

# oventrop

Innovation + Quality

Valves, controls + systems

“Cocon QTZ” PN 25  
“Cocon QTR/QFC” PN 16/PN 25  
Pressure independent control valves

Product range





1

The pressure independent control valve “Cocon QTZ” is a compact valve combination for automatic hydronic balancing consisting of a flow regulator and a regulating valve. The nominal value of the flow regulator can be set with the help of a handwheel. The regulating valve can be equipped with an actuator, a temperature controller or a manual head (connection thread M 30 x 1.5). The “Cocon QTZ” is made of dezincification resistant brass. It can also be used for temperature control of appliances or sections of the system in chilled ceilings, fan coil units, convectors as well as central heating or surface heating systems.

**Advantages:**

- higher flow capacities
- flushing and draining facility
- max. operating pressure: PN 25
- max. differential pressure: 6 bar
- constant high valve authority (a=1)
- differential pressure independent valve
- reduced dimensions
- valve combining several functions
- dynamic, hydronic balancing by setting the required flow value
- the installed valve does not require a readjustment if the installation is extended or modified
- linear characteristic line



2



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**1** Even with the actuator in place, the required nominal values can be set and controlled with the help of the handwheel.

**2-3** The setting is protected against unauthorized tampering with the help of the handwheel which engages automatically. The setting can be additionally secured by inserting the red locking ring which can be lead sealed.

**4** The nominal values are imprinted on two oblique (45°) handwheel surfaces ensuring an excellent optical display of the values in any installation position.

**5** The pump setting can be optimized with the help of a measuring gauge (e.g. “OV-DMC3”). For this purpose, the pump head is reduced until the “Cocon QTZ” is just working within the control range.



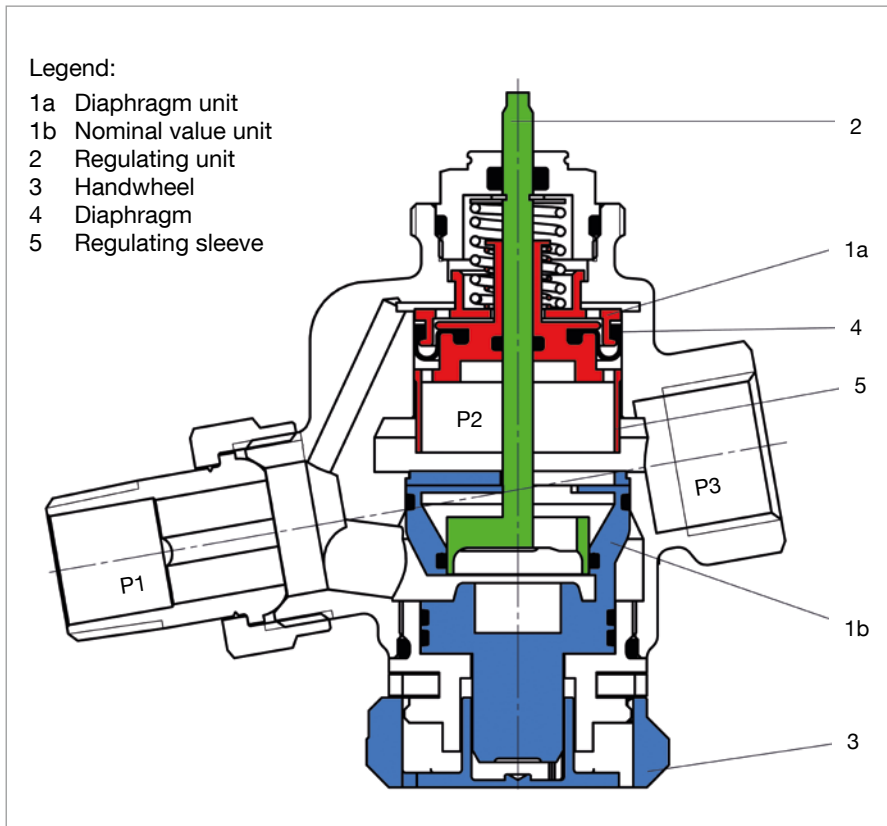
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**“Cocon QTZ” PN 25 – The new generation:**

- higher flow capacities
- flushing and draining facility
- max. operating pressure: PN 25
- max. differential pressure: 6 bar

