9880 series

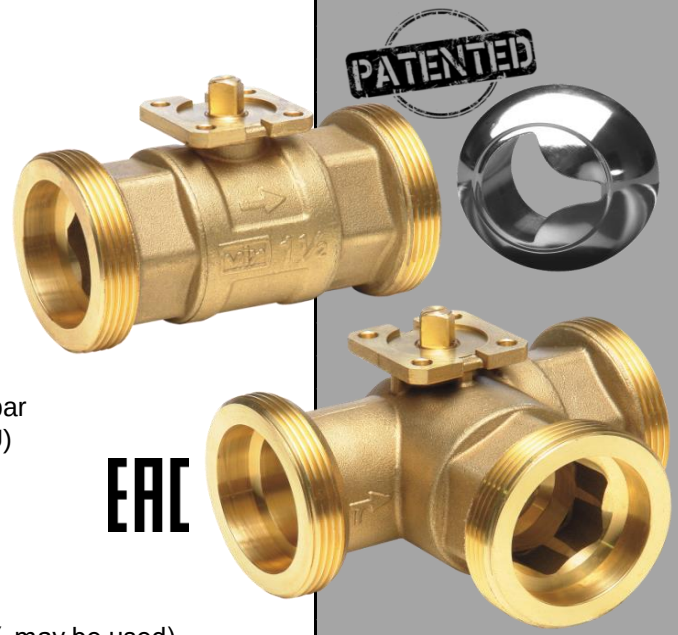
DZR Brass Regulation Ball Valve with Connection for Actuator

Via Circonvallazione, 10
13018 Valduggia (VC), Italy
Tel: +39 0163 47891
Fax: +39 0163 47895
www.vironline.com

DZR brass regulation ball valve with connection for actuator
Available in the following versions:

- Fig. 988S, 2-way, threaded M/M (ISO 228/1)
- Fig. 988T, 3-way mixing, threaded M/M/M (ISO 228/1)

Actuator connection according to ISO 5211 F04-□9mm
Characteristic control curve according to VDI 2173
Linear char. on by-pass according to VDI 2173 (3-way only)
Blow-out proof stem
TR CU 010 compliant



Shell rating: PN40
Working conditions: Max 16bar, Max differential pressure 3,5bar
Free of CE marking (cat. according to Art. 4.3 Dir. 2014/68/EU)

