

ZoneTight™, 2-way, Internal thread

- For closed cold and warm water systems
- For modulating control of air-handling and heating systems on the water side
- Snap-assembly of the actuator



5-year warranty

## Type overview

Type	DN
Z2050QPT-F	15

## Technical data

<b>Functional data</b>	Valve size [mm]	0.5" [15]
	Fluid	chilled or hot water, up to 60% glycol
	Fluid Temp Range (water)	36...212°F [2...100°C]
	Differential pressure	5...50 psi
	Body Pressure Rating	360 psi
	Close-off pressure Δps	200 psi
	Flow characteristic	equal percentage
	Angle of rotation note	Operating range 15...90°
	Installation position	upright to horizontal (in relation to the stem)
	Servicing	maintenance-free
	Flow Pattern	2-way
	Leakage rate	0%
	Controllable flow range	75°
<b>Materials</b>	Valve body	forged brass
	Stem	stainless steel
	Stem seal	EPDM O-ring
	Seat	PTFE, O-Ring EPDM
	Seat	PTFE
	Characterized disc	incorporated into the ball
	Diaphragm	EPDM
	Pipe connection	NPT
	O-ring	EPDM
Ball	stainless steel	
<b>Suitable actuators</b>	Non-Spring	CQB
	Electrical fail-safe	CQKB(X)
<b>Terms</b>	Abbreviations	V'nom = nominal flow with valve completely opened
		V'max = maximum flow, set by the angle of rotation limitation on the actuator

Safety notes



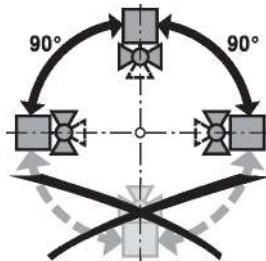
- WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)
- If temperature exceeds 212°F operating range due to a boiler control failure the valve will safely contain the hot water but manufacturers product warranty becomes invalid. Valve and actuator replacement is at the expense of others.

Product features

- Application** The PIQCV zone valves with its pressure independent technology are suited for large commercial buildings where higher close-off and dynamic balancing is required. Common applications include unit ventilators, fan coil units, VAV reheat coils, fin tube casing, radiant panels and duct coils. The valve fits in space restricted areas and can be assembled without the use of tools.
- Mode of operation** The ball valve is adjusted by a rotary actuator. The actuator is controlled by a commercially available modulating or 3-point control system and moves the ball of the valve – the throttling device – to the position dictated by the control signal. Open the characterized control valve counterclockwise and close it clockwise.
- Flow characteristic** Equal percentage flow control is ensured by the special design of the ball.
- Constant flow volume** With a differential pressure of 16...350 kPa, a constant flow volume is achieved thanks to the integrated pressure regulating valve. Independently of the differential pressure through the valve, a valve authority of 1 is achieved. Even with pressure variations and in the partial load range, the flow rate remains constant with each respective opening position (angle of rotation) and ensures a steady control.

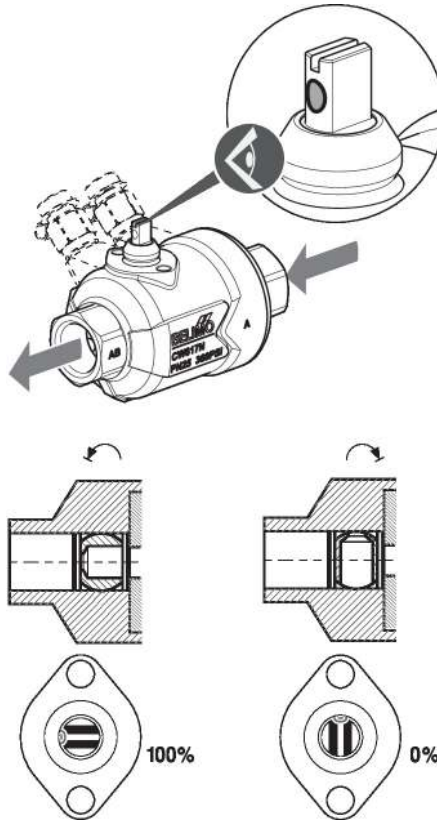
Installation notes

- Recommended installation positions** The ball valve can be installed upright to horizontal. The ball valve may not be installed in a hanging position, i.e. with the stem pointing downwards.



