



BDV-50

PILOT OPERATED PRESSURE REDUCING VALVE

GENERAL FEATURES

In heating, temperature control, cooling, and industrial fluid automation systems, pressure reducing valves are critical components for the safe and efficient operation of steam lines. The Ayvaz BDV-50 Pilot-Operated Pressure Reducing Valve ensures stable, safe, and efficient operation of steam systems by reducing high-pressure steam to the low pressure required by the equipment.

The device automatically adjusts and maintains the outlet pressure using the steam's own energy, without the need for any external power source or control unit.

Technical Specifications

Size: DN15-DN100
Pressure: PN16-PN40
Maximum Inlet Pressure: 3 MPa
Outlet Pressure: 0.02-2 MPa
Maximum Temperature: 315°C

Performance

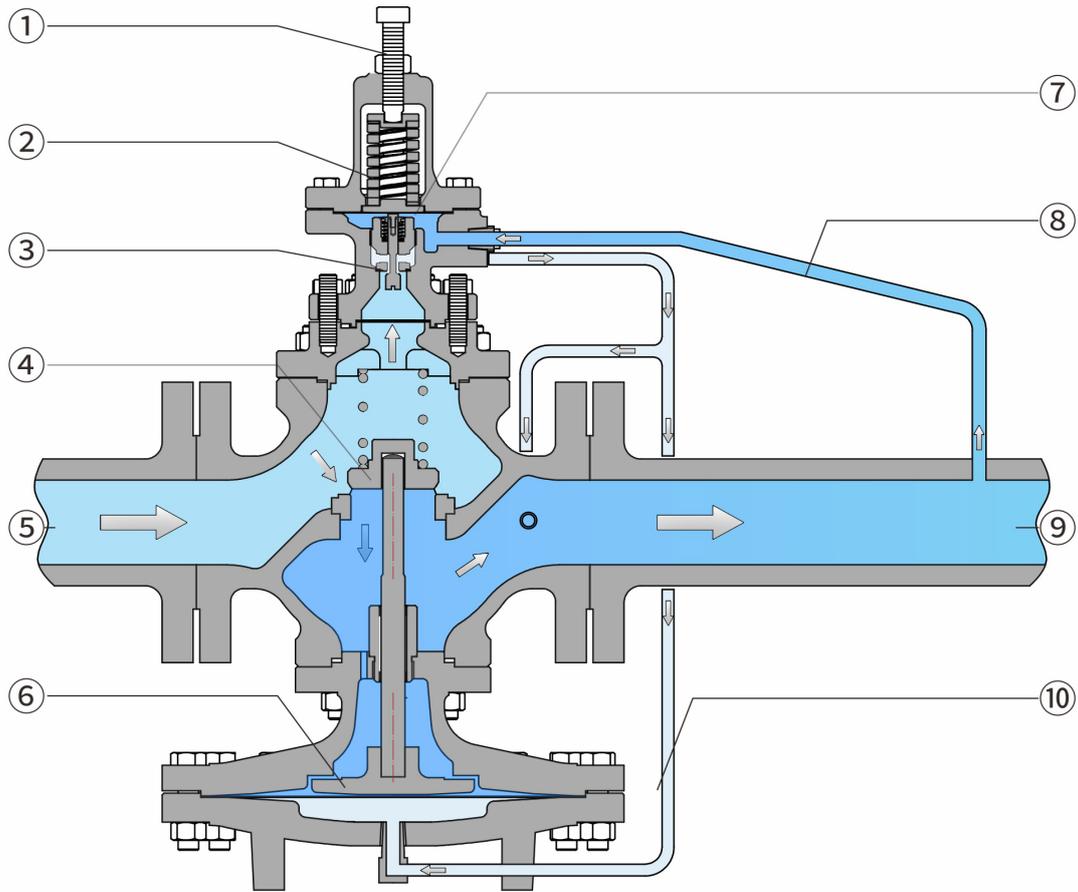
Flow characteristic: quick-opening
Max. pressure reduction ratio: 20:1
Leakage level: <Rated flow %0,0001
Min. differential pressure: 0,05 MPa
Accuracy: $\leq \pm 3\%$

Applications

It is an ideal pressure regulation solution for applications such as steam, heating and process lines, heat exchangers, automatic temperature control systems, fluid control and regulation lines in industrial plants.



