

***Two-position solenoid safety gas valves
with electric power drive
(BH series, aluminum housing,
explosion proof version)***

Type of the electric power drive applied (climatic version, electrical connection schemes)3-2

Two-position solenoid safety gas valves with electric power drive (BH series, aluminum housing, explosion proof version)3-3

Valves in aluminum housing

This type of valves are equipped with the following single turn power drives (in explosion proof version):

- SP1-Ex 291.0-03BFA;
- SP1-Ex 291.9-03BFA;
- SP1-Ex 291.0-03BVA;
- SP1-Ex 291.9-03BVA.

Climatic versions (for power drives):

- SP1-Ex 291.0-03BFA и SP1-Ex 291.0-03BVA: -30...+40 °C;
- SP1-Ex 291.9-03BFA и SP1-Ex 291.9-03BVA: -45...+40 °C.

Power source of the a/m power drives - 220 VAC; the power drives are equipped with two auxiliary position switches, two torque switches, heating resistance, mechanical limit stops along rotation. The a/m power drives have a special type of explosion proofness - "explosion-proof enclosure" and "EExdeIIT6" marking. The power drives can be applied in explosion hazard zones.

For switching schemes of the power drives see figure 3-1.

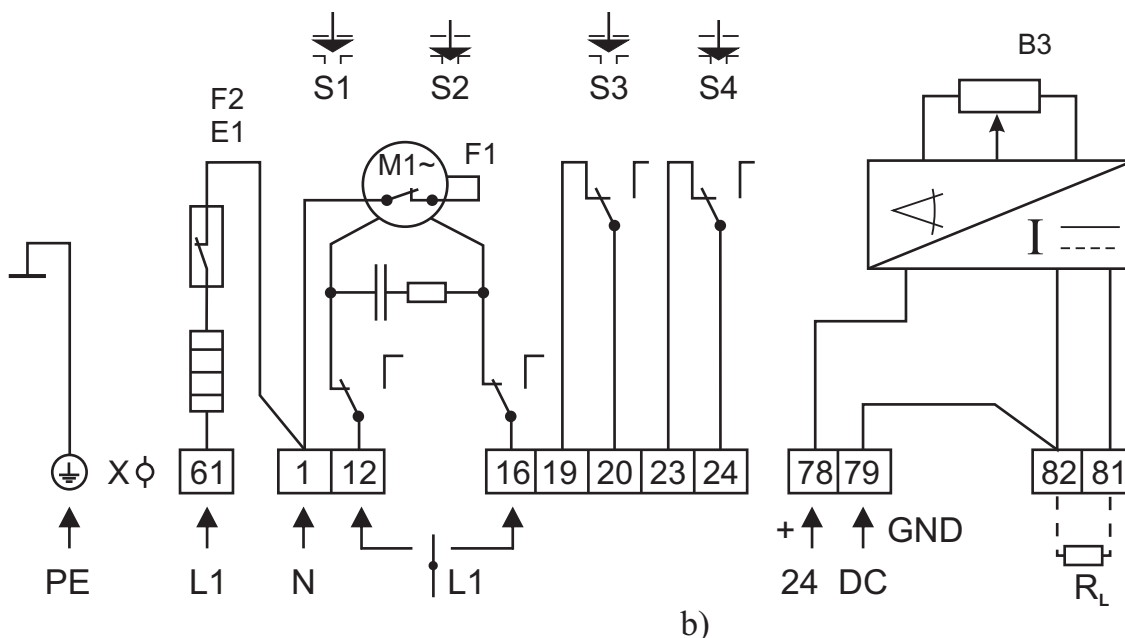
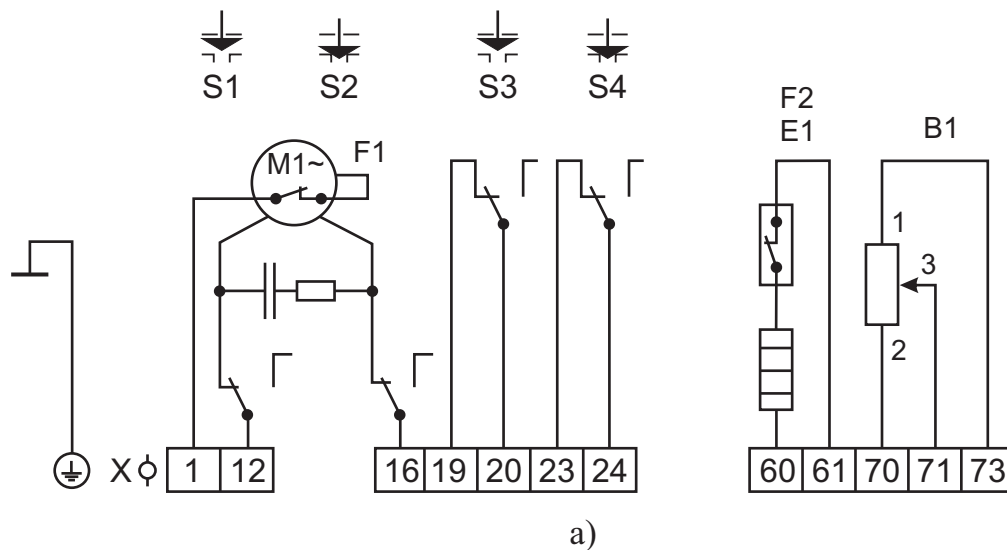


