Accessories

Type	Description
XSP31	Pneumatic positioner (see product data sheet)
XAP1	Auxiliary contact unit (see product data sheet)
XAP2	Potentiometer unit (see product data sheet)
0274354000	Rod 600 mm long, Ø 10 mm, with ball joint

For AK 41, AK 42

Type	Description
0226518003	Assembly kit for XAP with AK41, separate delivery
0226519003	Assembly kit for XAP with AK42, separate delivery
0226521002	Assembly kit for XSP 31 with AK41, separate delivery
0226522002	Assembly kit for XSP 31 with AK42, separate delivery
0274586000	Straight ball joint with 2 nuts (M8) for XSP 31 with AK41
0274587000	Fixing bracket
0274589000	Straight ball joint with 2 nuts (M8)
0274593000	Angled ball joint with 2 nuts (M8)
0274595000	Fixing bracket with screw (M8 × 30)
0274597000	Adaptor with nut (M8)
0370039000	Coupling nut (M8), 2 lock nuts (M8)
0370040000	Threaded rod (M8), length 500 mm

For AK 43

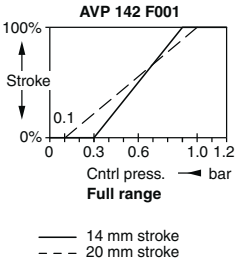
Type	Description
0226520003	Assembly kit for XAP, separate delivery
0226523002	Assembly kit for XSP 31, separate delivery
0274596000	Fixing bracket with screw (M10 × 40)
0274598000	Adaptor with nut (M10)
0274605000	Angled ball joint for clamping lever with M10 nut

AVP 142: Pneumatic valve actuator

AVP142F001

Features

- Actuation of 2-way and 3-way valves of the V6R/B6R series for continuous control facilities or for OPEN/CLOSE control
- Silicone-free, therefore usable in many applications
- Long-term stable NBR diaphragm
- The direction of operation can be reversed by fitting drive unit to the fixing bracket the opposite way round
- Stroke indicator enables the position of the actuator to be determined quickly
- Compressed-air connection with Rp ⅛" female thread



Technical data

Parameters		
	Control pressure[1]	0...1.2 bar
	Maximum pressure	1.5 bar
	Effective area	180 cm²
	Valve with 14mm stroke: span	0.6 bar
	Valve with 14 mm stroke: air consumption	0.8 l_n/stroke
	Valve with 20 mm stroke: span	0.9 bar
	Valve with 20 mm stroke: air consumption	1.1 l_n/stroke
Ambient temperature		
	Admissible ambient temperature	–15...50 °C
	Temperature at the diaphragm	max. 70 °C
Construction		
	Weight	2 kg
	Housing material	Housing of glass-fibre-reinforced plastic; fixing bracket of light metal

Overview of types

Type	Description
AVP142F001	Pneumatic valve actuator

Assembly materials for the V6R and B6R valve series

Type of actuator	XSP31	XEP
AVP142	0226504002	0274700 000

Accessories

Type	Description
XSP31F001	Pneumatic positioner (see product data sheet)
XEP	Electro-pneumatic converter for continuous signals (see product data sheet)

Electro-pneumatic converter: Of the accessories, only one positioner (XSP 31) and one electro-pneumatic converter (XEP) can be fitted; if the XSP 31 is fitted, the XEP must be screwed onto the side of the bracket.

Positioner: Can be used for minimum or maximum limitation of the stroke

[1] *Required to achieve the actuating power; for regulations concerning the quality of the supply air, particularly at low ambient temperatures*

AVP242F0*1

AVP243F0*1

AVP24*F0*1

AVP 242...244: Pneumatic valve actuators

Features

- Activation of 2-way and 3-way valves of the VUD/BUD, VQD/BQD, VUE/BUE, VQE/BQE, VUG/BUG, VUS/BUS and VUP series for continuous control facilities or for open/close control
- Silicone-free, therefore usable in many applications
- Long-term stable NBR diaphragm
- The direction of operation can be reversed by fitting the unit to the bracket the opposite way round
- Stroke indicator enables the position of the actuator to be determined quickly
- Compressed-air connection with Rp ⅛" female thread
- Patented actuator–valve coupling enables the two units to be connected quickly and easily

Technical data

Parameters

Control pressure	0...1.2 bar
Maximum pressure	1.5 bar
Control span	0.6 bar

Ambient temperature

Admissible ambient temperature	-15...50 °C
Temperature at the diaphragm	Max. 70 °C

Overview of types

Type	For valve with stroke	Air consumption for 100% stroke	Effective area	Weight
AVP242F001	8 mm	0.30 l_n	180 cm²	3 kg
AVP242F021	14/20/25 mm	0.65 l_n	180 cm²	3 kg
AVP243F021	20 mm	1.10 l_n	250 cm²	6 kg
AVP243F031	30/40 mm	2.00 l_n	250 cm²	6 kg
AVP244F021	20 mm	1.90 l_n	500 cm²	12 kg
AVP244F031	30/40 mm	3.30 l_n	500 cm²	12 kg

Assembly materials for the VUD/BUD, VQD/BQD, VUE/BUE, VQE/BQE, VUG/BUG, VUS/BUS and VUP valve series

Type of actuator	XSP31	XAP	XEP
AVP24*	0297933001	0297934001	0297935001

Accessories

Type	Description
XSP31F001	Pneumatic positioner (see product data sheet)
XAP1F001	Auxiliary contact unit (see product data sheet)
XAP2F001	Potentiometer unit (see product data sheet)
XEP	Electro-pneumatic converter for continuous signals (see product data sheet)
0274521000	Manual adjuster for AVP 243 and 244; weight 1.7 kg

Electro-pneumatic converter: Of the accessories, only one positioner (XSP 31), one feedback unit (XAP) and one electro-pneumatic converter (XEP) can be fitted; if the XSP 31 and XAP are fitted, the XEP must be screwed onto the side of the fixing bracket

Positioner, auxiliary contact unit, potentiometer, manual adjuster: Can be used for minimum or maximum limitation of the stroke; hand wheel can be removed

XSP 31, XAP 1, XAP 2: Fitted at the factory to the valve/actuator combination

Regulating valves

SAUTER regulating valves provide flexible combinations for all requirements. The wide product range at SAUTER comprises threaded valves made of DZR cast brass and flanged valves made of grey cast iron, ductile cast iron or cast steel. These regulating valves can be used for the continuous control of hot and cold water in closed circuits.