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Working Principle

The main valve is normally closed and the pilot valve is normally open. When the regulating valve is put into operation, the steam enters the inner cavity of the pilot valve through the pilot valve core and the valve seat.

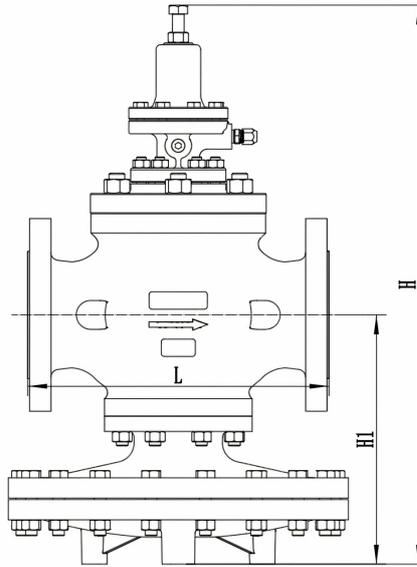
The steam is divided into two paths after the pilot inner cavity, one path is connected to the valve to release the steam pressure; the other path enters the main valve diaphragm, generating pressure to push the main valve core to open; the steam enters the rear pipeline from the main valve core and the valve seat; as the rear steam outlet pressure increases, it overcomes the force added by the control spring and the pilot valve core throttling, so that the main valve core is at an appropriate throttling opening, thereby maintaining the outlet pressure at the set value;

When the downstream pressure increases, the pilot valve core is closed, and the pressure is released from the main valve diaphragm through the control hole, thereby closing the main valve. Any changes in load or pressure will be immediately sensed by the pilot diaphragm and the position of the main valve will be adjusted accordingly to ensure that the downstream pressure is constant.

PART LIST	
NO	PARTS
1	Pressure Regulation
2	Control Spring
3	Pilot Valve Core and Valve Seat
4	Main Valve Core and Valve Seat
5	High Pressure Steam Inlet
6	Main Valve Diaphragm
7	Pilot Diaphragm
8	Downstream Pressure Sensing Line
9	Low Pressure Steam Outlet
10	Control Pressure

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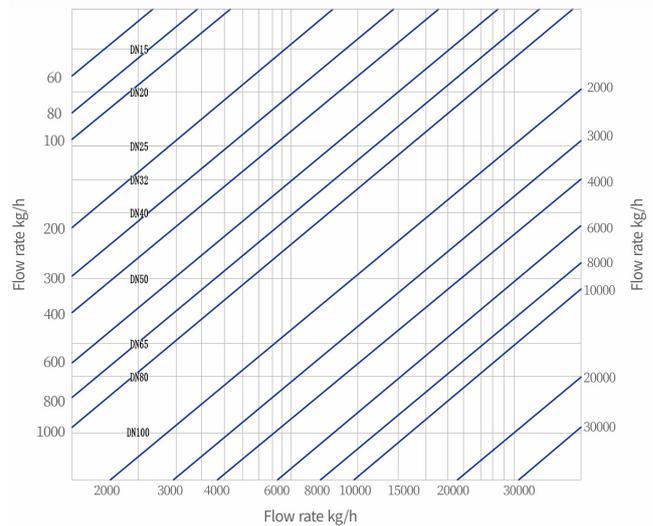
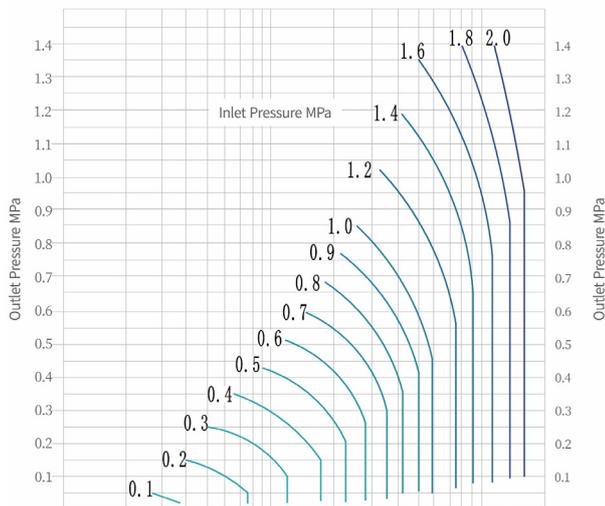
SIZE	L (mm)	H (mm)	H1 (mm)	WEIGHT (kg)
DN15	150	410	180	14,8
DN20	150	410	180	15,7
DN25	160	420	185	20,3
DN32	180	450	205	23,5
DN40	200	450	205	25,1
DN50	230	515	225	30,6
DN65	290	565	265	65,2
DN80	310	590	275	71,3
DN100	350	680	335	112,2



