

## Tri CTB

Three-way valve PN 16  
DN 15...50



The Tri CTB is a three-way valve which can be used as diverting or mixing valve. When used as a diverting valve, the Tri CTB has one inlet (AB) and two outlets (A and B). Depending on the spindle position, the flow is diverted to either outlet A or outlet B.

When used as a mixing valve, the Tri CTB has two inlets (A and B) and one outlet (AB). Depending on the spindle position, the flow is mixed between inlet A and B.

The Tri CTB can be used with on/off, floating or modulating actuators. Or with Oventrop temperature controllers in which case no auxiliary energy is needed for actuation.

The Tri CTB is supplied with union nuts for use with flat sealing threaded tailpipes.

### Functions

- Shutting off A to AB or B to AB
- Diverting from AB to A or B
- Mixing from A and B to AB

### Features

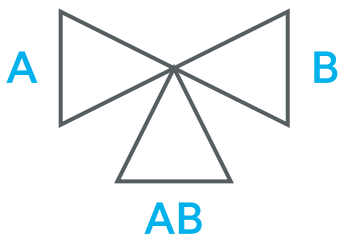
- + Usable as diverting or mixing valve
- + Control with on/off, floating or modulating actuator
- + Body made of brass

# Product Details

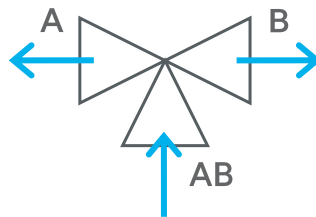
## Technical Data

|                                                         |                                                                                                                   |              |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------|
| <b>Nominal sizes</b>                                    | DN 15...50                                                                                                        |              |
| <b>Variants</b>                                         | External thread according to ISO 228, flat sealing                                                                |              |
| <b>Operating temperature</b>                            | -10...120 °C                                                                                                      |              |
| <b>Operating pressure</b>                               | max. 16 bar / PN 16                                                                                               |              |
| <b>Medium</b>                                           | Heating or cooling water according to VDI 2035 or ÖNORM 5195<br>Water-glycol mixture with max. 50% glycol content |              |
| <b>Kvs values and max. differential pressure in bar</b> | DN 15:                                                                                                            | 2.4      3   |
|                                                         | DN 20:                                                                                                            | 4.3      2   |
|                                                         | DN 25:                                                                                                            | 5.3      1   |
|                                                         | DN 32:                                                                                                            | 7.8      1   |
|                                                         | DN 40:                                                                                                            | 8.4      1   |
|                                                         | DN 50:                                                                                                            | 10.6    0.75 |
| <b>Actuator connection</b>                              | M 30 x 1.5                                                                                                        |              |
| <b>Stroke</b>                                           | 2.8 mm                                                                                                            |              |
| <b>Closing force</b>                                    | 90...150 N                                                                                                        |              |

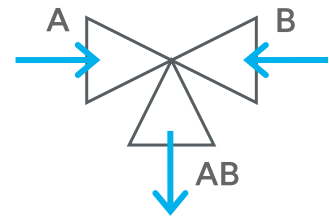
## Construction



Connection configuration

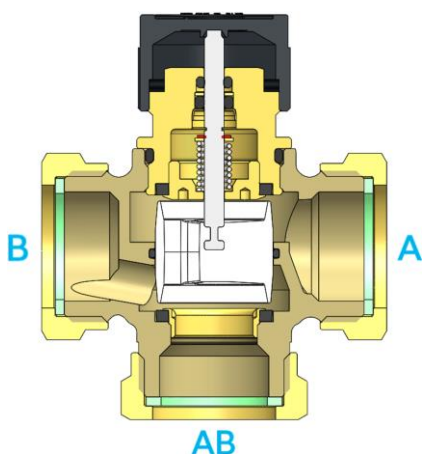


Use as diverting valve: The volume flow AB is diverted to A and B depending on the stroke



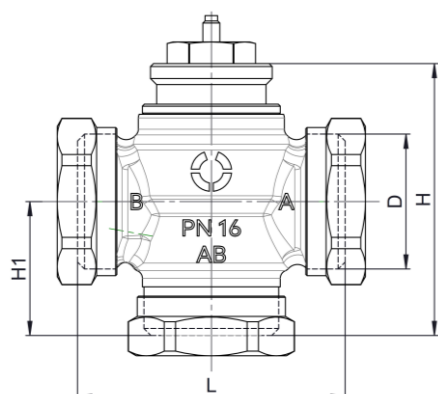
Use as mixing valve: The volume flows A and B are mixed to AB depending on the stroke

