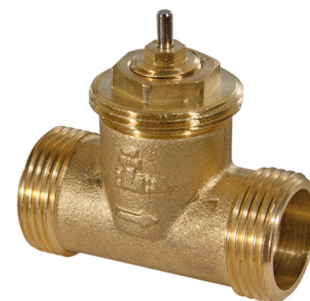


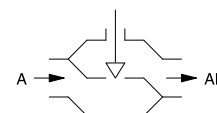
VUT: 2-way valve, PN16

Features

- Regulation of fan coil units, air secondary-treatment units for heating zones and in combination with AXT 211, AXT 201, AXS 215S or AXM217(S).
- Standard version flat sealing
- Adjustable kvs value
- When the spindle is pressed in, the valve is closed
- Closing against the pressure
- Valve with male thread as per DIN EN ISO 228-1, class B
- Valve body made of cast brass
- Nickel-plated brass spindle
- Plug with EPDM soft seal
- Stuffing box with O-ring seal



VUT015F200



Technical data

| Parameters | |
|----------------------|-----------------------------|
| Nominal pressure | PN 16 |
| Valve characteristic | Almost linear |
| Leakage rate | ≤ 0.0001% of k_{VS} value |

| Admissible ambient conditions | |
|-------------------------------|----------------------|
| Operating temperature | 2...120 °C |
| Operating pressure | Up to 120 °C, 16 bar |

| Standards and directives | |
|-------------------------------|---|
| Pressure and temperature data | EN 764, EN 1333 |
| Flow parameters | EN 60534 (page 3) |
| Pressure Equipment Directive | 97/23/EC (fluid group II) No CE label, article 3.3 |

Overview of types

| Type | Nominal diameter (DN) | k_{VS} value | Valve stroke (mm) | Connection | Weight (kg) |
|------------|-----------------------|----------------|-------------------|------------|-------------|
| VUT010F200 | 10 | 1.6 m³/h | 3 | G½ B | 0.18 |
| VUT010F210 | 10 | 1 m³/h | 3 | G½ B | 0.18 |
| VUT010F220 | 10 | 0.63 m³/h | 3 | G½ B | 0.18 |
| VUT015F200 | 15 | 3.5 m³/h | 4 | G¾ B | 0.28 |
| VUT015F210 | 15 | 2.5 m³/h | 3 | G¾ B | 0.28 |
| VUT020F200 | 20 | 4.5 m³/h | 4 | G1 B | 0.33 |

Accessories

| Type | Description |
|------------|---|
| 0378133010 | 1 threaded sleeve, R¾", flat-sealing, DN 10, with cap nut and flat seal |
| 0378133015 | 1 threaded sleeve, R½", flat-sealing, DN 15, with cap nut and flat seal |
| 0378133020 | 1 threaded sleeve, R¾", flat-sealing, DN 20, with cap nut and flat seal |
| 0378134010 | 1 solder nipple, Ø 12, flat-sealing, DN 10, with cap nut and flat seal |
| 0378134015 | 1 solder nipple, Ø 15, flat-sealing, DN 15, with cap nut and flat seal |
| 0378134020 | 1 solder nipple, Ø 22, flat-sealing, DN 20, with cap nut and flat seal |

Combination of VUT with electric actuators

- **Warranty:** The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- **Definition of Δp_s :** Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- **Definition of Δp_{max} :** Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.



Pressure differences with motorised actuators

| Actuator | AXM217F200 | AXM217F202 | AXM217SF402 |
|----------------|------------|------------|---|
| Voltage | 230 V~ | 24 V~/= | 24 V~/= |
| Control signal | 3-point | 3-point | 0/2...10 V, 0...5 V, 5...10 V, 0/4...20 mA |
| Running time | 13 s/mm | 13 s/mm | 8 s/mm |

 Δp [bar]

| Closes against the pressure | Δp_{max} | Δp_{max} | Δp_{max} |
|--|------------------|------------------|------------------|
| VUT010F200 VUT010F210 VUT010F220 | 2.5 | 2.5 | 2.5 |
| VUT015F200 VUT015F210 | 1.8 | 1.8 | 1.8 |
| VUT020F200 | 1.0 | 1.0 | 1.0 |

