

DRV & DRVE

BRASS PRESSURE REDUCING VALVE



DRV and DRVE pressure reducing valves are a high quality industrial valve suitable for inlet pressure up to 2500kpa. They are designed to reduce outlet pressure of between 100 and 600kpa and are easily adjustable by simply turning a screw on the valve. The DRV and DRVE can be used on water, air and neutral gases.

ADVANTAGES

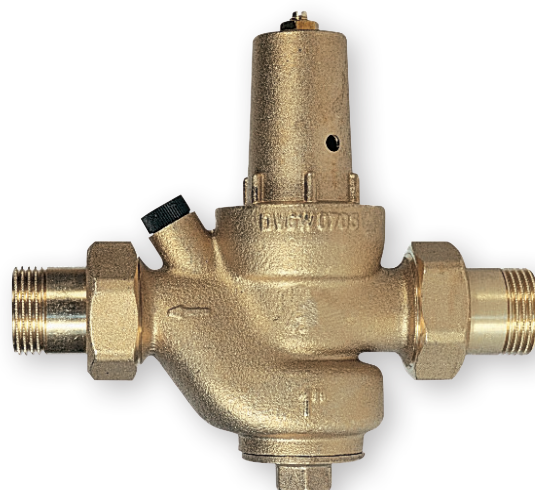
- ▷ Equilibrated seat ensures stable outlet pressure even with sudden and varying inlet pressure changes.
- ▷ DRV incorporates cleanable strainer and barrel union ends.
- ▷ Pressure gauge port for setting.
- ▷ High flow rates.
- ▷ Low noise level of less than 20 decibels.

OPTIONS

- ▷ Gauges (1/4" BSB fitting)
Bottom entry

TECHNICAL DATA

Size Range	DN15 - DN50
Max. Upstream Pressure	25 Bar
Downstream Pressure (Outlet)	1.5 - 6 Bar
Connections	DRV barrel unions BSP DRVE BSPF
Downstream Pressure Adjustment (setting screw)	Increase pressure (clockwise rotation) Decrease pressure (anti-clockwise rotation)
Maximum Operating Temperature	30°C



DRV



DRVE

DRV & DRVE

BRASS PRESSURE REDUCING VALVE

CHOOSING THE CORRECT SIZE OF DRV PRESSURE REDUCING VALVE

Correct sizing is very important when choosing the right DRV for the job. It is important that the media speed or velocity is not so high as to cause large pressure drops or noise levels which will be conveyed to the distribution network. Velocities should be kept between 1 and 2 m/sec for fluids and 10 and 20 m/sec for air (refer to graph C).

Once you have chosen either the DRV or DRVE you can select the correct size from graph A. Having done this, graph B will also give you head losses for the size of the valve chosen, this is to be added to the set pressure reducing valve.

EXAMPLES OF SIZING:

Example 1 (cavitation)

Pressure reducing valve with:

Inlet Pressure $P_1 = 14$ bars

Outlet Pressure $P_2 = 3$ bars

From the cavitation diagram it can be seen that the pressure reducing valve is constantly working in the red zone. To avoid rapid deterioration, two pressure reducing valves could be used, one connected upstream to the other.

Upstream pressure reducing valve: pressure front from 14 to 6 bars (green zone).

Downstream pressure reducing valve: pressure front from 6 to 3 bars (green zone).

Example 2 (flow rate)

DRV/E pressure reducing valve with:

Inlet pressure (min) $P_1 = 8$ bars

Outlet pressure $P_2 = 4$ bars

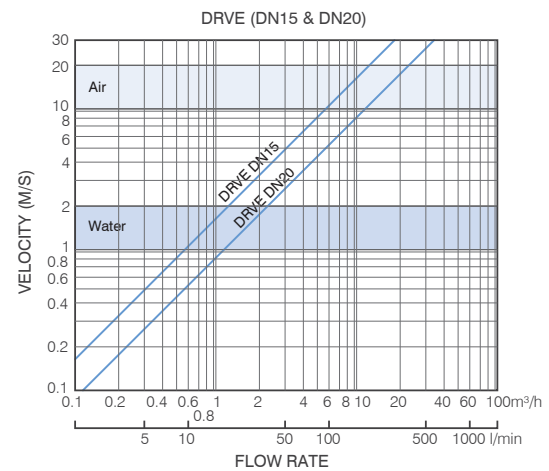
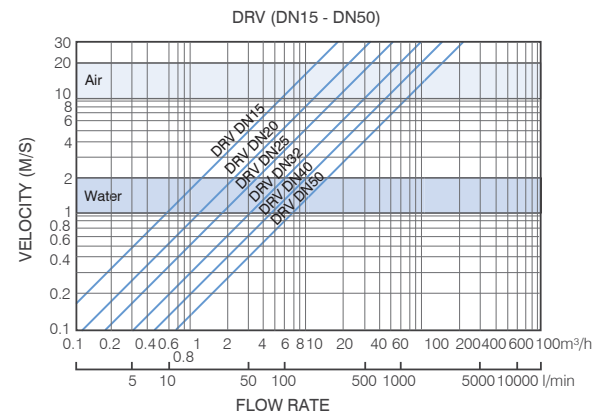
Maximum flow rate $Q = 50$ l/min

From the flow rate-speed diagram, it can be deduced that a 20 or 25 diameter should be used. From the pressure drop diagram, the following two cases emerge:

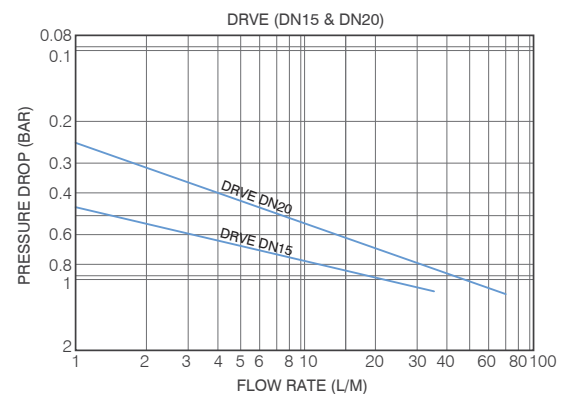
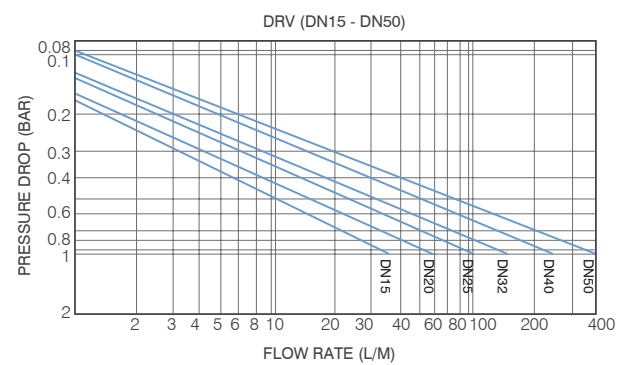
DRV20/N $Q = 50$ l/min $DP = 1.1$ bars

DRV25/N $Q = 50$ l/min $DP = 0.68$ bars

GRAPH A: FLOW RATE/ SPEED



GRAPH B: FLOW RATE/ PRESSURE DROP



DRV & DRVE

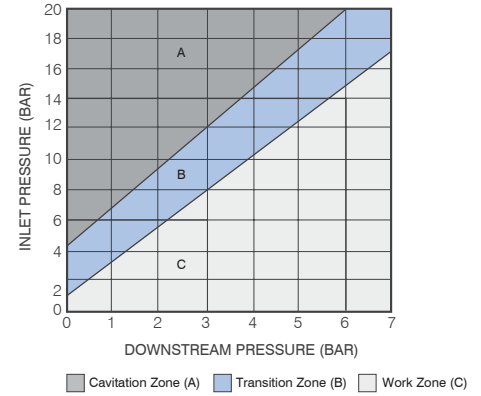
BRASS PRESSURE REDUCING VALVE

CAVITATION

The cavitation graph shows three operating zones of the pressure reducing valve plotted against the upstream and downstream pressures, namely:

- Work Zone (C): normal duty, no cavitation.
- Transition Zone (B): medium duty, risk of cavitation.
- Cavitation Zone (A): heavy duty, the pressure reducing valve shows cavitation.

