

► **30P/N/M self-operated pressure control valve**



▲ **Summary**

The 30P/N/M self-operated pressure control valve is composed of the control valve, actuator and a spring used for pressure setting. It is suitable for controlling before-valve pressure (when the before-valve pressure rises, the control valve is opened) or after-valve pressure (when the after-valve pressure rises, the control valve is closed) in the pipes of non-corrosive liquids, gases and steams. It is widely used in such industries as petroleum, chemical industry, electric power, metallurgy, medicine, food, textile, machinery, heating & ventilating, etc.

Technical parameters and performances

Body		
DN	DN20、25、32、40、50、65、80、100、125、150、200、250、300mm	
PN	PN1.6、4.0、6.4MPa	
Flange standard	JB/T79.1-94、79.2-94等	
Body material	Cast iron (HT200), cast steel (ZG230-450), cast stainless steel (ZG1Cr18Ni9Ti, ZG1Cr18Ni12Mo2Ti)	
Plug type	Single-seat (P), double-seat (N), sleeve (M)	
Plug material	Hard seal	Stainless steel (1Cr18Ni9Ti, 1Cr18Ni12Mo2Ti)
	Soft seal	Stainless steel embedded with rubber ring
Stem material	Stainless steel (1Cr18Ni9Ti, 1Cr18Ni12Mo2Ti)	
Pressure balancing	Stainless steel bellows	
Flow characteristic	Quick open	
Working temperature	-20-80℃ -20~350℃	

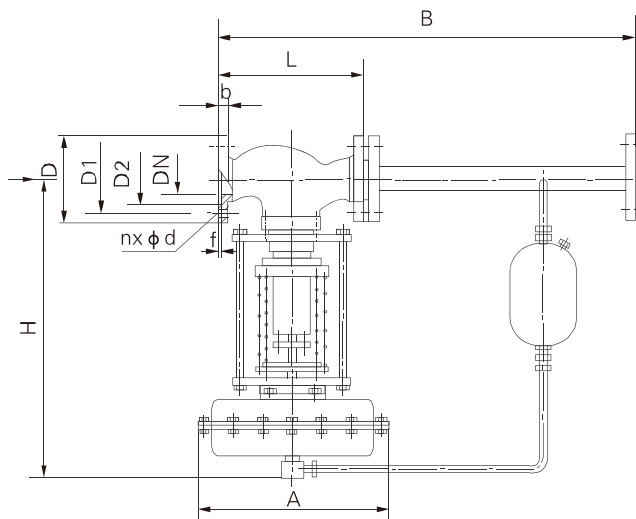
Actuator

Pressure setting range	15 ~ 50; 40 ~ 80; 60 ~ 100; 80 ~ 140; 120 ~ 180; 160 ~ 220; 200 ~ 260; 240 ~ 300; 280 ~ 350; 300 ~ 400; 380 ~ 450; 430 ~ 500; 480 ~ 560; 540 ~ 620; 600 ~ 700; 680 ~ 800; 780 ~ 900; 880 ~ 1000; 950 ~ 1500; 1000 ~ 2500
Diaphragm cover material	Teflon coated A3, A4 steel sheet
Diaphragm material	NBR, EPR, fluorine rubber, oil resistant rubber

Performance

Set value error	± 5%				
Allowable leakage (under stipulated testing conditions)	Hard seal Soft seal	Single-seat: ≤10 ⁻⁴ valve rated capacity; double-seat, sleeve: 5×10 ⁻³ valve rated capacity			
		DN15 ~ 50	DN65 ~ 125	DN150 ~ 250	DN300
		10 bubbles/min	20 bubbles/min	40 bubbles/min	60 bubbles/min