Cannot be used to close with the pressure

Pressure differences with thermal actuators

| Actuator | AXT201F110 | AXT201F112 | AXT211F210 AXT211HF210 | AXT211F212 AXT211HF212 | AXT211F110 AXT211F110B AXT211F110M AXT211F190 AXT211HF110 | AXT211F112 AXT211F112B AXT211F112M AXT211F192 AXT211HF112 |
|----------------|------------|------------|---------------------------|---------------------------|---|---|
| Voltage | 230 V~ | 24 V~/= | 230 V~ | 24 V~/= | 230 V~ | 24 V~/= |
| Control signal | 2-point | 2-point | 2-point | 2-point | 2-point | 2-point |
| Running time | 33 s/mm | 40 s/mm | 33 s/mm | 40 s/mm | 33 s/mm | 40 s/mm |

 Δp [bar]

| Closes against the pressure | Δp_{max} | Δp_s | Δp_{max} | Δp_s | Δp_{max} | Δp_{max} | Δp_{max} | Δp_s | Δp_{max} | Δp_s |
|--|------------------|--------------|------------------|--------------|------------------|------------------|------------------|--------------|------------------|--------------|
| VUT010F200 VUT010F210 VUT010F220 | 2.3 | 2.3 | 2.3 | 2.3 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| VUT015F200 VUT015F210 | 1.6 | 1.6 | 1.6 | 1.6 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| VUT020F200 | 0.9 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

Cannot be used to close with the pressure

Pressure differences with thermal actuators

| Actuator | AXS215SF222 AXS215SF222B | AXS215SF122 AXS215SF122B |
|----------------|-----------------------------|-----------------------------|
| Voltage | 24 V~ | 24 V~ |
| Control signal | 0...10 V | 0...10 V |
| Running time | 30 s/mm | 30 s/mm |

 Δp [bar]

| Closes against the pressure | Δp_{max} | Δp_{max} | Δp_s |
|--|------------------|------------------|--------------|
| VUT010F200 VUT010F210 VUT010F220 | 2.5 | 2.5 | 2.5 |
| VUT015F200 VUT015F210 | 1.8 | 1.8 | 1.8 |
| VUT020F200 | 1.0 | 1.0 | 1.0 |

Cannot be used to close with the pressure

Setting of the k_{vs} values in m^3/h

| Setting | 1 | 2 | 3 | 4 | 5 | 0 (factory setting) |
|--------------|-----|------|-----|------|------|---------------------|
| VUT 010 F220 | 0.2 | 0.4 | 0.5 | 0.55 | 0.6 | 0.63 |
| VUT 010 F210 | 0.2 | 0.3 | 0.4 | 0.63 | 0.85 | 1.0 |
| VUT 010 F200 | 0.2 | 0.63 | 1.0 | 1.3 | 1.5 | 1.6 |
| VUT 015 F210 | 0.3 | 1.1 | 1.9 | 2.2 | 2.4 | 2.5 |
| VUT 015 F200 | 1.0 | 1.9 | 2.5 | 2.9 | 3.1 | 3.5 |
| VUT 020 F200 | 1.0 | 1.9 | 3.0 | 3.9 | 4.2 | 4.5 |

Function

When the spindle is pressed in, the 2-way valve is closed (passage A-AB). It is reset by spring force in the valve. The valve can be controlled to the "OPEN" or "CLOSED" positions with the thermal actuator for unit valves AXT 211. Used in combination with the "normally closed" version of the actuator, the valve's control passage closes in the event of a power failure. The valve can be controlled to any desired position with continuous actuator for unit valves AXS 215S. Depending on the position of the DIP switches, the valve is adjusted continuously with a control voltage of 0...10 V / 10...0 V, 2...10 V / 10...2 V. The control signal is then assigned to the valve stroke on a linear basis and produces the approximate linear characteristic in the valve. The positioner integrated into the actuator controls the actuator according to the setting of the DIP switches and positioning signal y. The continuous actuator positions the valve and, as soon as the position is reached, it stops. The valve can be controlled to any desired position with motorised actuator for unit valves AXM 217. In the case of type AXM 217S (with positioner) the valve is adjusted continuously with a control voltage of 0 to 10 V. Together with a thermal actuator, the approximate ON/OFF and subsequent linear characteristic enables the valve to be opened quickly.