**Models:**

DN 10 up to DN 32, with or without pressure test points

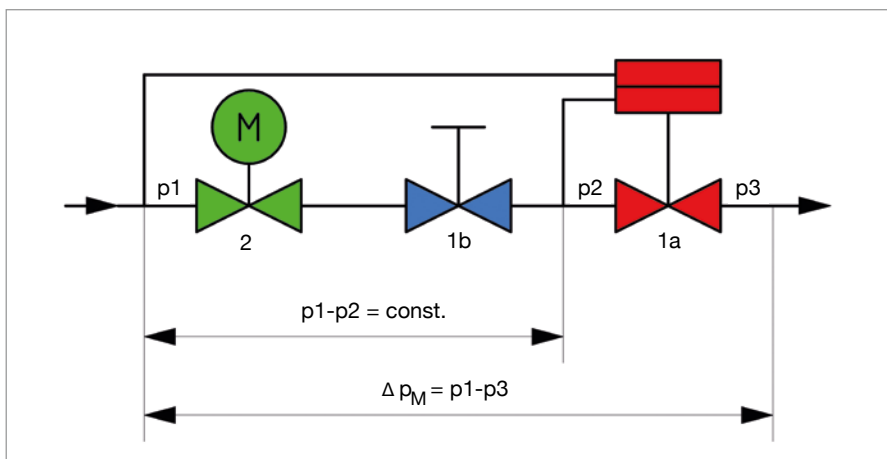


**1** The required flow rate is set with the help of the handwheel (pos. 3). The illustrated section shows three pressure ranges: “p1” is the inlet and “p3” the outlet pressure of the valve. “p2” is the pressure actuating the diaphragm unit (pos. 1a) which keeps the differential pressure “p1” - “p2” at a constant level.

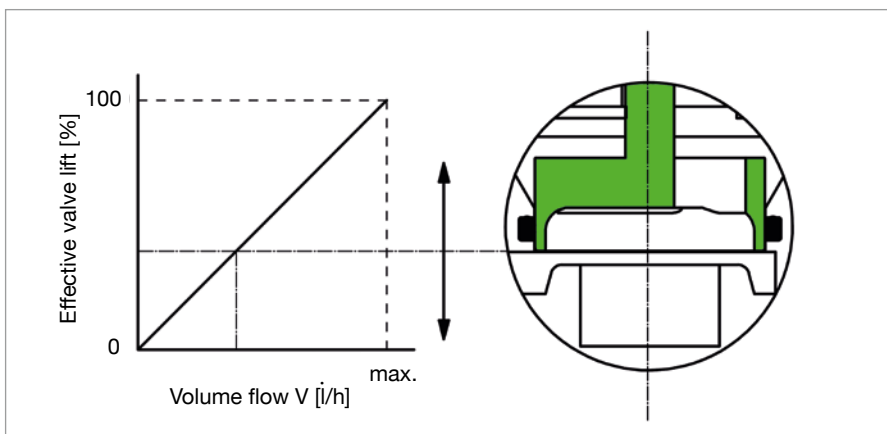
**2** The integrated diaphragm unit (pos. 1a) keeps the differential pressure “p1” - “p2” at a constant level via the regulating unit (pos. 2) which is activated through the actuator and via the nominal value unit (pos. 1b) which can be set to a maximum flow value. Even where high differential pressure variations “p1” - “p3” occur, e.g. if sections of the system are activated or inactivated, the differential pressure “p1” - “p2” is kept at a constant level.

**This way, the valve authority amounts to 100% (a=1). Even during low demand periods with steady control (for instance in conjunction with 0-10 V actuators) the valve authority within the effective valve lift amounts to 100% (a=1).**

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The pressure independent control valve “Cocon QTR/QFC” is a valve combination for automatic hydronic balancing consisting of a flow regulator and a regulating valve. The nominal value of the flow regulator can be set with the help of a handwheel. The regulating valve can be equipped with an actuator.

The “Cocon QTR/QFC” valve can also be used for temperature control of appliances or sections of the system in central heating and cooling systems.

**Advantages:**

- constant high valve authority ( $a=1$ )
- differential pressure independent valve
- valve combining several functions
- pressure balanced valve disc
- optimisation of the installation by measuring the differential pressure of the valve
- automatic hydronic balancing by setting the required flow value
- the installed valves do not require a readjustment if the installation is extended or modified
- the nominal value setting can be secured from unauthorized access
- regulation during low demand periods with the help of an actuator
- linear characteristic line



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**1** Compact construction without external capillaries.

**2** The nominal values are imprinted on three peripheral scales ensuring an excellent optical display of the values in any installation position.

