

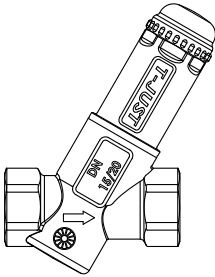
## INSTALLATION AND OPERATION INSTRUCTION

### FlowCon T-JUST 20mm, 3/4"

The **FlowCon T-JUST** thermostatic insert is for use with four different FlowCon valve housing, either FlowCon A, FlowCon AB (DN15/20), FlowCon ABV1 or FlowCon FF. Install the selected valve housing as called for in the design drawings. INSTALL THE VALVE HOUSING WITH THE FLOW DIRECTIONAL ARROW POINTING IN THE CORRECT DIRECTION.

The **FlowCon A** valve (Model Nos. A15.X and A20.X) is available with fixed female-by-female threaded connections, i.e. Figure 1.

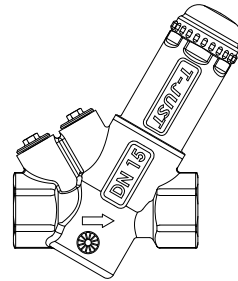
Figure 1



The thread standard for the A model is either ISO 228, which is a straight metric thread (compatible with BS-2779) or NPT threading standard, depending on the product number ordered.

For all threaded connections please clear threads on both valve and piping of debris. Sealant such as pipe dope or teflon tape is recommended. WHEN USING HEMP AS PIPE SEALANT, ENSURE NO STRANDS ARE LEFT IN THE VALVE OR PIPING.

Figure 2



The **FlowCon AB** valve (Model Nos. AB15.X and AB20.X) is similarly available with fixed female-by-female threaded connections, i.e. Figure 2.

The thread standard for the AB model is equal to what is available for the A model.

For all threaded connections pls. clear threads on both valve and piping of debris. Sealant such as pipe dope or teflon tape is recommended. WHEN USING HEMP AS PIPE SEALANT, ENSURE NO STRANDS ARE LEFT IN THE VALVE OR PIPING.

**Pressure/temperature fittings** are available upon request for the AB valve. Before finger mounting the p/t plugs in the body tappings, please seal the threads of the p/t plugs (DO NOT OVER TIGHTEN).

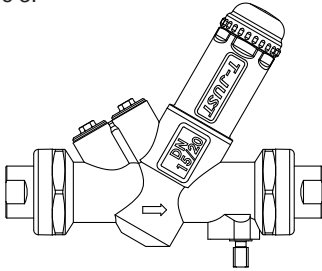
Alternatively to p/t plugs, the valve body can be ordered with **plugs** for the body tappings. Each plug is sealed by a gasket.

## ATTENTION

Please don't wind the T-JUST below 35°C or above 65°C in order to keep the functionality of the T-JUST.

The **FlowCon ABV** valve (Model No. ABV1) is available with double union endconnections, i.e. Figure 3.

Figure 3



Two types of end connections are available for use with the union nut:

**Threaded (male or female):**

The thread standard is ISO 228 which is a straight metric thread (compatible with BS 2779) or NPT threading standard, depending on the end connections ordered. The threads on both the connection and piping should be cleaned carefully. As these models are union end connected, the union nuts and the end connections should be removed for installation.

O-rings are supplied with the valve body and used to seal the connections. It is recommended to grease the o-rings with silicone grease before installation. **IMPORTANT:** Never use mineral oil or petrol based grease or oil on the o-rings. Please make sure these are in place in the o-ring grooves in the inlet and out-let of the valve body, when installing the housing and **REMEMBER TO TIGHTEN THE UNION NUTS TO ENSURE SEALING.**

For all threaded connections pls. clear threads on both valve and piping of debris. Sealant such as pipe dope or teflon tape is recommended. **WHEN USING HEMP AS PIPE SEALANT, ENSURE NO STRANDS ARE LEFT IN THE VALVE OR PIPING.**

**Soldered end (sweat):**

**REMOVE THE END CONNECTIONS FROM THE HOUSING BEFORE SOLDERING. THIS ENSURES THAT THE O-RINGS AND INTERNAL PARTS ARE NOT DAMAGED BY HEAT.**

Valve bodies can be ordered with either pressure/**temperature fittings** or **plugs** similar to the AB model.

The **FlowCon FF-unit** (Model No. FF20.ID) is available with a female threaded union end inlet and fixed male threaded outlet , i.e. Figure 4. This housing is to be used as a replacement in an already installed mounting set.

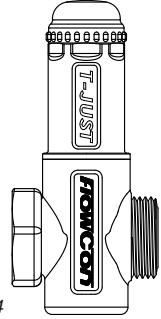


Figure 4

O-rings are supplied with the valve body and used to seal the connections. It is recommended to grease the o-rings with silicone grease before installation. **IMPORTANT:** Never use mineral oil or petrol based grease or oil on the o-rings. Please make sure these are in place in the o-ring grooves in the inlet and out-let of the valve body, when installing the housing and **REMEMBER TO TIGHTEN THE UNION NUTS TO ENSURE SEALING.**

**Inserting the T-JUST cartridge:**

It is recommended that the o-rings located around the T-JUST are lubricated with silicone grease (must be food stuff approved), before the T-JUST is installed into the valve body. **IMPORTANT:** Never use mineral oil or petrol based grease or oil on the o-rings.