Overview of regulating valves

				
Type designation	VUN	BUN	V6R	B6R
Application				
Preheater for ventilation & air-conditioning	•	•	•	•
Cooler for ventilation & air-conditioning	•	–	•	–
Steam humidifier for ventilation & air-conditioning	–	–	–	–
Reheater for ventilation & air-conditioning	•	•	•	•
Chilled ceiling, underfloor heating	•	•	–	–
Static heating	•	•	•	•
Cooling tower (open systems)	•	•	•	•
Multi-boiler system	•	–	•	–
Local heating	•	•	•	•
District heating	–	–	–	–
Version				
2-way	•	–	•	–
3-way	–	•	–	•
Female thread	–	–	•	•
Male thread	•	•	–	–
Flange	–	–	–	–
Nominal pressure	PN 16	PN 16	PN 16	PN 16
Combination options with actuator	AVM 105(S), AVM 115(S), AVF 124 AVF 125S AVM 321(S)	AVM 105(S), AVM 115(S), AVF 124 AVF 125S AVM 321(S)	AVM 234S, AVF 234S AVM 322(S)	AVM 234S, AVF 234S AVM 322(S)
Further information	Page 168	Page 171	Page 174 Page 375	Page 177 Page 377




Type designation	VUD	VQD	BUD	BQD
Application				
Preheater for ventilation & air-conditioning	•	•	•	•
Cooler for ventilation & air-conditioning	•	•	–	–
Steam humidifier for ventilation & air-conditioning	–	–	–	–
Reheater for ventilation & air-conditioning	•	•	•	•
Chilled ceiling, underfloor heating	•	•	•	•
Static heating	•	•	•	•
Cooling tower (open systems)	–	–	–	–
Multi-boiler system	•	•	•	•
Local heating	•	•	•	•
District heating	–	–	–	–
Version				
2-way	•	•	–	–
3-way	–	–	•	•
Female thread	–	–	–	–
Male thread	–	–	–	–
Flange	•	•	•	•
Nominal pressure	PN 6	PN 6	PN 6	PN 6
Combination options with actuator	AVM 105(S), AVM 115(S), AVM 321(S)	AVM 234S, AVM 322(S), AVF 234S	AVM 105(S), AVM 115(S), AVM321(S)	AVM 234S, AVM 322(S), AVF 234S
Further information	Page 180 Page 379	Page 196	Page 184 Page 381	Page 198



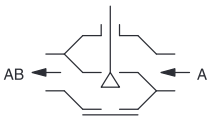

Type designation	VUE	VQE	BUE	BQE
Application				
Preheater for ventilation & air-conditioning	•	•	•	•
Cooler for ventilation & air-conditioning	•	•	–	–
Steam humidifier for ventilation & air-conditioning	–	–	–	–
Reheater for ventilation & air-conditioning	•	•	•	•
Chilled ceiling, underfloor heating	•	•	•	•
Static heating	•	•	•	•
Cooling tower (open systems)	–	–	–	–
Multi-boiler system	•	•	•	•
Local heating	•	•	•	•
District heating	–	–	–	–
Version				
2-way	•	•	–	–
3-way	–	–	•	•
Female thread	–	–	–	–
Male thread	–	–	–	–
Flange	•	•	•	•
Nominal pressure	PN 16/10	PN 16	PN 16/10	PN 16
Combination options with actuator	AVM 105, AVM 115, AVM 321(S)	AVM 234S, AVM 322(S), AVF 234S	AVM 105, AVM 115, AVM 321(S)	AVM 234S, AVM 322(S), AVF 234S
Further information	Page 383 Page 188	Page 201	Page 192 Page 385	Page 203

			
Type designation	VUG	BUG	VUP
Application			
Preheater for ventilation & air-conditioning	•	•	•
Cooler for ventilation & air-conditioning	•	–	•
Steam humidifier for ventilation & air-conditioning	•	–	–
Reheater for ventilation & air-conditioning	•	•	•
Chilled ceiling, underfloor heating	–	–	–
Static heating	•	•	•
Cooling tower (open systems)	–	–	–
Multi-boiler system	•	•	•
Local heating	•	•	•
District heating	•	•	•
Steam	•	–	•
Version			
2-way	•	–	•
3-way	–	•	–
Female thread	–	–	–
Male thread	–	–	–
Flange	•	•	•
Nominal pressure	PN 25/16	PN 25/16	PN 25
Combination options with actuator	AVM 234S, AVF 234S, AVN 224S AVM 322(S)	AVM 234S, AVF 234S, AVN 224S AVM 322(S)	AVM 234S, AVF 234S, AVN 224S AVM 322(S)
Further information	Page 206 Page 387	Page 210 Page 390	Page 213 Page 393

		
Type designation	VUS	BUS
Application		
Preheater for ventilation & air-conditioning	•	•
Cooler for ventilation & air-conditioning	•	–
Steam humidifier for ventilation & air-conditioning	•	•
Reheater for ventilation & air-conditioning	•	•
Chilled ceiling, underfloor heating	–	–
Static heating	•	•
Cooling tower (open systems)	–	–
Multi-boiler system	•	•
Local heating	•	•
District heating	•	•
Steam	•	–
Version		
2-way	•	–
3-way	–	•
Female thread	–	–
Male thread	–	–
Flange	•	•
Nominal pressure	PN 40	PN 40
Combination options with actuator	AVM 234S, AVF 234S, AVM 322(S)	AVM 234S, AVF 234S, AVM 322(S)
Further information	Page 215 Page 395	Page 397 Page 218

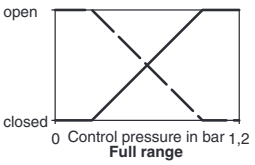
V6R: 2-way valve with female thread, PN 16 (pn.)

V6R15F300



Pressure-stroke characteristic
(with valve fitted)

AVP142 F001



Condition ex works

Fitting variant A

Features

- Regulating valve free of silicone grease with female thread DIN EN ISO 228-1 G for the control of cold/hot water in closed circuits
- In combination with AVP 142 and AV 43 valve actuators
- Equal-percentage (F3**) or linear (F2**) characteristic
- Control passage A–AB closed when the spindle is moved out
- Closing procedure against the pressure
- Valve body and seat made of gunmetal
- Stainless-steel spindle
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM

Technical data

Parameters

Control ratio	> 50:1
Leakage rate	≤ 0.05% of K_{vs} value
Valve stroke	14 mm
Nominal pressure	16 bar

Ambient conditions

Operating temperature[1)]	–15...130 °C
Operating pressure up to 120 °C	16 bar
Operating pressure up to 130 °C	13 bar

Overview of types

Type	Nominal diameter	K_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
V6R15F350	DN 15	0.4 m³/h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F340	DN 15	0.63 m³/h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F330	DN 15	1 m³/h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F320	DN 15	1.6 m³/h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F310	DN 15	2.5 m³/h	equal-percentage	brass	G½"	1.2 kg
V6R15F300	DN 15	4 m³/h	equal-percentage	brass	G½"	1.2 kg
V6R15F200	DN 15	4 m³/h	linear	brass	G½"	1.2 kg
V6R25F310	DN 25	6.3 m³/h	equal-percentage	brass	G1"	1.6 kg
V6R25F300	DN 25	10 m³/h	equal-percentage	brass	G1"	1.6 kg
V6R25F210	DN 25	6.3 m³/h	linear	brass	G1"	1.6 kg
V6R25F200	DN 25	10 m³/h	linear	brass	G1"	1.6 kg
V6R40F310	DN 40	16 m³/h	equal-percentage	brass	G1½"	3.4 kg
V6R40F300	DN 40	25 m³/h	equal-percentage	brass	G1½"	3.4 kg
V6R40F210	DN 40	16 m³/h	linear	brass	G1½"	3.4 kg
V6R40F200	DN 40	25 m³/h	linear	brass	G1½"	3.4 kg

1) *At temperatures below 0 °C, use stuffing box heater (accessory)*

Type	Nominal diameter	K_{VS} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
V6R50F300	DN 50	35 m³/h	equal-percentage	brass	G2"	4.6 kg
V6R50F200	DN 50	35 m³/h	linear	brass	G2"	4.6 kg

Accessories

Type	Description
0217268001	Stuffing box heater 15 W, 24 V
0217268004	Stuffing box heater 15 W, 230 V
0360391015	Screw fitting, DN 15, incl. seal, 2 pcs. required
0360391025	Screw fitting, DN 25, incl. seal, 2 pcs. required
0360391040	Screw fitting, DN 40, incl. seal, 2 pcs. required
0360391050	Screw fitting, DN 50, incl. seal, 2 pcs. required

*0217268*** Stuffing box heater 15 W, light alloy housing, IP54, 3 x 0.75 mm² power cable, earth connector, length 1 m, ferrule*

Combination of V6R with pneumatic actuator

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.