**3** The nominal values can be set directly at the unit ( $m^3/h$ ).

**4** The locking clip can be lead sealed to secure the setting from unauthorized access.

**5** The valve can also be operated without actuator. The setting sleeve supplied with the valve allows for the operation with set flow value.



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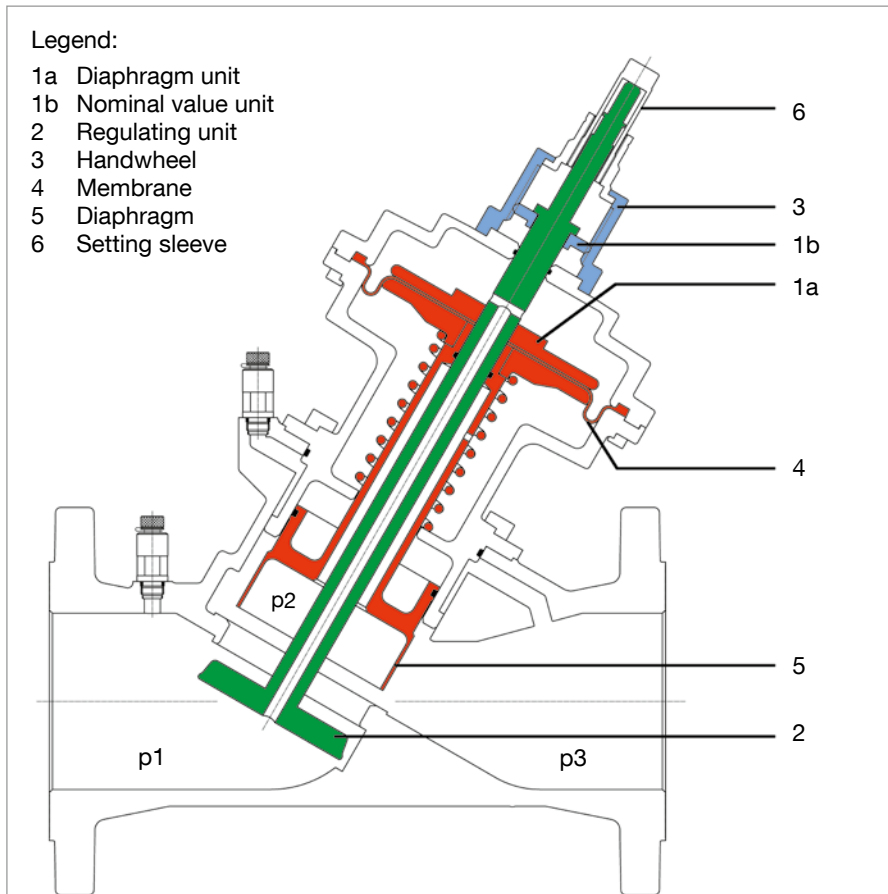


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**Models:**

DN 40 up to DN 200, “Cocon QFC” made of cast iron or “Cocon QTR” made of bronze, with female or male thread (DN 40/50)





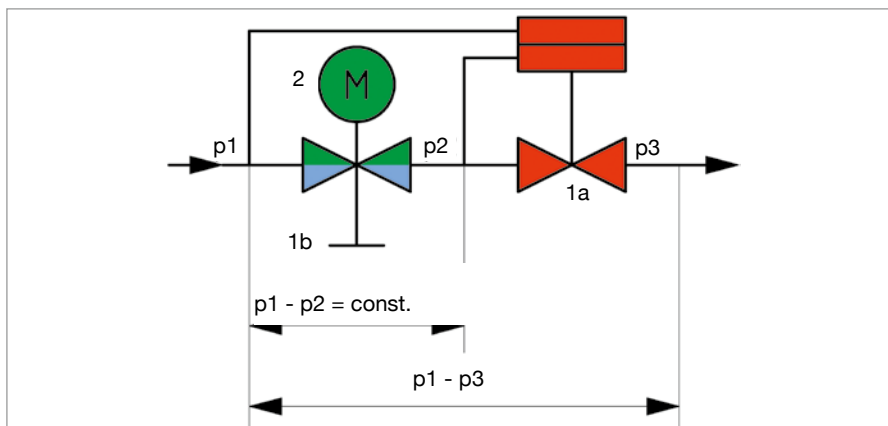
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1 The required flow rate is set with the help of the handwheel (pos. 3). The illustrated section shows three pressure ranges: “p1” is the inlet and “p3” the outlet pressure of the valve. “p2” is the pressure actuating the diaphragm unit (pos. 1a) which keeps the differential pressure “p1”-“p2” at a constant level.