When inserting the T-JUST be assured to check the placement of the o-ring. There is no need to use tools - the cartridge can be inserted/removed by the fingers.

**Standard Operation:**

The T-JUST is factory pre-set to +60°C. To change the temperature, 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.

**ATTENTION: Please don't wind the T-JUST below 35°C or above 65°C in order to keep the functionality of the T-JUST.**

Re-install the top cover tightly to allow the thermostatic control to be working. Please note that when changing the temperature setting, the according adjustment may take some time to get the system in complete balance.

**Manual By-pass Operation:**

When requiring manual by-pass operation simply remove the black top cover and place the red plastic ring (by-pass ring) on the threads on top of the T-JUST. Place the black cover above the red by-pass ring and screw it on tightly. Now the by-pass is fully open.

**Actuated By-pass Operation:**

Alternatively, the by-pass operation can be performed automatically by means of an ON/OFF actuator (FlowCon EV.0.3.R/EV.0.4.R) which is controlled either by a timer or connected directly to the BMS-system.

The actuator types **FlowCon EV.0.3.R** and **EV.0.4.R** (i.e. figure 5) are supplied with a separate red colored adaptor nut. Use this adaptor nut and screw it finger tight to the connection thread at top of the valve. Do not use additional tools. The actuator can now be fitted to the adaptor nut. A click noise will indicate that the actuator is fitted into a correct position. A push button is located on the front side of the actuator. By activating this, the actuator can be released and removed from the adaptor nut.

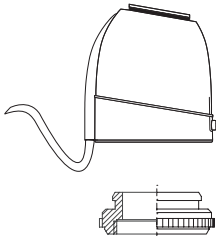
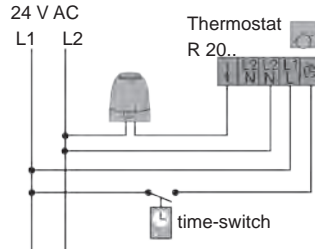


Figure 5

To ensure that the valve is in an open position during commission of the system, the actuator will be delivered in a Normally Open position and remain in this position until it is electrically operated first time. During FIRST TIME POWERING operating voltage is applied for approximately 6 minutes.

Upside down installation is allowed for the EV.0.3.R and EV.0.4.R actuators along with the standard horizontal and vertical installation.

**Wiring diagram:**



Calculation of maximum cable length (copper cable) for 24 V rated voltage

$$L = K \times A / n$$

A Conductor cross-section in mm<sup>2</sup>

n Number of actuators

K Constant (269m/mm<sup>2</sup>)

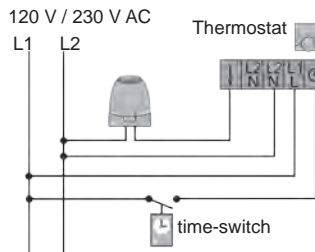
L Cable length in m

It is recommended the following lines for installing a 24 V system:

Bell wire:	Y(R)	0,8 mm <sup>2</sup>
Light plastic-sheathed cable:	NYM	1,5 mm <sup>2</sup>
Flat webbed building wire:	NYIF	1,5 mm <sup>2</sup>

A safety isolation transformer according to EN 60335 must always be used. Transformer dimensioning results from the making capacity of the actuators and based on the rule-of-thumb formula:

$$P_{\text{transformer}} = 6 W \times n$$



It is recommended the following lines for installing a 120 V / 230 V system:

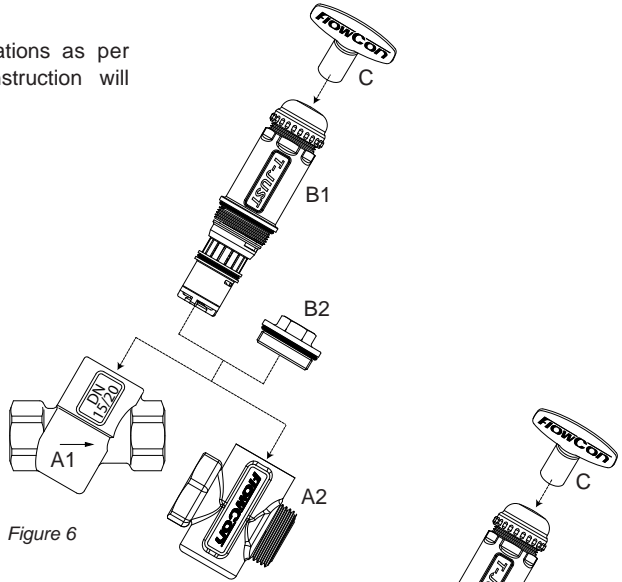
Light plastic-sheathed cable:	NYM	1,5 mm <sup>2</sup>
Flat webbed building wire:	NYIF	1,5 mm <sup>2</sup>

**Warranty obligation.**

Failure to abide by all recommendations as per this installation and operation instruction will void warranty.

**Assembly drawing  
FlowCon T-JUST:**

- A1: Valve housing (A-body)
- A2: Valve housing (FF-unit)
- B1: T-JUST cartridge
- B2: Blindcap
- C: Adjustment key.



**Assembly drawing  
FlowCon T-JUST:**

- A1: Valve housing (AB-body)
- A2: Valve housing (ABV1-body)
- B1: T-JUST cartridge
- B2: Blindcap
- C: Adjustment keys
- D1: P/t plug (2 pcs.)
- D2: Plug and gasket (2 of each)
- E: Union end connections.