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

Pressure differences

Actuator	AVP142F001
Page	369
Admissible pressure P_{stat}	≤ 16 bar
Running time	10 s

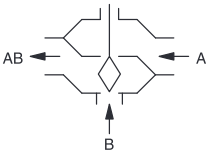
	Δp [bar]	
Closes against the pressure	**Δp_{max}**	**Δp_s**
V6R15F350 V6R15F340 V6R15F330 V6R15F320 V6R15F310 V6R15F300 V6R15F200	4.0	16.0
V6R25F310 V6R25F300 V6R25F210 V6R25F200	4.0	13.6
V6R50F300 V6R50F200	2.0	2.3
Cannot be used to close with the pressure		

B6R: 3-way valve with female thread, PN 16 (pn.)

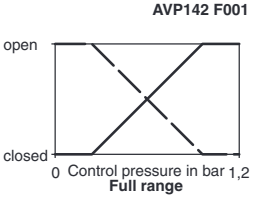
B6R25F300

Features

- In combination with AVP 142 and AV 43 valve actuators
- Regulating valve free of silicone grease with female thread DIN EN ISO 228-1 G for the control of cold/hot water in closed circuits
- Control passage A–AB closed when the spindle is moved out
- Used as a control valve
- Valve body and seat made of gunmetal
- Stainless-steel spindle
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM



Pressure-stroke characteristic
(with valve fitted)



Technical data

Parameters		
	Control ratio	> 50:1
	Nominal pressure	PN 16
	Leakage rate of control passage A-AB	≤ 0.05% of K_{vs} value
	Leakage rate of mixing passage B-AB	≤ 1% of K_{vs} value
	Valve stroke	14 mm
	Valve characteristic, mixing passage	Linear
Ambient conditions		
	Operating temperature[1)]	-15...130 °C
	Operating pressure up to 120 °C	16 bar
	Operating pressure up to 130 °C	13 bar
Standards and directives		
	Pressure and temperature data	DIN 2401
	Flow parameters	VDI/VDE 2173

Overview of types

Type	Nominal diameter	K_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
B6R15F330	DN 15	1 m³/h	equal-percentage	Stainless steel	G½"	1.2 kg
B6R15F320	DN 15	1.6 m³/h	equal-percentage	Stainless steel	G½"	1.2 kg
B6R15F310	DN 15	2.5 m³/h	equal-percentage	brass	G½"	1.2 kg
B6R15F300	DN 15	4 m³/h	equal-percentage	brass	G½"	1.2 kg
B6R15F200	DN 15	4 m³/h	linear	brass	G½"	1.2 kg
B6R25F310	DN 25	6.3 m³/h	equal-percentage	brass	G1"	1.6 kg
B6R25F300	DN 25	10 m³/h	equal-percentage	brass	G1"	1.6 kg
B6R25F210	DN 25	6.3 m³/h	linear	brass	G1"	1.6 kg
B6R25F200	DN 25	10 m³/h	linear	brass	G1"	1.6 kg
B6R40F310	DN 40	16 m³/h	equal-percentage	brass	G1½"	3.4 kg
B6R40F300	DN 40	25 m³/h	equal-percentage	brass	G1½"	3.4 kg
B6R40F210	DN 40	16 m³/h	linear	brass	G1½"	3.4 kg
B6R40F200	DN 40	25 m³/h	linear	brass	G1½"	3.4 kg

1) *At temperatures below 0 °C, use stuffing box heater (accessory)*

Type	Nominal diameter	K_{VS} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
B6R50F300	DN 50	35 m³/h	equal-percentage	brass	G2"	4.6 kg
B6R50F200	DN 50	35 m³/h	linear	brass	G2"	4.6 kg

Accessories

Type	Description
0217268001	Stuffing box heater 15 W, 24 V
0217268004	Stuffing box heater 15 W, 230 V
0378034001	Stuffing box; with synthetic lubricant; max. 130 °C
0360391015	Screw fitting, DN 15, incl. seal, 3 pcs. required
0360391025	Screw fitting, DN 25, incl. seal, 3 pcs. required
0360391040	Screw fitting, DN 40, incl. seal, 3 pcs. required
0360391050	Screw fitting, DN 50, incl. seal, 3 pcs. required

*0217268*** Stuffing box heater 15 W, light alloy housing, IP54, 3 × 0.75 mm² power cable, earth connector, length 1 m, ferrule*

Combination of B6R with pneumatic actuator

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.

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

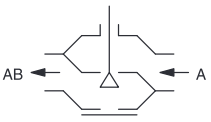
Pressure differences

Actuator	AVP142F001
Page	369
Admissible pressure P_{stat}	≤ 16 bar
Running time	10 s

	Δp [bar]	
As control valve	Δp_{max}	Δp_s
B6R15F330 B6R15F320 B6R15F310 B6R15F300 B6R15F200	4.0	16.0
B6R25F310 B6R25F300 B6R25F210 B6R25F200	4.0	13.5
B6R40F310 B6R40F300 B6R40F210 B6R40F200	2.4	3.1
B6R50F300 B6R50F200	2.0	2.3
Cannot be used as distribution valve		

VUD: 2-way flanged valve, PN 6 (pn.)

VUD032F300



Features

- Continuous control of cold and hot water in closed circuits[1)]
- Water quality as per VDI 2035
- In combination with AVP 242 valve actuators as a control unit
- Not suitable for steam or drinking water
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, painted black
- The valve is closed when the spindle is moved out
- Closing procedure against the pressure
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM

Technical data

Parameters		
	Nominal pressure	PN 6
	Connection	Flange as per EN 1092-2, form B
	Valve characteristic, control passage F200	Linear
	Valve characteristic, control passage F300	Equal-percentage
	Control ratio of valve	> 50:1
	Stuffing box	2 EPDM O-rings
	Leakage rate	≤ 0.05% of K_{vs} value
	Valve stroke	8 mm
Ambient conditions		
	Operating temperature[2)]	-10...150 °C
	Operating pressure	Up to 120 °C; 6 bar At 150 °C; 5.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed
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	K_{vs} value	Weight
VUD015F320	DN 15	1.6 m³/h	3.2 kg
VUD015F310	DN 15	2.5 m³/h	3.2 kg
VUD015F300	DN 15	4 m³/h	3.2 kg
VUD020F300	DN 20	6.3 m³/h	4.1 kg
VUD025F300	DN 25	10 m³/h	4.7 kg
VUD032F300	DN 32	16 m³/h	7.3 kg
VUD040F300	DN 40	22 m³/h	8.6 kg

1) *Humidity must not exceed 75%*
2) *At temperatures below 0 °C, use stuffing box heater. Use adapter (accessory) at temperatures above 100 °C*

Type	Nominal diameter	K_{vs} value	Weight
VUD050F300	DN 50	28 m³/h	11.2 kg
VUD050F200	DN 50	40 m³/h	11.2 kg

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adapter required when temperature of the medium is 100...130 °C (recommended for temperatures <10 °C)
0372249002	Adapter required when temperature of the medium is 130...150 °C
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of VUD with pneumatic actuator

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.*

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

Combination of VUD with pneumatic actuator AVP 242

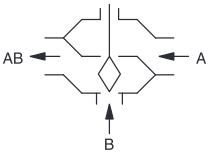
Actuator	**AVP242F001**
Page	370
Admissible pressure P_{stat}	≤ 6 bar
Running time	8 s

	Δp [bar]	
Closes against the pressure	**Δp_{max}**	**Δp_s**
VUD015F320 VUD015F310 VUD015F300 VUD020F300 VUD025F300 VUD032F300	6.0	6.0
VUD040F300	4.0	4.0
VUD050F300 VUD050F200	2.5	2.5
Cannot be used to close with the pressure		

At temperatures above 100°C, accessories are required

BUD: 3-way flanged valve, PN 6 (pn.)

