

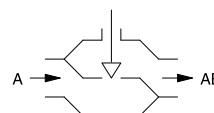
VUT: 2-way valve, PN16

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	$\leq 0.0001\%$ 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

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

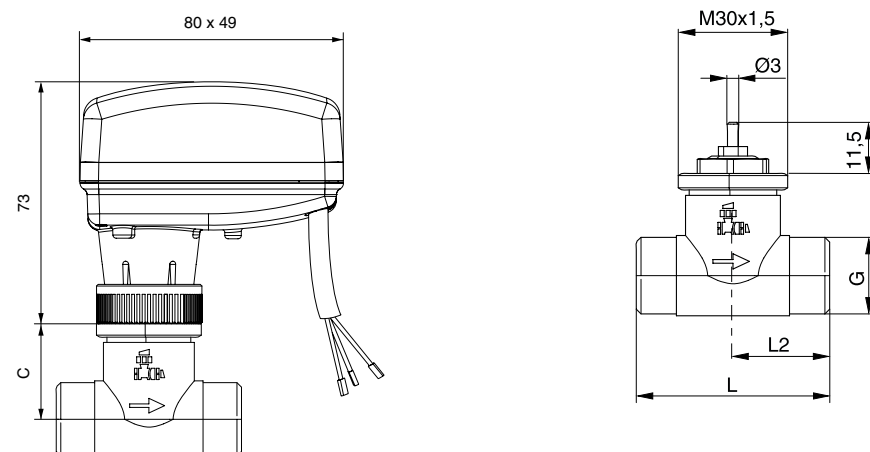
Pressure and temperature data	EN 764, EN 1333
Fluidic parameters	VDI/DE 2173
SAUTER slide rule for valve sizing	P100013496
Technical manual on control units	7000477001
CE conformity as per pressure equipment directive 97/23/EC, article 3.3 (fluid group II)	

Dimension drawings

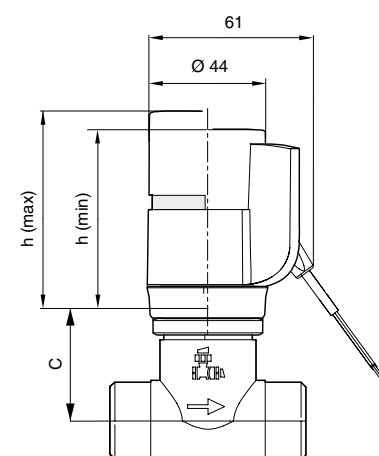
Assembly

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 ½ B
15	29.2	52	G ¾ B
20	30.2	65	G 1 B

Flow-rate chart for VUT valves

