

Application

The Type 3711 Quick Exhaust Valve is mounted between the positioner or solenoid valve and the actuator. It is used to vent the actuator more quickly.

The Type 3711 Quick Exhaust Valve functions in the same manner as a 3/2-way valve with an exhaust port. To vent the actuator more quickly, the quick exhaust valve must be mounted as close to the pneumatic actuator as possible.

Special features

- Compact design
- Flow coefficient: K_v 10.0
- Temperature range from -40 to $+80$ °C
- Closing hysteresis of check valve < 0.02 bar
- Aluminum or stainless steel body
- Integrated restriction to adjust the dynamic response

Versions

- **Type 3711-0:** quick exhaust valve with adjustable restriction

Note concerning hook-up

The Type 3711 Quick Exhaust Valve is not suitable for combination with a volume booster.



Design and principle of operation (see Fig. 2)

The quick exhaust valve is mounted between the positioner or solenoid valve and the actuator. It is used to vent the actuator more quickly. When a control pressure (SIG) is applied, the diaphragm plate (1) rests on the seat (2), closing the valve. The check valve allows the air to flow through the output (OUT) to the actuator while the control pressure rises. No air is vented.

The check valve (3) closes when the control pressure decreases. After the actuator pressure and control pressure reach a certain differential pressure, the diaphragm plate (1) releases the seat of the exhaust port (EXH), causing the actuator to be vented quickly.

The adjustable restriction screw (4) prevents the air from being exhausted quickly during normal control mode and is used to set the venting characteristic. The access to the restriction screw is secured by a cotter pin inserted in the hole (5).

i Note

To reduce the noise level, mount a silencer with sufficient specifications concerning strength and flow rate.