Engineering and fitting notes

The control unit can be fitted in any position. To prevent any flow noise from being audible in very quiet rooms, the pressure difference over the valve must not exceed 0.6 bar. The valve is factory-set to the greatest k_{vs} value. When this k_{vs} value is adjusted, the stroke is reduced to almost 0.5 mm. So that impurities are retained in the water (welding beads, rust particles, etc.) and the spindle seal is not damaged, we recommend installing collecting filters, for example one for each floor or pipe run. Requirements for water quality as per VDI 2035. The stuffing box can only be replaced when there is no pressure on the valve. The stuffing box is sealed against the medium. Medium with coolant such as glycol with min. 16% or max. 40%. When insulating the unit valve, it may only be insulated up to the cap nut or the bayonet ring of the actuator.

Additional version information

Valve housing in pressed brass with external thread to ISO 228/1, class B, flat seal on housing. Stuffing box with ethylene-propylene O-ring. No protective cap (or manual adjusting knob), stem is protected by the packing.

Material numbers as per DIN

| | EN-DIN material no. | EN-DIN designation |
|--------------|---------------------|------------------------------------|
| Valve body | CW617N | Cu Zn 40 Pb2 according to EN12164 |
| Valve seat | CW617N | Cu Zn 40 Pb2 according to EN12164 |
| Spindle | 1.4310 | X10 Cr Ni18-8 according to EN188-1 |
| Plug | CW617N | Cu Zn 40 Pb 2 according to EN12164 |
| Stuffing box | CW617N | Cu Zn 40 Pb 2 according to EN12164 |

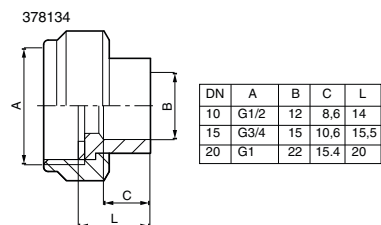
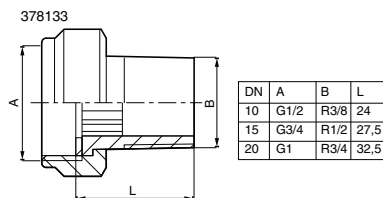
Technical information

| | |
|--|-----------------|
| Pressure and temperature data | EN 764, EN 1333 |
| Fluidic parameters | VDI/VDE 2173 |
| SAUTER slide rule for valve sizing | P100013496 |
| PC program for valve and actuator sizing | 7000675001 |
| Valvedim.exe | |
| Technical manual on control units | 7000477001 |
| CE conformity as per pressure equipment directive 97/23/EC, article 3.3 (fluid group II) | |

Dimension drawings

Accessories

Threaded fitting

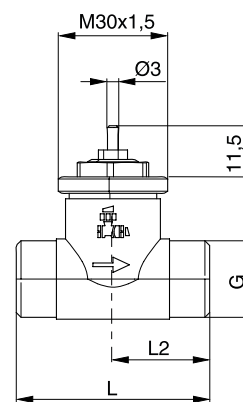
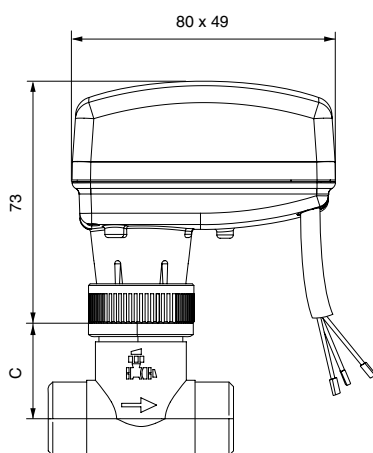


Assembly

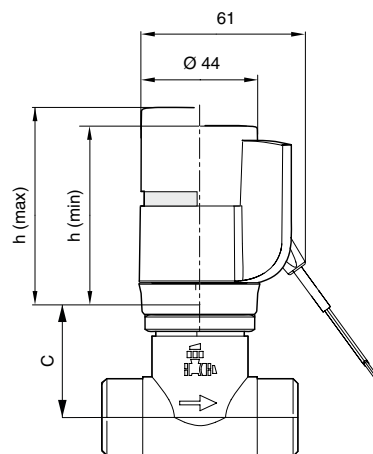
Combinations with thermal actuator AXT2 and motorised actuator AXM2