Continuous operation in the red cavitation zone could cause rapid damage of the internal parts. If the pressure reducing valve is to operate in the red zone, contact the Technical Department of AVFI.

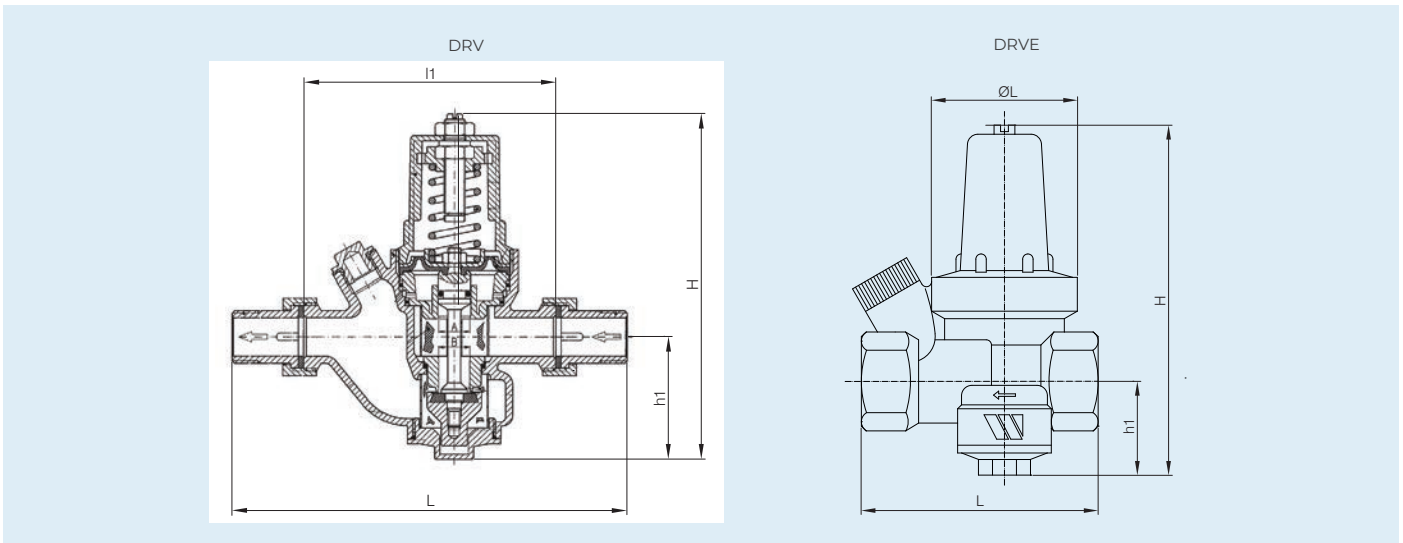


MATERIAL SPECIFICATIONS & PARTS LIST

NO.	DESCRIPTION	DRV MATERIAL	DRVE MATERIAL
1	Body	Brass (sand blasted CW617N)	Brass (sand blasted CW617N)
2	Cap	Brass (sand blasted CW617N)	Reinforced resin
3	Spring	Galvanized Steel	Galvanized Steel
4	Diaphragm	NBR reinforced with nylon fabric	NBR reinforced with nylon fabric

NO.	DESCRIPTION	DRV MATERIAL	DRVE MATERIAL
5	Union Connections	Brass (CW617N)	N/A
6	Guide Bushing	Brass (CW617N)	Brass (CW617N)
7	Filters	Stainless Steel	N/A
8	Outlet Connections	Brass (CW617N)	N/A

DIMENSIONAL DRAWING



DIMENSIONS (MM)

SIZE		DRV					DRVE				
DN	INCH	L	I1	H	h1	WEIGHT (KG)	L	ØL	H	h1	WEIGHT (KG)
15	1/2	152	97	135	48	0.9	64	42	93	23	0.3
20	3/4	171	110	155	58	1.2	75	45	112	30	0.4
25	1	191	120	182	66	1.7					
32	1 1/4	211	140	227	75	3.1					
40	1 1/2	246	160	255	82	5.1					
50	2	261	175	262	88	6.3					