BUD032F300



Features

- Continuous control of cold and hot water in closed circuits[1)]
- Water quality as per VDI 2035
- In combination with AVP 242 valve actuators as a control unit
- Not suitable for drinking water
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, painted black
- The control passage is closed when the spindle is moved out
- Used as a control valve
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM

Technical data

Parameters	
Nominal pressure	PN 6
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Valve characteristic, mixing passage	Linear
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate, control passage	< 0.05% of K_{vs} value
Leakage rate, mixing passage	< 1% of K_{vs} value
Valve stroke	8 mm

Ambient conditions	
Operating temperature[2)]	-10...150 °C
Operating pressure	Up to 120 °C; 6 bar At 150 °C; 5.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed

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	K_{vs} value	Weight
BUD015F320	DN 15	1.6 m³/h	3.2 kg
BUD015F310	DN 15	2.5 m³/h	3.2 kg
BUD015F300	DN 15	4 m³/h	3.2 kg
BUD020F300	DN 20	6.3 m³/h	4.1 kg
BUD025F300	DN 25	10 m³/h	4.7 kg

1) *Humidity must not exceed 75%*
2) *At temperatures below 0 °C, use a stuffing box heater. Use adapter (accessory) at temperatures above 100 °C*

Type	Nominal diameter	K_{vs} value	Weight
BUD032F300	DN 32	16 m³/h	7.1 kg
BUD040F300	DN 40	22 m³/h	8.4 kg
BUD050F300	DN 50	28 m³/h	10.9 kg
BUD050F200	DN 50	40 m³/h	11.2 kg

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adapter required when temperature of the medium is 100...130 °C (recommended for temperatures <10 °C)
0372249002	Adapter required when temperature of the medium is 130...150 °C
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of BUD with pneumatic actuator

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.

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

Combination of BUD with pneumatic actuator AVP 242

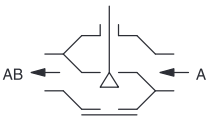
Actuator	**AVP242F001**
Page	370
Admissible pressure p_{stat}	≤ 6 bar
Running time	8 s

	Δp [bar]	
As control valve	**Δp_{max}**	**Δp_s**
BUD015F320 BUD015F310 BUD015F300 BUD020F300 BUD025F300 BUD032F300	6.0	6.0
BUD040F300	4.0	4.0
BUD050F300 BUD050F200	2.5	2.5
Cannot be used as distribution valve		

At temperatures above 100°C, accessories are required

VUE: 2-way flanged valve, PN 16/10 (pn.)

VUE032F300



Features

- Continuous control of cold and hot water and low-pressure steam up to 115 °C in closed circuits[1)]
- Water quality as per VDI 2035
- In combination with AVP 242 valve actuators as a control unit
- Not suitable for drinking water
- Valve with flange connection as per EN 1092-2, seal form B, for PN 16 and PN 10
- Regulating valve, free of silicone grease, painted black
- The valve is closed when the spindle is moved out
- Closing procedure against the pressure
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM

Technical data

Parameters	
Nominal pressure	PN 16/10
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate	< 0.05% of K_{vs} value
Valve stroke	8 mm

Ambient conditions	
Operating temperature[2)]	-10...150 °C
Operating pressure	PN 16: Up to 120 °C, 16 bar At 150 °C, 14.4 bar PN 10: Up to 120 °C, 10 bar At 150 °C, 9 bar Between 120 °C and 150 °C, a linear interpolation can be performed

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	K_{vs} value	Weight
VUE015F350	DN 15	0.4 m³/h	3.2 kg
VUE015F340	DN 15	0.63 m³/h	3.2 kg
VUE015F330	DN 15	1 m³/h	3.2 kg
VUE015F320	DN 15	1.6 m³/h	3.2 kg

1) *Humidity must not exceed 75%*
2) *At temperatures below 0 °C, use a stuffing box heater. Use adapter (accessory) at temperatures above 100 °C*

Type	Nominal diameter	K_{vs} value	Weight
VUE015F310	DN 15	2.5 m³/h	3.2 kg
VUE015F300	DN 15	4 m³/h	3.2 kg
VUE020F300	DN 20	6.3 m³/h	4.1 kg
VUE025F300	DN 25	10 m³/h	4.7 kg
VUE032F300	DN 32	16 m³/h	7.3 kg
VUE040F300	DN 40	22 m³/h	8.6 kg
VUE050F300	DN 50	28 m³/h	11.2 kg
VUE050F200	DN 50	40 m³/h	11.2 kg

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adapter required when temperature of the medium is 100...130 °C (recommended for temperatures <10 °C)
0372249002	Adapter required when temperature of the medium is 130...150 °C
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of VUE with pneumatic actuator

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.*

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

Combination of VUE with pneumatic actuator AVP 242

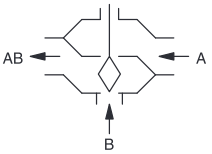
Actuator	**AVP242F001**
Page	370
Admissible pressure P_{stat}	≤ 6 bar
Running time	8 s
Stroke	8 mm

	Δp [bar]	
Closes against the pressure	**Δp_{max}**	**Δp_s**
VUE015F350 VUE015F340 VUE015F330 VUE015F320 VUE015F310 VUE015F300 VUE020F300	10.0	16.0
VUE025F300	10.0	12.0
VUE032F300	6.5	6.5
VUE040F300	4.0	4.0
VUE050F300 VUE050F200	2.5	2.5
Cannot be used to close with the pressure		

At temperatures above 100°C, accessories are required

BUE: 3-way flanged valve, PN 16/10 (pn.)

