SDP40

Pilot Operated Pressure Reducing Valve

Description

The SDP40 is a Cast Steel Pilot Operated Pressure Reducing Valve with a variable-rate conical pressure adjustment spring which is providing a downstream pressure range of 0.2 - 17 bar g and 16–24 bar g, based on request.

Fluids handled

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

Sizes and connections

Flanged – PN40	DN65 to DN100

Dimensions and weights (mm and kg)

Size (DN)	L	L1	H	H1	D	Weight
65	This item will be available soon.					
80	325	345	570	255	200	103
100	This item will be available soon.					

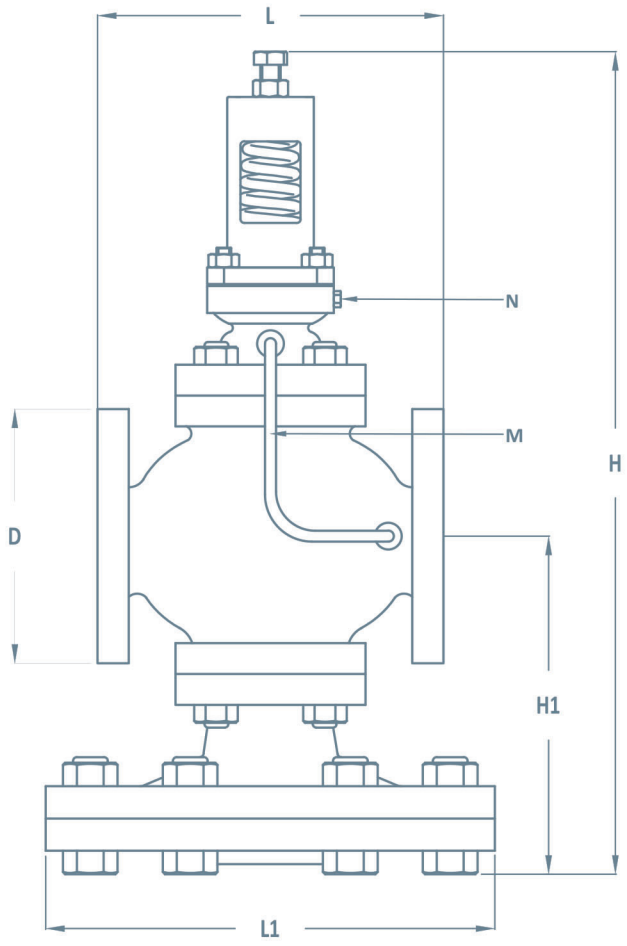
Limiting Conditions

Body design conditions	PN40
Maximum allowable pressure (PMA)	42 bar g @ 425 °C
Maximum allowable temperature (TMA)	425 °C @ 42 bar g
Maximum operating pressure (PMO)	26 bar g
Maximum operating temperature (TMO)	300 °C
Cold hydraulic test pressure without internals	52 bar g
Spring range	0.2– 17 bar g 16– 24 bar g

Pressure Sensing Pipe

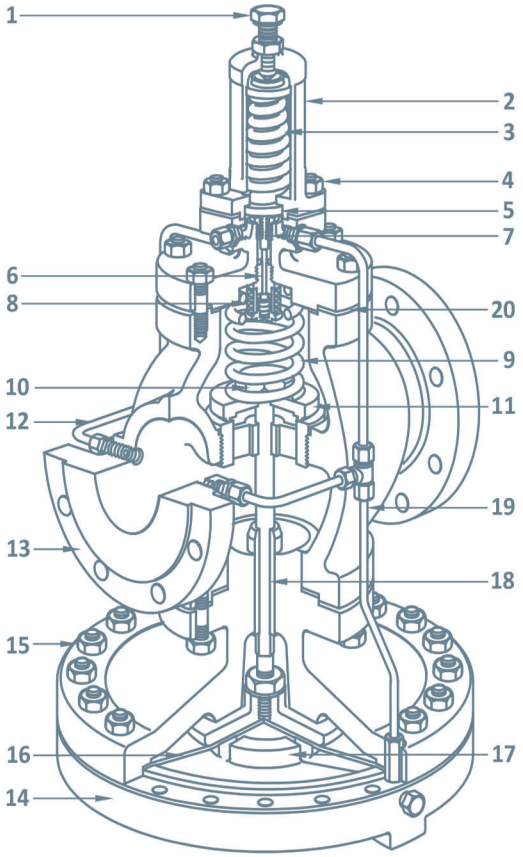
The SDP40 controls the downstream pressure by sensing it through a pressure sensing pipe taken to the union (item N) or through the internal sensing pipe (item M). Fitting of the external pressure sensing pipe is described in the user manual supplied with the valve.