TEMP. °C	PN16					PN25					PN40				
	GS-C25	WC6	WC9	CF8	CF8M	GS-C25	WC6	WC9	CF8	CF8M	GS-C25	WC6	WC9	CF8	CF8M
-196 ~ -30	-	-	-	1.57	1.57	-	-	-	2.45	2.45	-	-	-	3.92	3.92
-29 ~ 38	1.61	1.63	1.63	1.57	1.57	2.52	2.55	2.55	2.45	2.45	4.03	4.08	4.08	3.92	3.92
50	1.58	1.63	1.63	1.51	1.52	2.47	2.55	2.55	2.36	2.37	3.95	4.08	4.08	3.78	3.8
100	1.46	1.63	1.63	1.29	1.33	2.29	2.54	2.54	2.02	2.08	3.66	4.06	4.07	3.23	3.33
150	1.43	1.57	1.58	1.17	1.22	2.23	2.45	2.48	1.83	1.9	3.57	3.93	3.96	2.93	3.04
200	1.38	1.51	1.54	1.09	1.13	2.16	2.37	2.41	1.70	1.76	3.46	3.79	3.85	2.72	2.82
250	1.32	1.46	1.46	1.03	1.05	2.06	2.28	2.29	1.60	1.65	3.29	3.64	3.66	2.56	2.63
300	1.22	1.35	1.35	0.97	1.00	1.91	2.11	2.11	1.51	1.56	3.06	3.38	3.38	2.42	2.50
350	1.17	1.27	1.27	0.93	0.96	1.82	1.98	1.98	1.46	1.5	2.92	3.18	3.18	2.33	2.40
375	1.15	1.23	1.23	0.92	0.94	1.80	1.91	1.91	1.44	1.47	2.88	3.06	3.06	2.30	2.36
400	1.09	1.15	1.15	0.90	0.93	1.70	1.80	1.80	1.41	1.45	2.72	2.89	2.89	2.26	2.32
425	0.91	1.11	1.11	0.88	0.92	1.42	1.73	1.73	1.37	1.44	2.27	2.77	2.77	2.20	2.30

The use temperature of valve body material corresponds to the pressure range(MPa)