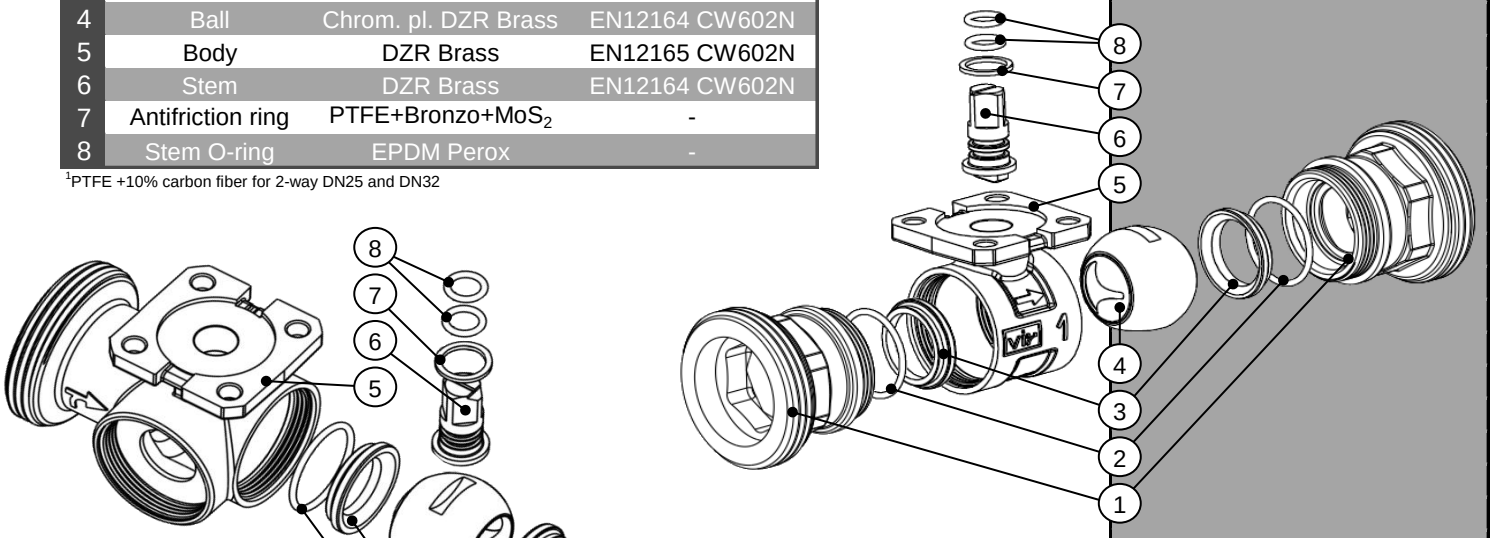
Working conditions

- Suitable for: water, -10°C to +130°C
  below 0°C only for water with added antifreeze fluids
  over 100°C only for water with added anti-boiling fluids
  (Ethylene glycol and propylene glycol mix. >20% and ≤50% may be used)
- Not suitable for: gases group 1 & 2, liquids group 1 (Dir. 2014/68/EU)

PARTLIST

N.	Part	Material	Norm
1	Fixed end	DZR Brass	EN12165 CW602N
2	Seat O-ring	EPDM Perox	-
4	Seat	PTFE[1]	-
4	Ball	Chrom. pl. DZR Brass	EN12164 CW602N
5	Body	DZR Brass	EN12165 CW602N
6	Stem	DZR Brass	EN12164 CW602N
7	Antifriction ring	PTFE+Bronzo+MoS_2	-
8	Stem O-ring	EPDM Perox	-

[1]PTFE +10% carbon fiber for 2-way DN25 and DN32



221222

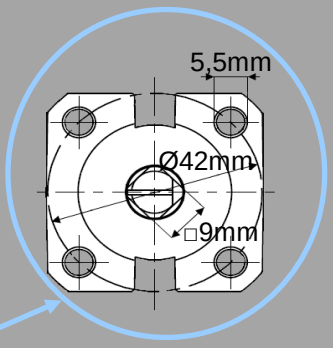
DIMENSIONS

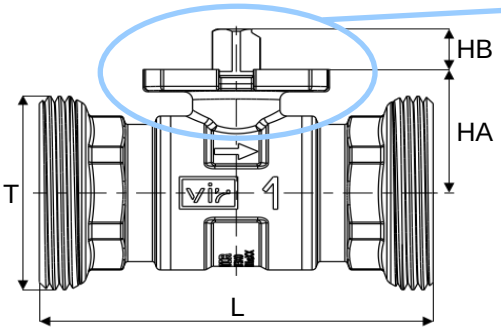
DN	T	L [mm]	LA [mm]	LB [mm]	HA [mm]	HB [mm]	ISO-□Q [mm]	Torque[1] [Nm]	Weight[2] [g]
015	1"	87,0	87,0[3]	43,4[3]	27,6[3]	10,0	F04 - □9	2,0	370 / 400[3]
020	1¼"	89,4	89,4	45,1	27,6	10,0	F04 - □9	2,0	440 / 530
025	1½"	90,0	98,4	49,6	30,5	10,0	F04 - □9	3,0	550 / 740
032	2"	100,0	114,0	63,7	34,3	10,0	F04 - □9	3,5	835 / 1220
040	2¼"	116,2	127,6	74,3	39,8	10,0	F04 - □9	3,5	1290 / 1870
050	2¾"	124,8	138,0	82,3	52,8	10,0	F04 - □9	3,5	2020 / 2800

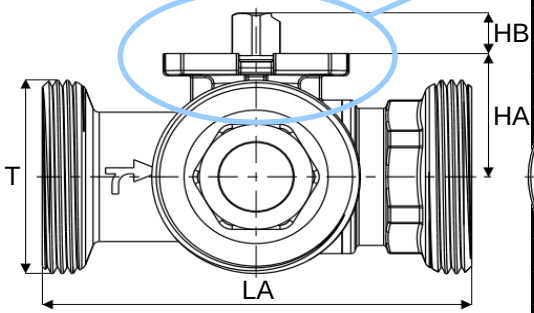
[1]Indicated torque valid for Δp≤1Bar, torque is anyway ≤5Nm in the max Δp working range