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



Materials

NO.	Part	Material	
1	Adjustment screw	Carbon Steel	Gr 8.8
2	Spring housing	Carbon Steel	A216 WCB
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	Carbon Steel	A216 WCB
14	Lower diaphragm chamber	Carbon Steel	A216 WCB
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	

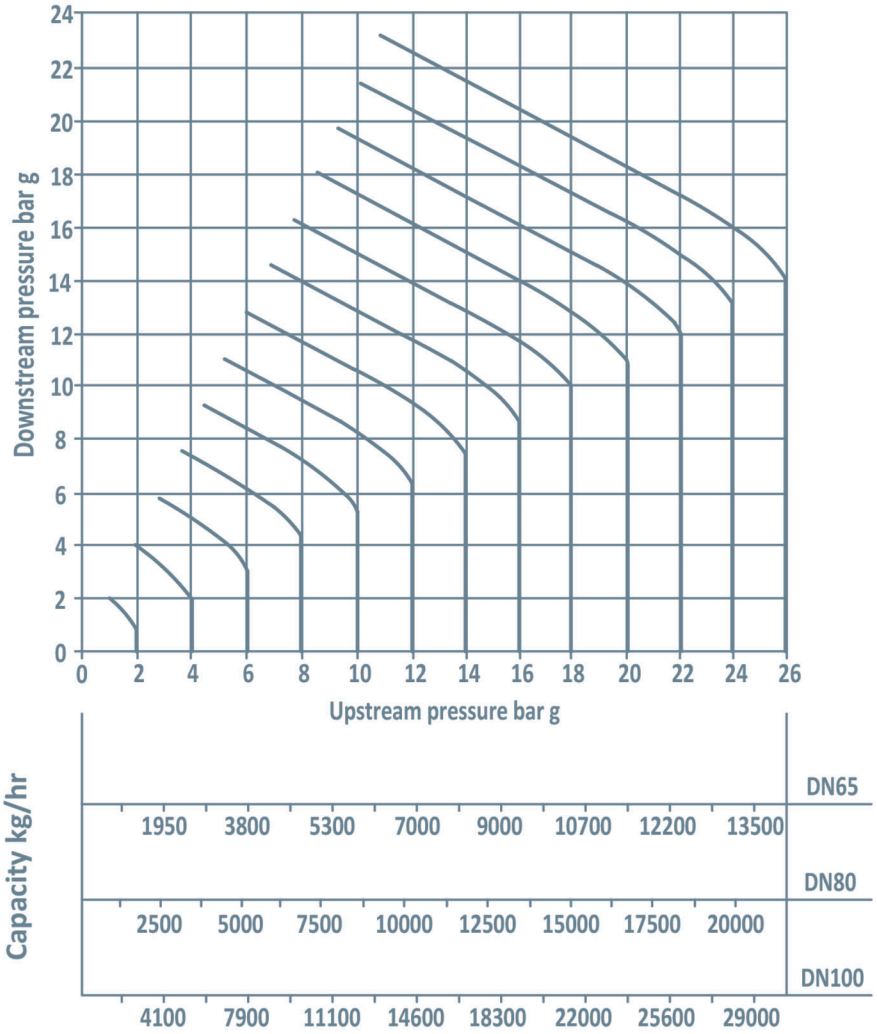


* The main valve's body will be made of carbon steel or stainless steel as be requested.

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



How to Use the Chart

Saturated Steam

Example- Required a valve to pass 400 kg/h reducing from 6 bar g to 4 bar g: find the point at which curved 6 bar g upstream pressure line crosses the horizontal line 4 bar g downstream pressure line. A perpendicular dropped from this point gives the capacities of all SDP40 under these conditions.