AXM 217/217S

AXM 217/217S



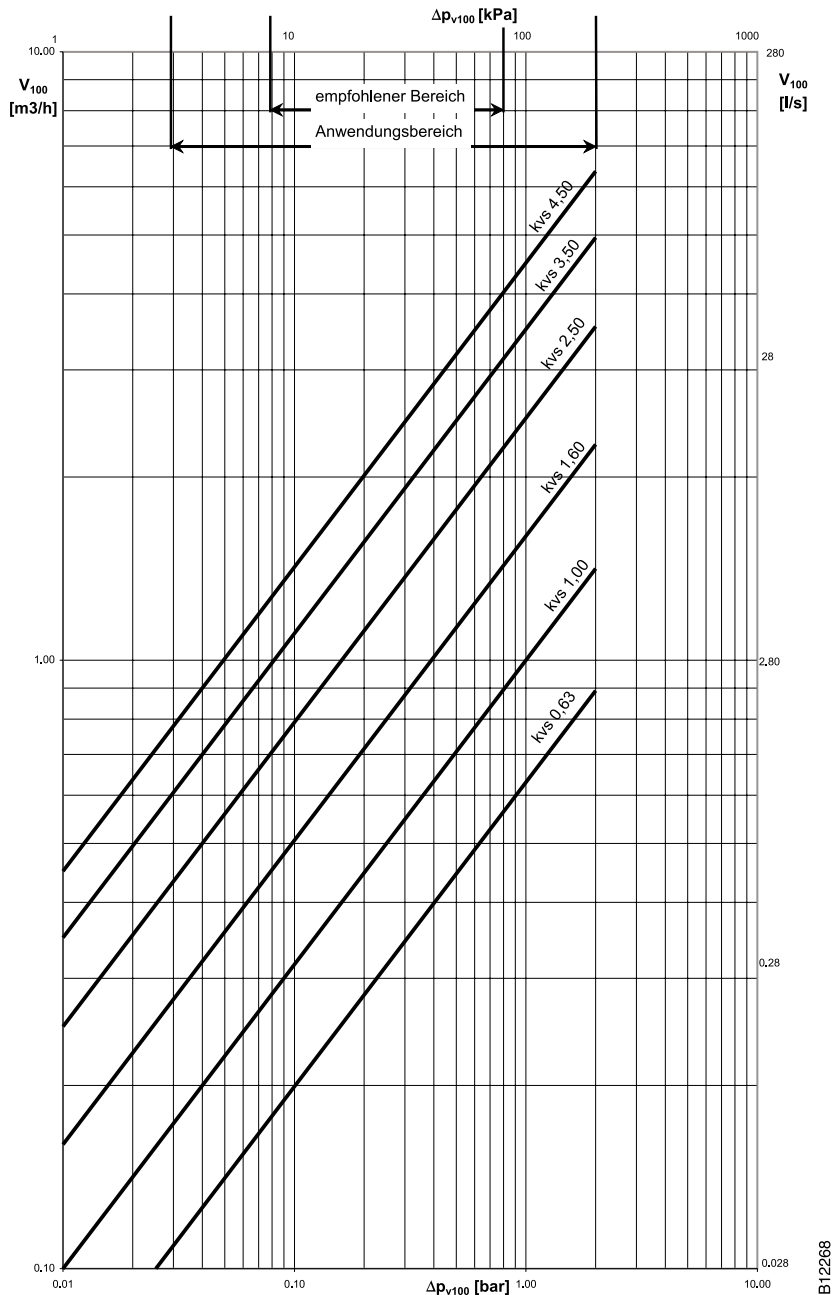
AXT 211/215S



| VUT | "c" | "L" | "G" |
|-----|------|-----|---------|
| 10 | 29.2 | 52 | G 1/2 B |
| 15 | 29.2 | 52 | G 3/4 B |
| 20 | 30.2 | 65 | G 1 B |

Flow-rate chart for VUT valves

Durchflussdiagramm VUT-BUT



B12268

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