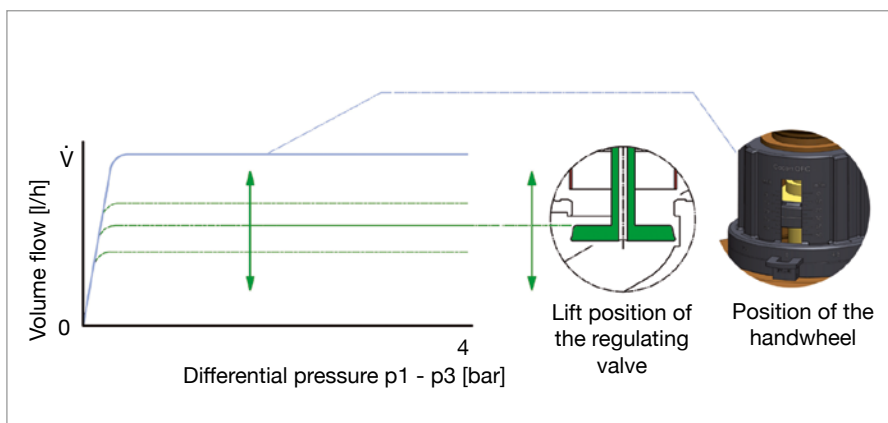
2 The integrated diaphragm unit (pos.1a) keeps the differential pressure “p1”-“p2” at a constant level via the regulating unit (pos. 2) which is activated through the actuator and via the nominal value unit (pos. 1b) which can be set to a maximum flow value. Even where high differential pressure variations “p1” - “p3” occur, e.g. if sections of the system are activated or inactivated, the differential pressure “p1” - “p2” is kept at a constant level.

**This way, the valve authority amounts to 100% (a=1). Even during low demand periods with steady control (for instance in conjunction with 0-10 V actuators) the valve authority within the effective valve lift amounts to 100% (a=1).**

3 The maximum volume flow (V) within the control range (0.2 - 4 bar) is set with the help of the handwheel. During low demand periods, the volume flow is regulated to the required value by the lift position of the regulating valve.



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**1** “Cocon QTZ” with electromotive actuator for modulating control (0-10 V) with connection thread M 30 x 1.5.

Function and characteristic line selection via a DIP switch. For use in central heating and cooling systems for a precise flow and temperature control.

**2** Electromotive actuator with connection thread M 30 x 1.5. For room temperature control in conjunction with three point controllers. For use in radiant and chilled ceiling systems as well as induction air systems.

**3** Electrothermal actuator with connection thread M 30 x 1.5. For room temperature control in conjunction with two point controllers.

**4** Electromotive actuator with connection thread M 30 x 1.5. For room temperature control in conjunction with two point controllers. For use in radiant and chilled ceiling systems as well as induction air systems.

**5** Electromotive actuators with connection thread M 30 x 1.5. Systems EIB and LON® with integrated bus coupling. The electromotive actuators EIB and LON® are suitable for a direct connection to the European installation bus control system or to LonWorks® networks. The power absorption is extremely low, so that a separate power supply is not needed.

For further information and actuators visit [www.oventrop.com](http://www.oventrop.com)



