ESBE VTA322 (31103200)

ESBE VTA322 Thermostatic Mixing Valve User Manual

Model: VTA322 (31103200)
Brand: ESBE

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your ESBE VTA322 Thermostatic Mixing Valve. The ESBE VTA322 is designed to provide reliable temperature control for domestic hot water systems. It is particularly suitable for use at draw-off points where an anti-scald function is required, and for regulation in applications such as underfloor heating, solar tanks, and continuous flow water heaters.



Figure 1: ESBE VTA322 Thermostatic Mixing Valve. This image shows the compact brass body of the valve with threaded connections on three sides and a black plastic top housing the thermostatic element. The ESBE logo and a flow direction indicator are visible on the front.

2. Safety Information

- Read this manual completely before installation and operation.
- Installation should only be performed by qualified personnel in accordance with local regulations and standards.
- Ensure the water supply is turned off before commencing any installation or maintenance work.

- Do not exceed the maximum operating pressure or temperature specified in the technical data.
- The valve operates without pressure compensation, therefore it is crucial that there is no significant pressure difference between the hot and cold water inlets for optimal performance.
- Protect the valve from freezing temperatures.

3. Product Overview

The ESBE VTA322 is a compact thermostatic mixing valve designed for precise temperature control. Its primary function is to mix hot and cold water to deliver a constant, safe mixed water temperature, preventing scalding and optimizing system efficiency. All water-conducting parts are made of corrosion-resistant brass.

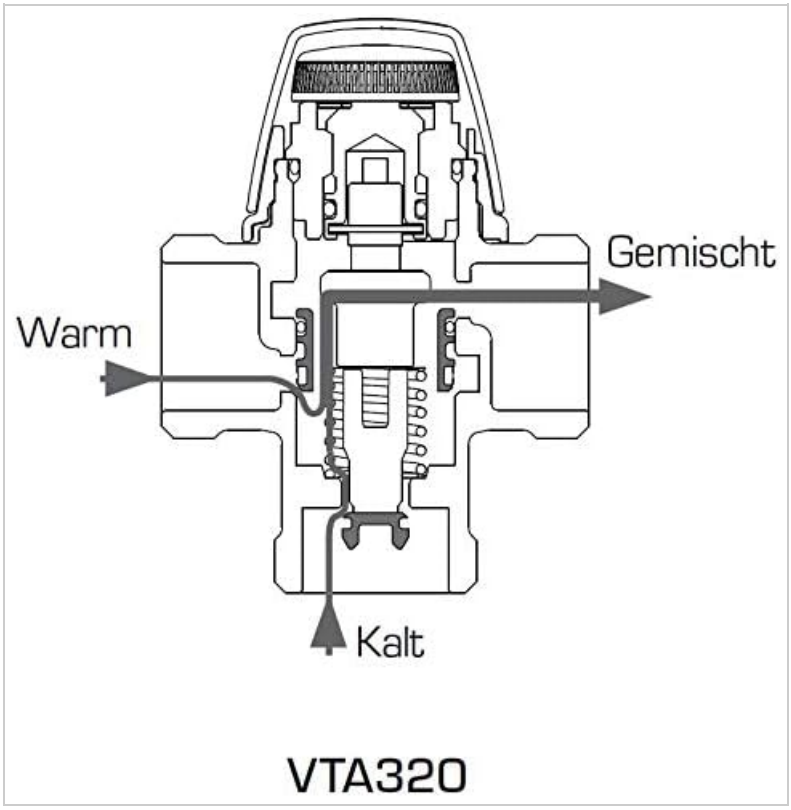


Figure 2: Internal flow diagram of the VTA320 series valve (similar to VTA322). This diagram illustrates the path of hot water ("Warm"), cold water ("Kalt"), and the resulting mixed water ("Gemischt") within the valve. It shows the thermostatic element regulating the blend.

4. Setup and Installation

4.1. Pre-Installation Checks

- Verify that the valve's specifications (connection size, temperature range) match your system requirements.
- Ensure the installation location allows for easy access for future adjustments or maintenance.
- Flush the piping system thoroughly before installing the valve to remove any debris.

