Two/three way bronze control valves PN16

2-3TBB.T

MODEL		DN	Kvs [m³/h]
2 way	2TBB15T	1/2"	2,5
	2TBB20T	3/4"	4
	2TBB25T	1"	8
	2TBB32T	1 ¼"	12
	2TBB40T	1 ½"	21
	2TBB50T	2"	33
3 way	3TBB15T	1/2"	2
	3TBB20T	3/4"	5
	3TBB25T	1"	10
	3TBB32T	1 ¼"	16
	3TBB40T	1 ½"	25
	3TBB50T	2"	38

APPLICATION AND USE

These valves can be used either for fluid control or detection in domestic hot water, air-conditioning, thermoventilation and heating plants, both environmental and industrial, and in machines for product thermal process. Three-way valves should be used only as mixing valves; angle way should never be used for control purposes.

MANUFACTURING CHARACTERISTICS

Suitable fluids are: water, water/glycol mixture (25% max) and water/NaCl or CaCl2 mixture (15% max).

Controlli can not accept any responsibility in case of use of not listed fluids.

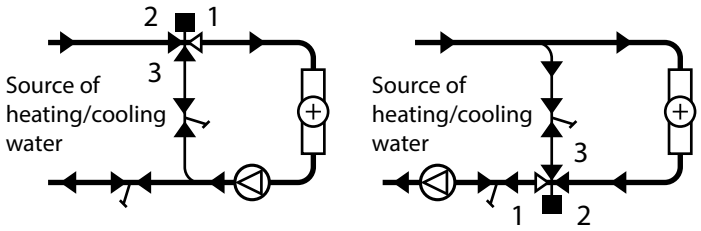
Materials exempt from dezincification are used for brass components in contact with fluids.
Valves are used in closed circuits; if the circuit is open they can be subject to deposit. In this case we suggest a frequent maintenance or the use of filters.

OPERATION

2TBB.T are globe valves equal percentage characterised; the valve is closed when plug is lifted.
3TBB.T valves have a parabolic plug with modified characteristic; if the plug is back the direct way is open.
The angle way has a linear characteristic. It guarantees an excellent operation both as mixing as well as diverting valve. In this case you have to reduce the performances to 1/3 of the indicated value.
These valves are designed to be motorized by MVC.03 and MVC503R actuators.

APPLICATION FOR MIXING VALVE

These valves must always be installed with two inlet streams and one outlet stream (as mixers). Reversal of direction will cause vibration and water hammer which will damage both valve and actuator.



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TECHNICAL CHARACTERISTICS

Description		2 way		3 way	
		G1/2-G3/4	G1÷G2	G1/2-G3/4	G1÷G2
Pipe connections	Gas female thread - conical	x	-	x	-
	Gas female thread - parallel	-	x	-	x
Characteristic	EQM	x		-	
	Direct way - modified parabolic plug	-		x	
	Linear angle way	-		x	
Rangeability	50:1	x			
Let-by	Perfect seal	x	-	-	-
	Max Kv % loss	0	0,1%	-	
	Direct way	-		0,05%	0,1%
	Linear angle way	-		0,5%	
Temperature limits	2T120°C max 1600kPa	x	x	x	
Body	Bronze	x			
Seat	Integral part of the valve body	x			
Plug	Copper alloy	x			
Plug seat	PTFE	x	-	-	-
Stem	Stainless steel	x			
Guide	Bronze	-		-	x
Bonnet	Integral part of the valve body	x			
Gland	Teflon V-ring + EPDM O-ring	x			
Stroke	12 mm	x			

PLANNING OF INSTALLATION

In planning pipework layout the following considerations apply when deciding on the valve position:

- Allow sufficient access for actuator and wiring.
- Avoid plug pointing vertically downwards to avoid risk of condensation or leakage damaging actuator.
- Observe the upper ambient temperature limitation of actuators (50°C).
- Where fluid in valve exceeds 100°C actuator must not be above valve. Therefore valve should be mounted with plug horizontal.
- Observe correct direction of flow through valve as indicated by arrow cast on body.
- Ensure system is efficiently vented, particularly for low flow rates.

