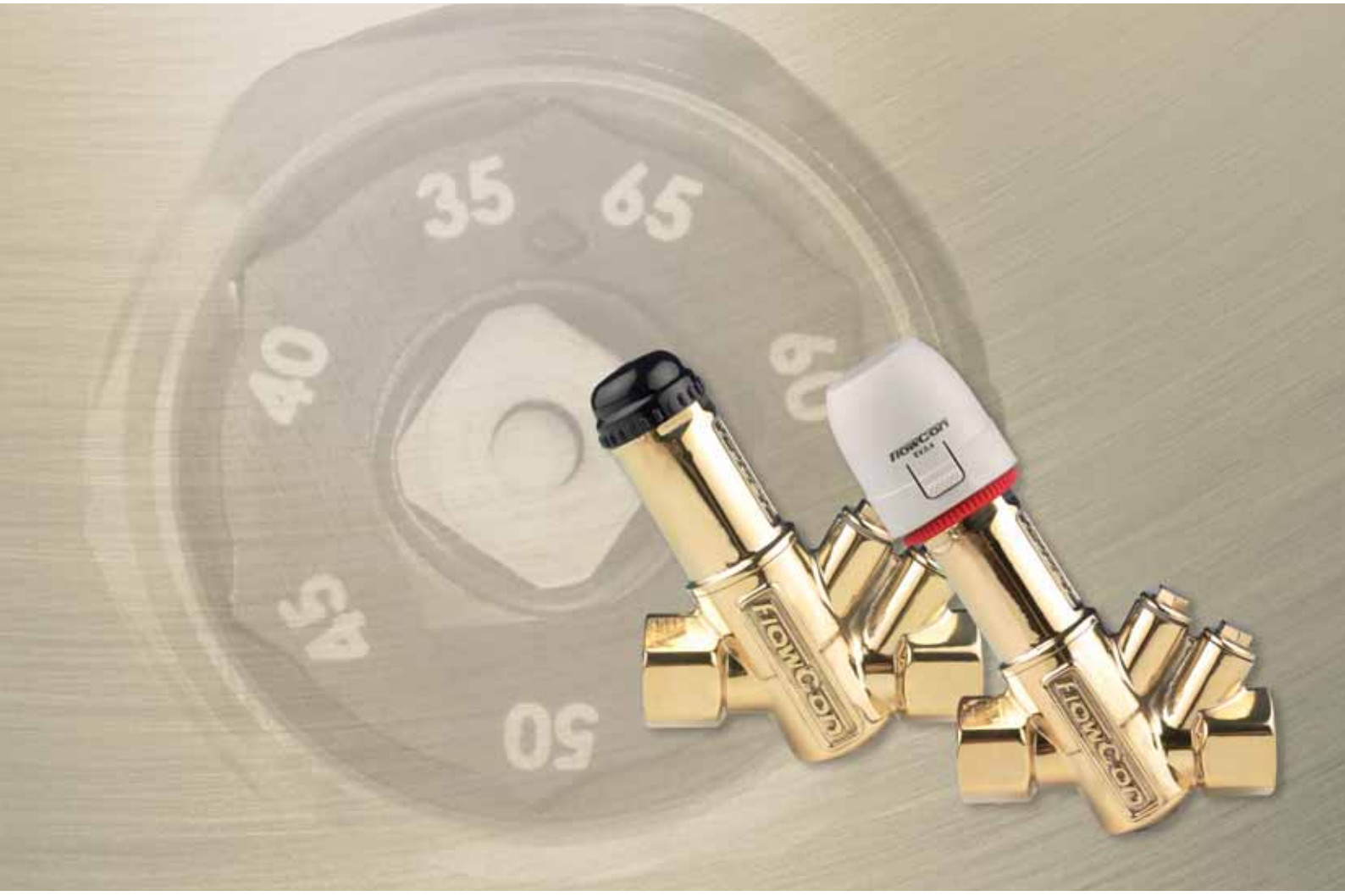
FlowCon International

FlowCon T-JUST



Thermostatic Valve for Domestic Water

FlowCon T-JUST

Thermostatic Insert for Thermostatic Valves in Domestic Water

The FlowCon T-JUST is a thermostatic element insert which fits in a standard FlowCon valve body of your choice and is used as a thermostatic control valve designed to control the thermal balance in domestic hot water circulation installations.

The valve automatically controls the temperature of the water which circulates through the system and therefore a thermal balance is achieved throughout the entire system. Further, the proper temperature is immediate available at all draw-off taps to ensure optimal comfort.

The T-JUST insert can be adjusted to the required temperature within a scale of +35°C to +65°C. Also, it is equipped with a manual or actuated by-pass. The purpose of the by-pass is to increase the temperature of the water to maximum temperature for a certain period of time to avoid bacterial problems such as Legionella.

