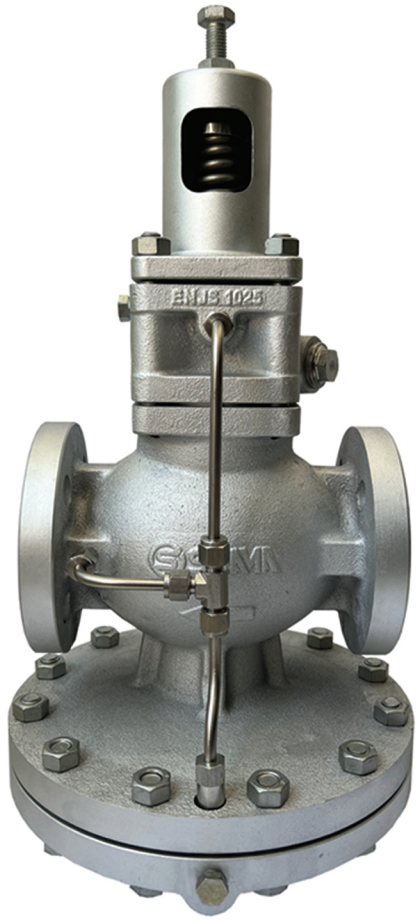
SDP25

Pilot Operated Pressure Reducing Valve



Description

The SDP25 is an SG iron Pilot Operated Pressure Reducing Valve with a variable rate conical pressure adjustment spring which is providing downstream pressure range of 0.2-17 bar g.

Fluids handled

Saturated steam
Superheated steam
Compressed air
Note: These products are not suitable for oxygen service.

Sizes and connections

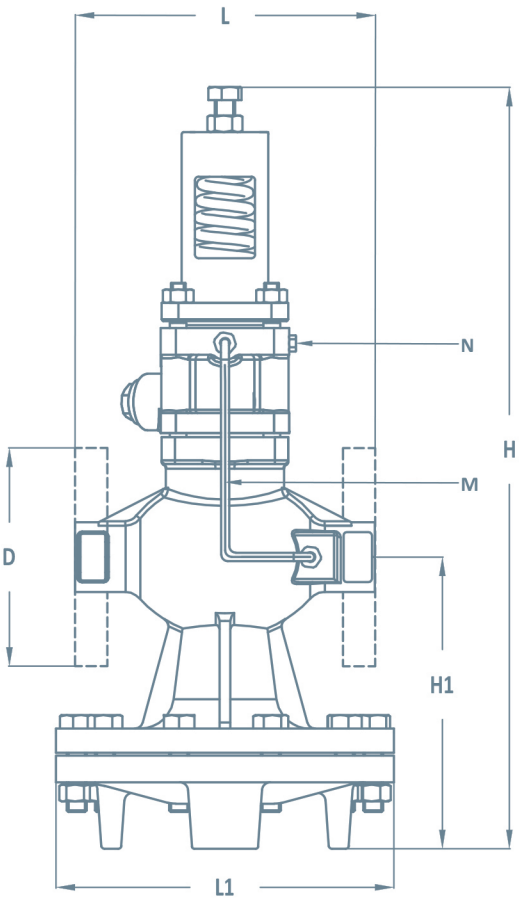
Screwed - BSP	1/2" to 1"
Flanged – PN25	DN40 to DN65

Dimensions and weights (mm and kg)

Size (DN)	L Screwed	L Flanged	L1	H	H1	D	Weight Screwed	Weight Flanged
15	160	-	180	419	139	95	13.2	-
20	160	-	180	419	139	105	13.2	-
25	180	-	203	442	188	115	14.2	-
40	-	212	251	460	159	150	-	30.2
50	-	232	251	490	183	165	-	32.2
65	This product will be avaiable soon							

Limiting Conditions

Body design conditions	PN25
Maximum allowable pressure (PMA)	25 bar g @ 120 °C
Maximum allowable temperature (TMA)	232 °C @ 21 bar g
Maximum operating pressure (PMO)	21 bar g
Maximum operating temperature (TMO)	232 °C
Cold hydraulic test pressure	38 bar g
Spring range	0.2– 17 bar g



Pressure Sensing Pipe

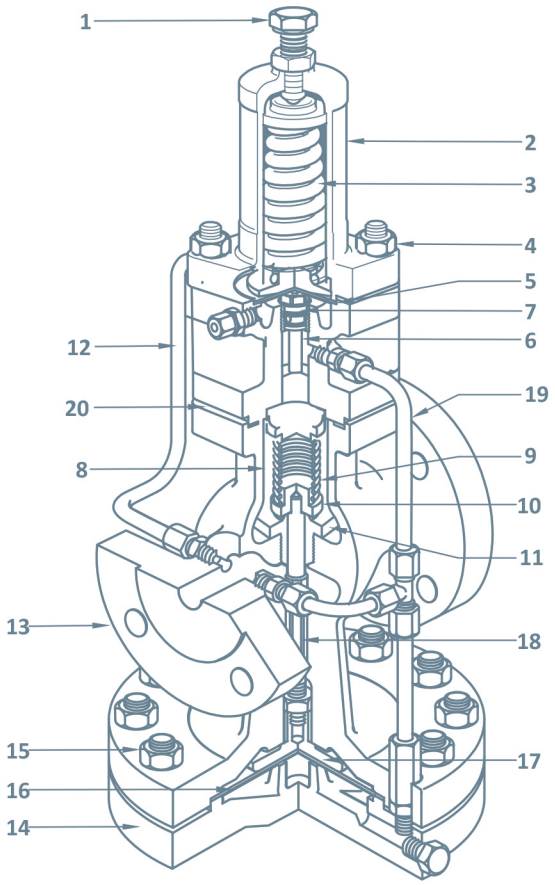
The SDP25 controls the pressure by sensing the downstream pressure through a pressure sensing pipe taken to the union (item N) or through the internal sensing pipe (item M). Fitting of the external pressure sensing pipe is described in the user manual supplied with the valve.

