



MODEL	DESCRIPTION
2FGB65L	Tight close-off 2-way globe valve DN65
2FGB80L	Tight close-off 2-way globe valve DN80
2FGB100L	Tight close-off 2-way globe valve DN100
2FGB125L	Tight close-off 2-way globe valve DN125
2FGB150L	Tight close-off 2-way globe valve DN150
3FGB65L	Tight close-off 3-way mixing globe valve DN65
3FGB80L	Tight close-off 3-way mixing globe valve DN80
3FGB100L	Tight close-off 3-way mixing globe valve DN100
3FGB125L	Tight close-off 3-way mixing globe valve DN125
3FGB150L	Tight close-off 3-way mixing globe valve DN150



## APPLICATION AND USE

2-3FGB.L series valves are used to control fluids belonging to the group 2 in accordance to article 13 of 2014/68/UE (PED) directive, in air-conditioning, thermoventilation and heating plants and in industrial processes; therefore, they cannot be used as safety valves. 2-3FGB.L series valves are designed to offer a tight close-off both on direct way as well as on angle way ports. This performance is obtained through the use of PTFE sealing.

## MANUFACTURING CHARACTERISTICS

Rugged PN16 cast iron valve body construction with flanged pipe connections; stainless steel stem with PTFE sealing packing gland and forged brass plug. These valves are suitable to be driven by linear bidirectional actuators MVH and MVE Controlli series.

## TECHNICAL CHARACTERISTICS

Technical data	Model	2-3FGB.L DN 65÷150
Construction		PN16
Body		Cast iron
Seat		Cast iron
Plug		Brass (DN65÷100) Bronze (DN125÷150)
Sealing material (direct way)		PTFE
Sealing material (angle way)		PTFE
Stem (Ø 9mm)		Stainless steel
Control characteristic		Direct way = equal perc. Angle way = linear (only for 3FGB.L)
Stem packing		EPDM O-Ring <sup>(1)</sup>
Max. fluid temp. °C		150
Min. fluid temp. °C		-10 <sup>(2)</sup>
Fluid <sup>(3)</sup>		Group 2
Connections		Flanged PN16
max Kvs leakage % <sup>(4)</sup>		Tight close-off

- (1) Double O-ring and graphite Teflon scraper ring.
- (2) For applications with possible ice formation on stem and gasket, see 248 accessory.
- (3) Group 2: water, overheated water, glycole added water (50% max.) steam.  
For different fluids belonging to group 2, please contact our Sales Support.
- (4) Leakage is measured according to the EN1349 standard.

## INSTALLATION

### HYDRAULIC CONNECTIONS

Respect the fluid direction as indicated by the letters on the valve body: A as inlet, AB as outlet, B mixing inlet for 3-way valves.

### 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, overheated water) use expansion joints to avoid the dilatation of pipes to stress the valve body. Install the valves with the actuator in vertical position for fluid temperature up to 120°C, with higher temperatures they must be mounted horizontally.

**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.

Avoid the valve installation in plants, which are considered aggressive and/or corrosive for valve materials. Please contact our Sales Support in order to determine 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.).

**NOTE:** The actuator can be rotated with respect to the valve body by blocking the ring nut; after such operation re-tighten the ring nut.

## ACTUATORS TECHNICAL CHARACTERISTICS, WIRING DIAGRAMS AND INSTALLATION

See actuators data sheets and mounting instructions.

### MOTORIZED VALVES OPTIONS

**A125-2** flanges with ANSI 125 bolt holes for two-way valves  
**A125-3** flanges with ANSI 125 bolt holes for three-way valves  
**PS89** grooved valves DN65÷125 to which it is possible to add the relating joint not supplied with the product. General dimensions remain the same. Joint and pipe dimensions are shown in the "Dimensions" paragraph

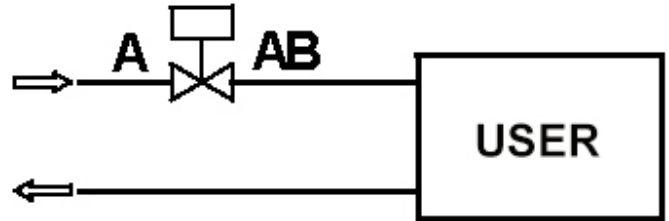
### ACCESSORIES

**248** stem heater for applications on -10°C low temperature fluid with MVH and MVE(R) actuators  
**GVB65** thermal insulation for DN65 for 2-3FGB65L valves  
**GVB80** thermal insulation for DN80 for 2-3FGB80L valves  
**GVB100** thermal insulation for DN100 for 2-3FGB100L valves  
**GVB125** thermal insulation for DN125 for 2-3FGB125L valves  
**GVB150** thermal insulation for DN150 for 2-3FGB150L valves