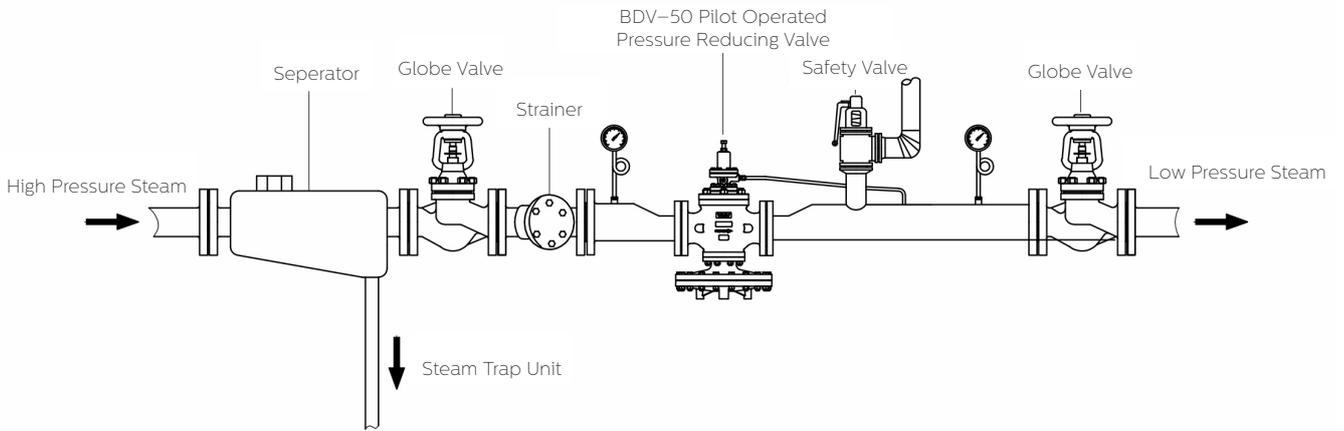
Size Selection Table



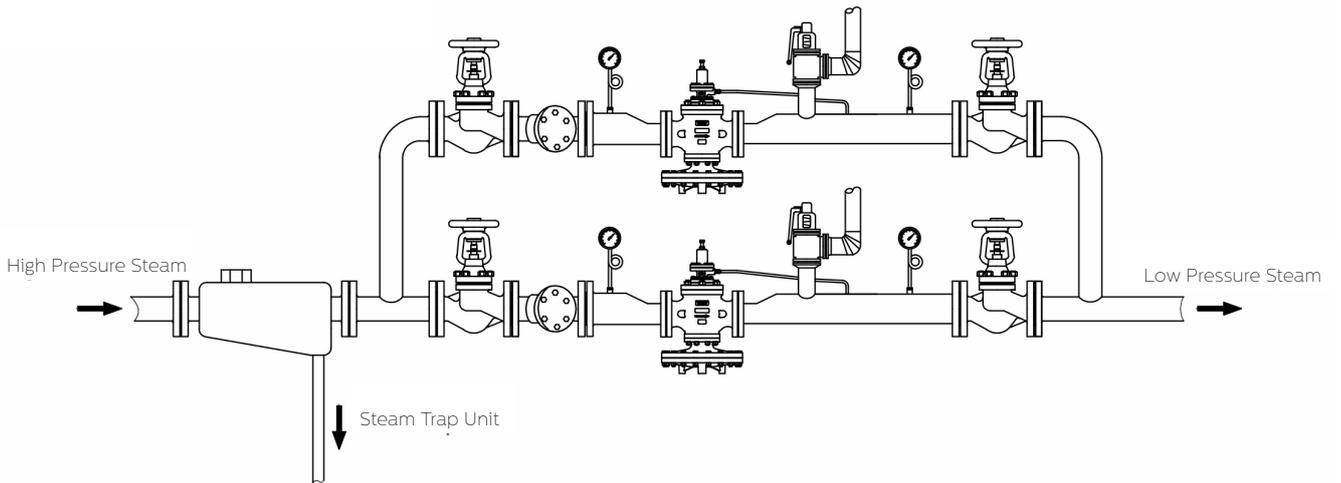
Note: The safety factor is set at 80% - 90%

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The standart-installed pressure reduction system



Paralleel-installed pressure reduction system



Series-connected pressure reduction system