Superheated steam

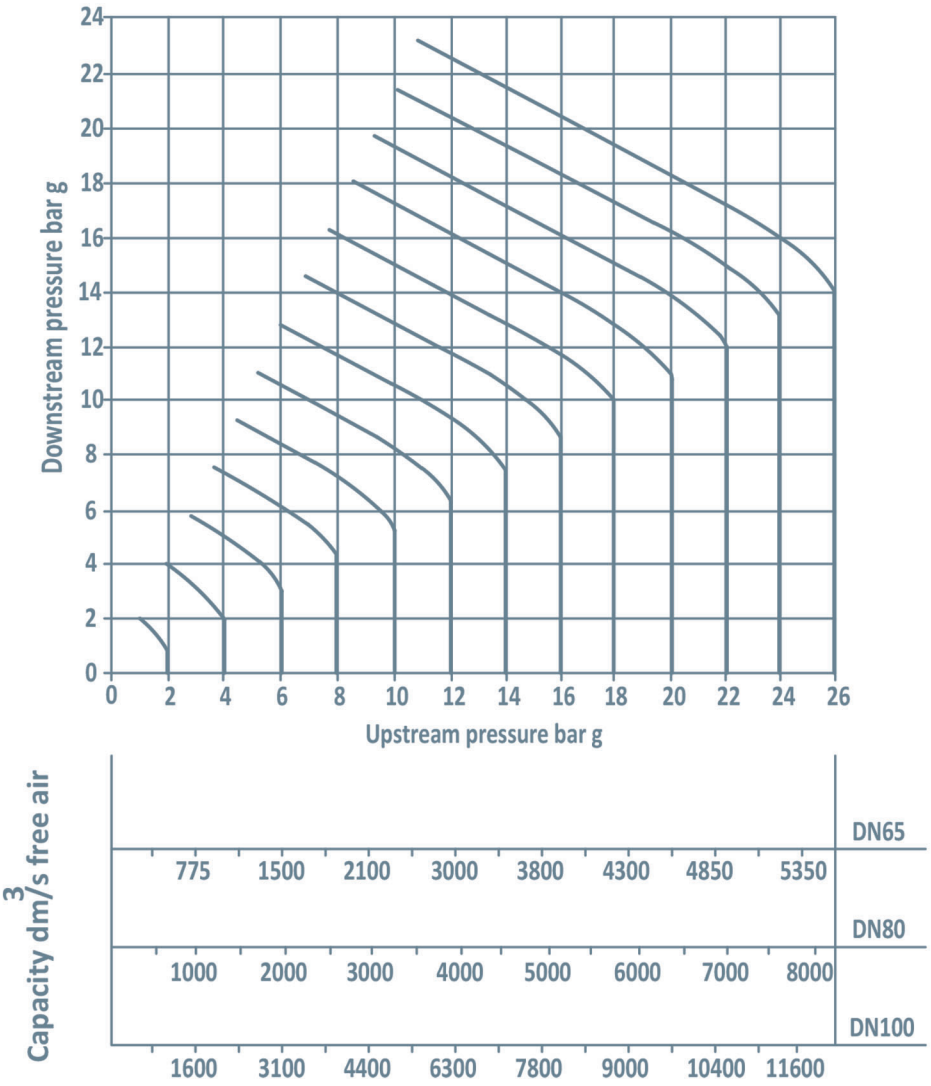
Because of the higher specific volume of superheated steam, correction factor must be applied to the figure obtained from this chart. For 55 °C of superheat the factor is 0.95 and for 100 °C of superheat it is 0.9 indeed.

Note

The capacities quoted on the above charts are based on valves fitted with external pressure sensing pipes. Reliance on the internal pressure sensing pipe means that capacities may be reduced. In the case of low downstream pressure, this reduction could be up to %30 of the valve capacity.

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 (dm^3/s) of free air. The use of the capacity chart can be best explained by an example: Required a valve to pass 1800 (dm^3/s) of free air reducing from 10 bar g to 8 bar g. Find the point at which the curve 10 bar g upstream line crosses the horizontal 8 bar g downstream pressure line. A perpendicular dropped from this point shows that DN80 will pass approximately 2000 (dm^3/s) and less, so it 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.