BUE032F300



Features

- Continuous control of cold and hot water in closed circuits[1)]
- Water quality as per VDI 2035
- In combination with AVP 242 valve actuators as a control unit
- Not suitable for drinking water
- Valve with flange connection as per EN 1092-2, seal form B, for PN 16 and PN 10
- Regulating valve, free of silicone grease, painted black
- The control passage is closed when the spindle is moved out
- Used as a control valve
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM

Technical data

Parameters	
Nominal pressure	PN 16/10
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Valve characteristic, mixing passage	Linear
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate, control passage	< 0.05% of K_{vs} value
Leakage rate, mixing passage	< 1% of K_{vs} value
Valve stroke	8 mm

Ambient conditions	
Operating temperature[2)]	-10...150 °C
Operating pressure	PN 16: Up to 120 °C, 16 bar At 150 °C, 14.4 bar PN 10: Up to 120 °C, 10 bar At 150 °C, 9 bar Between 120 °C and 150 °C, a linear interpolation can be performed

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	Weight	K_{vs} value	Nominal diameter
BUE015F330	3.2 kg	1 m³/h	DN 15
BUE015F320	3.2 kg	1.6 m³/h	DN 15

1) *Humidity must not exceed 75%*
2) *At temperatures below 0 °C, use a stuffing box heater. Use adapter (accessory) at temperatures above 100 °C*

Type	Weight	K_{vs} value	Nominal diameter
BUE015F310	3.2 kg	2.5 m³/h	DN 15
BUE015F300	3.2 kg	4 m³/h	DN 15
BUE020F300	4.1 kg	6.3 m³/h	DN 20
BUE025F300	4.7 kg	10 m³/h	DN 25
BUE032F300	7.1 kg	16 m³/h	DN 32
BUE040F300	8.4 kg	22 m³/h	DN 40
BUE050F300	11.2 kg	28 m³/h	DN 50
BUE050F200	11.2 kg	40 m³/h	DN 50

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adapter required when temperature of the medium is 100...130 °C (recommended for temperatures <10 °C)
0372249002	Adapter required when temperature of the medium is 130...150 °C
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of BUE with pneumatic actuator

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.*

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

Combination of BUE with pneumatic actuator AVP 242

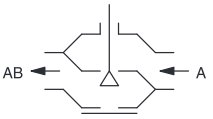
Actuator	**AVP242F001**
Page	370
Admissible pressure P_{stat}	≤ 6 bar
Running time	8 s
Stroke	8 mm

	Δp [bar]	
As control valve	**Δp_{max}**	**Δp_s**
BUE015F330 BUE015F320 BUE015F310 BUE015F300 BUE020F300	10.0	16.0
BUE025F300	10.0	12.0
BUE032F300	6.0	6.5
BUE040F300	4.0	4.0
BUE050F300 BUE050F200	2.5	2.5
Cannot be used as distribution valve		

At temperatures above 100°C, accessories are required

VUG: 2-way flanged valve, PN 25/16 (pn.)

VUG032F304



Features

- Continuous control of cold and hot water in closed circuits
- Together with pneumatic actuators AVP 242, AVP 243 and AVP 244
- Water quality as per VDI 2035
- Valve with flange connection as per EN 1092-2, seal form B
- Nominal pressure 25 bar, except VUG065F316, nominal pressure 16 bar
- Regulating valve, free of silicone grease, painted black
- The valve is closed when the spindle is moved out
- Closing procedure against the pressure
- Valve body made of ductile cast iron; seat and spindle of stainless steel
- Plugs of nominal diameter DN 15...50 made of stainless steel with glass-fibre-reinforced PTFE sealing ring
- Plugs of nominal diameter DN 65...150 made of stainless steel with metal-to-metal seal
- Maintenance-free stuffing box in brass with spring-loaded PTFE washer

Technical data

Parameters		
	Nominal pressure	PN16/25
	Connection	Flange as per EN 1092-2, form B
	Valve characteristic	Equal-percentage
	Control ratio of valve	> 50:1
	Leakage rate at max. Δp_s	≤ 0.05% of K_{vs} value

Admissible ambient conditions		
	Operating temperature[1]	-20...200 °C
	Operating pressure[2]	PN 16: 30 °C, 16 bar At 120 °C, 16 bar At 200 °C, 14 bar PN 25: 30 °C, 25 bar At 120 °C, 25 bar At 200 °C, 21.7 bar

Standards and directives		
	Pressure and temperature data	EN 764, EN 1333
	Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	K_{vs} value	Valve stroke	Connection	Weight
VUG015F374	DN 15	0.16 m³/h	20 mm	PN 25/16	4 kg
VUG015F364	DN 15	0.25 m³/h	20 mm	PN 25/16	4 kg
VUG015F354	DN 15	0.4 m³/h	20 mm	PN 25/16	4 kg
VUG015F344	DN 15	0.63 m³/h	20 mm	PN 25/16	4 kg
VUG015F334	DN 15	1 m³/h	20 mm	PN 25/16	4 kg
VUG015F324	DN 15	1.6 m³/h	20 mm	PN 25/16	4 kg
VUG015F314	DN 15	2.5 m³/h	20 mm	PN 25/16	4 kg
VUG015F304	DN 15	4 m³/h	20 mm	PN 25/16	4 kg

[1] *For cold water applications from -20...30 °C, the versions VUG***F3**S with a stuffing box containing silicone (e.g.: VUG015F304S) must be used. VUG***F3**S are only available up to DN125.*
Use stuffing box heater at temperatures below 0 °C; use the relevant adapter (accessory) at temperatures above 130 °C or 180 °C. Down to -10 °C, as per AD code of practice W 10, use water with anti-freeze and brine solution

[2] *For operating pressure, see table: Pressure / temperature assignment*

Type	Nominal diameter	K_{vs} value	Valve stroke	Connection	Weight
VUG020F304	DN 20	6.3 m³/h	20 mm	PN 25/16	5 kg
VUG025F304	DN 25	10 m³/h	20 mm	PN 25/16	5.6 kg
VUG032F304	DN 32	16 m³/h	20 mm	PN 25/16	9.1 kg
VUG040F304	DN 40	25 m³/h	20 mm	PN 25/16	11.2 kg
VUG050F304	DN 50	40 m³/h	20 mm	PN 25/16	13.8 kg
VUG065F316	DN 65	63 m³/h	40 mm	PN 16	25 kg
VUG065F304	DN 65	63 m³/h	40 mm	PN 25	25 kg
VUG080F304	DN 80	100 m³/h	40 mm	PN 25/16	37 kg
VUG100F304	DN 100	160 m³/h	40 mm	PN 25	50 kg
VUG125F304	DN 125	250 m³/h	40 mm	PN 25	75 kg
VUG150F304	DN 150	340 m³/h	40 mm	PN 25	100 kg

Accessories

Type	Description
0372336180	Adapter (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...200 °C)
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378384001	Torsion protection DN 65...150

Combination of VUG with pneumatic actuator

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.

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

Pressure differences

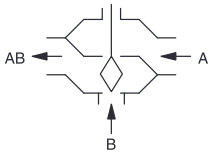
Actuator	AVP242F021	AVP243F021	AVP244F021	AVP243F031	AVP244F031
Page	370	370	370	370	370
Admissible pressure P_{stat}	≤ 25 bar	≤ 25 bar	≤ 25 bar	≤ 25 bar	≤ 25 bar
Running time	8 s	24 s	40 s	24 s	40 s
Stroke	20 mm	20 mm	20 mm	40 mm	40 mm

	Δp [bar]									
Closes against the pressure	**Δp_{max}**	**Δp_s**	**Δp_{max}**	**Δp_s**	**Δp_{max}**	**Δp_s**	**Δp_{max}**	**Δp_s**	**Δp_{max}**	**Δp_s**
VUG015F374 VUG015F364 VUG015F354 VUG015F344 VUG015F334 VUG015F324 VUG015F314 VUG015F304	16.0	16.5	16.0	22.7	16.0	25.0	–	–	–	–
VUG020F304	13.0	13.0	16.0	18.0	16.0	25.0	–	–	–	–
VUG025F304	8.8	8.8	12.2	12.2	16.0	24.5	–	–	–	–
VUG032F304	5.5	5.5	7.8	7.8	15.5	15.5	–	–	–	–
VUG040F304	3.7	3.7	5.2	5.2	10.3	10.3	–	–	–	–
VUG050F304	2.5	2.5	3.3	3.3	6.6	6.6	–	–	–	–
VUG065F316 VUG065F304	–	–	–	–	–	–	2.2	2.2	4.4	4.4