4.2. Installation Steps

1. Turn off the main water supply to the system.
2. Identify the hot water inlet, cold water inlet, and mixed water outlet ports on the valve. Refer to Figure 2 for flow direction.

3. Connect the valve to the piping system using appropriate fittings. The valve has 1" AG (external thread) connections.
4. Ensure all connections are sealed properly to prevent leaks. Do not overtighten.
5. Open the main water supply slowly and check for leaks.

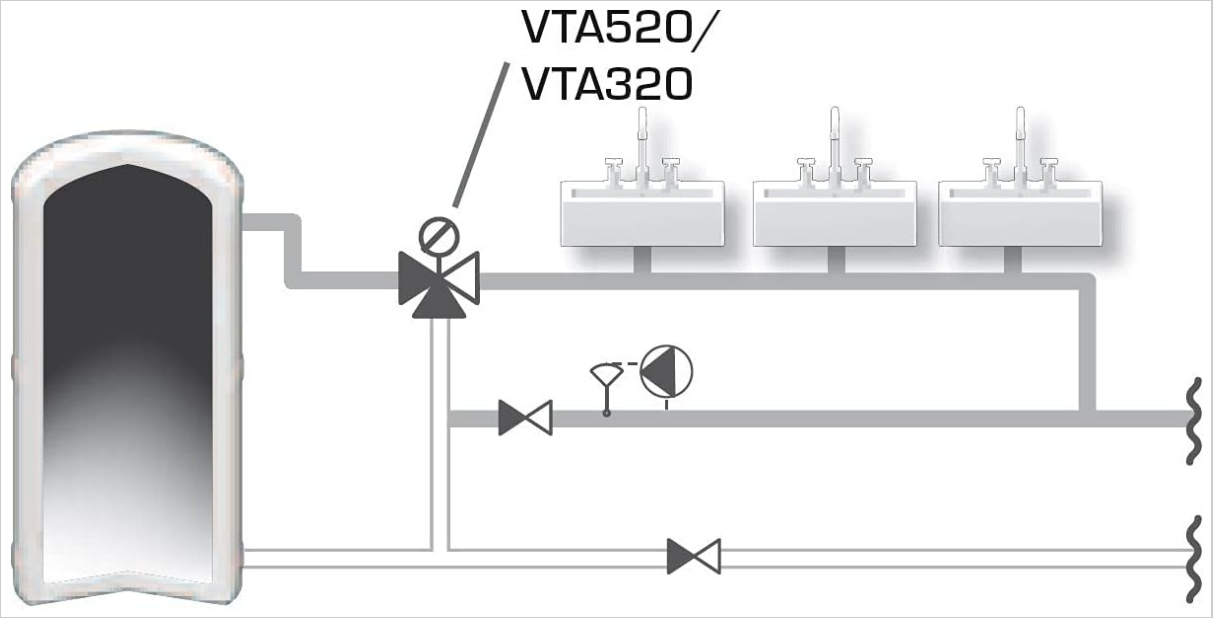


Figure 3: Typical installation diagram for VTA520/VTA320 series valves (similar to VTA322) in a domestic hot water system. This schematic shows the valve installed after a hot water storage tank, supplying mixed water to multiple draw-off points. It also indicates the cold water supply and circulation lines.

5. Operating Instructions

5.1. Temperature Adjustment

The ESBE VTA322 valve allows for adjustment of the mixed water temperature within a range of 30°C to 70°C.

1. Locate the adjustment knob or cap on the top of the valve.
2. Rotate the knob/cap to increase or decrease the desired mixed water temperature. Typically, turning clockwise decreases temperature and counter-clockwise increases it.
3. Use a thermometer to verify the mixed water temperature at a draw-off point. Allow the water to run for a few minutes to stabilize the temperature before taking a reading.
4. Adjust incrementally until the desired temperature is achieved.

Note: The valve is designed to maintain a constant outlet temperature even with fluctuations in inlet temperatures or pressures, provided the pressure difference between hot and cold inlets is minimal.

6. Maintenance

The ESBE VTA322 valve is designed for long-term, reliable operation with minimal maintenance.

