FIVC Static Balancing Valve

DZR Brass – PN 25 – Fixed Orifice – ISO 228

FSB series

Technical data

Main features and materials

- Body: DZR Brass CW602N
- Bonnet: DZR Brass CW602N
- Disc: DZR Brass CW602N
- Stem: DZR Brass CW602N
- Handwheel: ABS plastic
- USP: Flowrate measurement incl. pressure probes
  Shut-off function
  Pre-setting possibility
  Sensor holder
  (Needle ø3mm and length 30-40mm)

Field of applications

- Temperature range: -5 to 110 °C
- Max. working pressure: 25 bar

- Hot and cold water plants
- Compressed air plants
- Industrial Technologies
- Heat and refrigerating
- Engineering and air-conditioning

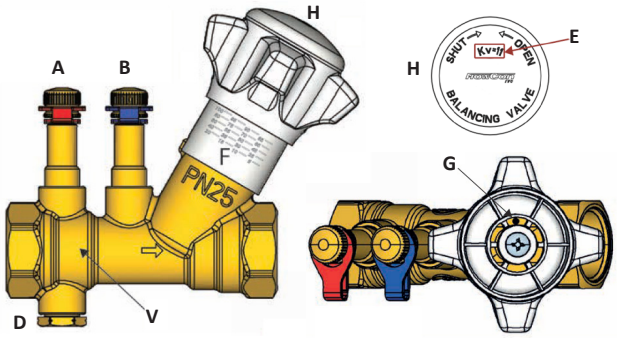
Description

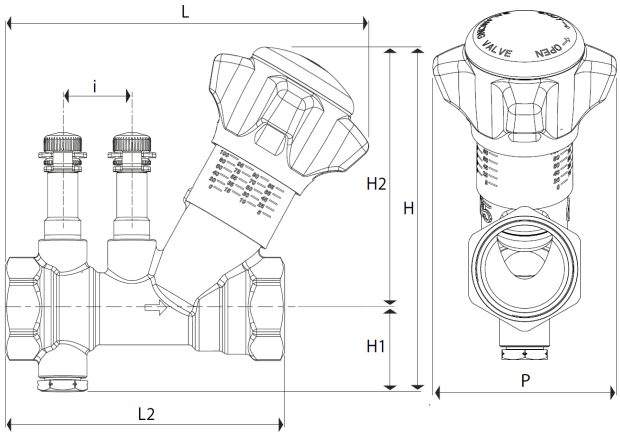
FIVC Static Balancing Valve is designed with integrated pressure probes to determine the flow rate through integrated fixed orifice. The valve controls hydraulic medium flow at HVAC plants and ensures load balance, hence contributes to energy and cost savings. Further, the FIVC Balancing Valve does, through its reduction of media flow speed, prevents the water hammer phenomenon.
The valve is equipped with 1/4" F drain connection.

Declaration

The product has been inspected and tested in accordance with the Sound Engineering Practice SEP.
Acc. to the European PED Directive N° 2014/68/EU, dated 15/05/2014, the product is exempted from CE marking (Cf. Art. 4.3).

Dimensions





Product Information

Product code	Size (DN)	L*	L2*	H1*	H2*	H*	I*	P*	Kg
FSB015D25GF01	15	131	95	25	94	119	25	64	0.695
FSB020D25GF01	20	131	101	28	90	118	25	64	0.715
FSB025D25GF01	25	131	110	32	90	122	25	64	0.758
FSB032D25GF01	32	137	120	35	94	129	25	64	0.939
FSB040D25GF01	40	163	140	39	127	166	25	64	1.588
FSB050D25GF01	50	169	154	45	127	172	25	70	1.865

**Dimensions are in millimeters*

Product Specification

N°	Name	Material
1	Body	DZR Brass CW602N
2	Bonnet	DZR Brass CW602N
3	Disc	DZR Brass CW602N
4	Stem	DZR Brass CW602N
5	Handwheel	ABS plastic, white color