► 30P/N/M self-operated pressure control valve

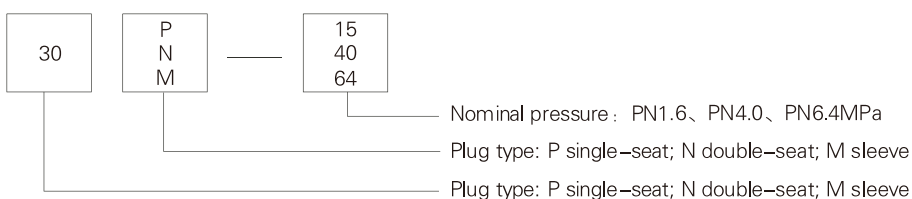


Rated flow coefficient, rated travel, pressure reducing ratio

DN	20	25	32	40	50	65	80	100	125	150	200	250	300
Rated flow coefficient	7	11	20	30	48	75	120	190	300	480	760	1100	1750
Rated travel(mm)	8		10		14	20		25	40		50	60	70
Pressure reducing ratio								Max. 10:1					
								Min. 10:8					

DN	20	20	32	40	50	65	80	100	125	150	200	250	300			
Pressure pipe connection thread	383		512		603	862		1023	1380		1800	2000	2200			
Flange pipe size	150	160	180	200	230	290	310	350	400	480	600	730	850			
Flange face -to- face dimensions Kpa	15-140	H	475		520		540		710		780	840	880	915	940	1000
		A	580		308											
	130-300	H	455		500		520		690		760	800	870	880	900	950
		A	230													
	280-500	H	450		490		510		680		750	790	860	870	890	940
		A	176				194				280					
	480-1000	H	445		480		670		740	780	850	860	880	930		
		A	176				194				280					
	600-1500	H	445		570		600		820		890	950		1000	1100	1200
		A	85		96											
	1000-2500	H	445		570		600		820		890	950		1000	1100	1200
		A	85		96											
Pressure control range(kg)	26		37		42	72	90	114	130	144	180	200	250			
Mass													M16 × 1.5			

Model description



► **The 30D12Y、30D12R pilot-operated (after valve) pressure control valve**



▲ **Summary**

The 30D12Y/30D12R pilot-operated (after valve) pressure control valve is composed of the control valve, pilot and actuator.

It is suitable for controlling differential pressure in the pipes of non-corrosive liquids, gases and steams. When the differential pressure rises, the control valve is closed.

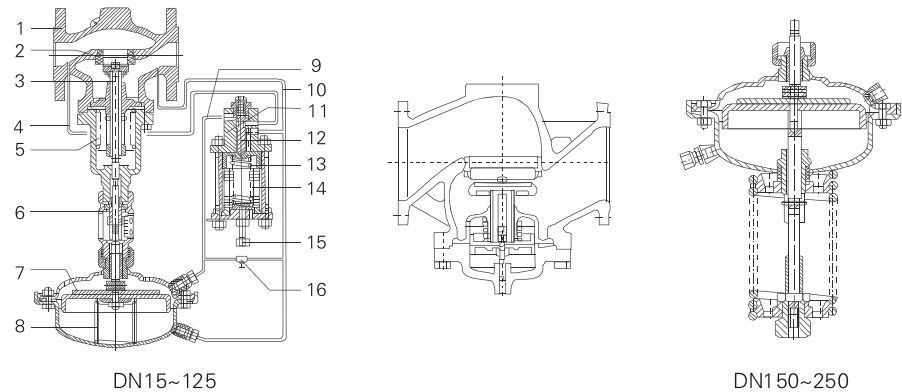
The main features are as follows:

1. It has the pressure balancing function with high sensitivity.
2. Low noise, reliable performance, free of maintenance
3. The standard modular design is adopted.
4. High control precision