- **Periodic Checks:** Periodically inspect the valve and connections for any signs of leaks or corrosion.
- **Temperature Verification:** It is recommended to periodically check the mixed water temperature with a thermometer to ensure the valve is maintaining the set temperature accurately.
- **Cleaning:** If water quality issues are suspected (e.g., sediment build-up), the valve may need to be disassembled and cleaned by a qualified technician. Always turn off the water supply before

attempting any disassembly.

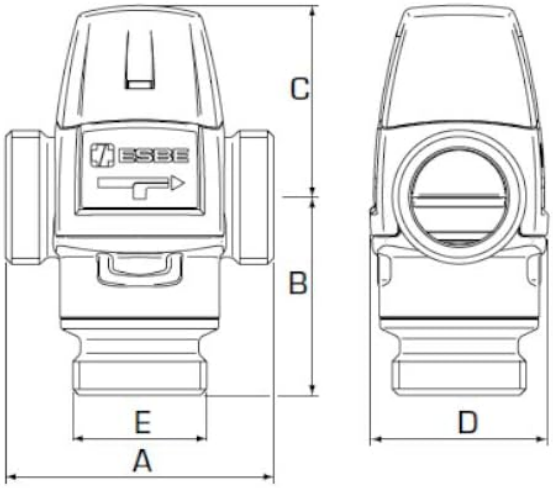
7. Troubleshooting

Problem	Possible Cause	Solution
Mixed water temperature is too hot or too cold.	Incorrect temperature setting.	Adjust the temperature setting on the valve (see Section 5.1).
Mixed water temperature fluctuates significantly.	Significant pressure difference between hot and cold inlets.	Ensure balanced pressures for hot and cold water supply. Consult a plumber if necessary.
No mixed water flow.	Water supply turned off or blocked.	Check main water supply. Inspect for blockages in pipes or valve.
Leakage from valve connections.	Loose connections or damaged seals.	Turn off water supply, tighten connections, or replace seals/gaskets.

8. Technical Specifications

- **Model:** ESBE VTA322
- **Article Number:** 31103200
- **Connection Size:** 1" AG (External Thread)
- **Adjustment Range:** 30 - 70 °C
- **Kvs Value:** 1.6
- **Max. Operating Pressure:** 10 bar
- **Max. Differential Pressure:** 3 bar (0.3 MPa)
- **Max. Temperature (Hot Water Inlet):** 90 °C
- **Valve Sizes (DN):** DN 20 - 25
- **Material:** Brass
- **Weight:** Approximately 541 g

8.1. Dimensions



Art. Nr.	Referenz	Temperaturbereich °C	Kvs*	Anschluss	A mm	B mm	C mm	D mm	Gewicht kg	Leitung
31100600	VTA322	35-60	1,5	G 3/4"	70	42	52	46	0.45	DN15
31101000	VTA322	35-60	1,6	G 1"	70	42	52	46	0.48	DN20
31103200	VTA322	30-70	1,6	G 1"	70	42	52	46	0.53	DN20

* Kvs-Wert in m3/h bei einem Druckabfall von 1 bar.

Figure 4: Dimensional drawing and table for ESBE VTA322 series valves. The diagram shows the valve with labeled dimensions A, B, C, D, E. The accompanying table provides specific measurements in millimeters and weight in kilograms for different article numbers and connection sizes, including the 31103200 model (G1" connection).

Article No.	Reference	Temperature Range °C	Kvs*	Connection	A mm	B mm	C mm	D mm	Weight kg	Pipe Size
31100600	VTA322	35-60	1,5	G3/4"	70	42	52	46	0.45	DN15
31101000	VTA322	35-60	1,6	G1"	70	42	52	46	0.48	DN20
31103200	**VTA322**	**30-70**	**1,6**	**G1"**	**70**	**42**	**52**	**46**	**0.53**	**DN20**

** Kvs-Wert in m³/h bei einem Druckabfall von 1 bar.* (Kvs value in m³/h at a pressure drop of 1 bar.)

9. Warranty and Support

For information regarding warranty terms and conditions, please refer to the documentation provided with your purchase or contact your local ESBE distributor. For technical support or inquiries, please reach out to ESBE customer service or a qualified plumbing professional.

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