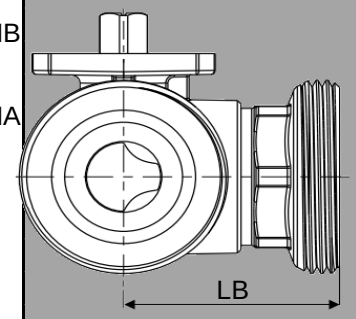
[2]2-way version weight / 3-way version weight

[3]For 3-way version $K_{v100\%}$ 6,3: LA 88,6mm, LB 44,4mm, HA 24,2mm, weight 440g

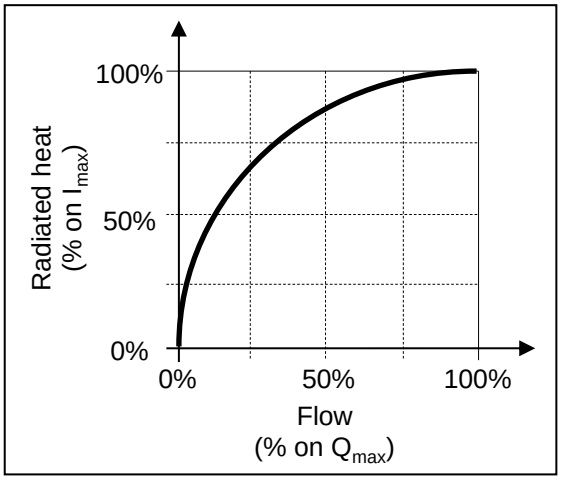




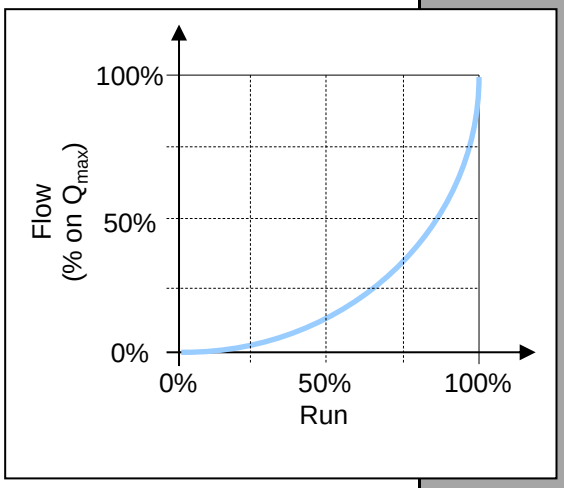




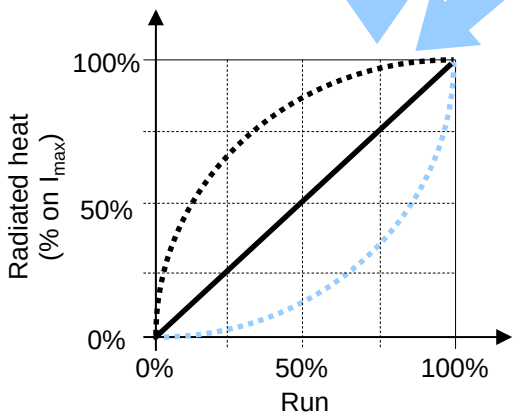
CHARACTERISTIC CURVE



Characteristic curve of heat exchanger



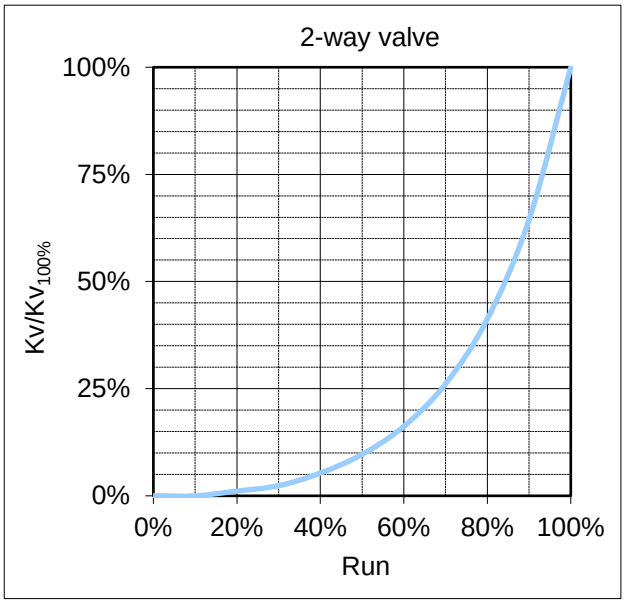
VIR valve, equal-percentage characteristic