Technical parameters and performances

Body				
DN	DN15、20、25、32、40、50、65、80、100、125、200、250mm			
PN	PN1.6、4.0MPa			
Flange standard	ANSI、JIS、DIN、GB、JB(special standards can be offered according to user requirements)			
Body material	Cast iron (HT200), cast steel (ZG230-450), cast stainless steel (ZG1Cr18Ni9Ti, ZG1Cr18Ni12Mo2Ti)			
Plug material	Hard seal: Stainless steel (1Cr18Ni9Ti, 1Cr18Ni12Mo2Ti) Soft seal: Stainless steel embedded with rubber ring			
Pressure balancing	Stainless steel bellows (DN15~125), balanced diaphragm (DN150~250)			
Actuator				
Effective area	250			
Pressure setting range	0.01~0.12 0.08~0.25 0.2~0.5 0.45~1 0.6~2.0			
Minimum differential pressure that ensures normal work of the pressure valve	DN15~125为0.08 DN150~250为0.1			
Allowable maximum differential pressure between the upper and lower diaphragm chambers	0.4			
Material	Diaphragm cover: galvanized steel sheet; diaphragm: EPDM or FKM with fiber			
Control pipeline, connection	Copper pipe or steel pipe Φ10X1(mm); ferrule connection: R1/4"			
Note: ※ The pressure setting range corresponding to the effective area does not apply to valves with DN150-250.				
Performance				
Set value error	± 4%			
Allowable leakage (under stipulated testing conditions)	Hard seal	4x0.01% valve rated capacity		
	Soft seal	DN15~50	DN65~125	DN150~250
		10 bubbles/min	20 bubbles/min	40 bubbles/min

► The 30D12Y、30D12R pilot-operated (after valve) pressure control valve



Structural figure

1	Body	5	Seat	3	Stem	4	Before-valve pressure P1 pipe
5	Balanced bellows	6	Travel indicator	7	Diaphragm	8	Spring
9	Operating pressure Ps pipe	10	After-valve pressure P2 pipe	11	Pilot	12	Pilot plug
13	Spring	14	Bellows	15	Adjusting screw	16	Adjustable needle valve

Allowable working temperature

Seal type	Hard seal	DN 15~125mm	≤150°C	DN 150~250mm	≤140°C
			Cooling tank ≤200°C		Cooling tank and extension ≤200°C
	Soft seal		Cooling tank and heat sink ≤350°C※		Cooling tank and extension ≤300°C※
		≤150°C			

Note: ※ It indicates the allowable working temperature is valid only when the medium is steam

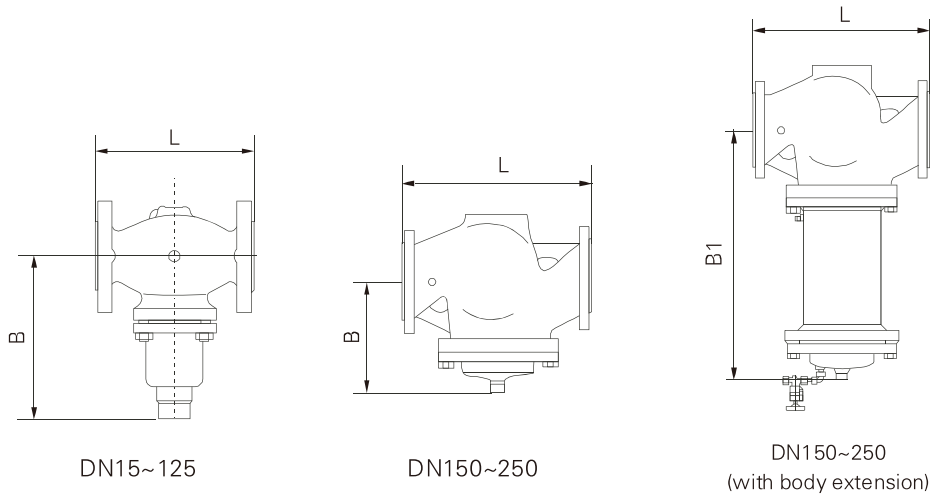
Rated flow coefficient, noise measuring coefficient, allowable differential pressure

DN	15	20	25	32	40	50	65	80	100	125	150	200	250
Rated flow coefficient	4	6.3	8	16	20	32	50	80	125	160	280	320	450
Noise measuring coefficient Z value	0.6	0.6	0.6	0.55	0.55	0.5	0.5	0.45	0.4	0.35	0.3	0.2	0.2
Allowable differential pressure	PN16		1.6		2.0		1.5		1.2		1.0		
	PN40		1.6		2.0		1.5		1.2		1.0		