## APPLICATION SCHEMES

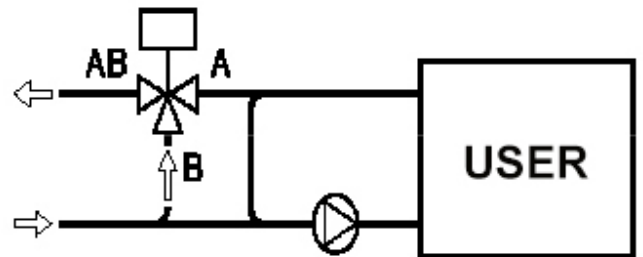
### 2FGB.L

Variable flow control to the user

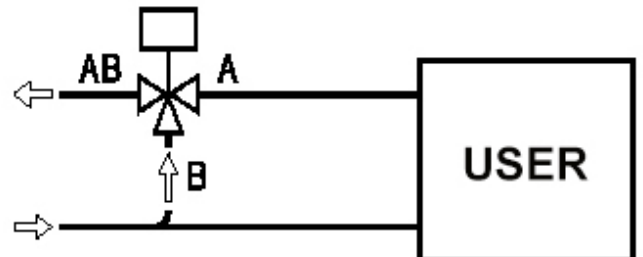


### 3FGB.L

Constant flow mixing to the user



Variable flow mixing to the user



## MAX DIFFERENTIAL CLOSE-OFF PRESSURE [kPa]

U-Bolt Connection	DN	Kvs	MVH		MVHA/C*		MVH3K		MVE.06		MVE.10		MVE.15		MVE.22	
			A-AB	B-AB	A-AB	B-AB	A-AB	B-AB	A-AB	B-AB	A-AB	B-AB	A-AB	B-AB	A-AB	B-AB
2-3FGB.L	65	63	430	370	210	170	960	850	180	150	310	270	480	420	716	633
	80	100	280	240	130	110	620	560	110	90	200	170	310	270	462	418
	100	130	170	150	80	70	390	360	70	60	120	110	190	175	290	267
	125	200	100	100	50	40	240	230	40	40	70	70	120	110	182	171
	150	300	70	70	30	30	160	160	30	20	50	50	80	75	124	119

100kPa = 1bar = 10m<sub>H<sub>2</sub>O</sub>

Kvs is the flow rate expressed in m<sup>3</sup>/h of water at a temperature between 5°C and 40°C passing through a valve open at the nominal stroke with 100kPa (1bar) differential pressure.

\* valid only for 3FGB.L

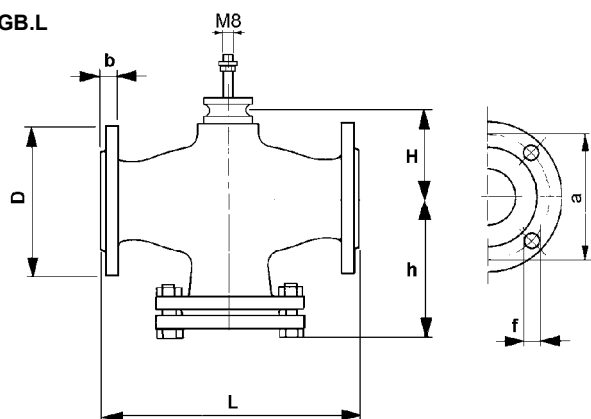
## MAX REGULATION DIFFERENTIAL PRESSURE [kPa]

The max regulation differential pressure, meaning 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 200kPa (maximum admitted value not to cause wear) and the one shown in the previous table (max close-off differential pressure).

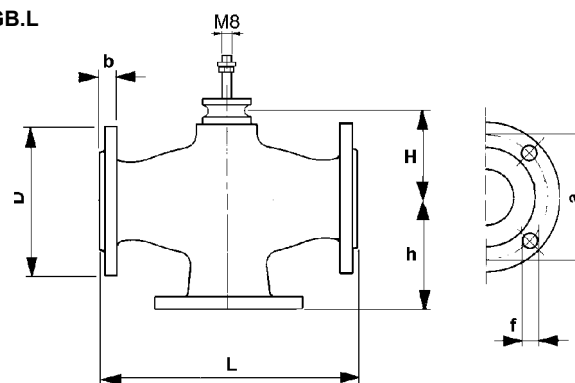
**Note:** The max operating pressures at different temperatures for different PN classes must correspond to the following standards: UNI 1092-2 and UNI 12516-1.

## DIMENSIONS [mm]

2FGB.L

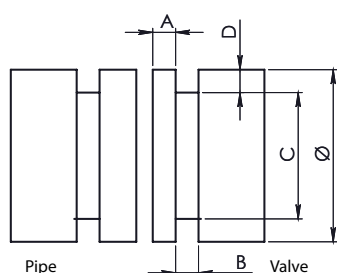


3FGB.L



Model	DN	L	H	h 2F	h 3F	D	b	a	f	Holes n.	Weight 2F [kg]	Weight 3F [kg]	Stroke [mm]
2-3FGB.L	65	290	84	175	145	185	20	145	18	4	23	18,8	25
	80	310	94	187	155	200	22	160	18	8	30	23,8	45
	100	350	105	207	175	220	22	180	18	8	45,6	32	45
	125	400	128	234	200	250	24	210	18	8	55	45,6	45
	150	480	146	277	240	285	24	240	22	8	71	61,2	45

PS89 model



Valve DN	Grooved joint DN	Ø			A	B	C		D
		external pipe diameter			gasket seat	groove width	groove diameter		groove depth (ref.)
		base	max.	min.	± 0.76 ± 0.03	± 0.76 ± 0.03	Max	Min.	
65	80	88,9	89,8	88,1	15,88	7,95	84,9	84,5	1,98
80	100	114,3	115,4	113,5	15,88	9,53	110,1	109,6	2,11
100	139,7	139,7	141,1	138,9	15,88	9,53	135,5	135	2,11
125	150	168,3	169,9	167,5	15,88	9,53	164	163,4	2,16

The performances stated in this sheet can be modified without any prior notice