Actuator	AVP242F021		AVP243F021		AVP244F021		AVP243F031		AVP244F031	
Page	370		370		370		370		370	
VUG080F304	–	–	–	–	–	–	1.5	1.5	3.0	3.0
VUG100F304	–	–	–	–	–	–	1.0	1.0	2.0	2.0
VUG125F304	–	–	–	–	–	–	0.7	0.7	1.3	1.3
VUG150F304	–	–	–	–	–	–	0.5	0.5	1.0	1.0
Cannot be used to close with the pressure										

At temperatures above 130 °C, accessories are required

BUG032F304



BUG: 3-way flanged valve, PN 25/16 (pn.)

Features

- Continuous control of cold and hot water in closed circuits
- In combination with pneumatic actuators AVP242, AVP243 and AVP244
- Water quality as per VDI 2035
- Valve with flange connection as per EN 1092-2, seal form B
- Nominal pressure 25 bar, except BUG065F316, nominal pressure 16 bar
- Regulating valve, free of silicone grease, painted black
- The control passage is closed when the spindle is moved out
- Used as a control valve
- Valve body made of ductile cast iron
- Stainless-steel seat and spindle
- Plugs of nominal diameter DN 15...50 made of stainless steel with glass-fibre-reinforced PTFE sealing ring
- Plugs of nominal diameter DN 65...150 made of stainless steel with metal-to-metal seal
- Maintenance-free stuffing box in brass with spring-loaded PTFE washer

Technical data

Parameters

Nominal pressure	PN16/25
Connection	Flange as per EN 1092-2, form B
Control ratio	> 50 : 1
Valve characteristic, control passage	Equal-percentage
Valve characteristic, mixing passage	Linear
Leakage rate, control passage	≤ 0.05% of K_{vs} value
Leakage rate, mixing passage	≤ 1.0% of K_{vs} value

Ambient conditions

Operating temperature[1)]	-20...200 °C
Operating pressure[2)]	PN 16: 30 °C, 16 bar At 120 °C, 16 bar At 200 °C, 14 bar PN 25: 30 °C, 25 bar Up to 120 °C, 25 bar At 200 °C, 21.7 bar

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	Connection	K_{vs} value	Weight	Valve stroke
BUG015F304	DN 15	PN 25/16	4 m³/h	3.1 kg	20 mm
BUG015F314	DN 15	PN 25/16	2.5 m³/h	3.1 kg	20 mm
BUG015F324	DN 15	PN 25/16	1.6 m³/h	3.1 kg	20 mm
BUG015F334	DN 15	PN 25/16	1 m³/h	3.1 kg	20 mm
BUG020F304	DN 20	PN 25/16	6.3 m³/h	4 kg	20 mm

1) *For cold water applications below 30 °C, use versions BUG***F3**S with a stuffing box containing silicone (e.g.: BUG015F304S). BUG***F3**S are only available up to DN125.*
Use stuffing box heater at temperatures below 0 °C; use the relevant adapter (accessory) at temperatures above 130 °C or 180 °C. Down to -10 °C, as per AD code of practice W 10, use water with anti-freeze and brine solution.

2) *For operating pressure, see table: Pressure / temperature assignment*

Type	Nominal diameter	Connection	K_{vs} value	Weight	Valve stroke
BUG025F304	DN 25	PN 25/16	10 m³/h	4.7 kg	20 mm
BUG032F304	DN 32	PN 25/16	16 m³/h	7.2 kg	20 mm
BUG040F304	DN 40	PN 25/16	25 m³/h	9.2 kg	20 mm
BUG050F304	DN 50	PN 25/16	40 m³/h	11.9 kg	20 mm
BUG065F304	DN 65	PN 25	63 m³/h	27.1 kg	40 mm
BUG065F316	DN 65	PN 16	63 m³/h	26.8 kg	40 mm
BUG080F304	DN 80	PN 25/16	100 m³/h	36.3 kg	40 mm
BUG100F304	DN 100	PN 25	160 m³/h	53 kg	40 mm
BUG125F304	DN 125	PN 25	250 m³/h	79.1 kg	40 mm
BUG150F304	DN 150	PN 25	340 m³/h	108.7 kg	40 mm

Accessories

Type	Description
0372336180	Adapter (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...200 °C)
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378384001	Torsion protection DN 65...150

Combination of BUG with pneumatic actuator

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.*

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

Pressure differences

Actuator	AVP242F021	AVP243F021	AVP244F021	AVP243F031	AVP244F031
Page	370	370	370	370	370
Admissible pressure p_{stat}	≤ 16 bar	≤ 16 bar	≤ 16 bar	≤ 25 bar	≤ 25 bar
Running time	8 s	24 s	40 s	24 s	40 s

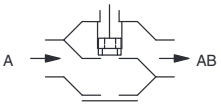
	Δp [bar]									
As control valve	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s
BUG015F304 BUG015F314 BUG015F324 BUG015F334	16.0	16.5	16.0	22.7	16.0	25.0	–	–	–	–
BUG020F304	10.0	13.0	16.0	18.0	16.0	25.0	–	–	–	–
BUG025F304	6.0	8.8	11.9	12.2	16.0	24.0	–	–	–	–
BUG032F304	4.0	5.5	7.4	7.8	15.5	15.5	–	–	–	–
BUG040F304	2.6	3.7	4.2	5.2	10.3	10.3	–	–	–	–
BUG050F304	1.7	2.4	3.1	3.3	6.5	6.5	–	–	–	–
BUG065F304 BUG065F316	–	–	–	–	–	–	2.2	2.2	4.4	4.4
BUG080F304	–	–	–	–	–	–	1.5	1.5	3.0	3.0
BUG100F304	–	–	–	–	–	–	1.0	1.0	2.0	2.0
BUG125F304	–	–	–	–	–	–	0.6	0.7	1.3	1.3
BUG150F304	–	–	–	–	–	–	0.4	0.5	1.0	1.0

Cannot be used as distribution valve

At temperatures above 130 °C, accessories are required

VUP: Pressure-relieved 2-way flanged valve, PN 25 (pn.)