Working principle

The service medium passes through the pressure control valve along the direction indicated by the arrow, and transfers the before-valve pressure P1 to the pilot through the pressure pipe (4). Through adjustment by the adjusting screw (15) at the setting point, the corresponding operating Ps is generated in the pilot. The operating force Ps acts on the upper diaphragm chamber of the actuator, the set pressure (after-valve pressure) P2 acts on the lower diaphragm chamber and is connected with the feedback signal port of the pilot. When the set pressure P2 rises, the compression of the spring (13) in the pilot increases to make the pilot plug (12) move towards the closing direction (downwards) and Ps decreases. Thus, P2 in the lower diaphragm chamber of the actuator increases and Ps in the upper diaphragm chamber decreases to make the plug of the control valve move towards the closing direction, so as to reduce P2 until it returns to the set value. When P2 decreases, the acting direction is reverse to the above. When setting the after-valve (or before-valve) pressure at the site, please set the pressure through the adjusting screw (15) and needle valve (16).

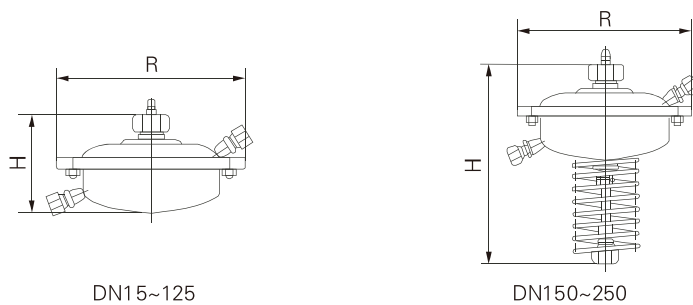
► The 30D12Y、30D12R pilot-operated (after valve) pressure control valve



I. Dimensions and weight of control valve

DN (mm)	15	20	25	32	40	50	65	80	100	125	150	200	250
L (mm)	130	150	160	180	200	230	290	310	350	400	480	600	730
B (mm)	212	212	238	238	240	240	275	275	380	380	326	354	404
Weight(Kg)	6.2	6.7	9.7	13	14	17	29	33	60	70	80	140	220
B1(mm)	--	--	--	--	--	--	--	--	--	--	630	855	1205
Weight(Kg)	--	--	--	--	--	--	--	--	--	--	140	210	300

II. Dimensions and weight of actuator



Effective area(cm²)	250	
R (mm)	263	
H (mm)	DN15~125	150
		DN150~250
Weight(Kg)		18
		22

► **The 30D13Y、30D13R pilot-operated (before valve) pressure control valve**

▲ **Summary**

The 30D13Y/30D13R pilot-operated (before valve) pressure control valve is composed of the control valve, pilot and actuator. It is suitable for controlling differential pressure in the pipes of non-corrosive liquids, gases and steams. When the differential pressure rises, the control valve is opened.

The main features are as follows:

1. It has the pressure balancing function with high sensitivity.
2. Low noise, reliable performance, free of maintenance
3. The standard modular design is adopted.
4. High control precision



Technical parameters and performances

Body

DN	DN15、20、25、32、40、50、65、80、100、125、200、250mm
PN	PN1.6、4.0MPa
Flange standard	ANSI、JIS、DIN、GB、JB (special standards can be offered according to user requirements)
Body material	Cast iron (HT200), cast steel (ZG230-450), cast stainless steel (ZG1Cr18Ni9Ti, ZG1Cr18Ni12Mo2Ti)
Plug material	Stainless steel (1Cr18Ni9Ti, 1Cr18Ni12Mo2Ti)
Hard seal	Stainless steel embedded with rubber ring
Soft seal	
Pressure balancing	Stainless steel bellows (DN15~125), balanced diaphragm (DN150~250)

