TENANT® VALVE ASSEMBLY

Control and monitor water supply to multi-unit sites such as flats and offices with one compact unit

Reliance WATER CONTROLS™

The Safety Valve Specialist

Reliance Water Controls Ltd

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General information

A WRAS approved combination valve assembly designed to control the incoming water services to a block of flats, offices or any other multiple unit building. The Tenant Valve is an ideal space and labour saving package of controls for multi unit commercial applications.

The assembly consists of a ball type isolating valve, pressure reducing valve, double check valve, pressure gauge/test point and a connection point for a Reliance single jet water meter, or by using a special adapter (available from Reliance) a class 'D' meter suitable for use as a primary charging meter can be installed. The valve assembly comes complete with either ¾" or 1" FBSP connections, and a moulded insulated protection box, with identity labels.

The ball type isolating valve is made from scale-proof materials and is designed to give a long lifespan without seizing up. The isolating valve also has an extended lever which protrudes from the surrounding insulated cover so that access can be gained easily to turn the system on or off without the need to remove the insulation box. The pressure reducing valve and pressure gauge are also accessible for adjustment and reading without removing the moulded foam insulation.

The pressure reducing valve is a drop tight (i.e. no pressure creep under static conditions) balanced diaphragm type which is fully compliant with European Standard BSEN1567. The valve is adjustable between 1.5 and 6 bar, and capable of working at temperatures up to 80°C; it offers high flow rates with low noise because of the patented comb design of the outlet of the cartridge, has an integral serviceable strainer and one piece cartridge type construction which simplifies any maintenance requirements as only one spare part needs to be held in stock and replacement can be done in a matter of minutes. The pressure reducing valve also features the unique easy-set pressure adjustment system which enables the installer to set and lock the pressure without the need for any tools which is particularly useful in confined or difficult to access spaces.

The water meter connection point comes blanked off as standard but, if desired, a Reliance single jet pre-calibrated water meter cartridge can be added. This is a class 'A' meter and features include a magnetic coupling to the turbine and a 360 degree rota table counter for easy read-out no matter what orientation the Tenant Valve is installed in. The water meter is pulse output retrofittable; using a pulse output clip on the cap, the meter can be connected to a stand alone pulse counter or to a BMS. The class 'A' meter can be used as a charging meter by a landlord to charge tenants for water usage based on the readings of a primary or class 'D' charging meter, or as a tool to monitor and control water usage in general. In areas requiring that a primary or charging meter be fitted to the tenant valve assembly for the purposes of billing customers directly for their water usage, Reliance has developed a special adapter which fits into the water meter connection port to allow the direct connection of an Elster class 'D' pre-calibrated water meter cartridge, which can be sourced from your local water authority.

The verifiable double check valve is suitable for protection against contamination up to and including class 3 risks and is fitted at the end of the valve, according to the direction of flow and can be easily accessed from the outlet end of the assembly. The test/gauge point, which is fitted in between the two check valve elements, allows for the functioning of the second check valve to be verified; it provides a convenient point to test pressures and temperatures and, if required, for injecting chemicals into the system for disinfecting. Because of the check valve's position at the outlet end of the assembly, it also acts as an isolating valve to prevent any system drain down when servicing or replacing the pressure reducing valve or water meter.

The Tenant Valve is also supplied with a pressure gauge so that the pressure in the system can be accurately set at the time of commissioning and so that system pressure conditions can be verified at a glance.