VUP100F304



Features

- Continuous control of cold and hot water in closed circuits, and of steam
- In combination with AVP 242 to 244 actuators as control unit.
- Water quality as per VDI 2035
- Not suitable for drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, with pressure compensation, galvanised and painted black
- The valve is closed when the spindle is moved in
- Valve body made of ductile cast iron
- Valve seat, plug and spindle made of stainless steel
- Closing procedure only against the pressure
- Maintenance-free stuffing box in brass with spring-loaded PTFE-FKM-PTFE washer

Technical data

Parameters	
Nominal pressure	PN 25
Connection	Flange as per EN 1092-2, form B
Valve characteristic	Equal-percentage
Control ratio	> 100:1
Leakage rate at max. Δp_s	< 0.05% of K_{vs} value

Admissible ambient conditions	
Operating temperature[1)]	–20...200 °C
Operating pressure	Up to 120 °C, 25 bar up to 200 °C, 20 bar –20...–10 °C, 18 bar

Overview of types

Type	Nominal diameter	K_{vs} value	Valve stroke	Weight
VUP040F304	DN 40	25 m³/h	14 mm	10 kg
VUP050F304	DN 50	40 m³/h	25 mm	14 kg
VUP065F304	DN 65	63 m³/h	25 mm	18 kg
VUP080F304	DN 80	100 m³/h	25 mm	25.5 kg
VUP100F304	DN 100	160 m³/h	40 mm	36.5 kg
VUP125F304	DN 125	250 m³/h	40 mm	56.5 kg
VUP150F304	DN 150	350 m³/h	40 mm	84.5 kg

Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...200 °C)
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378356001	Replacement pack for stuffing box DN 40...80
0378357001	Replacement pack for stuffing box DN 100...150

1) *Use stuffing box heater at temperatures below 0 °C; use the relevant adapter (accessory) at temperatures above 130 °C or 180 °C*

Combination of VUP with pneumatic actuator

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.*

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

VUP with AVP is possible only in combination with XSP31.

Pressure differences

Actuator	**AVP242F021**	**AVP243F031**	**AVP244F031**
Page	370	370	370
Running time	8 s	24 s	40 s
	Δp [bar]		
Closes against the pressure	**Δp_{max}**	**Δp_{max}**	**Δp_{max}**
VUP040F304	22.2	–	–
VUP050F304 VUP065F304	15.1	–	–
VUP080F304	9.8	–	–
VUP100F304	–	18.5	25.0
VUP125F304 VUP150F304	–	10.7	25.0
Cannot be used to close with the pressure			

At temperatures above 130 °C, accessories are required

VUS: 2-way flanged valve, PN 40 (pn.)

VUS040F305

Features

- Continuous control of cold, warm and hot water in closed circuits, and of steam
- In combination with AVP 242 to 244 actuators as control unit
- Water quality as per VDI 2035
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, matt black
- Not suitable for drinking water or potentially explosive atmospheres
- When the spindle is moved in, the valve is closed
- Closing procedure only against the pressure
- Valve body made of cast steel
- Stainless-steel seat and plug
- Stainless-steel spindle
- Maintenance-free stuffing box, made of stainless steel, with spring-loaded PTFE washer up to 220°C, with graphite seal up to 260 °C (accessory)

Technical data

Parameters		
	Nominal pressure	PN 40
	Connection	Flange as per EN 1092-2, form B
	Valve characteristic	Equal-percentage
	Control ratio	> 50 : 1
	Leakage rate	≤ 0.05% of K_{vs} value

Admissible ambient conditions		
	Operating temperature[1)]	-10...260 °C
	Operating pressure	40 bar at -10...50 °C 36.3 bar at 120 °C 29.4 bar at 220 °C 27.8 bar at 260 °C

Standards and directives		
	Pressure and temperature data	EN 764, EN 1333
	Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	K_{vs} value	Valve stroke	Weight
VUS015F375	DN 15	0.16 m³/h	20 mm	5.1 kg
VUS015F365	DN 15	0.25 m³/h	20 mm	5.1 kg
VUS015F355	DN 15	0.4 m³/h	20 mm	5.1 kg
VUS015F345	DN 15	0.63 m³/h	20 mm	5.1 kg
VUS015F335	DN 15	1 m³/h	20 mm	5.1 kg
VUS015F325	DN 15	1.6 m³/h	20 mm	5.1 kg
VUS015F315	DN 15	2.5 m³/h	20 mm	5.1 kg
VUS015F305	DN 15	4 m³/h	20 mm	5.1 kg
VUS020F305	DN 20	6.3 m³/h	20 mm	5.9 kg
VUS025F305	DN 25	10 m³/h	20 mm	6.8 kg
VUS032F305	DN 32	16 m³/h	20 mm	8.4 kg
VUS040F305	DN 40	25 m³/h	20 mm	10.6 kg

[1)] *No stuffing box heater required down to -10 °C. At temperatures below -10 °C and down to -60 °C, use special version with bellows seal (available on request). Application: Water with anti-freeze (glycol up to 55% and brine solution), max. operating pressure 30 bar. Above 130 °C or 180 °C, use the relevant adapter (accessory). Above 220 °C and up to 260 °C, use stuffing box with graphite seal (accessory)*

Type	Nominal diameter	K_{vs} value	Valve stroke	Weight
VUS050F305	DN 50	40 m³/h	20 mm	13.2 kg
VUS065F305	DN 65	63 m³/h	30 mm	18.6 kg
VUS080F305	DN 80	100 m³/h	30 mm	25.1 kg
VUS100F305	DN 100	160 m³/h	30 mm	36.4 kg
VUS125F305	DN 125	220 m³/h	40 mm	56.4 kg
VUS150F305	DN 150	320 m³/h	40 mm	77.9 kg

Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...260 °C)
0378373001	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 15...50
0378373002	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 65...100
0378373003	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 125...150

Combination of VUS with pneumatic actuator

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.

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

Pressure differences

Actuator	AVP242F021	AVP243F021	AVP244F021	AVP243F031	AVP244F031
Page	370	370	370	370	370
Admissible pressure P_{stat}	≤ 32 bar	≤ 40 bar	≤ 40 bar	≤ 25 bar	≤ 40 bar
Running time	8 s	24 s	40 s	24 s	40 s

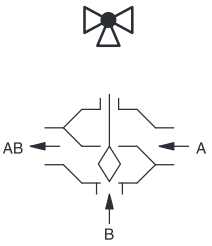
	Δp [bar]									
Closes against the pressure	**Δp_{max}**	**Δp_s**	**Δp_{max}**	**Δp_s**	**Δp_{max}**	**Δp_s**	**Δp_{max}**	**Δp_s**	**Δp_{max}**	**Δp_s**
VUS015F375 VUS015F365 VUS015F355 VUS015F345 VUS015F335 VUS015F325 VUS015F315 VUS015F305 VUS020F305	15.5	15.5	21.7	21.7	40.0	40.0	–	–	–	–
VUS025F305	9.5	9.5	13.1	13.1	26.2	26.2	–	–	–	–
VUS032F305	7.2	7.2	10.0	10.0	19.9	19.9	–	–	–	–
VUS040F305	4.1	4.1	5.7	5.7	11.4	11.4	–	–	–	–
VUS050F305	2.7	2.7	3.7	3.7	7.4	7.4	–	–	–	–
VUS065F305	–	–	–	–	–	–	2.2	2.2	4.4	4.4
VUS080F305	–	–	–	–	–	–	1.5	1.5	2.9	2.9
VUS100F305	–	–	–	–	–	–	1.0	1.0	1.5	1.9
VUS125F305	–	–	–	–	–	–	0.6	0.6	1.0	1.2
VUS150F305	–	–	–	–	–	–	0.4	0.4	0.6	0.8

Cannot be used to close with the pressure

At temperatures above 130 °C, accessories are required

BUS: 3-way flanged valve, PN 40 (pn.)