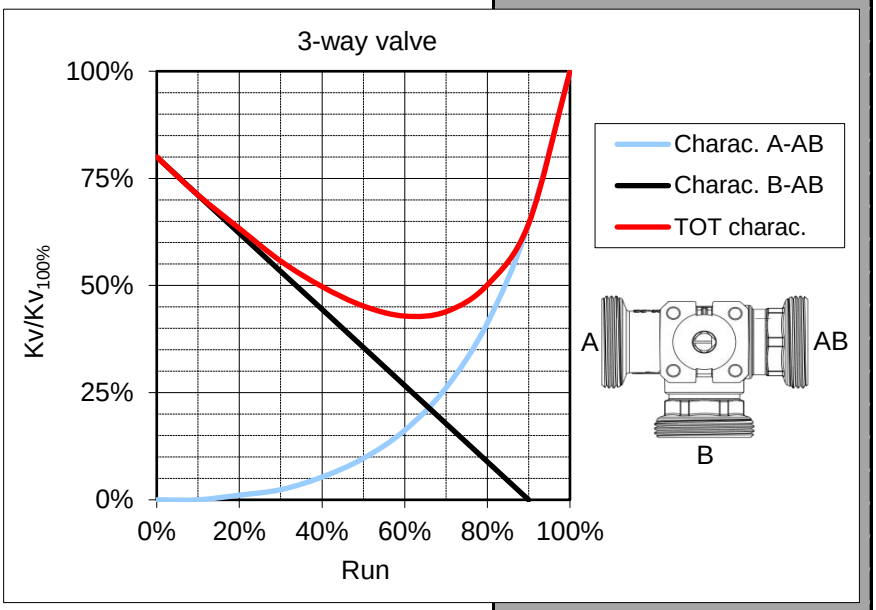


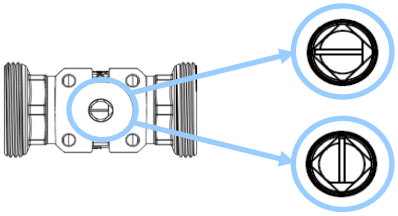
Heat exchangers for HVAC system have a characteristic curve linking heat and flow which is not linear.
Using a valve with equal-percentage characteristic allow to compensate this curve.
The equal-percentage characteristic is obtained by using a special ball valve with shaped passage.

Q_{max} = maximum design flow
I_{max} = maximum radiated heat

Via Circonvallazione, 10
13018 Valduggia (VC), Italy
Tel: +39 0163 47891
Fax: +39 0163 47895
www.vironline.com



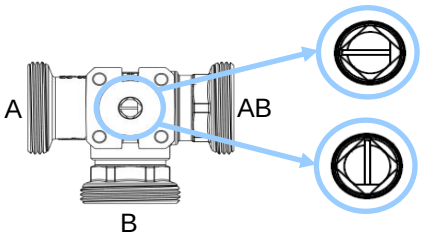




Stem detail, valve open

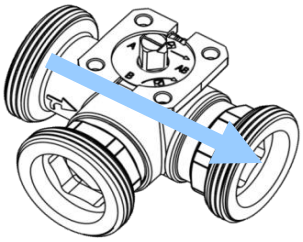
Stem detail, valve close

No Visible Leakage when tested to verify Class IV-L-1



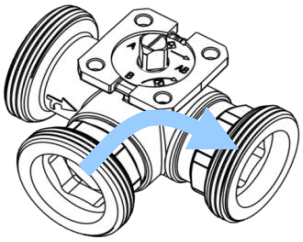
Stem detail
100% A-AB flow
0% B-AB flow

Stem detail
0% A-AB flow
100% B-AB flow



A-AB flow

Allowable Seat Leakage
Class IV-L-1 = 1 x 10^{-4} x RVC



B-AB flow

Allowable Seat Leakage
1 x 10^{-2} x RVC

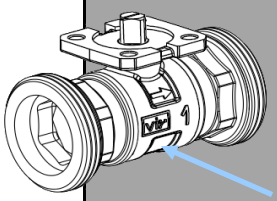
Allowable Seat Leakage Classes according to IEC 60534-4. RVC: "Rated Valve Capacity" as per IEC 60534-4 standard.