## Materials



| Component         | Material                                                          |
|-------------------|-------------------------------------------------------------------|
| Body              | Brass                                                             |
| Valve insert      | Brass                                                             |
| Spindle           | Stainless steel                                                   |
| Regulating sleeve | Glass fibre reinforced plastic (DN 15...25)<br>Brass (DN 32...50) |
| Valve seals       | EPDM                                                              |
| O-rings           | EPDM                                                              |
| Union nuts        | Brass (DN 15...32)<br>Cast iron DN 40...50)                       |
| Connection seals  | Fibre seal                                                        |
| Protection cap    | Plastic                                                           |

## Dimensions and Item Numbers



| DN | Connection | L<br>[mm] | H<br>[mm] | H1<br>[mm] | SW<br>[mm] | Weight<br>[kg] | Item no. |
|----|------------|-----------|-----------|------------|------------|----------------|----------|
| 15 | G ¾        | 58        | 62        | 31         | 30         | 0,4            | 1131304  |
| 20 | G 1        | 66        | 67        | 33         | 37         | 0,6            | 1131306  |
| 25 | G 1 ¼      | 74        | 73,5      | 40         | 46         | 1              | 1131308  |
| 32 | G 1 ½      | 82        | 81,5      | 43         | 52         | 1.4            | 1131310  |
| 40 | G 2        | 98        | 91        | 50         | 68         | 2.2            | 1131312  |
| 50 | G 2 ½      | 117.5     | 105       | 59         | 75         | 2.9            | 1131316  |

## Accessories

### Threaded tailpipes



**Connection set**  
Consisting of three brass threaded  
tailpipes

| Size  | Suitable for | Item no. |
|-------|--------------|----------|
| R ½   | DN 15        | 1130291  |
| R ½   | DN 20        | 1130292  |
| R ¾   | DN 20        | 1130293  |
| R 1   | DN 25        | 1130294  |
| R 1 ¼ | DN 32        | 1130299  |
| R 1 ¼ | DN 40        | 1130295  |
| R 1 ½ | DN 40        | 1130296  |
| R 2   | DN 50        | 1130298  |

### Aktor T thermal actuators



**Aktor T 2 on/off**  
Normally closed

| Version                                  | Length of cable | Item no. |
|------------------------------------------|-----------------|----------|
| 230 V AC                                 | 1 m             | 1012415  |
|                                          | 2 m             | 1012452  |
|                                          | 5 m             | 1012455  |
|                                          | 10 m            | 1012459  |
| 24 V AC/DC                               | 1 m             | 1012416  |
|                                          | 2 m             | 1012442  |
| 120 V AC                                 | 1 m             | 1012420  |
| <b>Aktor T 2 on/off</b><br>Normally open | 230 V AC        | 1012425  |
|                                          | 24 V AC/DC      | 1012426  |



**Aktor T modulating 0...10 V**  
Normally closed

|         |     |         |
|---------|-----|---------|
| 24 V AC | 1 m | 1012953 |
|---------|-----|---------|