L°	Component	L°	Component
A	High pressure probes	F	Scale for 0-100% setting w. 20 positions
B	Low pressure probes	G	Pre-setting screw *(limiting the stroke)*
C	ABS Handwheel	H	Removable head (to do pre-setting) w. imprinted Venturi Kv values
D	Drain *(1/4" F)*		
E	Kv of the venturi flow meter	V	Venturi flow meter

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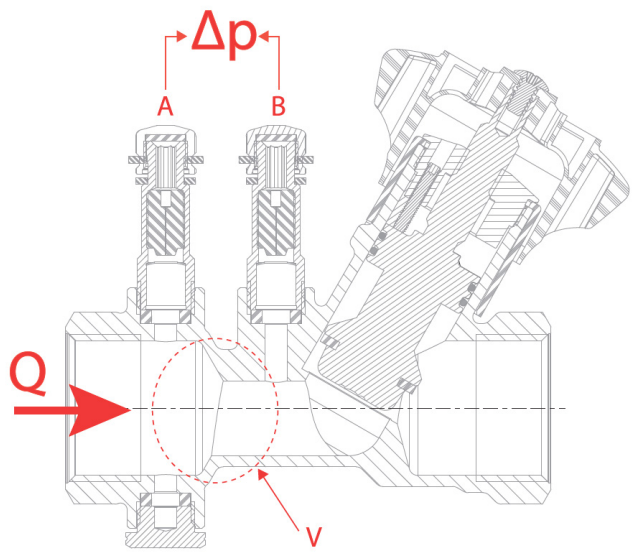
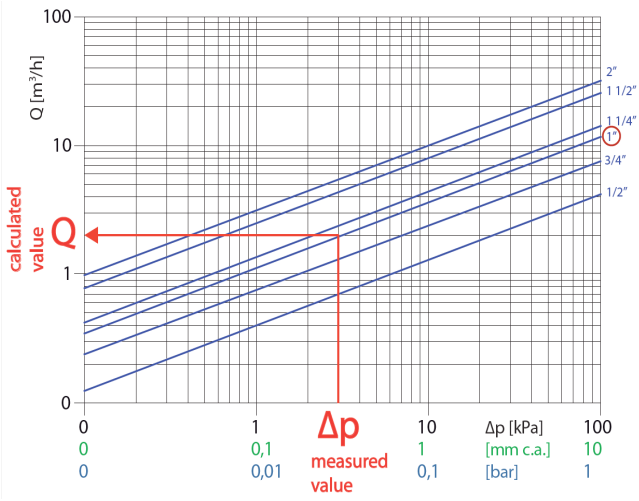
Flowrate Calculation



Kv (m^3/h)		Flowrate (l/h)		
$Kv_{Venturi\ flow}$	$Kv_{Complete\ valve}$	0.5 kPa*	3 kPa*	10 kPa**
4.0	2.7	280	690	860
7.5	5.5	530	1300	1740
11.0	7.0	780	1900	2220
13.5	9.5	950	2340	3000
24	18.5	1700	4160	5850
31	25.5	2190	5370	8065

Flowrate values related to differential pressure on Venturi flowmeter (*) or for the complete valve (**)



FIVC Static Balancing Valve is equipped with a flowmeter having calibrated orifice *(venturi principle)*, that is with fixed Kv values, that through the pressure outlets *(cf. figure on page 1)* and a common differential manometer, permits to calculate the really circulating flow rate.

The flow rate Q can be determined with the following formula:

$$Q = Kv_{venturi} \bullet \sqrt{\Delta p}$$

Refer to the $Kv_{venturi}$ values included in the table:
Δp has to be measured through the pressure outlets.
Use the following formula for the liquids having density p different from water:

$$Q = Kv_{venturi} \bullet \sqrt{\Delta p / p}$$

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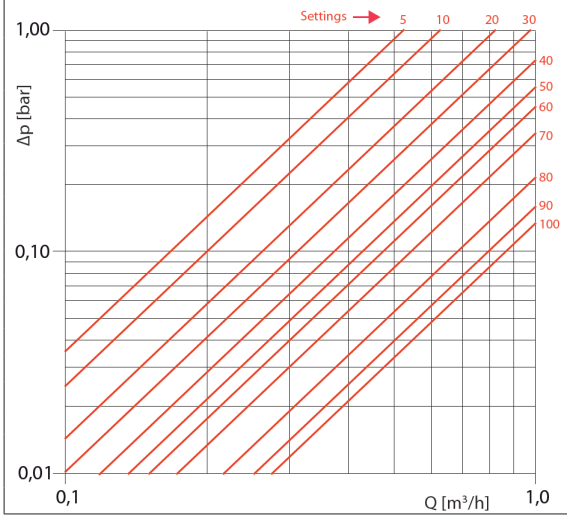
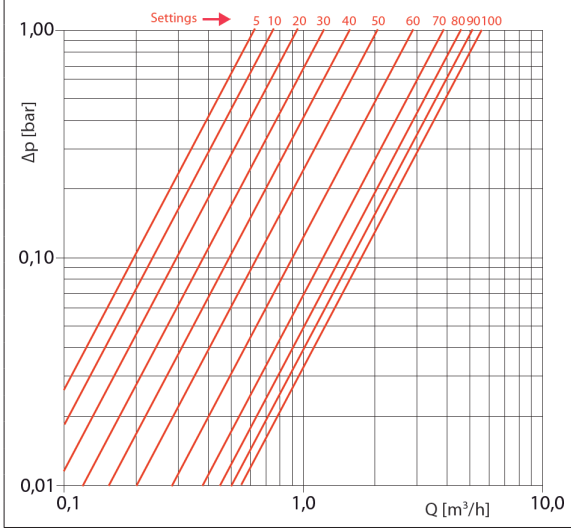
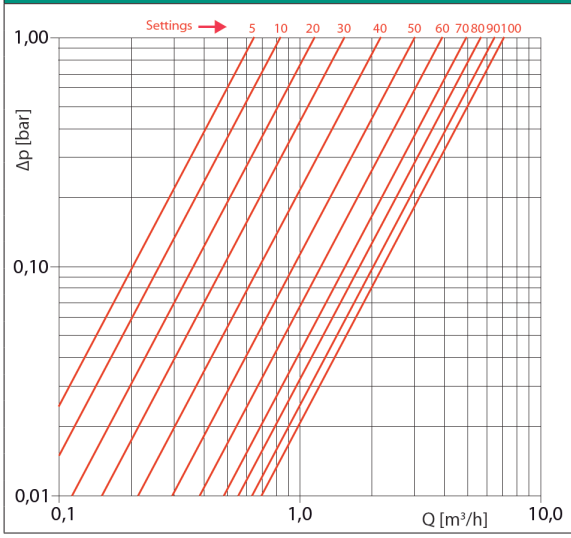
Kv Values (m^3/h)

FSB DN 15	Setting	Kv (m^3/h)
	100	2.70
	95	2.54
	90	2.48
	85	2.34
	80	2.18
	75	1.99
	70	1.71
	65	1.59
	60	1.48
	55	1.41
	50	1.33
	45	1.28
	40	1.19
	35	1.09
	30	0.98
	25	0.92
	20	0.83
	15	0.73
	10	0.63
	5	0.53

FSB DN 20	Setting	Kv (m^3/h)
	100	5.50
	95	5.20
	90	5.00
	85	4.80
	80	4.57
	75	4.35
	70	3.95
	65	3.50
	60	2.88
	55	2.37
	50	2.00
	45	1.81
	40	1.58
	35	1.39
	30	1.24
	25	1.10
	20	0.96
	15	0.85
	10	0.75
	5	0.62

FSB DN 25	Setting	Kv (m^3/h)
	100	7.00
	95	6.59
	90	6.25
	85	5.95
	80	5.49
	75	5.03
	70	4.86
	65	4.29
	60	3.89
	55	3.32
	50	2.92
	45	2.50
	40	2.14
	35	1.81
	30	1.47
	25	1.37
	20	1.14
	15	0.98
	10	0.83
	5	0.64