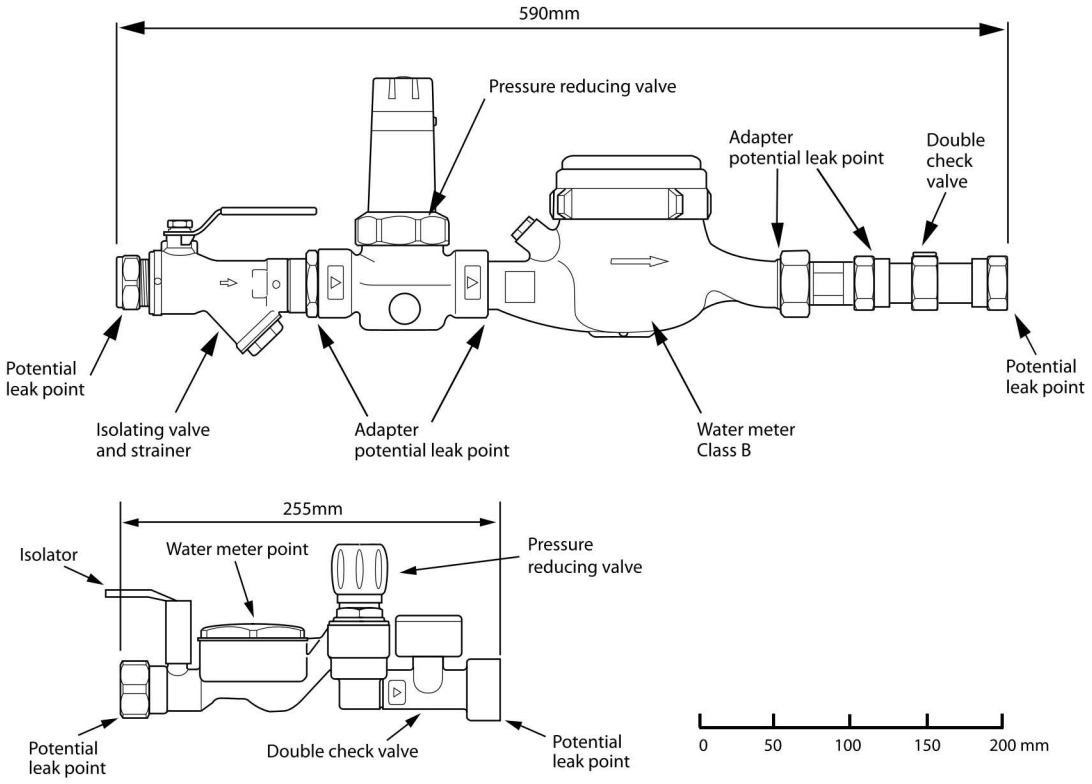
Key advantages

The concept of the Tenant Valve Assembly was born out of the fact that most multi unit buildings, be they residential or commercial, require that an isolating valve and a double check valve be fitted at the entrance to the unit, and in a high proportion of cases it is common practice to install pressure reducing valves and water meters at this point as well. The concept is simple: if all these valves are being fitted anyway, why not incorporate them into one compact unit that can be fitted quickly and easily?

To understand exactly how much can be saved in terms of cost i.e. the valves, fittings and labour time and – probably most importantly – space by using the Tenant Valve instead of all of the separate components the following illustrations should be considered.

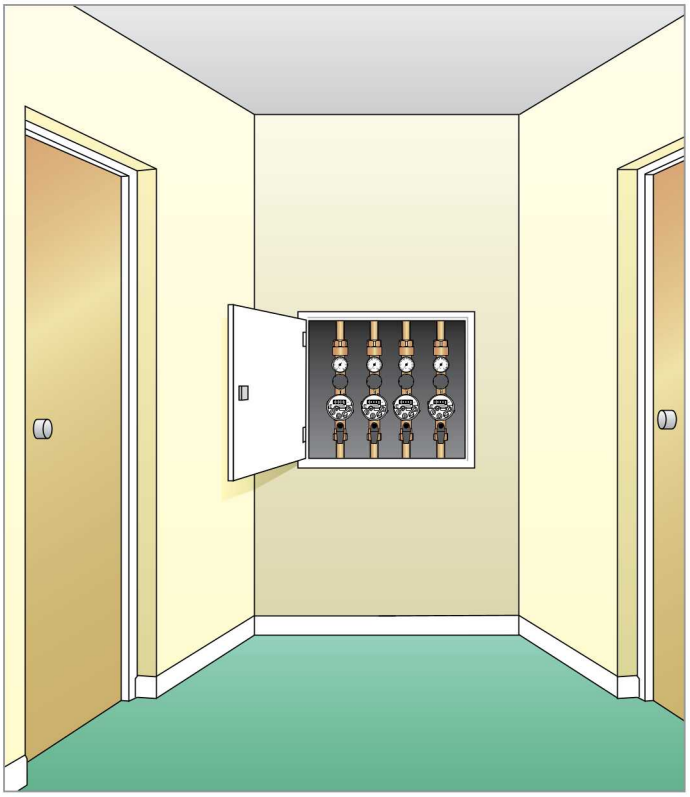
The illustration below is a depiction of what a train of separate valves incorporating the features of the Tenant Valve Assembly would look like if put together manually on site. This drawing is using current product from Reliance's range and is accurate for a 1" group of valves. The disadvantages of this system are obvious.

