

THERMOSTATIC MIXING VALVE

BASIC SERIES VTA320, VTA520

The ESBE thermostatic mixing valves series VTA320/VTA520 offer high flow capacity and good functionality for universal applications, such as domestic hot water with or without HWC (hot water circulation) and smaller underfloor heating circuits.

OPERATION

Series VTA320/VTA520 are the number one choice for domestic hot water systems requiring an in-line scald safe* function and where further temperature control devices have been installed at the water taps. These series of valves are also suitable for domestic hot water installations equipped with HWC (hot water circulation).

Series VTA320/VTA520 are suitable for under floor heating applications, as long as special attention is paid to temperature range and flow requirements.

FUNCTION

Asymmetrical flow pattern. Scald safe*.

VERSIONS

The product range includes a wide choice of valves delivered with adapter fitting kits, each including three adapter fittings and two check valves, which facilitate easy installation and maintenance.

Supplied with a top cover, unless otherwise stated.

*) Scald safe means that in the case of a cold water failure, the hot water supply shuts off automatically.

MEDIA

These valves can handle the following types of media:

- Fresh water / Potable water
- Closed systems
- Water with antifreeze additive (glycol ≤ 50% mixture)



VTA320
Internal thread



External thread



Compression fitting



VTA520
External thread



With adapters,
external thread



With adapters,
compression fitting

VALVES ARE DESIGNED FOR

| Series | Temperature range | | | | | Application |
|--------|-------------------|-----------|-----------|-----------|-----------|-----------------------------|
| | 20 - 43°C | 30 - 70°C | 35 - 60°C | 45 - 65°C | 50 - 75°C | |
| VTA320 | ● | ● | ● | | | Potable water, in line |
| VTA520 | ● | | | ● | ● | |
| VTA320 | | | | | | Potable water, point of use |
| VTA520 | | | | | | |
| VTA320 | | | | | | Solar heating |
| VTA520 | | | | | | |
| VTA320 | | | | | | Cooling |
| VTA520 | | | | | | |
| VTA320 | ○ | | | | | Floor heating |
| VTA520 | ○ | | | | | |
| VTA320 | | ○ | ○ | | | Radiator heating |
| VTA520 | | | | ○ | ○ | |

● recommended ○ secondary alternative

TECHNICAL DATA

Pressure class: _____ PN 10
 Working pressure: _____ 1,0 MPa (10 bar)
 Differential pressure: _____ Mixing, max. 0,3 MPa (3 bar)
 Media temperature: VTA320, VTA520 _____ max. 95°C
 VTA520 _____ temporarily max. 100°C
 Temperature stability: VTA320 _____ ±2°C*
 VTA520 _____ ±4°C**
 Connection: _____ Internal thread (Rp), EN 10226-1
 _____ External thread (G), ISO 228/1
 _____ External thread (R), EN 10226-1
 _____ Compression fitting (CPF), EN 1254-2

* Valid at unchanged hot/cold water pressure, minimum flow rate 4 l/min. Minimum temperature difference between hot water inlet and mixed water outlet 10°C.

** Valid at unchanged hot/cold water pressure, minimum flow rate 9 l/min. Minimum temperature difference between hot water inlet and mixed water outlet 10°C.

Material

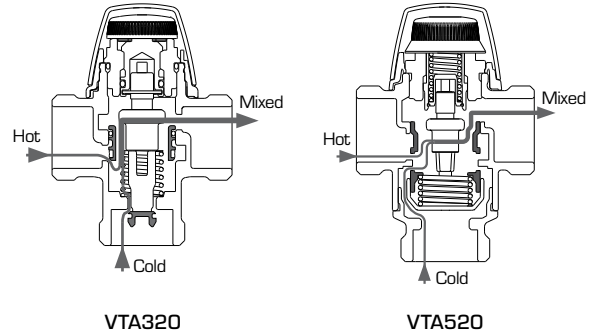
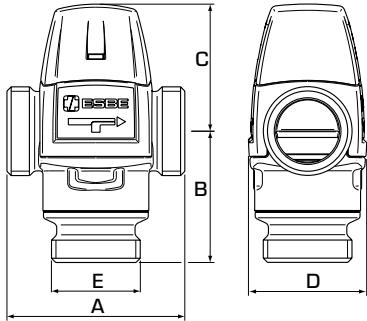
Valve housing and other metal parts with fluid contact:
 _____ Dezincification resistant brass, DZR

PED 2014/68/EU, article 4.3

Pressure Equipment in conformity with PED 2014/68/EU, article 4.3 (sound engineering practice). According to the directive the equipment shall not carry any CE-mark.