Note: Capacity is reduced and there is a possibility of hunting if an external pressure sensing pipe is not fitted.

For applications that require closer control, improved stability or maximum capacity condition, the internal balance pipe should be replaced by an external pressure sensing pipe .

Materials

NO.	Part	Material	
1	Adjustment screw	Carbon Steel	Gr 8.8
2	Spring housing	SG Iron	GGG 40
3	Pressure adjustment Spring	Stainless Steel	304
4	Securing nut Securing studs	Carbon Steel	Gr 8.8
5	Pilot diaphragms	Stainless Steel	304
6	Pilot valve plunger	Stainless Steel	304
7	Pilot valve seat	Stainless Steel	431
8	Internal strainer	Stainless Steel	304
9	Main valve return spring	Stainless Steel	304
10	Main valve	Stainless Steel	420
11	Main valve seat	Stainless Steel	420
12	Balance pipe assembly	Stainless Steel	304
13	Main valve body	SG Iron	GGG 40
14	Lower diaphragm chamber	SG Iron	GGG 40
15	Lower diaphragm chamber securing Securing nuts & bolts	Carbon Steel	Gr 8.8
16	Main diaphragm	Stainless Steel	304
17	Lower diaphragm pad	Stainless Steel	304
18	Push rod	Stainless Steel	431
19	Control pipe assembly	Stainless Steel	304
20	Body Gasket	Exfoliated graphite	

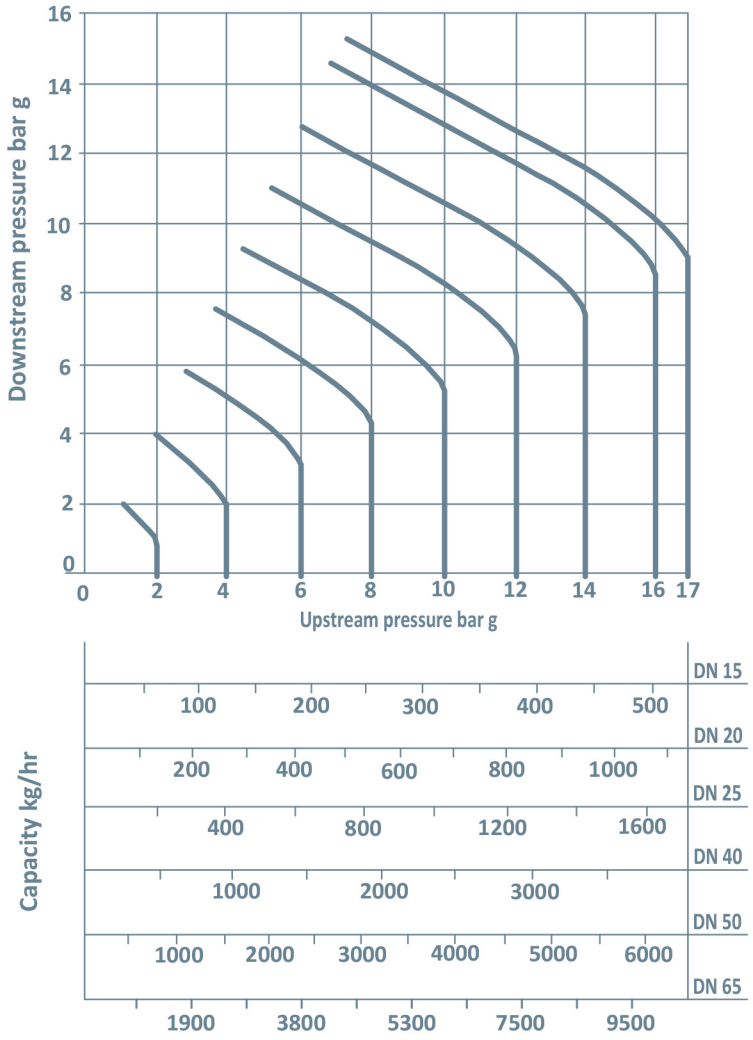


* The main valve's body will be made of carbon steel or stainless steel as be requested.

