Series W-DPBV-20T

Differential Pressure Balancing Valve

Sizes: DN15-DN50

The Series W-DPBV differential pressure-balancing valve is designed to keep constant differential pressure between supply pipes and return pipes of a bypass, control valve or terminal equipment in air-conditioning or heating system. It avoids hydraulic disturbances resulting from variations in system differential pressure.



Features

- Self-acting differential pressure control, no external power needed
- The on-site setting of differential pressure
- Wide controllable range of differential pressure
- Handwheel equipped with differential pressure indicator
- Able to be shut off by handwheel
- Self-sealing measuring points to protect against leakage
- Equipped with measuring points and air vent
- Equipped with a three-way measuring connector

Working Principle

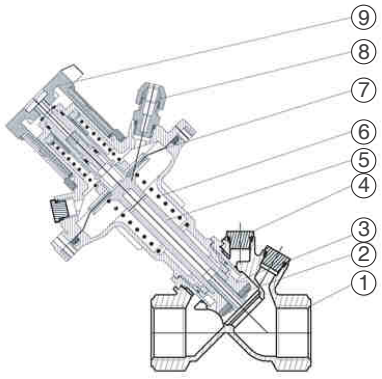
When the service pressure difference of the system pipe increases, relying on the pressure change of its high and low pressure, the dynamic differential pressure balancing valve's chambers re-balance the forces acting on both sides of the diaphragm, at the same time, it drives the valve stem to move, reduces the valve opening, absorbs the increased utility pressure difference, and ensures the constant pressure difference at the controlled side.

Pressure-Temperature

- Nominal Pressure: PN20
- Working Temperature: -10~120℃

Specification

- Connection Standard: GB/T7306.1，ISO7/1
- Control Accuracy: ±10%
- Maximum Working Differential Pressure: ≤300Kpa
- Working Medium: cold and hot water/ethylene glycol



Material

NO.	Component	Material
1	Body	Brass
2	Seal	EPDM
3	Core	Brass
4	Plug	Brass
5	Stem	Brass
6	Spring	Stainless Steel304
7	Membrane	Brass
8	Pressure Pipe Joint	Brass
9	Handwheel	PA

Product Model

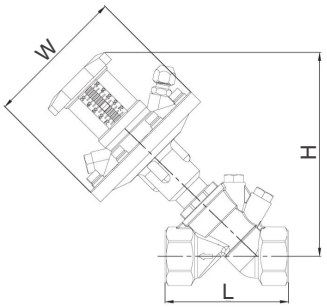
Type	Size	△P Control(Kpa)	KVs
W-DPBV015S-20T	DN15	5-30	2.5
W-DPBV020S-20T	DN20	5-30	4
W-DPBV025S-20T	DN25	5-30	6.5
W-DPBV032S-20T	DN32	5-30	11.5
W-DPBV040S-20T	DN40	5-30	15.5
W-DPBV050S-20T	DN50	5-30	23.3
W-DPBV015L-20T	DN15	30-70	2.5
W-DPBV020L-20T	DN20	30-70	4
W-DPBV025L-20T	DN25	30-70	6.5
W-DPBV032L-20T	DN32	30-70	11.5
W-DPBV040L-20T	DN40	30-70	15.5
W-DPBV050L-20T	DN50	30-70	23.3

Model Description

			W-	DPBV	025	S-	20	T
W	WATTS							
DPBV	Dynamic Differential Pressure Balancing Valve							
Size								
15-DN15	020-DN20	025-DN25						
032-DN32	040-DN40	050-DN50						
△P								
S:Small Range	L:Big Range							
Nominal Pressure								
PN20								
Nominal Pressure	Brass							

Installation Dimensions

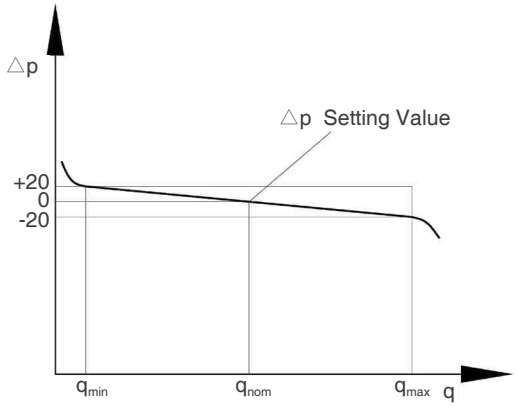
Size	L(mm)	H(mm)	W(mm)
DN15	80	160	112
DN20	85	160	112
DN25	100	165	112
DN32	110	180	112
DN40	120	185	112
DN50	150	200	112



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Working Differential Pressure Range



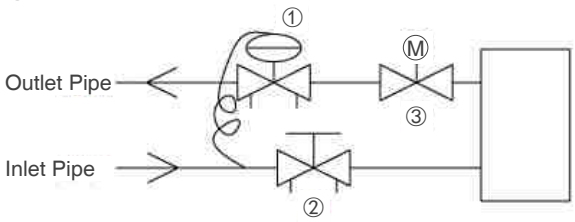
DN	△P(kPa)											
	5			10			20			30		
	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}
15	0.02	0.25	0.48	0.03	0.32	0.66	0.04	0.47	0.91	0.05	0.60	1.13
20	0.03	0.41	0.89	0.04	0.61	1.19	0.05	0.84	1.64	0.07	1.02	1.96
25	0.08	0.71	1.04	0.10	0.98	1.67	0.13	1.23	2.48	0.15	1.78	3.41
32	0.10	1.06	2.19	0.13	1.42	2.72	0.16	2.05	3.88	0.20	2.77	5.13
40	0.11	1.66	3.34	0.23	2.22	4.17	0.35	3.04	5.72	0.55	3.83	6.31
50	0.20	2.21	3.94	0.31	3.71	5.07	0.53	3.82	7.00	0.66	4.56	8.58

DN	△P(kPa)														
	30			40			50			60			70		
	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}			
15	0.06	0.64	1.19	0.06	0.70	1.31	0.07	0.80	1.48	0.08	0.85	1.60	0.09	0.90	1.71
20	0.08	1.07	2.07	0.09	1.19	2.28	0.11	1.37	2.56	0.13	1.46	2.81	0.15	1.60	3.06
25	0.16	1.88	3.60	0.19	2.13	3.98	0.21	2.38	4.53	0.23	2.59	4.91	0.25	2.72	5.73
32	0.21	2.93	5.42	0.27	3.47	6.61	0.35	3.99	7.43	0.41	4.24	8.03	0.47	4.65	8.92
40	0.58	4.04	6.66	0.68	4.47	8.83	0.79	5.01	9.44	0.83	5.51	10.15	0.93	5.88	10.93
50	0.69	4.82	9.05	0.80	5.53	10.04	0.95	6.12	11.36	1.04	6.52	12.32	1.10	7.04	13.37

Installation Instructions

The dynamic differential pressure balancing valve can be used alone or in combination with the static balancing valve. The dynamic differential pressure balancing valve is always installed on the return pipe. When it is used with the static balance valve, the static balancing valve is installed on inlet pipe. Please see as follows.

①—DPBV
②—STBV
③—ECV



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