PRESSURE REDUCING VALVE

15MM - 25MM

CALEFFI Hydronic Solutions

SAFEGUARDS WATER HEATERS AND DOMESTIC SYSTEMS

FUNCTION AND FEATURES

- Compact design
- Easily adjustable 100 - 600kPa*
- Superior flow rate
- Available in high temperature version
- Factory set at 500kPa
- Makes pressure limiting valves redundant
- Gauge port standard (inline model)
- Inbuilt Strainer
- Replaceable cartridge
- **'H' version rated to 80ºC and 2,000kpa**

PRODUCT SPECIFICATIONS

Pressure reducing valves are a valuable asset to any piping system. Many people are under the misapprehension that more pressure is better when, in fact, it is often the reverse. Too much pressure in a system puts unnecessary strain on water heaters, plumbing joints, taps, washers, etc, increasing the chance of leaks, burst hoses on washing machines and other appliances and adding greatly to water hammer problems.

The Caleffi 5335 series pressure reducing valve is fully adjustable between 100 - 600kPa and allows for easy adjustment to an optimum pressure. A pressure gauge can be fitted into the gauge port for accurate setting. The valve comes factory set at 500kPa, the most common pressure setting required for domestic systems. The Caleffi 5335/H is available in both standard and high temperature versions. Alternatively, the Caleffi 535 series “dial-up” pressure reducing valve range is available from 15mm to 50mm.

SIZING A PRESSURE REDUCING VALVE

WHAT IS THE CALCULATED FLOW REQUIREMENT; MIN & MAX?

Do not size only for a maximum flow requirement. During low flow demand, an oversized valve will operate in a nearly closed position causing premature wear and an undesirable noise may occur. If normal flow requires a line size PRV, a smaller PRV, piped parallel to the main PRV should be considered. Adjusting the smaller bypass PRV at 50-70kPa higher than the main PRV will ensure that the smaller bypass PRV will handle the lower flow demands and prevent premature wear and possible noise of the larger valve.

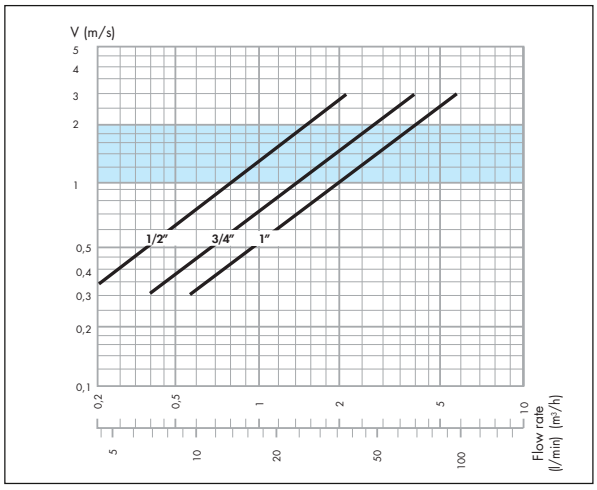
SIZE FOR 1 - 2 M/S VELOCITY

With the nominal flow rate required, select a valve size that intersects the flow rate within 1-2 m/s on the water velocity chart. his range is advisable for good pressure control within the valve’s optimum flow rate range. Sometimes there is a choice in terms of valve size within the acceptable water velocities; at that point you can decide if you want a better control at reduced flow rates with higher velocity and higher pressure loss at nominal flow rates (selecting the smaller size) or vice versa. The corresponding pressure loss graph may then be used at the same flow rate and valve size to obtain the pressure loss. If the minimum flow rate expected is less than around 0.3 m/s on the main PRV, then install a bypass line with a smaller valve where the minimum flow rate ideally falls within a velocity of 1-2 m/s of the valve.

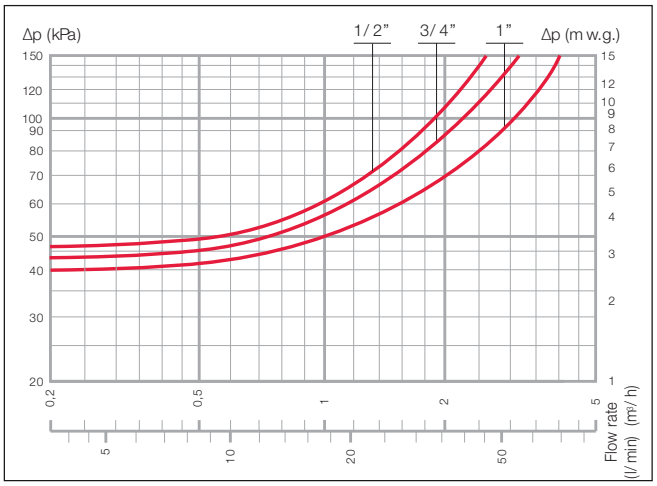
WHAT IS THE DESIRED REDUCED DOWNSTREAM PRESSURE?

Optimal performance is achieved at a 2:1 ratio, and a maximum of no more than 3:1. Example: 600kPa supply pressure, 300kPa static downstream pressure. Where large pressure drops are required, for example in multi-storey buildings where inlet pressures are likely to exceed 1,000 kPa, this may be achieved through staged pressure reduction measures. A situation with low flow and a high differential pressure forces the valve to operate in a near closed position, potentially resulting in cavitation and possible noise.

WATER VELOCITY CHART

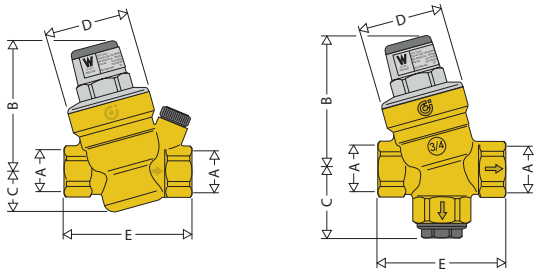


PRESSURE LOSS CHART



This chart shows curves at a 300kPa differential; curves for other settings are similar. The curve shifts slightly to the left for a smaller differential and to the right for a greater differential.

DIAGRAM



CODE	STRAIGHT			DUAL
	533545	533555		533550
	533545H	533555H	533565H	
A	15mm	20mm	25mm	20mm
B	74.5	74.5	74.5	74.5
C	22	22	23	50
D	Ø 46	Ø 46	Ø 46	Ø 46
E	79	84.5	95	82.5
Weight(kg)	0.45	0.46	0.54	0.49

‘H’ denotes high performance version

TECHNICAL SPECIFICATIONS

PRESSURE RANGE	100 - 600kPa (100-500kPa 533550)
FACTORY SET	500kPa
MAX. INLET PRESSURE	1600kPa (standard) / 2000kPa (‘H’)
MAX. TEMPERATURE	40ºC (standard) / 80ºC (‘H’)
MEDIA	Water
OPTIONAL PRESSURE GAUGE	0 - 1000kPa
GAUGE PORT SIZE	8mm

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