KEMPER 'Multi-Fix', static valve

- With isolation and drain point for maintenance work
- Including thermometer and optionally available with Pt1000 temperature sensor
- With self-lubricating EPDM lip seals that can be replaced under pressure
- Completely made of bronze
- Stagnation free internals

KEMPER

KEMPER 'Multi-Fix'

A potential problem in secondary domestic hot water systems is Legionnaires disease resulting from the growth of the Legionella bacteria. Legionella bacteria starts to multiply between 30°C to 45°C but is minimised at temperatures over 50°C. It is recommended that the system is run between 55°C and 60°C.

The KEMPER 'Multi-Fix' manual double regulating valve is designed for use on recirculating secondary hot water systems allowing the water temperature to be measured and adjusted. The 'Multi-Fix' is part of the KEMPER range of valves which includes the 'Multi-Therm', 'Eta-Therm' and 'Multi-Tee' designed to maintain the secondary re-circulating return water at 58°C. Traditionally a commissioning set or a thermometer and double regulating valve have been used to control the flow but site condition can necessitate small changes in installation which affect the heat loss from the system. The 'Multi-Fix' valve combines a double regulating control valve with a temperature pocket and thermometer into one valve for ease of installation and use. The valve should be installed at the end of the least favoured branch (furthest away) of a multi branch system to ensure the water is at the desired temperature.

The valve can also be installed at the end of the recirculating system prior to the water entering the calorifier. Installing valves at these two positions ensures that water in the other branches exceeds the specified temperature allowing the 'Multi-Therm' and 'Eta-Therm' valves to control the return water temperature.

The thermometer probe allows the temperature to measured easily and the 'Multi-Fix' valve set to maintain the specified temperature, eliminating the effects of any site conditions which could affect the water temperature.

Technical Specification

The KEMPER 'Multi-Fix' valves are WRAS approved for use on potable water systems. The valves are manufactured in bronze to BS EN 1982 CC491K and are therefore dezincification resistant. It has an EPDM maintenance free stem seal. The body is designed to provide a stagnant free flow path through the valve. When closed the valve isolates eliminating the need for an additional isolating or service valve.

'Multi-Fix' valves are also available fitted with a drain valve, Pt1000 temperature sensor and preformed insulation shell. 'Multi-Fix' valves are normally supplied with a male parallel thread for use with union tails the most common to suit copper pipe, Mapress copper, pressfit copper or with a male taper threads to BS EN 10226-2.

Adjustable range	0 - Closed 5.9 - Full open
Max. operating temperature	90°C
Nominal pressure	PN16
Nominal sizes DN 15 DN 20 DN 25 DN 32	kv-ranges in m^3/h at $\Delta p = 100$ kPa 0.1 to 1.46 0.12 to 3.13 0.1 to 5.04 0.3 to 10.19
Valve type	**Fig 150 0G** male thread with flat gasket with thermometer **Fig 150 1G** male thread with flat gasket with thermometer and drain valve **Fig 151 00** female thread with thermometer **Fig 151 01** female thread with thermometer and drain valve

Correct Sizing

As with all regulating valves it is important they are sized correctly to give the optimum performance.

For large systems KEMPER has developed the KEMPER Dendrit CAD program which considers the complete hot water system and recommends sizes of 'Multi-Therm', 'Eta-Therm' and 'Multi-Fix' valves in addition to pipe sizes for the main pipework and individual branches.

For smaller or individual circuits a spread sheet is available to enable the designer to accurately size valves and pipework. Flow data charts are available to relate required fl ow rate to pressure loss through the valve. The 'Multi-Fix' valve can be pre-set prior to installation in lieu of the 'Multi-Therm' valve on the index, least favoured, branch by creating the same pressure loss and achieving the same flow rate.