Webcode **C03001**



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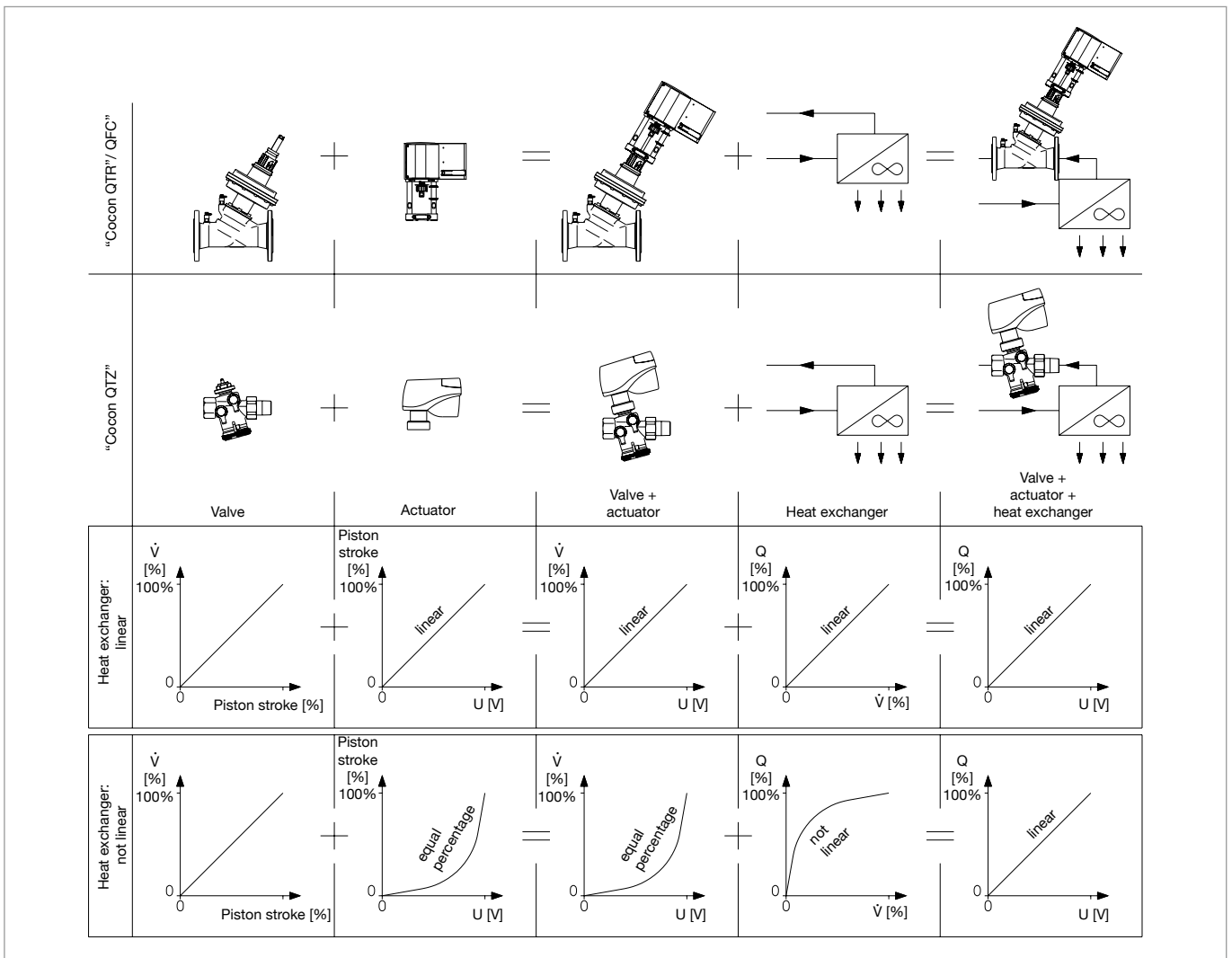
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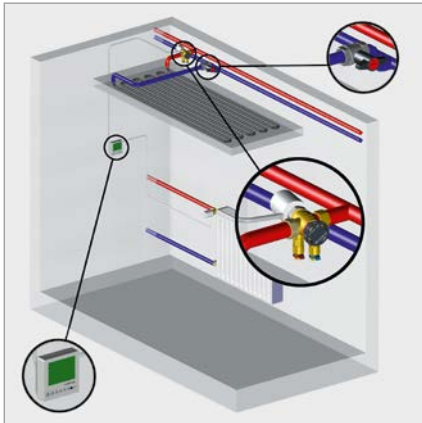
Webcode **C03002**

**1** “Cocon QFC” with electromotive actuator for modulating control (0-10 V or 4-20 mA), may also be used for two or three point control, for “Cocon QFC” sized DN 125 up to DN 200. Function and characteristic line selection via a DIP switch. For use in central heating and cooling systems for a precise flow and temperature control and integration into the building automation. Separate temperature controllers must be used for temperature control.

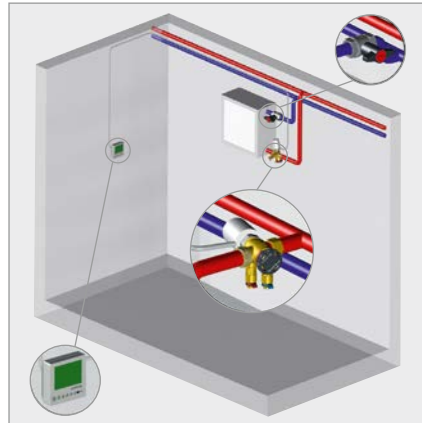
**2** Electromotive actuator for modulating control (0-10 V), may also be used for two or three point control, for “Cocon QTR/QFC” sized DN 40 and DN 50. Function and characteristic line selection via a DIP switch. For use in central heating and cooling systems for a precise flow and temperature control and integration into the building automation.