- Water quality requirements** Belimo valves are regulating devices. For the valves to function correctly in the long term, they must be kept free from particle debris (e.g. welding beads during installation work). The installation of a suitable strainer is recommended.
- Servicing** Ball valves and rotary actuators are maintenance-free.  
 Before any service work on the control element is carried out, it is essential to isolate the rotary actuator from the power supply (by unplugging the electrical cable if necessary). Any pumps in the part of the piping system concerned must also be switched off and the appropriate slide valves closed (allow all components to cool down first if necessary and always reduce the system pressure to ambient pressure level).  
 The system must not be returned to service until the ball valve and the rotary actuator have been correctly reassembled in accordance with the instructions and the pipeline has been refilled by professionally trained personnel.

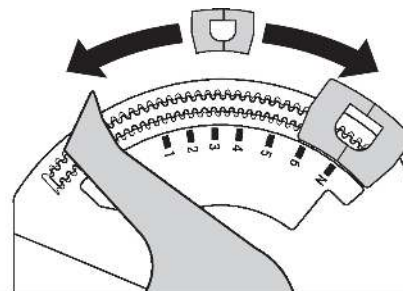
**Flow direction** The direction of flow, specified by an arrow on the housing, is to be complied with, since otherwise the ball valve could become damaged. Please ensure that the ball is in the correct position (marking on the stem).



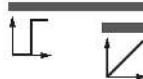
**Flow setting** The angle of rotation of the CQ.. actuator can be changed by end stop clip in 2.5° increments. This is used to set the V'max value (maximum flow rate of the valve).

Remove end stop clip and place at desired position.

After every change of the flow setting by means of end stop clip, an adaptation must be triggered on the modulating actuators.



	Pos	1	2	3	3+	4-	4	4+	5-	5	5+	6-	6	6+	N-	N	
	Bus	41%	49%	56%	60%	63%	66%	68%	71%	74%	77%	79%	82%	85%	88%	91%	100%
	↙	37°	44°	51°	54°	57°	59°	61°	64°	67°	69°	71°	74°	77°	79°	82°	90°
C215QP(T)-B	V <sub>max</sub> (l/h)	20	30	40	45	50	60	70	80	90	105	120	135	150	165	180	210
	V <sub>max</sub> (l/s)	0.066	0.008	0.011	0.013	0.014	0.017	0.019	0.022	0.025	0.029	0.033	0.038	0.042	0.046	0.050	0.058
C215QP(T)-D	V <sub>max</sub> (l/h)	50	70	100	110	130	150	170	190	210	240	270	300	330	360	400	420
	V <sub>max</sub> (l/s)	0.014	0.019	0.028	0.031	0.036	0.042	0.047	0.053	0.058	0.067	0.075	0.083	0.092	0.100	0.111	0.117
C220QP(T)-F	V <sub>max</sub> (l/h)	90	130	190	220	250	290	340	390	440	500	570	630	700	760	820	980
	V <sub>max</sub> (l/s)	0.025	0.036	0.053	0.061	0.069	0.081	0.094	0.108	0.122	0.139	0.158	0.175	0.194	0.211	0.228	0.272
C225QP(T)-G	V <sub>max</sub> (l/h)	260	410	600	670	750	840	920	1010	1110	1210	1310	1420	1530	1640	1750	2100
	V <sub>max</sub> (l/s)	0.072	0.114	0.167	0.186	0.208	0.233	0.256	0.281	0.308	0.336	0.364	0.394	0.425	0.456	0.486	0.583



Dimensions

Type  
Z2050QPT-F

DN  
15

Weight  
2.65 lb [1.2 kg]