1. The bolted together version is much longer than the compact Tenant Valve, over twice as long in fact.
2. Far more labour is involved in the installation; all of the components will need to be connected together by adapters, these adapters must be sourced initially and then threaded into the valves and the valves connected together. Also, this drawing assumes that there would be sufficient space for all the valves to be fitted in line: if not, then even more adapters and fittings would be necessary.
3. Extra connections mean extra possibilities for potential leaks. On a large project with 500 valves for instance, 4 extra adapters would mean 2000 extra chances to find a leak.
4. A train of valves like this will be difficult to service: the entire assembly is likely to have to be removed to service one component.
5. There is no option to fit a water meter, or to change to a different type of meter. If it is required it must be fitted at the time of installation.
6. After installation the valve train would then have to be insulated by a specialist company, adding more cost and making valve adjustments and maintenance impossible without destroying the insulation.



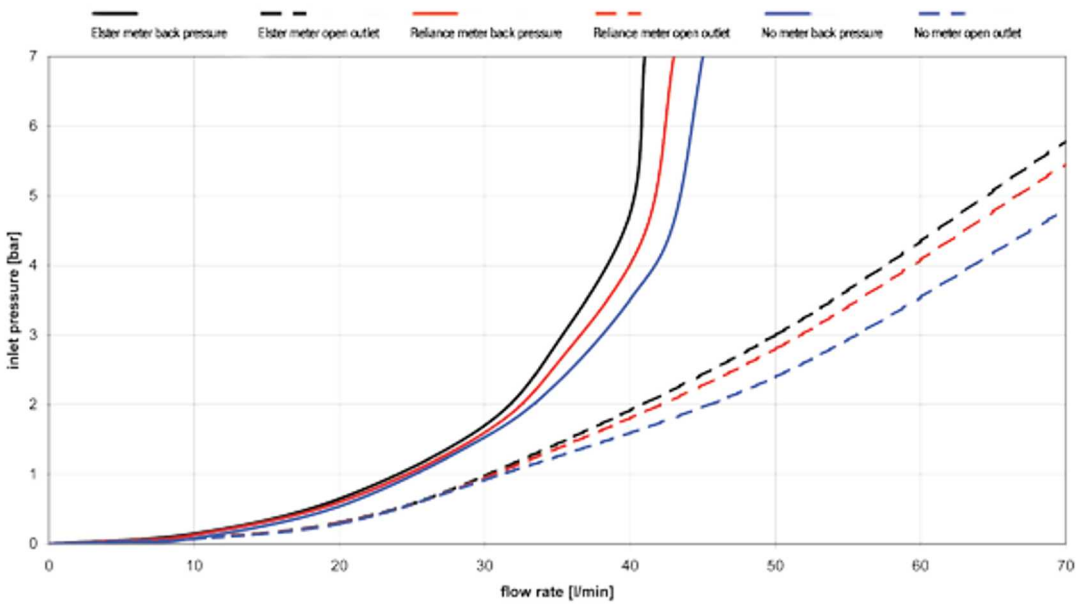
Typical installation

The drawing right depicts a typical installation using the Tenant Valve. In this instance the units are fitted vertically in the pipe runs inside a services cupboard. The cartridge construction of the valves and the fact that all maintenance can be done from the front means that the units can be fitted close together and tight to the wall to conserve the maximum amount of space.



Flow rates

The graph below shows the flow rates through the Tenant Valve with a valve set pressure of 3 bar and with the alternatives of: no water meter fitted, with a Reliance water meter cartridge fitted or with a class 'D' Elster water meter fitted. The graph shows the flow rates under 2 different system conditions. The solid lines indicate flow with a 70% system backpressure on the valve: this is in accordance with BSEN 1567 the British and European standard for pressure reducing valves. The dotted lines indicate flow when there is no backpressure, i.e. open outlet.