Figure 3-1. Electrical connection scheme for SP1-Ex type actuator:

- a) For P-1766 scheme (SP1-Ex 291.0-03BFA and SP1-Ex 291.9-03BFA type actuators - with resistive type transmitter, resistance - 2000 Ohm);
- b) For Z258 scheme (SP1-Ex 291.0-03BVA and SP1-Ex 291.9-03BVA type actuators - with three-wire electronic transmitter).

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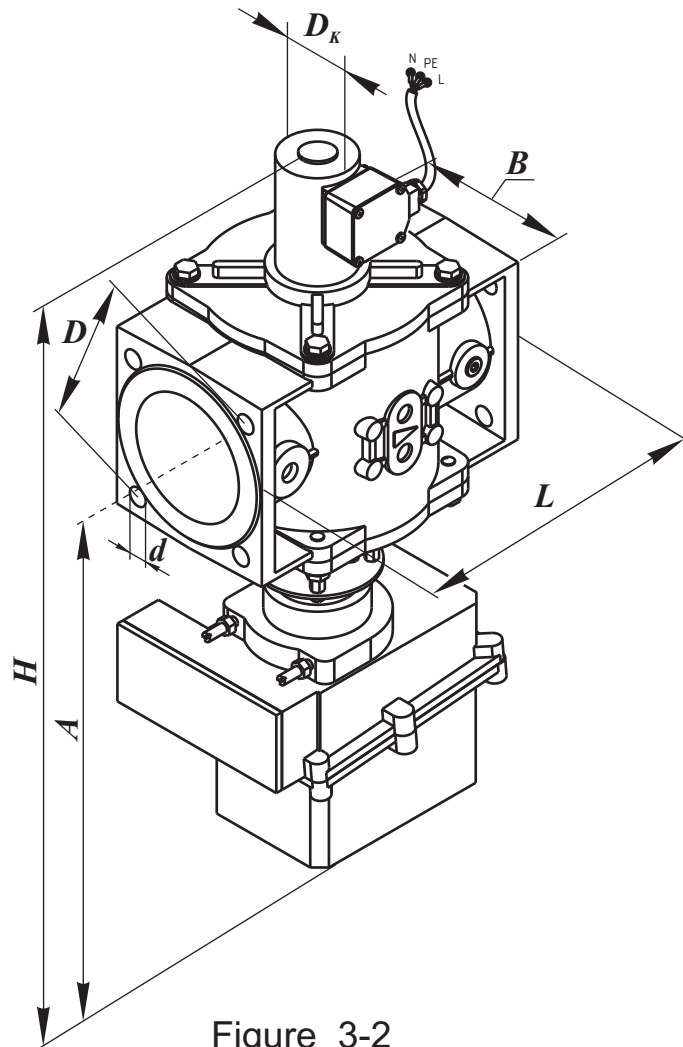


Figure 3-2

The rotary flapper, inbuilt in the valve, regulates and controls gas flow rate. The rotary flapper is placed downstream after the closing member mechanism.