Spare Parts

Description	Part NO.
Main valve assembly kit	9,10,11
Control pipe assembly kit	19
Balance pipe assembly kit	12
Main diaphragm kit	16
Pilot diaphragm kit	5
Pilot valve assembly kit	6,7
Gasket assembly kit	20
Pressure adjustment conical spring	3
Main valve return spring kit	9
Push rod assembly kit	18
Conical spring kit	1,3

Steam Capacity Chart



Size (DN)	15	20	25	40	50	65
KV	2.8	5.5	8.1	17	28	50

How to Use the Chart

Saturated Steam

A valve is required to pass 600kg/h reducing from 6 bar g to 4 bar g. Find the point at which the curved 6 bar g upstream pressure line crosses the horizontal 4 bar g downstream pressure line. A perpendicular dropped from this point gives the capacities of all SDP25 sizes under these conditions.

Superheated steam

Because of the higher specific volume of superheated steam a correction factor must be applied to the figure obtained from the chart above. For 55°C of superheat the factor is 0.95 and for 100°C of superheat the factor is 0.9.

Note

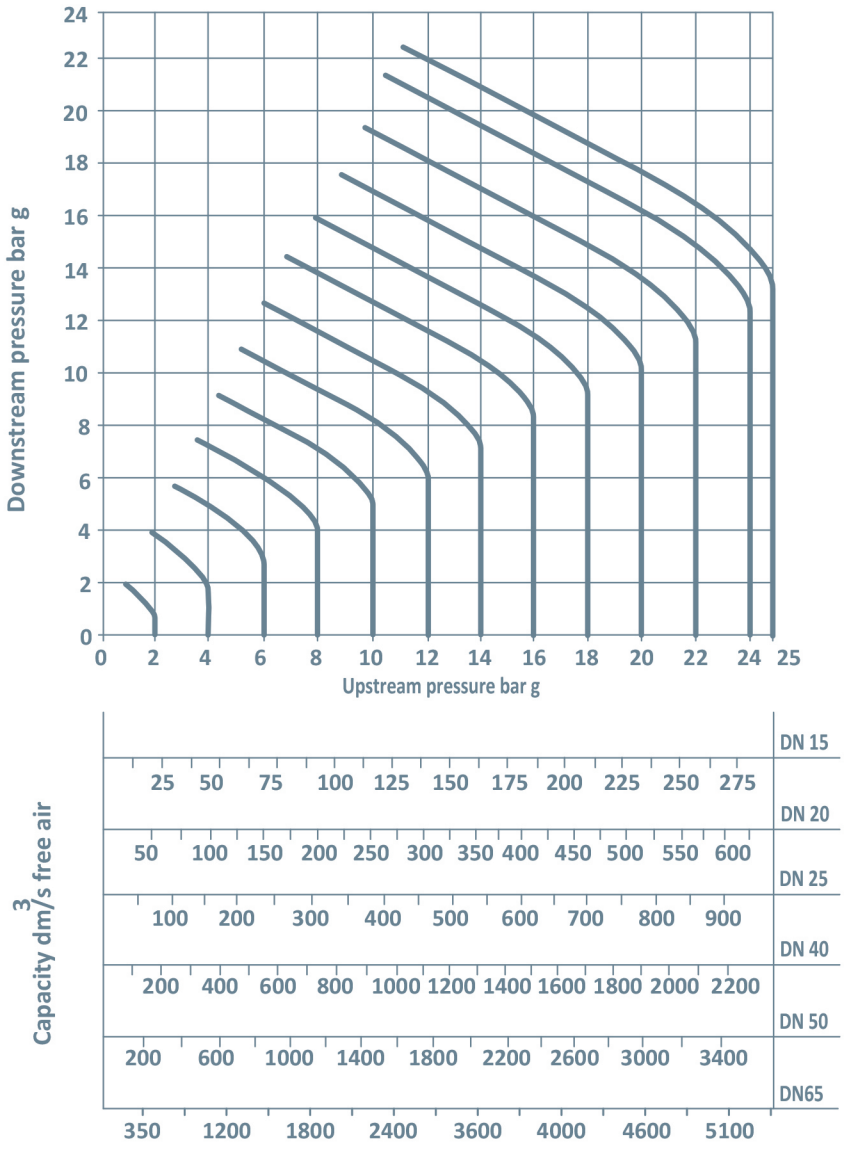
The capacities quoted below are based on valves fitted with an external pressure sensing pipe. Reliance on the internal pressure sensing pipe will mean that capacities may be reduced. In the case of low downstream pressure this reduction could be up to %30 of the valve capacity.

For conversion:

Cv (US) = Kv x 1.156

Note: Where the internal balance pipe is used, the valve capacity will be reduced.

Compressed Air Capacity Chart



How to Use the Chart

Capacities are given in cubic decimeters of free air per second (dm^3/s) . The use of the capacity chart can be best explained by an example.

Required, a valve to pass 100 (dm^3/s) of free air reducing from 12 barg to 8 barg

Find the point at which the curved 12 barg upstream pressure line crosses the horizontal 8 barg downstream pressure line. A perpendicular dropped from this point shows that, a DN15 valve will pass approximately 120 (dm^3/s) under these conditions and is the correct valve size to choose.

Safety Information, Installation and Maintenance

*For full details see the Installation and Maintenance Instructions, supplied with the product.