Actuator

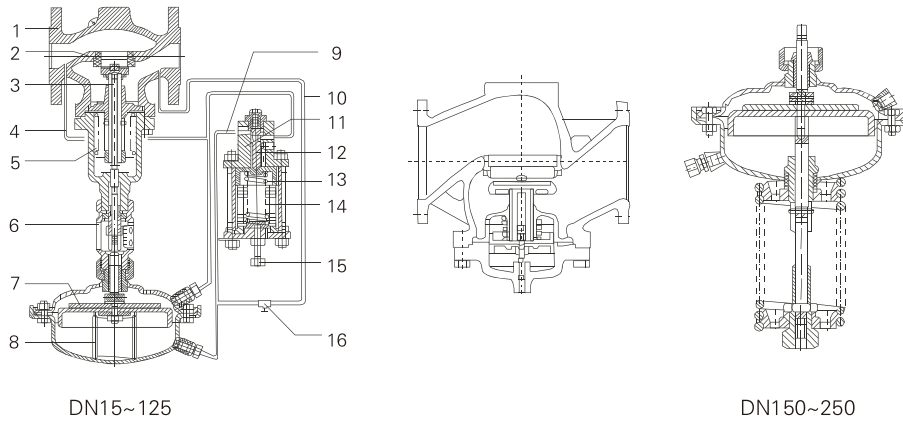
Effective area	250
Pressure setting range	0.01~0.12 0.08~0.25 0.2~0.5 0.45~1 0.6~2.0
Minimum differential pressure that ensures normal work of the pressure valve	DN15~125为0.08 DN150~250为0.1
Allowable maximum differential pressure between the upper and lower diaphragm chambers	0.4
Material	Diaphragm cover: galvanized steel sheet; diaphragm: EPDM or FKM with fiber
Control pipeline, connection	Copper pipe or steel pipe Φ10X1(mm); ferrule connection: R1/4"

Note: ※ The pressure setting range corresponding to the effective area does not apply to valves with DN150-250.

Performance

Set value error	± 4%		
Allowable leakage (under stipulated testing conditions)	Hard seal	4x0.01% valve rated capacity	
		Soft seal	
		DN15~50	DN65~125
	10 bubbles/min	20 bubbles/min	40 bubbles/min

► The 30D13Y、30D13R pilot-operated (befor valve) pressure control valve



Structural figure					
1	Body	5	Seat	3	Stem
4	Before-valve pressure P1 pipe	6	Travel indicator	7	Diaphragm
5	Balanced bellows	8	Spring	11	Pilot
9	Operating pressure Ps pipe	12	Pilot plug	12	Pilot plug
10	After-valve pressure P2 pipe	13	Spring	15	Adjusting screw
13	Spring	14	Bellows	16	Adjustable needle valve

Allowable working temperature		
DN	15~125mm	150~250mm
	≤150℃	≤140℃
Seal type	Hard seal	Cooling tank ≤200℃ Cooling tank and extension ≤200℃
	Soft seal	Cooling tank and heat sink ≤350℃※ Cooling tank and extension ≤300℃※
	≤150℃	

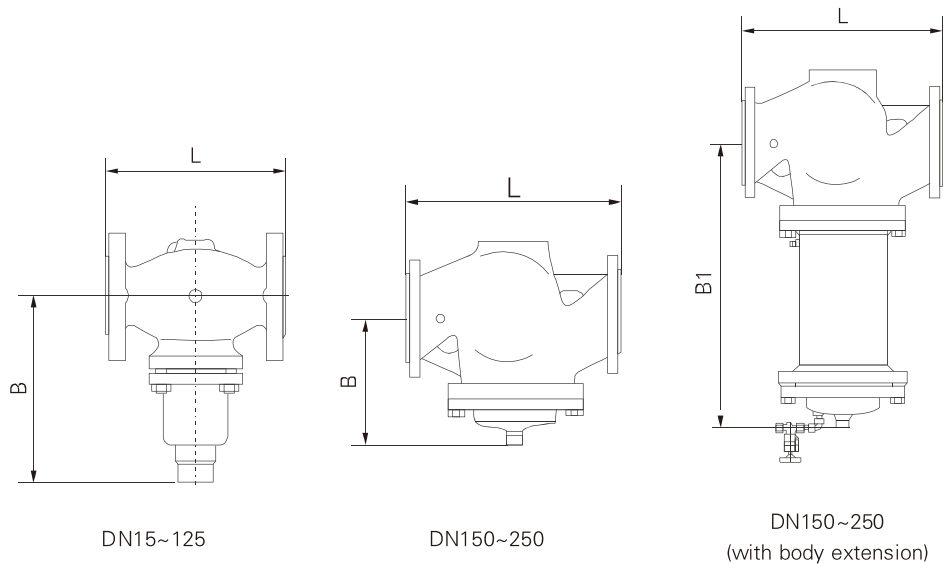
Note: ※ It indicates the allowable working temperature is valid only when the medium is steam