INSTALLATION

WARNING - STEAM OR HOT WATER HAZARD. BEFORE REMOVING ACTUATOR FROM VALVE OR OPENING VALVE, ENSURE THAT THE VALVE CONTROL MEDIUM IS ISOLATED AND RELIEVE THE PRESSURE. WORK SHOULD ONLY BE CARRIED OUT BY A COMPETENT ENGINEER.

The system should be thoroughly flushed out to remove foreign matter before fitting the valve. Step-by-step installation instructions are packed with each valve and the precautions listed under 'Planning the Installation' must be observed. Ensure that the valve is fitted in accordance with the direction of flow.

Instructions for fitting electric actuators to valve are packed with actuator.

MAINTENANCE

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A periodic check of the valve should be made for general condition and leakage.

MAX. DIFFERENTIAL PRESSURE [kPa]

DN	MVC.03, MVC503R	
	direct way	angle way
1/2"	1430	1030
3/4"	990	670
1"	540	380
1 ¼"	340	230
1 ½"	230	160
2"	120	80

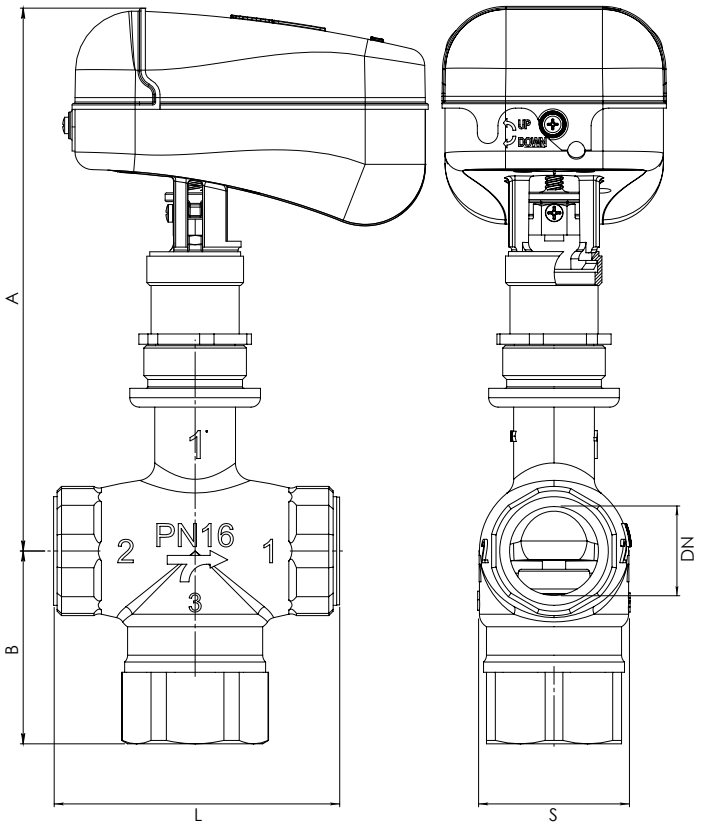
100kPa = 1bar = 10m_{H_2O}

MAX REGULATION DIFFERENTIAL PRESSURE [kPa]

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 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 various PN classes must correspond to the following standards: UNI 1092-2 and UNI 12516-1.

DIMENSIONS [mm]



DN	A	B		L	S	Weight [Kg]	
		2 way	3 way			2 way	3 way
15	180	39	47	62	44,5	1,8	1,5
20	181	40	41	74		1,9	1,6
25	185	65	74	97	51	2,5	2,1
32	190	61	73	108	72	3	2,5
40	193	73	73	121	77	3,3	2,8
50	201	76	88	144	94	4,8	4,1