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➤ SERIES VTA321, INTERNAL THREAD

| Art. No. | Reference | Temp. range | Kvs * | Connection E | A | Dimension | | | Note | Weight [kg] |
|----------|-----------|-------------|-------|--------------|----|-----------|----|----|------|-------------|
| | | | | | | B | C | D | | |
| 31100300 | VTA321 | 20 - 43°C | 1,5 | Rp 1/2" | 70 | 42 | 52 | 46 | | 0,45 |
| 31100700 | | | 1,6 | Rp 3/4" | | | | | | 0,48 |
| 31100400 | VTA321 | 35 - 60°C | 1,5 | Rp 1/2" | 70 | 42 | 52 | 46 | | 0,45 |
| 31100800 | | | 1,6 | Rp 3/4" | | | | | | 0,48 |

➤ SERIES VTA322/VTA522, EXTERNAL THREAD

| Art. No. | Reference | Temp. range | Kvs * | Connection E | A | Dimension | | | Note | Weight [kg] |
|----------|-----------|-------------|-------|--------------|----|-----------|----|----|------|-------------|
| | | | | | | B | C | D | | |
| 31102800 | VTA322 | 20 - 43°C | 1,2 | G 1/2" | 70 | 42 | 52 | 46 | | 0,41 |
| 31100500 | | | 1,5 | G 3/4" | | | | | | 0,45 |
| 31100900 | | | 1,6 | G 1" | | | | | | 0,48 |
| 31620100 | VTA522 | | 3,2 | G 1" | 84 | 62 | 60 | 56 | | 0,86 |
| 31620400 | | | 3,5 | G 1 1/4" | | | | | | 0,95 |
| 31103200 | VTA322 | 30 - 70°C | 1,6 | G 1" | 70 | 42 | 52 | 46 | | 0,53 |
| 31102900 | VTA322 | 35 - 60°C | 1,2 | G 1/2" | 70 | 42 | 52 | 46 | | 0,41 |
| 31100600 | | | 1,5 | G 3/4" | | | | | | 0,45 |
| 31101000 | | | 1,6 | G 1" | | | | | | 0,48 |
| 31104700 | VTA322 | 45 - 65°C | 1,6 | G 1" | 70 | 42 | 52 | 46 | | 0,55 |
| 31620200 | VTA522 | | 3,2 | G 1" | 84 | 62 | 60 | 56 | 0,86 | |
| 31620500 | | | 3,5 | G 1 1/4" | | | | | 0,95 | |
| 31620300 | VTA522 | 50 - 75°C | 3,2 | G 1" | 84 | 62 | 60 | 56 | 0,86 | |
| 31620600 | | | 3,5 | G 1 1/4" | | | | | 0,95 | |

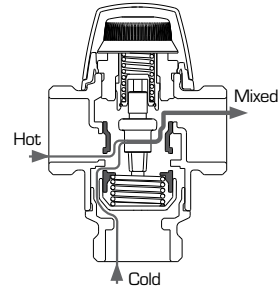
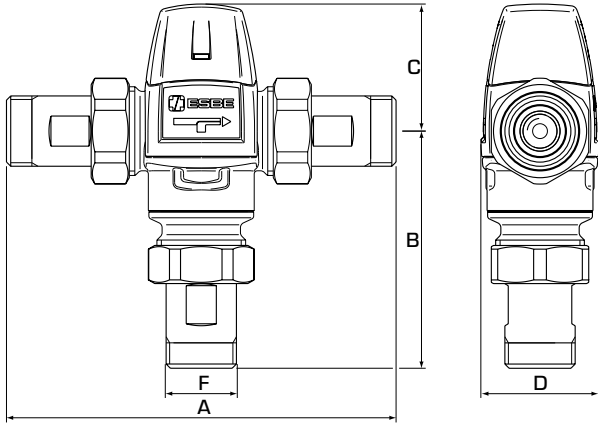
➤ SERIES VTA323, COMPRESSION FITTINGS