Rated flow coefficient, noise measuring coefficient, allowable differential pressure													
DN	15	20	25	32	40	50	65	80	100	125	150	200	250
Rated flow coefficient	4	6.3	8	16	20	32	50	80	125	160	280	320	450
Noise measuring coefficient Z value	0.6	0.6	0.6	0.55	0.55	0.5	0.5	0.45	0.4	0.35	0.3	0.2	0.2
Allowable differential pressure	PN16		1.6		2.0		1.5		1.2		1.0		
	PN40		2.0		2.0		1.5		1.2		1.0		

Working principle

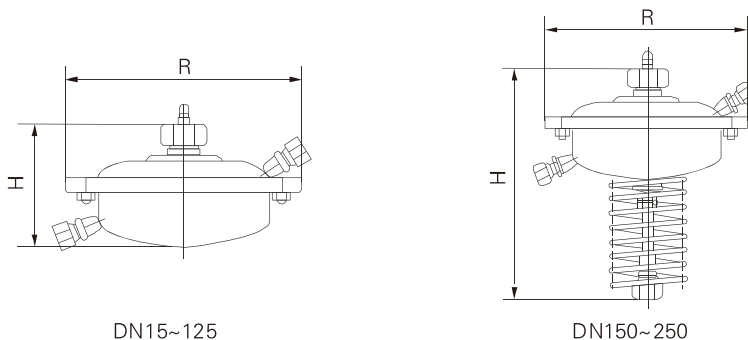
The service medium passes through the pressure control valve along the direction indicated by the arrow, and transfers the before-valve pressure P1 to the pilot through the pressure pipe (4). Through adjustment by the adjusting screw (15) at the setting point, the corresponding operating Ps is generated in the pilot. The operating force Ps acts on the upper diaphragm chamber of the actuator, the set pressure (after-valve pressure) P2 acts on the lower diaphragm chamber and is connected with the feedback signal port of the pilot. When the set pressure P2 rises, the compression of the spring (13) in the pilot increases to make the pilot plug (12) move towards the closing direction (downwards) and Ps decreases. Thus, P2 in the lower diaphragm chamber of the actuator increases and Ps in the upper diaphragm chamber decreases to make the plug of the control valve move towards the closing direction, so as to reduce P2 until it returns to the set value. When P2 decreases, the acting direction is reverse to the above. When setting the after-valve (or before-valve) pressure at the site, please set the pressure through the adjusting screw (15) and needle valve (16).

► The 30D13Y、30D13R pilot-operated (befor valve) pressure control valve



I. Dimensions and weight of control valve													
DN (mm)	15	20	25	32	40	50	65	80	100	125	150	200	250
L (mm)	130	150	160	180	200	230	290	310	350	400	480	600	730
B (mm)	212	212	238	238	240	240	275	275	380	380	326	354	404
Weight(Kg)	6.2	6.7	9.7	13	14	17	29	33	60	70	80	140	220
B1(mm)	--	--	--	--	--	--	--	--	--	--	630	855	1205
Weight(Kg)	--	--	--	--	--	--	--	--	--	--	140	210	300

II. Dimensions and weight of actuator



Effective area(cm²)			250
R (mm)			263
H (mm)	DN15~125	150	DN150~250 440
Weight(Kg)	DN15~125	18	DN150~250 22