ANSI 150, Two-Way Balanced Valves

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MODEL	Size	ANSI	Kvs (Cvs)	APPLICATION	
2FSA25BR4	1"		4 (4.62)		
2FSA25BR7	1"		6.3 (7.28)		
2FSA25B	1"		10 (11.56)		
2FSA32B	1 1/4"	ansi	16 (18.5)	Group 1 fluids	
2FSA40B 1 1/2"		150	25 (28.9)		
2FSA50B	2"		40 (46.24)		
2FSA65B	2 1/2"		63 (72.83)		
2FSA80B	3"		100 (115.6)	Group 2 fluids	

100 kPa = 1 bar = 14.5 PSI

Kv is the flow rate expressed in m3/h of water at a temperature between 5°C (41°F) and 40°C (104°F) passing through a valve open at the nominal stroke with 100 kPa (14.5 PSI) (1 bar) differential pressure.

Cv is the volume (in US gallons) of water at 60°F that will flow per minute across a valve with a pressure drop of 1 PSI.

APPLICATION AND USE

2FSA.B balanced valve bodies are designed to use in air-conditioning, thermoventilation and heating systems and in industrial process systems; they cannot be used as safety valves. They can be employed to control fluids belonging to groups 1 and 2 (see table above) according to the article 13 of 2014/68/UE directive (PED).

In particular Group 1 includes just diathermic oil; Group 2 includes water, overheated water, steam.

For fluids different from the ones listed above, please contact our Sales Support.

The peculiar characteristic of such valves is they can operate under high close off pressure and wherever low leakage is required. This makes them particularly suitable in applications with high pressure and high DeltaT, such as overheated water (i.e. remote control, boiler supply) and steam.

MANUFACTURING CHARACTERISTICS

Valve body: Seat, Plug, Stem: Balancing gasket: Stem packing: spheroidal cast iron stainless steel teflon ring with steel spring teflon

TECHNICAL CHARACTERISTICS

Construction: connections: control characteristic: Leakage (% of Kvs/Cvs): Allowed luids: - water: ANSI 150; ANSI 150 flanges; equal percentage; 0.02;

min. temp. -10°C (14°F)(1);

max temp. 230°C (446°F)⁽²⁾;

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max temp 230°C (446°F);

-20 to 60°C (-4 to 140°F);

glycol added max 50%;

max pressure 8 bar;

see dimensions.

- overheated water:

- diathermic oil:

- steam:

Storage temp.: Weight:

(1) see 248 accessory.

(2) temperature/pressure ratio according to the following standards: UNI 1092-2 and UNI 12516-4.



Reference standards

Control valves for hot water heating plants: UNI 9753; control characteristics: IEC 534-2-4; leakage: measured according to the EN1349 standard.

INSTALLATION

Hydraulic connections

Respect the fluid directions: inlet is labelled by A and outlet by AB.

Valve mounting

Before mounting the valve, make sure pipes are clean, free from welding slags. The pipes must be perfectly aligned with the valve body and not subjected to vibrations. For installations on plants with high temperature fluids (steam, o verheated w ater, d iathermic oil) use expansion joints to avoid the dilatation of pipes to stress the valve body.

In any case, avoid installing the valve in plants which are considered aggressive and/or corrosive for valve materials.

Please contact our Sales Support in order to define which potentially aggressive or polluting substances can be used.

We disclaim all responsibility in case of valve failure due to external fortuitous events (fire, earthquakes etc.).

Leave sufficient room over the actuator, at least 200 mm (7.9"), to allow the actuator disassembling from the valve body for eventual maintenance.

If a MVH is present, mount the valves with the actuator in vertical position with fluid temperature up to 120°C (248°F). For higher temperatures, the valves must be mounted horizontally, otherwise the use of the MVHT accessory is required. In all cases, keep in mind that the MVH actuator main shaft must always be horizontal.

NOTE: Following the hydraulic installation it is necessary to check the tight of the stem packing placed on the bonnet, both in cases of low and high temperatures. The valves require periodic maintenance.