BUS025F205



Features

- Continuous control of cold/warm/hot water in closed circuits
- In combination with AVP 242 to 244 actuators as control unit
- Water quality as per VDI 2035
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, matt black
- Not suitable for drinking water or potentially explosive atmospheres
- The valve is closed when the spindle is moved out
- For use only as a control valve
- Valve body made of cast steel
- Stainless-steel seat and plug
- Stainless-steel spindle
- Maintenance-free stuffing box, made of stainless steel, with spring-loaded PTFE washer up to 220°C, with graphite seal up to 260 °C

Technical data

Parameters		
	Nominal pressure	PN 40
	Connection	Flange as per EN 1092-2, form B
	Valve characteristic, mixing passage	Linear
	Control ratio	> 50 : 1
	Leakage rate, control passage	≤ 0.05% of K_{vs} value
	Leakage rate, mixing passage	≤ 1.0% of K_{vs} value
Ambient conditions		
	Operating temperature[1)]	–10...240 °C
	Operating pressure	40 bar at -10...50 °C 36.3 bar at 120 °C 29.4 bar at 220 °C 27.8 bar at 260 °C
Standards and directives		
	Pressure and temperature data	EN 764, EN 1333
	Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	K_{vs} value	Valve characteristic, control passage	Valve stroke	Weight
BUS015F225	DN 15	1.6 m³/h	linear	20 mm	7.2 kg
BUS015F215	DN 15	2.5 m³/h	linear	20 mm	7.2 kg
BUS015F205	DN 15	4 m³/h	linear	20 mm	7.2 kg
BUS020F205	DN 20	6.3 m³/h	linear	20 mm	8.4 kg
BUS025F205	DN 25	10 m³/h	linear	20 mm	9.4 kg
BUS032F205	DN 32	16 m³/h	linear	20 mm	12.4 kg
BUS040F205	DN 40	25 m³/h	linear	20 mm	15.5 kg
BUS050F205	DN 50	40 m³/h	linear	20 mm	19.2 kg
BUS065F205	DN 65	63 m³/h	linear	30 mm	27.6 kg
BUS080F205	DN 80	100 m³/h	linear	30 mm	36.5 kg

[1)] *No stuffing box heater required down to -10 °C. At temperatures below -10 °C and down to -60 °C, use special version with bellows seal (available on request). Application: Water with anti-freeze (glycol up to 55% and brine solution), max. operating pressure 30 bar. Above 130 °C or 180 °C, use the relevant adapter (accessory). Above 220 °C and up to 260 °C, use stuffing box with graphite seal (accessory)*

Type	Nominal diameter	K_{VS} value	Valve characteristic, control passage	Valve stroke	Weight
BUS100F205	DN 100	160 m³/h	linear	30 mm	61.2 kg
BUS125F305	DN 125	220 m³/h	equal-percentage	40 mm	82.5 kg
BUS150F305	DN 150	320 m³/h	equal-percentage	40 mm	113.5 kg

Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...260 °C)
0378373001	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 15...50
0378373002	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 65...100
0378373003	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 125...150

Combination of BUS with pneumatic actuator

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.*

The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

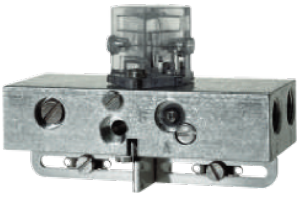
Pressure differences

Actuator	AVP242F021	AVP243F021	AVP244F021	AVP243F031	AVP244F031
Page	370	370	370	370	370
Admissible pressure P_{stat}	≤ 32 bar	≤ 40 bar	≤ 40 bar	≤ 25 bar	≤ 40 bar
Running time	8 s	24 s	40 s	24 s	40 s

	Δp [bar]									
As control valve	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s
BUS015F225 BUS015F215 BUS015F205	12.1	15.6	21.1	21.7	24.5	24.5	-	-	-	-
BUS020F205	7.7	15.6	13.5	21.7	17.5	17.5	-	-	-	-
BUS025F205	6.6	9.4	11.6	13.1	14.7	14.7	-	-	-	-
BUS032F205	4.7	7.2	8.3	9.9	10.4	10.4	-	-	-	-
BUS040F205	3.0	4.1	5.3	5.7	6.2	6.2	-	-	-	-
BUS050F205	1.9	2.6	3.4	3.7	3.9	3.9	-	-	-	-
BUS065F205	-	-	-	-	-	-	1.7	2.2	4.4	4.4
BUS080F205	-	-	-	-	-	-	1.1	1.5	2.9	2.9
BUS100F205	-	-	-	-	-	-	0.7	0.9	1.9	1.9
BUS125F305	-	-	-	-	-	-	0.4	0.7	1.3	1.3
BUS150F305	-	-	-	-	-	-	0.3	0.5	1.0	1.0
Cannot be used as distribution valve										

At temperatures above 130 °C, accessories are required

XSP: Pneumatic positioner



XSP31F001

Features

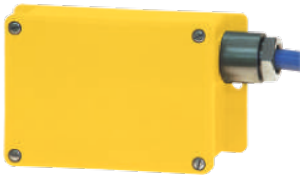
- Conversion of a continuous positioning signal into a defined position on the pneumatic drive
- The use of a positioner provides increased positioning accuracy, partitioning of the control range, reversal of the direction of action and an increase in positioning speed
- Compressed-air connections with Rp⅛" female thread
- Measuring connection for output pressure with M4 thread
- Measures the valve stroke using a measuring spring

Technical data

Parameters		
	Control pressure	1.3 bar ±0.1
	Max. control pressure	1.4 bar
	Max. air capacity	1000 l_n/h
	Air consumption	Approx. 30 l_n/h
	Setting range, zero point (bar)	0.2...1.0 bar
	Setting range, span (bar)	0.2...1.0 bar
Admissible ambient conditions		
	Admissible ambient temperature	0...70 °C
Inputs/outputs		
	Linearity error	Approx. 1%
Construction		
	Housing material	light metal
	Fitting	with cover
	Weight	0.1 kg
Standards and directives		
	Conformity	Directive 97/23/EC Art. 3.3 for pressure equipment

Overview of types

Type	Description
XSP31F001	Pneumatic positioner



XAP*F001

XAP1F001

XAP2F001

XAP: Position alarm/transmitter

Features

- Additional equipment for AK41...43 P pneumatic actuators and AV43, AVP 142 and AVP 242...244 pneumatic valve actuators
- Position feedback when monitoring
- Auxiliary contact unit with two contacts
- The relevant contacts are switched depending on whether the actuator spindle is extended or retracted
- Potentiometer, the resistance of which changes in accordance with the actuating force

Technical data

Parameters		
XAP1	Admissible contact load	10(2) A, 250 V~
	Switching point 'extended'	Approx. 5% before end position
	Switching point 'retracted'	Approx. 5% before end position
	Switching difference	2.5% of the stroke
XAP2	Potentiometer resistance	2000 Ω
	Resistance "extended"	10...50 Ω
	Resistance 'retracted'	1.5...1.8 kΩ
	Resolution	2 Ω
	Load	Max. 4 W, 42 V
Admissible ambient conditions		
	Admissible ambient temperature	-15...50 °C
Construction		
	Weight	0.3 kg
	Housing material	Glass-fibre-reinforced, fire-retardant plastic
Standards and directives		
	Type of protection	IP54 (EN 60529)

Overview of types

Type	Properties	Output signal	Power cable
XAP1F001	Auxiliary contact unit	2 contacts, open/close	4 × 1 mm²
XAP2F001	Potentiometer unit	Approx. 10...1800 Ω	3 × 0.5 mm²