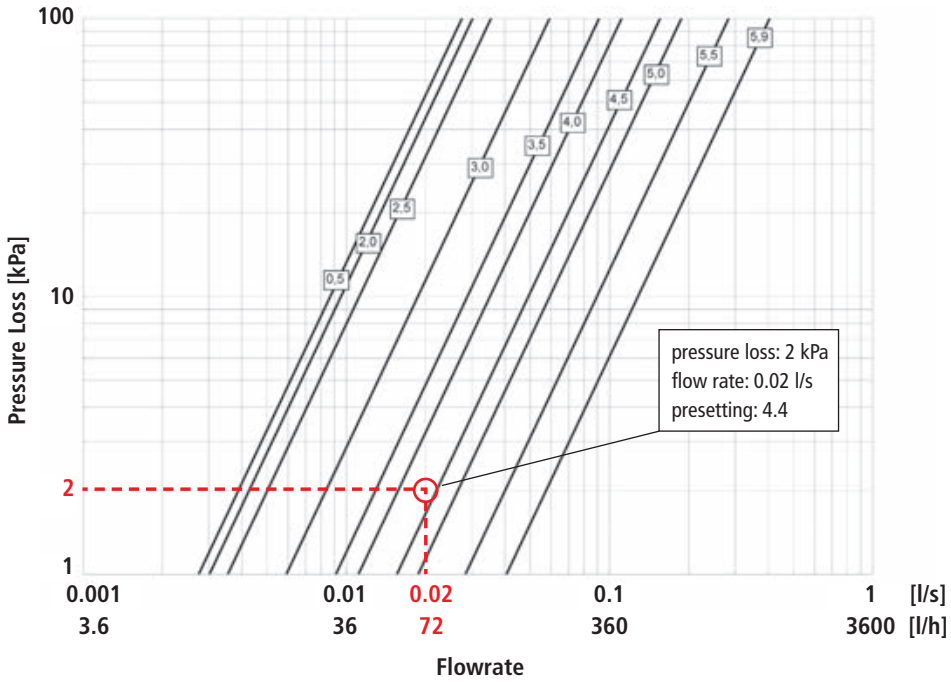
Example valve DN 15
For a required flow rate of 0.02 l/s (72 l/h) with a pressure loss of 2 kPa the DN15 'Multi-Fix' valve would require be set to position 4.4.

If the required pressure loss was 1.5 kPa instead of 2 kPa the setting between 4.5 and 5.0 could be apportioned i.e 4.6 or the next setting could be used 5.0 to guarantee at least the minimum required flow of 0.02 l/s (72 l/h).

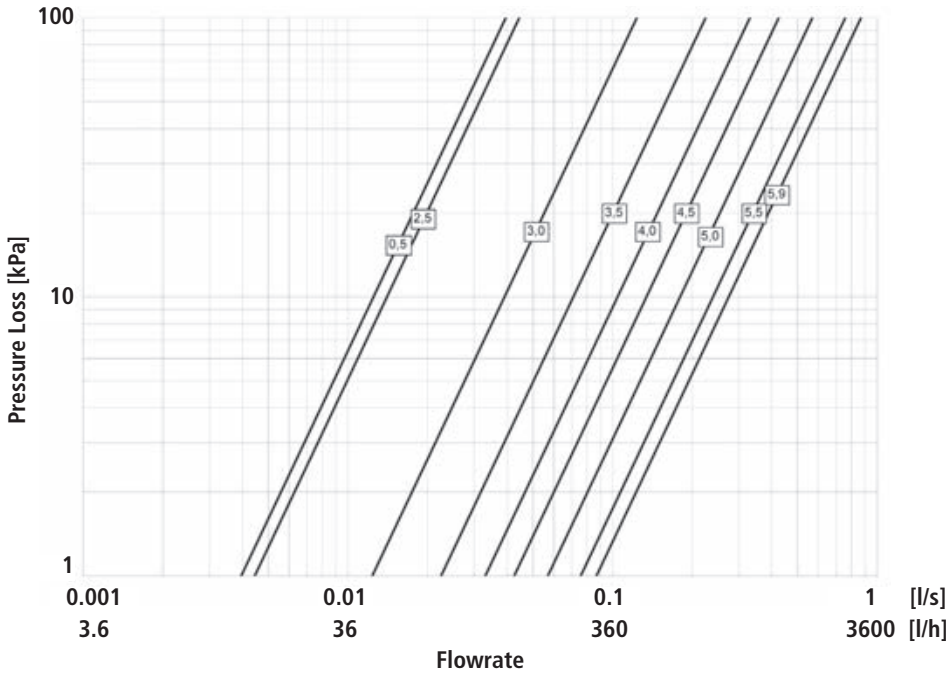
During commissioning the actual temperature would be measured using the thermometer and the valve adjusted slightly to achieve the specified temperature of 58°C.

