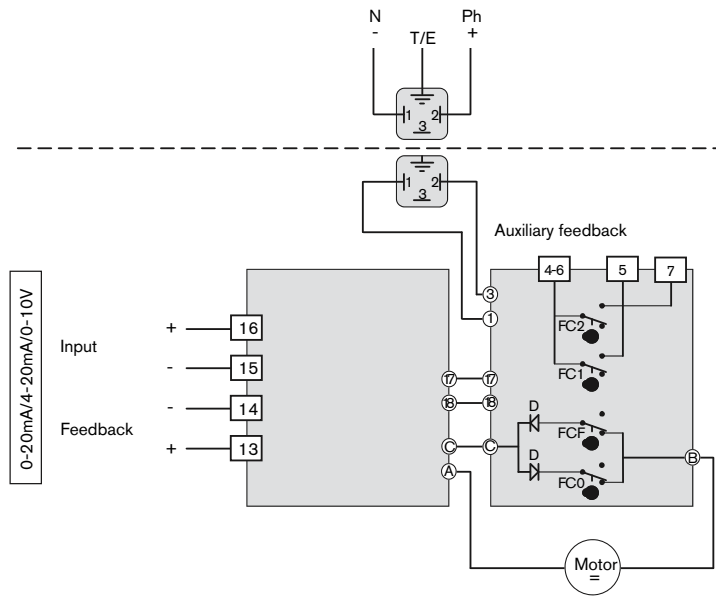
24 V AC/DC standard version



Actuator Type 3003: electrical connection, continued

100 - 240 V AC and 24 V AC/DC

Version with analog input signal (on request)




| Symbol | Description |
|--------|--------------------------|
| FCO | Open limit switch |
| FCF | Close limit switch |
| FC1 | Auxiliary 1 limit switch |
| FC2 | Auxiliary 1 limit switch |
| M | Motor |
| T | Thermal fuse |

| Symbol | Description |
|--------|-----------------------------|
| D | Diode |
| C | Capacitor |
| P | Potentiometer |
| H | Heating resistor |
| J7 | Heating resistor connection |
| J8 | Potentiometer connector |


Ordering chart

L Port

| Function | Orifice Diameter [mm] | Port connection Ø (solvent) | Pressure range PVC, PVDF (bar) | Power supply | Body material | Seal material | ID No. |
|--|-----------------------|-----------------------------|--------------------------------|--------------|---------------|---------------|---------|
| 3/2-Way L Port  | 15 | 1/2" | 16 | 024/UC | PVC | PTFE | AU55068 |
| | 15 | 1/2" | 16 | 230VAC | PVC | PTFE | AU55069 |
| | 20 | 3/4" | 16 | 024/UC | PVC | PTFE | AU55070 |
| | 20 | 3/4" | 16 | 230VAC | PVC | PTFE | AU55071 |
| | 25 | 1" | 16 | 024/UC | PVC | PTFE | AU55072 |
| | 25 | 1" | 16 | 230VAC | PVC | PTFE | AU55073 |
| | 32 | 1 1/4" | 16 | 024/UC | PVC | PTFE | AU55074 |
| | 32 | 1 1/4" | 16 | 230VAC | PVC | PTFE | AU55075 |
| | 40 | 1 1/2" | 16 | 024/UC | PVC | PTFE | AU55076 |
| | 40 | 1 1/2" | 16 | 230VAC | PVC | PTFE | AU55077 |
| | 50 | 2" | 16 | 024/UC | PVC | PTFE | AU55078 |
| | 50 | 2" | 16 | 230VAC | PVC | PTFE | AU55079 |

Ordering chart

T Port

| Function | Orifice Diameter [mm] | Port connection Ø (solvent) | Pressure range PVC, PVDF (bar) | Power supply | Body material | Seal material | ID No. |
|--|-----------------------|-----------------------------|--------------------------------|--------------|---------------|---------------|---------|
| 3/2-Way T Port  | 15 | 1/2" | 16 | 024/UC | PVC | PTFE | AU55080 |
| | 15 | 1/2" | 16 | 230VAC | PVC | PTFE | AU55081 |
| | 20 | 3/4" | 16 | 024/UC | PVC | PTFE | AU55082 |
| | 20 | 3/4" | 16 | 230VAC | PVC | PTFE | AU55083 |
| | 25 | 1" | 16 | 024/UC | PVC | PTFE | AU55084 |
| | 25 | 1" | 16 | 230VAC | PVC | PTFE | AU55085 |
| | 32 | 1 1/4" | 16 | 024/UC | PVC | PTFE | AU55086 |
| | 32 | 1 1/4" | 16 | 230VAC | PVC | PTFE | AU55087 |
| | 40 | 1 1/2" | 16 | 024/UC | PVC | PTFE | AU55088 |
| | 40 | 1 1/2" | 16 | 230VAC | PVC | PTFE | AU55089 |
| | 50 | 2" | 16 | 024/UC | PVC | PTFE | AU55090 |
| | 50 | 2" | 16 | 230VAC | PVC | PTFE | AU55091 |

i Further versions on request

Materials
Body: PVDF, PVC-C, ABS

Voltage
Non-standard voltages

Electrical connection
Cable plug acc. to EN 175301-803

Additional
Positioner card with normal input signal 4-20 mA or 0-10 V
Feedback through Potentiometer or 4-20 mA analog signal
Slow rotation version
3-position actuator (90° or 180°)
Heating resistor 10 W
Fail safe version