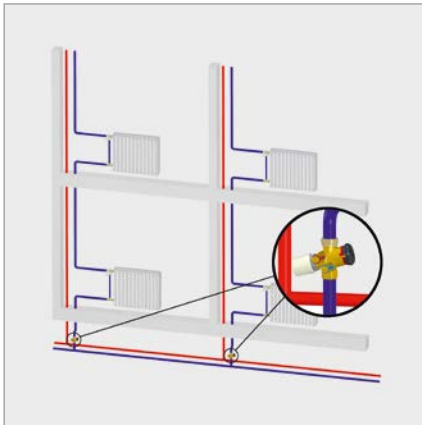
Optimisation of the interaction of valve, actuator and heat exchanger with modulating 0-10 V actuators. The illustration shows idealised characteristic lines explaining the control principle.



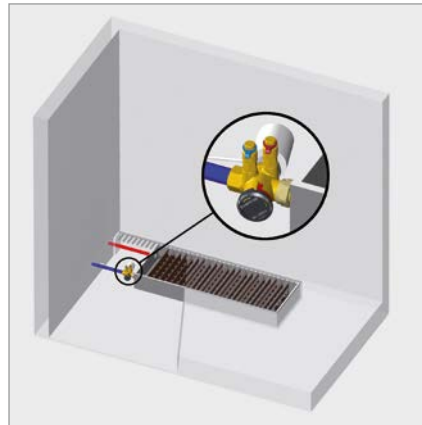
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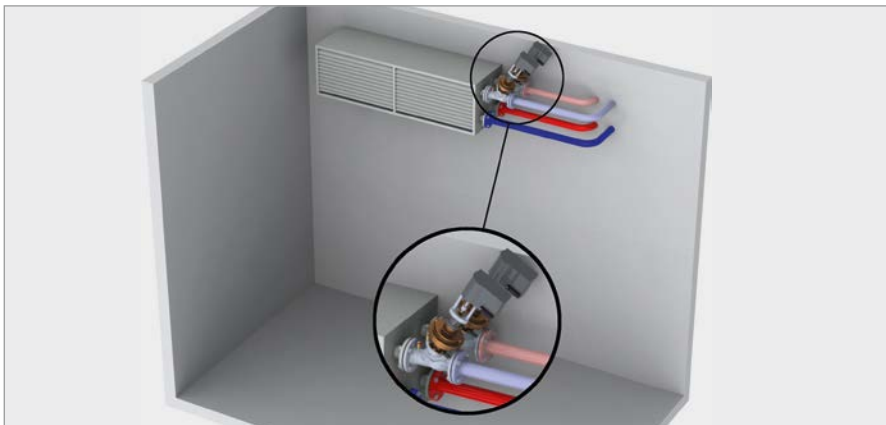
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### 1 Room temperature control via chilled ceilings

The pressure independent control valve "Cocon QTZ" is used for the hydronic balancing of the individual chilled ceiling elements and for room temperature control.

If sections of the system are activated or inactivated, the control of the remaining chilled ceilings will not be influenced. In the example of the application, the "Cocon QTZ" valve is installed in the return pipe. The supply pipe can be isolated using an Oventrop ball valve "Optibal". Oventrop room thermostats and actuators are used for room temperature control.

### 2 Room temperature control via fan coils

The "Cocon QTZ" valves allow for the hydronic balancing of each fan coil unit in a fan coil system. Due to the high valve authority of the valves, a good room temperature control is achieved even during low demand periods.

### 3 Volume flow control in one pipe heating systems

The hydronic balance of a one pipe heating system is achieved by installing the "Cocon QTZ" valve in the return pipe. Further information on the use in one pipe heating systems can be found in the leaflet "Unofix system for the refurbishment of one pipe heating systems with a good benefit/cost ratio".

### 4 Room temperature control via convectors

Room temperature control and hydronic balancing of a central heating or cooling system equipped with convectors, is guaranteed by using "Cocon QTZ" valves with mounted actuators.

### 5 Room temperature control via combined heating and cooling systems

Hydronic balancing of heating and cooling elements. The nominal flow rate is set with the help of the handwheel of the "Cocon QTR/QFC" valve. During low demand periods, the lift position of the valve is set by the actuator.

Further information can be found in the catalogue "Products" and on the Internet, product range 3:  
**www.oventrop.com**

Subject to technical modifications without notice.

Private persons may purchase our products from their qualified installer.

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