Flow Charts

'Multi-Fix' DN 15 double regulating control valve

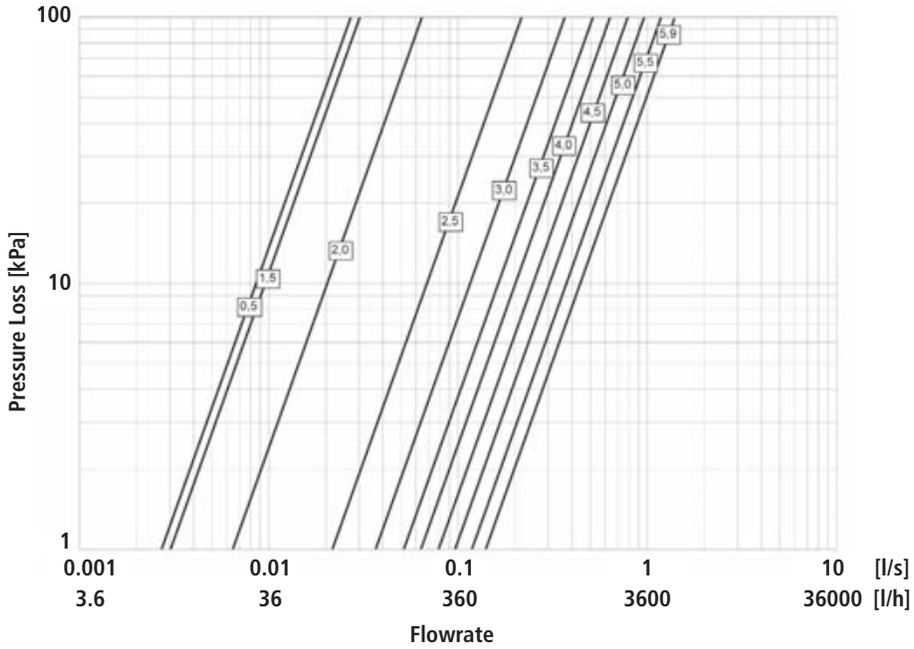


'Multi-Fix' DN 20 double regulating control valve

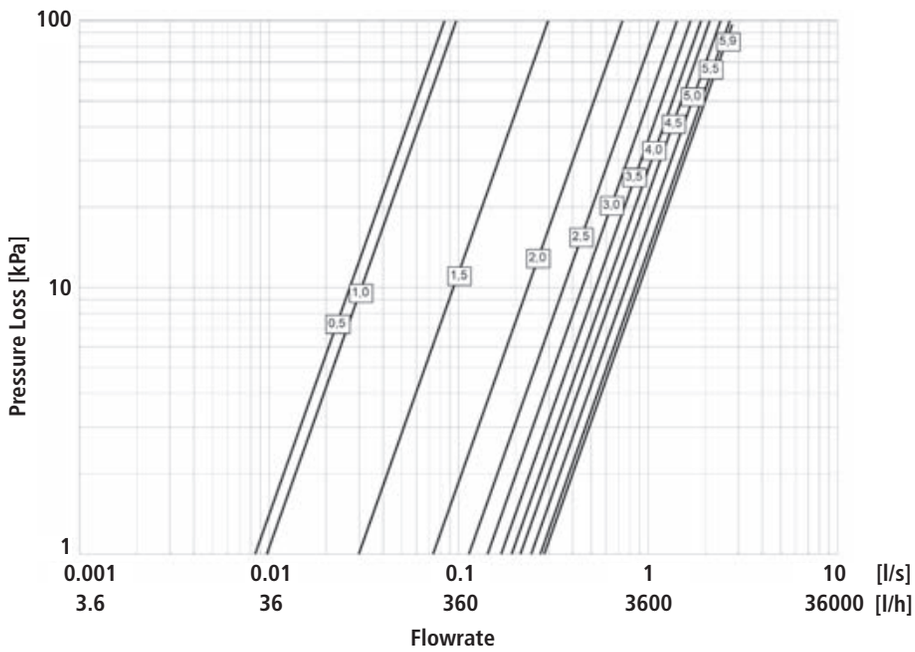


Flow Charts

'Multi-Fix' DN 25 double regulating control valve



'Multi-Fix' DN 32 double regulating control valve



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