Via Circonvallazione, 10
13018 Valduggia (VC), Italy
Tel: +39 0163 47891
Fax: +39 0163 47895
www.vironline.com

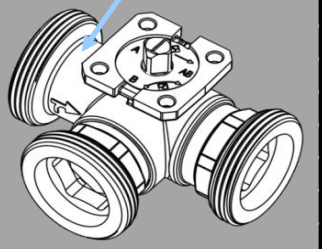
VALVE SIZING

DN	Available $K_{v100\%}$ [m^3/h] for 2-way valves									
	1,0	1,6	2,5	4,0	6,3	10	16	25	40	63
015	5	4	3	2	0					
020				2	1	0				
025					2	1	0			
032						2	1	0		
040							2	1	0	
050								2	1	0

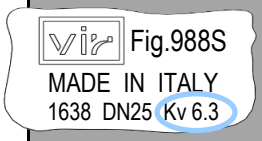
DN	Available $K_{v100\%}$ [m^3/h] for 3- way valves									
	1,0	1,6	2,5	4,0	6,3	10	16	25	40	63
015		4	3	2	0					
020				2	1					
025						1				
032							1			
040								1		
050									1	



Marking position

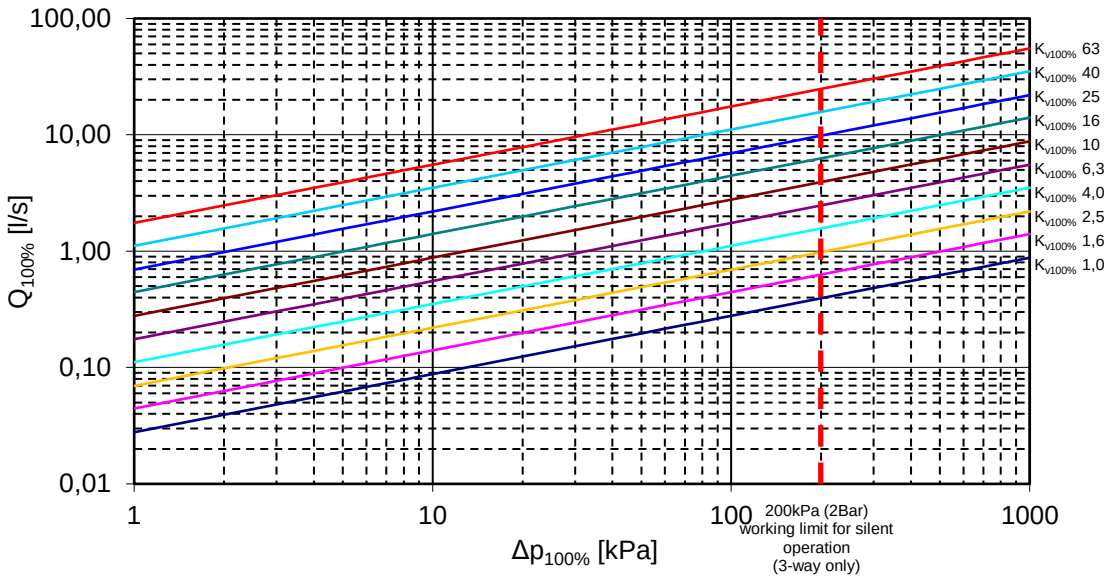


Valves are available in different $K_{v100\%}$ versions, the specific value is marked on the valves in the position indicated in the figure.
The specific $K_{v100\%}$ version of the valve is identified by the sixth digit of the product code according to the tables above.
In the example the marking of a F988S**2**025.2599 valve.



$$K_{v100\%} = \frac{36 \cdot Q_{100\%}}{\sqrt{\Delta p_{100\%}}}$$

Calculate $K_{v100\%}$ theoretically required based on maximum design flow ($Q_{100\%}$ in l/s) and design pressure drop ($\Delta p_{100\%}$ in kPa) at valve completely opened.
Select the closest available $K_{v100\%}$ on table below compatible with used pipe DN.



Via Circonvallazione, 10
13018 Valduggia (VC), Italy
Tel: +39 0163 47891
Fax: +39 0163 47895
www.vironline.com