| Art. No. | Reference | Temp. range | Kvs * | Connection E | A | Dimension | | | Note | Weight [kg] |
|----------|-----------|-------------|-------|--------------|----|-----------|----|----|------|-------------|
| | | | | | | B | C | D | | |
| 31102600 | VTA323 | 20 - 43°C | 1,2 | CPF 15 mm | 86 | 50 | 52 | 46 | 1) | 0,49 |
| 31100100 | | | 1,5 | CPF 22 mm | | | | | | 0,57 |
| 31102700 | VTA323 | 35 - 60°C | 1,2 | CPF 15 mm | 86 | 50 | 52 | 46 | 1) | 0,49 |
| 31103900 | | | 1,5 | CPF 18 mm | | | | | | 0,66 |
| 31100200 | | | 1,5 | CPF 22 mm | | | | | | 0,57 |

* Kvs-value in m³/h at a pressure drop of 1 bar. CPF = compression fitting
 Note 1) A non-return valve for the cold water is included.

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VTA520

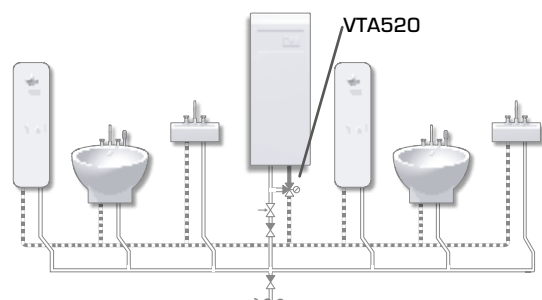
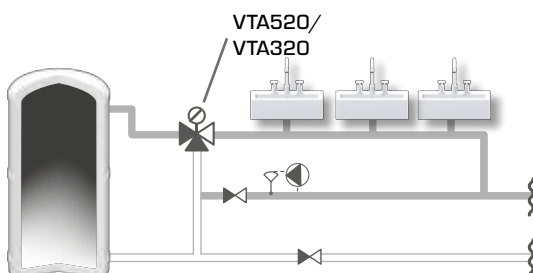
➔ SERIES VTA522/VTA523, WITH ADAPTERS

| Art. No. | Reference | Temp. range | Kvs * | Connection F | A | B | C | D | Note | Weight [kg] |
|----------|-----------|-------------|-------|--------------|-----|-----|----|----|------|-------------|
| 31620700 | VTA522 | 20 - 43°C | 3,0 | R 3/4" | 154 | 97 | 60 | 56 | 2) | 1,22 |
| 31621300 | VTA523 | | | CPF 22mm | 180 | 110 | | | | 1,42 |
| 31621000 | VTA522 | | 3,4 | R 1" | 164 | 102 | | | | 1,59 |
| 31621600 | VTA523 | | | CPF 28mm | 204 | 122 | | | | 1,90 |
| 31620800 | VTA522 | 45 - 65°C | 3,0 | R 3/4" | 154 | 97 | 60 | 56 | 2) | 1,22 |
| 31621400 | VTA523 | | | CPF 22mm | 180 | 110 | | | | 1,42 |
| 31621100 | VTA522 | | 3,4 | R 1" | 164 | 102 | | | | 1,59 |
| 31621700 | VTA523 | | | CPF 28mm | 204 | 122 | | | | 1,90 |
| 31620900 | VTA522 | 50 - 75°C | 3,0 | R 3/4" | 154 | 97 | 60 | 56 | 2) | 1,22 |
| 31621500 | VTA523 | | | CPF 22mm | 180 | 110 | | | | 1,42 |
| 31621200 | VTA522 | | 3,4 | R 1" | 164 | 102 | | | | 1,59 |

* Kvs-value in m³/h at a pressure drop of 1 bar: CPF = compression fitting
 Note 2) Two check valves for both hot and cold water are included

INSTALLATION EXAMPLES

See the catalogue section "How to choose the correct installation/ position" for further information and connection examples.



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CAPACITY DIAGRAM