The valve with proportional regulation have the following operation modes:

- “closed” (when de-energized);
- “rated flow rate” (both the solenoid and the actuator are energized; the flow rate is regulated with the help of the actuator’s limit travel switches).

The valve has an increased level of explosion proofness - “increased protection against explosion”, which is guaranteed by a special type of explosion protection and 2ExmIIT4 marking. This type of valves can be applied in explosion hazard zones (according to provision 7.3 of “Electrical installation system rules” and other documents specifying the rules of electrical devices application/usage in explosion dangerous zones).

General technical characteristics

Switching frequency, 1/h, max:

40 switchings

Service term, switchings, min:

500 000 times

Power source:

- Of the solenoid: 220 VAC, 110 VAC, 24 VAC; 24 VDC;
- Of the actuator: 220 VAC

Housing material:

aluminum alloys

Mounting position: onto horizontal pipeline (solenoid facing upwards)

Climatic version: -30...+40 °C;
-45...+40 °C.

Regulator's rotation angle: 90°

Degree of protection:

- of the valve - IP67;
- of the actuator - IP54.

Regulator's total travel time, s: 80

General technical information, overall dimensions and connection sizes of two-position solenoid safety gas valves with electric power drive, explosion proof version

Valve's model	DN, mm	Operating pressure range, bar	Dimensions, mm							Power consumption, W, max*	Weight, kg	Resistance factor ζ
			L	B	D _K	H	A	D	d			
BH1 ¹ / ₂ M-1KE fl.	40	0...1	162	108	80	485	347	100	12,5	25 / 12,5	16,5	11,1
BH1 ¹ / ₂ M-2KE fl.		0...2									17,1	
BH1 ¹ / ₂ M-3KE fl.		0...3									17,2	
BH2M-1KE fl.	50	0...1	118	80	485	347	110	110	12,5	25 / 12,5	17,0	14,8
BH2M-2KE fl.		0...2									17,6	
BH2M-3KE fl.		0...3									17,7	
BH2 ¹ / ₂ M-0,5KE	65	0...0,5	235	144	80	560	370	130	14	40 / 20	20,4	15,0
BH2 ¹ / ₂ M-1KE		0...1									21,0	
BH2 ¹ / ₂ M-3KE		0...3									21,3	
BH3M-0,5KE	80	0...0,5	258	163	80	585	385	150	18	55 / 27,5	22,7	15,4
BH3M-1KE		0...1									23,0	
BH3M-3KE		0...3									25,3	
BH4M-0,5KE	100	0...0,5	278	183	80	610	395	170	18	55 / 27,5	24,1	17,7
BH4M-1KE		0...1									24,4	
BH4M-3KE		0...3									26,7	

* First value - at the time of valve opening; second value - energy saving mode

Electrical characteristics of the valves

For the solenoid			For the actuator	
Power consumption, W, max	Power supply voltage, V	Consumption current, mA, max	Power supply voltage	Power consumption, max
40	220	200	220 V AC 50 Hz	4 W
	110	400		
	24	1800		
55	220	230		
	110	460		
	24	2100		
65	220	300		
	110	600		
	24	2800		
80	220	450		
	110	850		
	24	4000		
90	220	410		
	110	820		
	24	3750		

Example of identification code for the valve with electric power drive in explosion proof version, with flange type connection, connection size DN 80 mm, operating pressure 1 bar; the actuator (proportional regulation mode) is equipped with resistive type transmitter, resistance 2000 Ohm, -45...+40 °C climatic version:

Valve BH3M-1KE, (2000 Ohm), -45...+40 °C climatic version, 220 V, 50 Hz.

When ordering the valve with position indicator letter “P” should be added to the identification code. Example: Valve BH4M-0,5KPE.

Thereby, valve height dimensions increase by 100 mm, and its weight by 0,3 kg.

For notes