Product Range

TVAP 200 075 - ¾" FBSP Tenant Valve Assembly
80°C maximum

TVAP 200 080 - 1" FBSP Tenant Valve Assembly
80°C maximum

Adjustable between 1.5 - 6.0 bar

WATM 110 600 - Class 'A' cold water meter cartridge

WATM 110 650 - Class 'A' hot water meter cartridge

PCAP 110 600 - Retrofit pulse output cap for Reliance water meters
- cold water

PCAP 110 650 - Retrofit pulse output cap for Reliance water meters
- hot water

TADP 200 075 - Class 'D' water meter adapter

Technical Specifications

Maximum operating pressure	16 bar
Minimum operating pressure	1 bar
Maximum operating temperature	80°C
Minimum operating temperature	5°C
Adjustable pressure range	1.5 – 6 bar
Pressure reduction ratio	10:1
Pressure gauge reading	0-10 bar
Media	Potable water
Installation	Vertical or horizontal (horizontal water meters must face up)

Materials

Body	DZR brass
Internal brass components	DZR brass
Seals	EPDM
Strainer	Stainless steel
Spring	Zinc coated steel (non-wetted)
Diaphragm	EPDM

Approvals

WRAS approved to UK water regulations

Standards

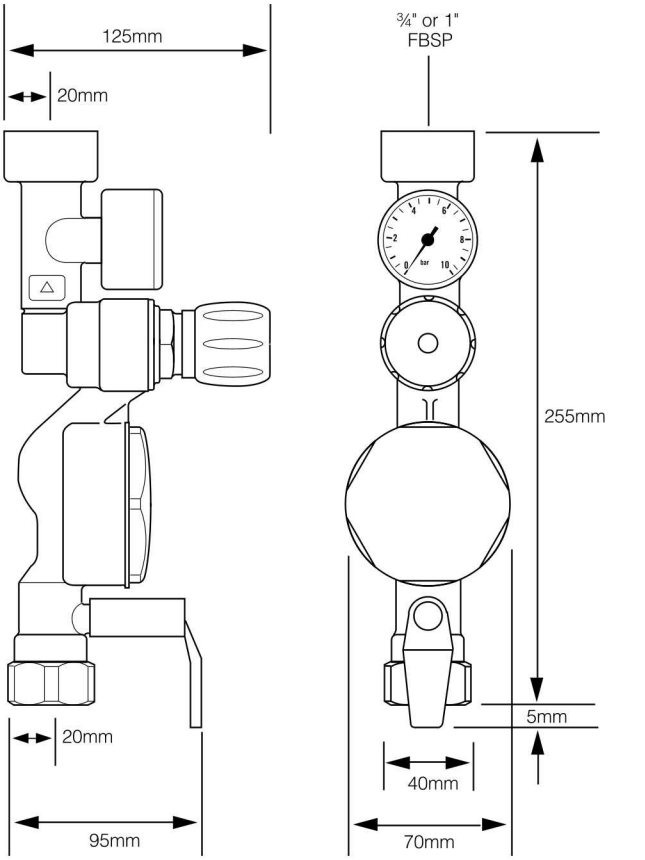
BSEN 1567 Pressure reducing valves

BSEN 1717 Backflow prevention

How To Specify

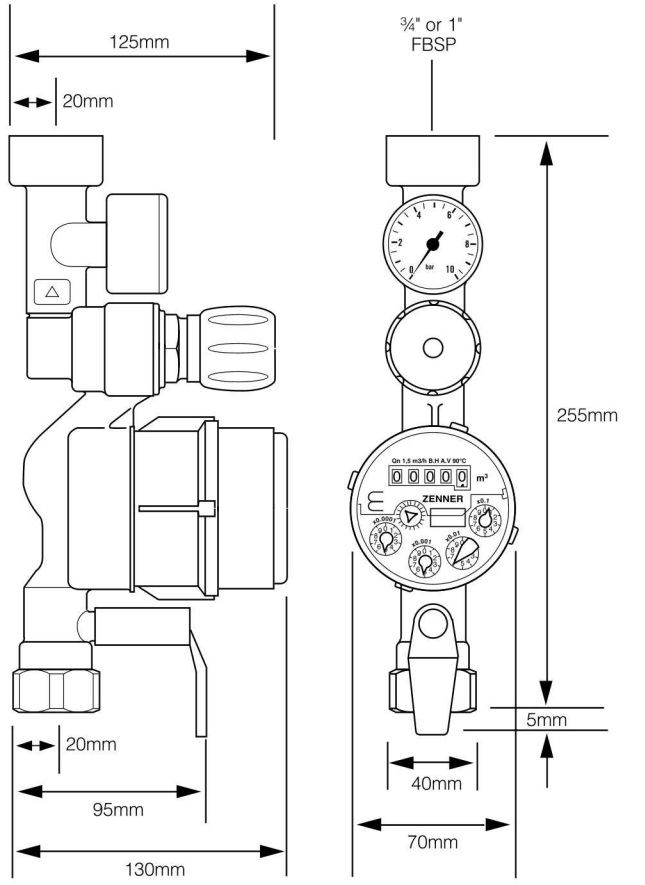
A self contained control manifold incorporating a cartridge type pressure reducing valve complying to BSEN 1567, an extended lever isolating ball valve, a water meter connection point, a pressure gauge, and a verifiable double check valve. The assembly shall be supplied in a purpose built insulated cover and all components shall be accessible from one side of the valve.

Dimensions with meter point blanked off



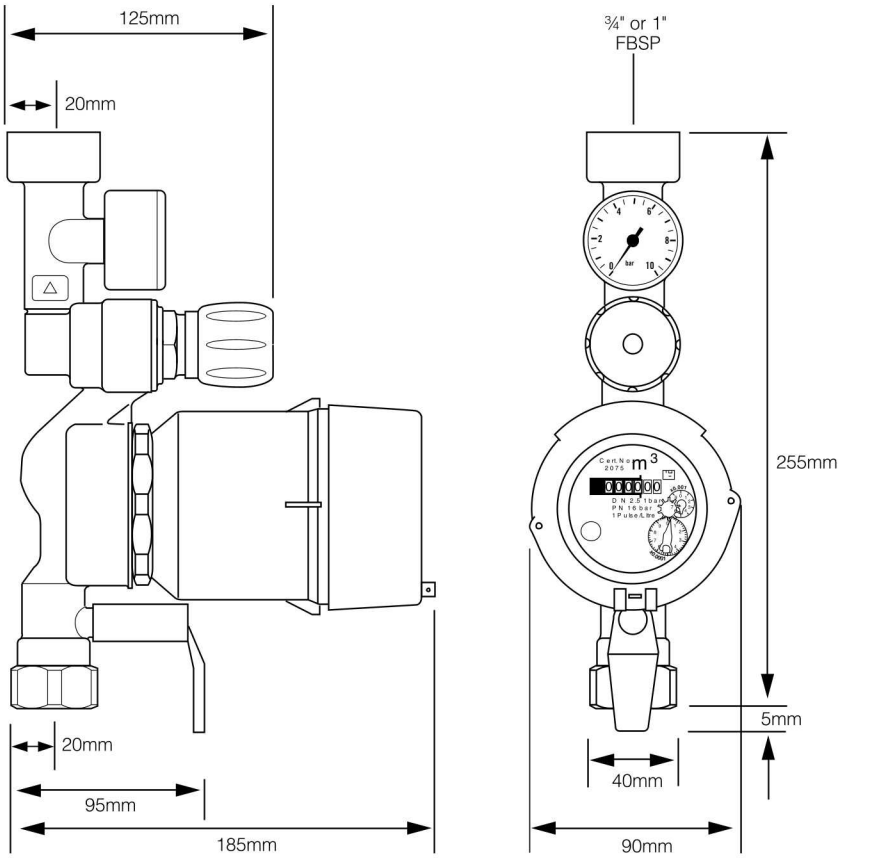
Measurements are without insulation

Dimensions with class 'A' Reliance meter fitted



Measurements are without insulation

Dimensions with class 'D' Elster meter fitted



Measurements are without insulation

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