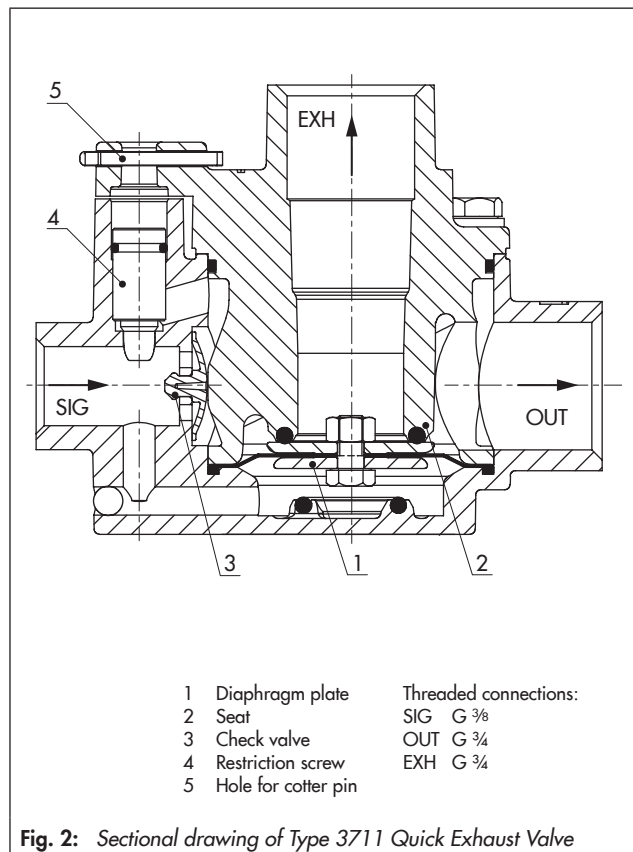


Fig. 2: Sectional drawing of Type 3711 Quick Exhaust Valve

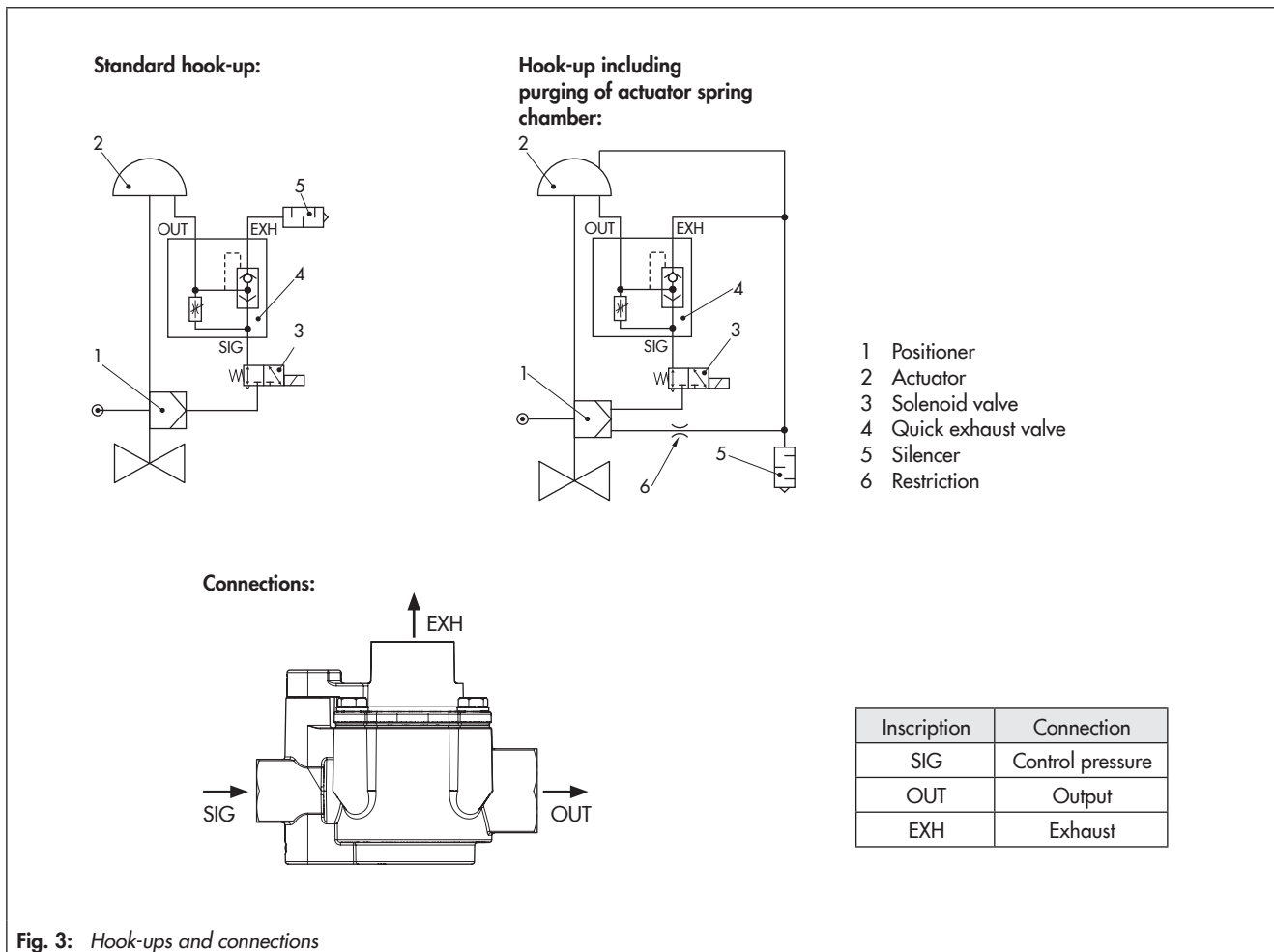


Fig. 3: Hook-ups and connections

Table 1: Technical data

Type 3711		
Operating pressure	0 to 7 bar	
Differential pressure between air supply and exhaust	55 % of control pressure	
Permissible leakage at 6 bar	≤ 25 l _n /h	
Permissible ambient temperature range	-40 to +80 °C	
Closing hysteresis of check valve	< 0.02 bar	
Compliance	ERL	
Weight	kg (approx.)	0.5 ¹⁾
Air quality acc. to ISO 8573-1		
Maximum particle size and density	Class 4	
Oil content	Class 3	
Pressure dew point	Class 3 or at least 10 K below the lowest ambient temperature to be expected	
Flow coefficients		
K _{V5} Exhaust	10.0 ¹⁾	
K _{V5} Supply air (check valve)	1.3 (restriction screw closed)	
	1.9 (restriction screw open)	
K _{V5} Bypass (restriction screw)	Max. 0.75	
Materials		
Body	Aluminum with corrosion protection and epoxy powder coating	Stainless steel ²⁾ , 1.4409