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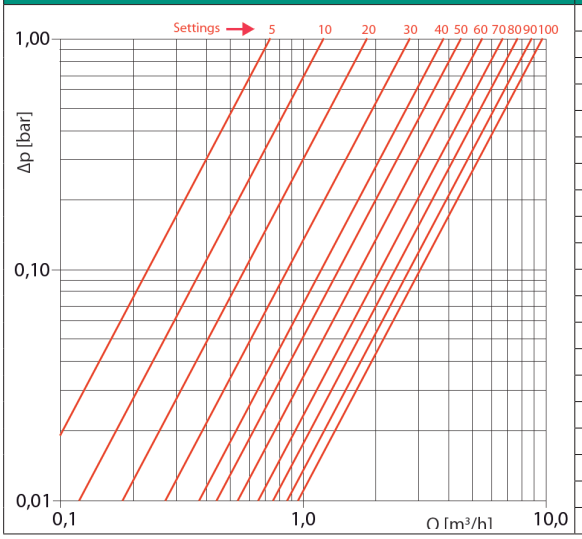
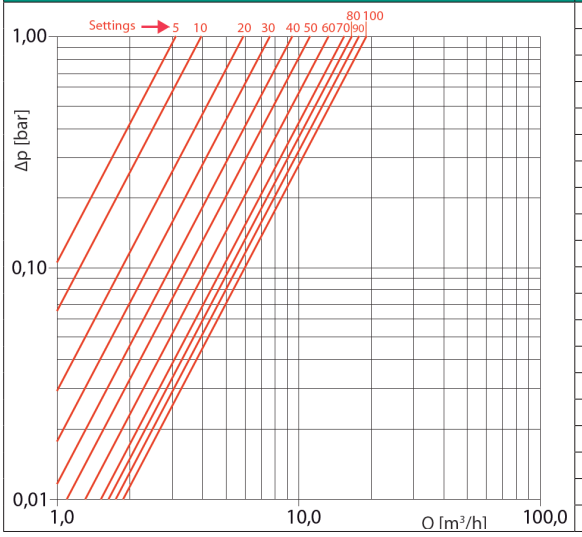
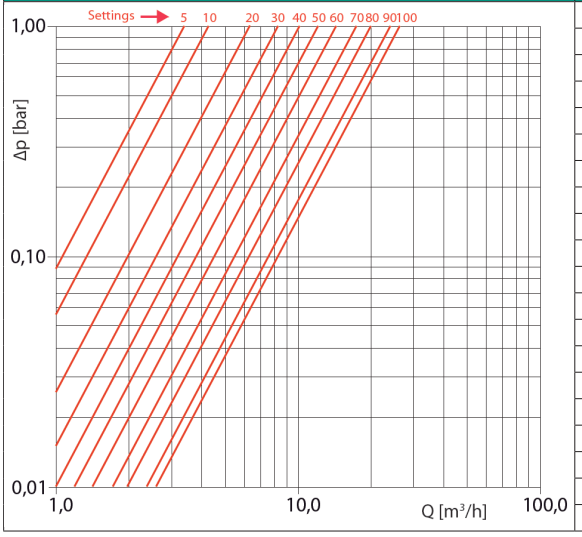
Kv Values (m^3/h)

FSB DN 32	Setting	Kv (m^3/h)
	100	9.50
	95	8.98
	90	8.55
	85	7.97
	80	7.60
	75	7.05
	70	6.46
	65	5.86
	60	5.50
	55	4.89
	50	4.39
	45	4.04
	40	3.69
	35	3.25
	30	2.66
	25	2.21
	20	1.79
	15	1.53
	10	1.21
	5	0.73

FSB DN 40	Setting	Kv (m^3/h)
	100	18.50
	95	17.80
	90	17.35
	85	16.98
	80	16.40
	75	15.84
	70	15.23
	65	14.29
	60	13.19
	55	12.28
	50	11.21
	45	10.13
	40	9.18
	35	8.41
	30	7.56
	25	6.74
	20	5.80
	15	4.67
	10	3.84
	5	3.02

FSB DN 50	Setting	Kv (m^3/h)
	100	25.50
	95	24.08
	90	23.21
	85	21.64
	80	19.98
	75	18.95
	70	17.64
	65	16.53
	60	14.72
	55	13.33
	50	12.06
	45	11.08
	40	9.98
	35	8.99
	30	8.02
	25	7.26
	20	6.24
	15	5.13
	10	4.18
	5	3.36