2FSA.B



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OPERATION

With stem up the valve is in closed position, with stem down the valve is open.

ACTUATORS TECHNICAL CHARACTERISTICS, WIRING DIAGRAM AND INSTALLATION

See MVH - MVHE.A/C and MVE actuators data sheets and mounting instructions.

ACCESSORIES

248 Stem heater for applications with possible ice formation on stem and packing.MVHT Valve body actuator spacer to reduce the direct expo-

/HT Valve body actuator spacer to reduce the direct exposure of the actuator when installed on a valve with high temperature fluids. Dimensions: Ø 120 mm; h = actuator height + 102 mm

Dimensions: \emptyset 4.7"; h = actuator height + 4.0"

MAX	DIFF	EREN	I AL I	PRESS	URE [kPa (PSI)]	

U-Bolt Connection	Size	MVH	MVHE.A/C*	MVHE.A/C* MVE.06		MVE.15	MVE.22	
		A-AB	A-AB	A-AB	A-AB	A-AB	A-AB	
2FSA.B	1"	2500 (363)	2500 (363)	2500 (363)	2500 (363)	2500 (363)	2500 (363)	
	1"	2500 (363)	2500 (363)	2500 (363)	2500 (363)	2500 (363)	2500 (363)	
	ן"	2500 (363)	2500 (363)	2500 (363)	2500 (363)	2500 (363)	2500 (363)	
	1 1/4"	2500 (363)	2500 (363)	2500 (363)	2500 (363)	2500 (363)	2500 (363)	
	1 1/2"	2500 (363)	2500 (363)	2490 (361)	2500 (363)	2500 (363)	2500 (363)	
	2"	2500 (363)	2500 (363)	1830 (265)	2500 (363)	2500 (363)	2500 (363)	
	2 1/2"	2500 (363)	1760 (255)	1220 (177)	2500 (363)	2500 (363)	2500 (363)	
	3"	2500 (363)	1280 (186)	830 (120)	2500 (363)	2500 (363)	2500 (363)	

* MVHE.A in emergency valve closed, MVHE.C in emergency valve open.

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MAX REGULATION DIFFERENTIAL PRESSURE [kPa (PSI)]

The max regulation differential pressure, it means the pressure which can be used during the stroke, is conditioned by wear between seat and plug and by the performance guaranteed by the actuator for the evaluated valve. So we recommend not to overcome the differential pressure whose value corresponds to the minimum between 800 kPa (116 PSI) (maximum admitted value not to cause wear) and the one shown in the previous table (max close-off differential pressure).

Note: The max operating pressures at different temperatures for various classes must correspond to the following standards.





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DIMENSIONS [mm (inch)]



Model	Size	L	н	h	D	b	a	f	Holes n.	Weight [kg (lb)]
	1"	160 (6.3")	92 (3.6'')	85 (3.3'')	115 (4.5")	18 (0.7'')	79 (3.1")	16 (0.6'')	4	6 (13.2 lb)
	1 1/4"	180 (7.1")	97 (3.8'')	105 (4.1")	140 (5.5")	20 (0.8'')	89 (3.5")	16 (0.6'')	4	10 (22 lb)
2FSA.B ANSI 150	1 1/2"	200 (7.9'')	98 (3.9'')	110 (4.3")	150 (5.9")	20 (0.8'')	98 (3.9")	16 (0.6'')	4	11 (24.3 lb)
	2"	230 (9.1")	107 (4.2")	116 (4.6'')	165 (6.5")	22 (0.9")	121 (4.8")	19 (0.8'')	4	16 (35.3 lb)
	2 1/2"	270 (10.6")	117 (4.6'')	132 (5.2")	185 (7.3")	24 (0.9")	140 (5.5")	19 (0.8'')	4	20 (44.1 lb)
	3"	310 (12.2")	181 (7.1")	149 (5.9")	200 (7.9'')	26 (1")	152 (6")	19 (0.8'')	4	39 (86 lb)