Cover		
Restriction, screw fitting, cotter pin	Stainless steel	
Check valve	VMQ	
Diaphragm	VMQ	
Diaphragm plate	Aluminum with corrosion protection	Stainless steel ²⁾ , 1.4404
Seals	VMQ	
Accessories		
Silencers	Order number: 1402-1148	

¹⁾ Without silencer

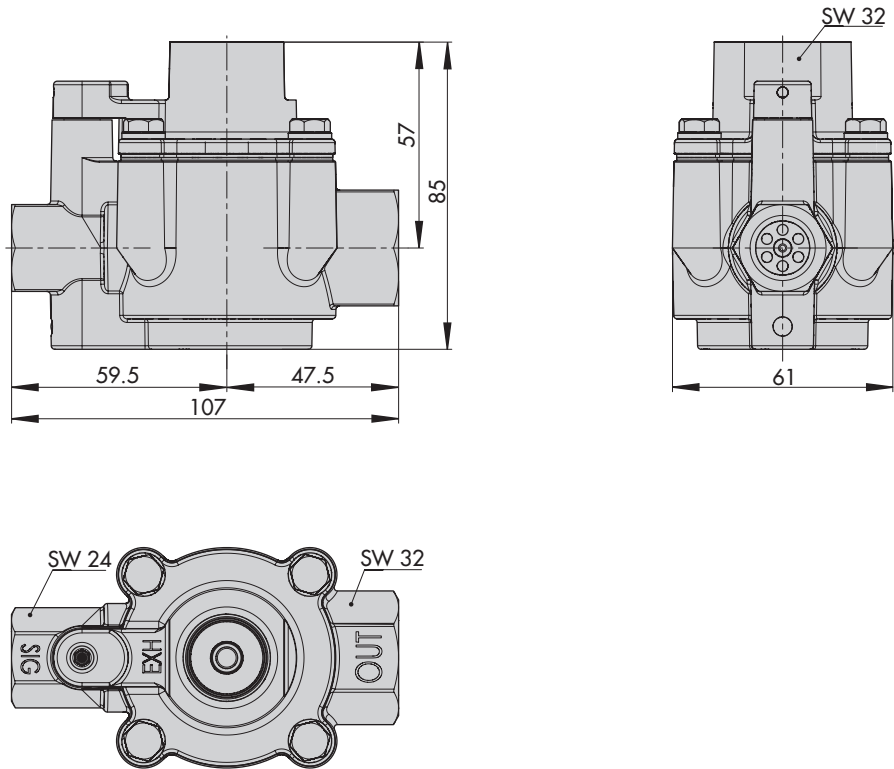
²⁾ In preparation

Table 2: Article code

Quick exhaust valve	Type 3711-	x	x	x	x	x	x	x	x	0
Version										
Standard version	0									
Body material										
Aluminum		0								
Stainless steel ¹⁾		1								
Pneumatic connection										
G ¾ (EXH, OUT) · G ⅜ (SIG)			1							
Silencer										
With silencer					1					
Without silencer					2					
Compatibility with paint										
Standard						1				
Ambient temperature										
-40 to +80 °C							1			
Certificates										
Without									0	
Special versions										
Without										0

¹⁾ In preparation

Dimensions in mm



Specifications subject to change without notice



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