

Installation and Operation Instruction

The **Maplef ML-CFCUT Packages** are factory assembled and tested units for immediate installation on a coil. These valve sets are available in sizes:

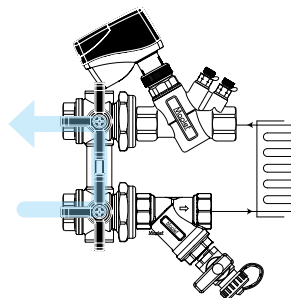
- ML-CFCUT-15, DN15 (1/2")
- ML-CFCUT-20, DN20 (3/4")
- ML-CFCUT-25, DN25 (1")

The By-Pass Assembly includes 3 main parts:

- The **by-pass unit** itself with two 3-way position ball valves
- A **strainer incl. blow-down** valve on the inlet side to the coil and
- A **valve housing** with pressure/temperature plugs and flushing cap on the outlet side. After flushing a PICV insert, or the like, can easily be installed.
- By-Pass Assemblies for 3/4" insert also include complete insulation cap as standard.

Installation and Flushing

1. Any Maplef ML-CFCUT Assembly unit comes pre-assembled and pre-tested from factory allowing fast plug-and-play on site. Connect the strainer side to the inlet of the coil and the PICV side to the outlet of the coil. It is possible to order the ML-CFCUT Assembly with Maplef Flexible Connectors if required.
2. For both flushing and normal operation use treated, clean, and debris-free water according to VDI2035.
3. Set the bypass handles to Bypass Operation and **flush the main system**, without compromising coil components.



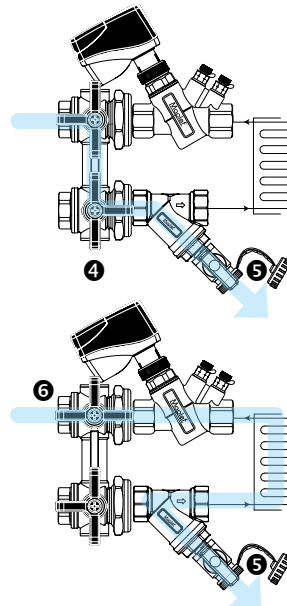
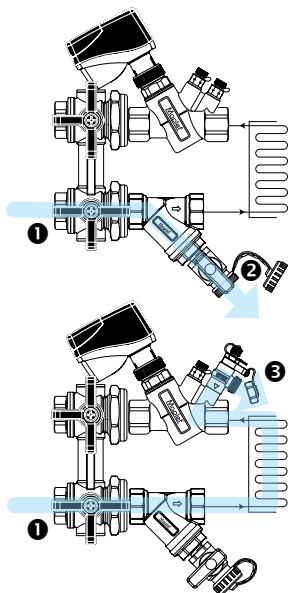
4. For **terminal flushing**, both forward and back flushing is possible, either through the coil or around the coil, according the BSRIA BG29/2021. Choose your flushing procedure according to local standards and requirements. Maplef recommends terminal flushing with the pre-installed flushing cap and fitting of the PICV insert after proper flushing.

For **FORWARD FLUSHING**, connect hose to blow-down valve (2) on the strainer, slowly open the inlet bypass handle (1) by turning it 90° to pressurize the coil. Open the blow-down valve (2) and forward flush around the coil. Close the bypass handle again, close the blow-down valve and disconnect hose.

Alternatively, perform forward flushing through the coil following the above procedure, but connect the hose to the combination p/t drain (3) on the PICV valve.

For **BACK FLUSHING**, connect hose to blow-down valve (5) on the strainer, slowly open the inlet bypass handle (4) to pressurize the coil and turn it 180°. Open the blow-down valve (5) and back flush around the coil. Close the bypass handle again, close the blow-down valve and disconnect hose.

Alternatively, perform back flushing through the coil. If the PICV insert is installed, Maplef recommends that the PICV is set to 3.0 during back flushing to safeguard it against high water velocity. Connect hose to blow-down valve (5) on the strainer, slowly open the outlet bypass handle (6) to pressurize the coil. Open the blow-down valve (5) and back flush through the coil. Close the bypass handle again, close the blow-down valve and disconnect hose.



PICV Insert and Actuator Installation

After proper flushing, set bypass handles to Bypass Operation and drain. Remove the flushing cap on the PICV valve housing and fit the PICV insert with required max. flow setting (please see specific installation instruction for selected insert regarding setting) and fit the selected actuator on the insert.

Electrically connect the actuator. Please see specific installation instruction for selected actuator.

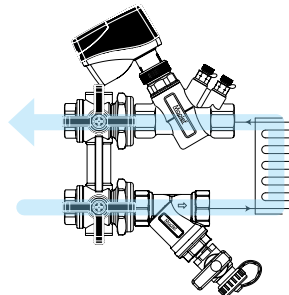
Normal Operation

During Normal Operation the coil is an integrated part of the main system. To go from any other operation mode and into Normal Operation, slowly open inlet bypass handle 90° to pressurize the coil and then slowly open the outlet bypass handle 90° to put the system in Normal Operation.

In Normal Operation the bypass is closed and water will flow through the strainer, into the coil and return through the PICV valve. During this operation, the PICV will balance the flow from closed valve to design flow depending on actual requirements and corresponding to actuator position.

Bypass Operation

During Bypass Operation the coil is isolated from the main system. The coil can be serviced after draining, while the main system is still running.



Service

Exchange of actuator is easily done. Remove actuator and replace without affecting the system or PICV setting.

To exchanging of PICV insert, isolated the bypass by turning the handles to Bypass Operation position, remove the insert and replace with a new pre-set insert. Slowly open inlet bypass handle to re-pressurize the coil and then slowly open the outlet bypass handle to put the system in Normal Operation.