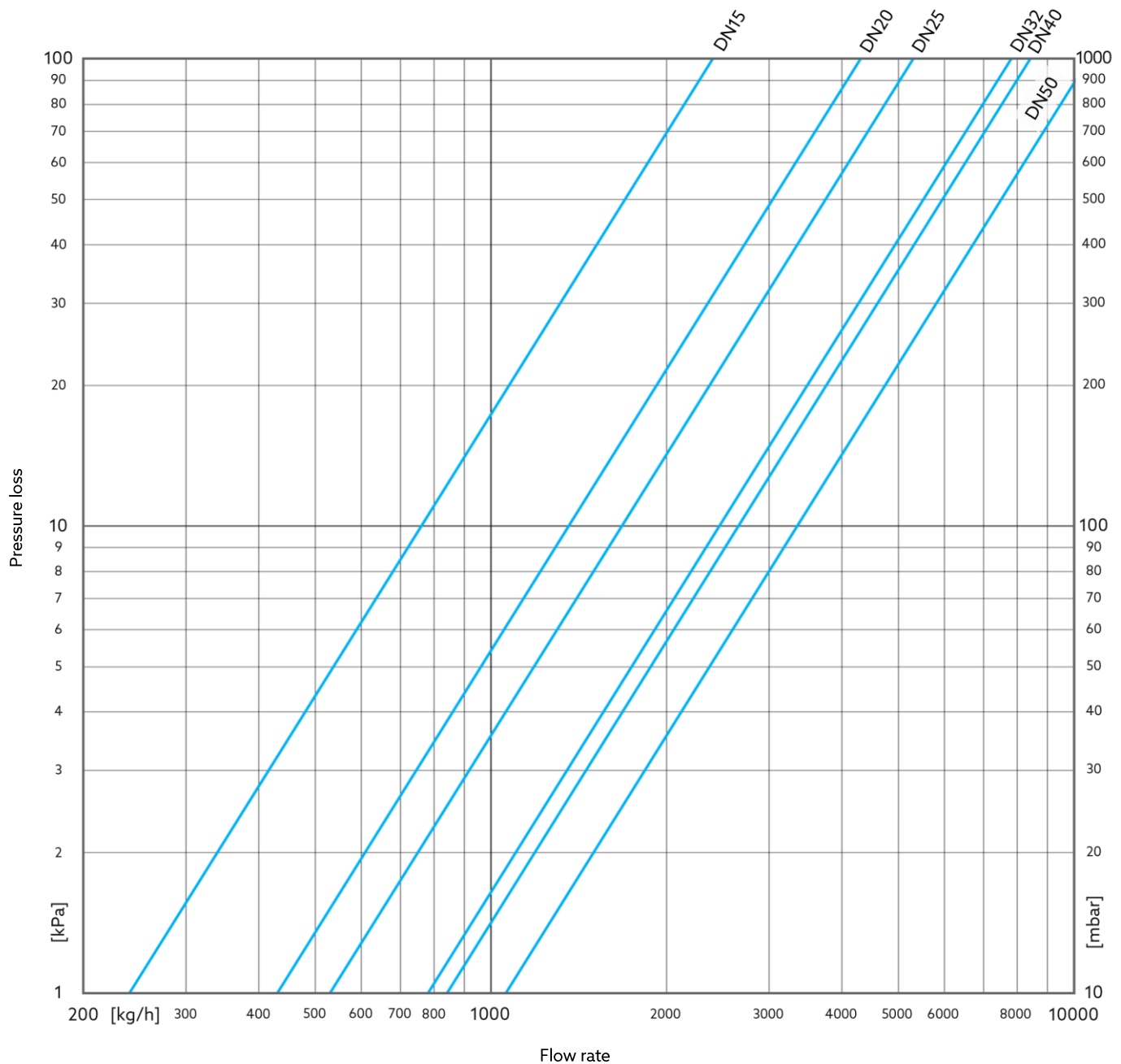
## Aktor M motorised actuators

|                                                                                   |                                                       | Version      | Control signal               | Item no. |
|-----------------------------------------------------------------------------------|-------------------------------------------------------|--------------|------------------------------|----------|
|  | With emergency control function and position feedback | 24 V AC/DC   | Modulating                   | 1012717  |
|                                                                                   |                                                       |              | On/off, floating, modulating | 1012725  |
|                                                                                   | With position feedback                                |              | Modulating                   | 1012726  |
|                                                                                   |                                                       |              | Modbus                       | 1012745  |
|                                                                                   |                                                       | 230 V AC     | On/off, floating             | 1012729  |
|  | With binary input                                     | 21...32 V DC | KNX                          | 1012746  |
|                                                                                   | With short running time                               | 230 V AC     | On/off                       | 1012710  |
|                                                                                   |                                                       | 24 V AC/DC   | On/off                       | 1012711  |

## Temperature controllers

|                                                                                     |                                                  | Setting range | Length of capillary tube | Item no. |
|-------------------------------------------------------------------------------------|--------------------------------------------------|---------------|--------------------------|----------|
|   | With immersion sensor and immersion sleeve G 1/2 | 20...50 °C    | 2 m                      | 1140561  |
|                                                                                     |                                                  |               | 5 m                      | 1140571  |
|                                                                                     |                                                  | 40...70 °C    | 2 m                      | 1140562  |
|                                                                                     |                                                  |               | 5 m                      | 1140572  |
|                                                                                     |                                                  | 50...80 °C    | 2 m                      | 1140563  |
|                                                                                     |                                                  | 70...100 °C   | 2 m                      | 1140564  |
|  | With contact sensor and heat-conducting base     |               | 5 m                      | 1140574  |
|                                                                                     |                                                  | 20...50 °C    | 2 Meter                  | 1142861  |
|                                                                                     |                                                  | 30...60 °C    | 2 Meter                  | 1142862  |
|                                                                                     |                                                  | 40...70 °C    | 2 Meter                  | 1142863  |
|                                                                                     |                                                  | 50...80 °C    | 2 Meter                  | 1142864  |

## Flow chart



## Kvs values

| Nominal size | DN 15   | DN 20   | DN 25   | DN 32   | DN 40   | DN 50  |
|--------------|---------|---------|---------|---------|---------|--------|
| Kvs value    | 2.4     | 4.3     | 5.3     | 7.8     | 8.4     | 10.6   |
| Max. ΔP      | 300 kPa | 200 kPa | 100 kPa | 100 kPa | 100 kPa | 75 kPa |

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