Legionnaire's disease is an infection which in 90% of the cases is caused by Legionella Pheumphila. Since the infection is transmitted when inhaling aerosolized, contaminated water into the lungs, the presence of bacteria in water systems creates a risk wherever there are aerosol-producing devices. The perfect conditions for transmission of infection exist in water tanks and water installations in dwelling buildings, commercial buildings and public buildings such as hotels, hospitals etc.

The normal recommended physical method of bacteria pasteurization is thermal disinfection, where the water is heated up to ''disinfection temperature'' and maintained for a specific ''disinfection time''. FlowCon T-JUST is designed and ready to perform a regular thermal disinfection at a temperature of up to +70°C to lower the risk of Legionella.

Features and Benefits

- **Thermal balancing**, the correct water temperature at each draw-off tap.
- **The thermostatic element and moving parts are located out of water contact**, this will prevent problems with scaling.
- **Field adjustable**, temperature setting can be changed on demand, from +35°C to +65°C.
- **By-passing possibility while the system is working**, either manual or automatic with ON/OFF actuator, normally closed.
- **Accuracy** of ±2°C.
- Each T-JUST is **calibrated separately**.
- Due to design the valve is **not susceptible to blockage**.
- **Product approval**, all valve bodies are available in DZR-brass and T-JUST is approved to meet the requirements in the Danish Building Regulations.
- **Pressure/temperature measurement plugs** available for verifying operating temperature.
- **Double union end connections** for ease of installation and wide selection of end fittings (ABV) or **fixed female threaded ends** (A/AB).

Applications

The T-JUST insert can be used with the following FlowCon valves:

- *FlowCon A (DN15/20/25)*
- *FlowCon AB (DN15/20/25)*
- *FlowCon ABV1 (DN15/20/25)*
- *FlowCon FF-unit (DN20)*

The FF-unit is designed to meet market requirements and directly replace other brands of thermostatic valves.

Principle of Operation

The T-JUST insert controls the temperature of the water which circulates through the system. The valve is in balance, when the water temperature has reached the temperature set on the T-JUST insert. If T-JUST is set to a temperature, of for instance +55°C, and the temperature of the circulating water is above +55°C, the thermostatic element expands and the internal cone moves towards the valve seat and the valve closes. If the temperature is below +55°C, the thermostatic element will contract and the valve will open, allowing more water to flow through.

Temperature Selection and Setting

To set the temperature simply remove the black cover and set the scale by means of a special FlowCon adjustment key to the desired temperature between +35°C and +65°C. Screw on the top cover tightly to allow the thermostatic control to be working and to avoid unwanted tampering.

Please note that when changing the temperature the according adjustment may take some time to get the system in complete balance again. The T-JUST is factory pre-set to +60°C. Further a minimum ΔT of 5°C between the hot-water tank and the temperature set on the T-JUST at the critical tapping point is recommended to allow the expected heat loss in the circulation pipe.

By-Pass Operation

Manual by-pass operation is carried out simply by removing the black cover and placing the red plastic ring on top of the T-JUST. Placing the black cover above the red by-pass ring and screwing it on tightly will put the thermostatic function out of action and allow maximum water temperature to flow through as long as the top cover is tightened with the red by-pass ring as distance piece.

Alternatively the pasteurization of the water can be carried out automatically by means of a small standard ON/OFF actuator controlled by either the BMS-system or a local timer. Using the BMS-system, duration and maximum temperature of the dis-infection process can be programmed to meet customer demands.

The by-pass cannot be regulated since the by-pass function is only necessary during flushing and the thermostatic control during this period of time will be non-existing. Maximum opening means minimum resistance which again means lesser time for flushing.

Technical Data

For further information and part number selection please see individual FlowCon tech note.

			A/AB/ABV DN15/20/25 with T-JUST cartridge	FF-Unit with T-JUST cartridge
Static Pressure		(kPa)	1000	1000
		(psi)	145	145
Temperature Rating (media / ambient)		(ºC)	0 to +85 / 0 to +60	0 to +85 / 0 to +60
		(ºF)	+32 to +185 / +32 to +140	+32 to +185 / +32 to +140
Pressure Drop Data			NOTE: For pump head calculations, add the minimum pressure differential for the index circuit to the other components pressure losses (i.e. valves, coil, etc.)	
Valve with T-JUST	(Kv-value)	(m^3/hr)	1.1	1.1
	(Cv-value)	(GPM)	1.3	1.3

T-JUST Cartridge		T-JUST
Temperature Range	(ºC)	+35 to +65
	(ºF)	+95 to +149
Max. Pressure Differential	(kPaD)	100
	(psid)	14.5

Design Example