

# oventrop

Innovation + Quality

Valves, controls + systems

Regulating valve "Cocon QTZ"  
Valve for hydronic balancing  
and regulation of heating and cooling systems

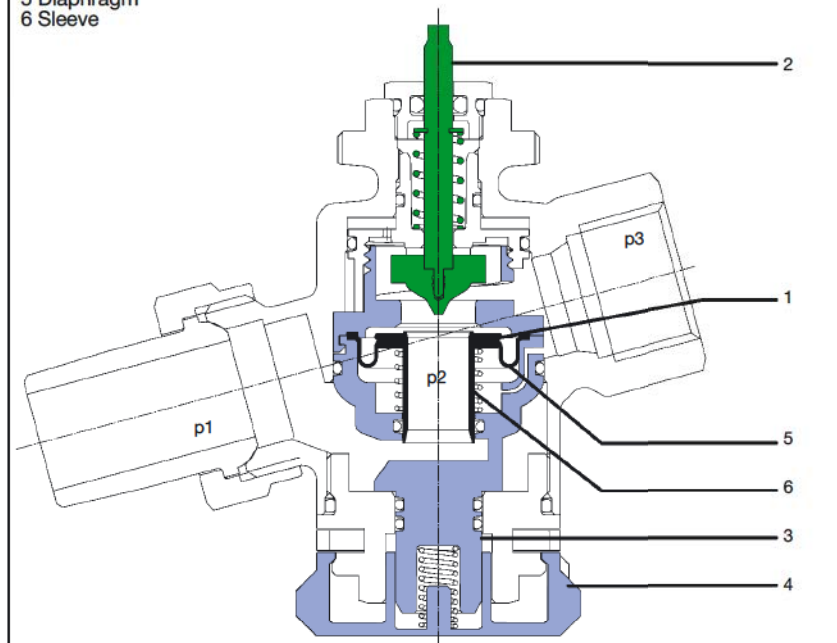
Product range

MADE IN  
GERMANY

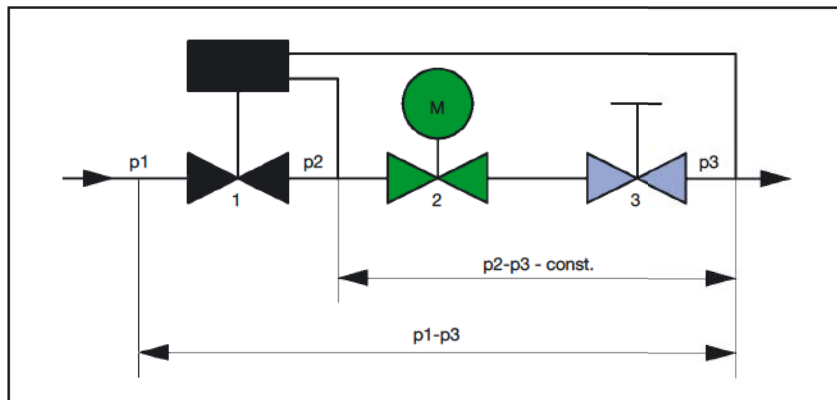


### Legend:

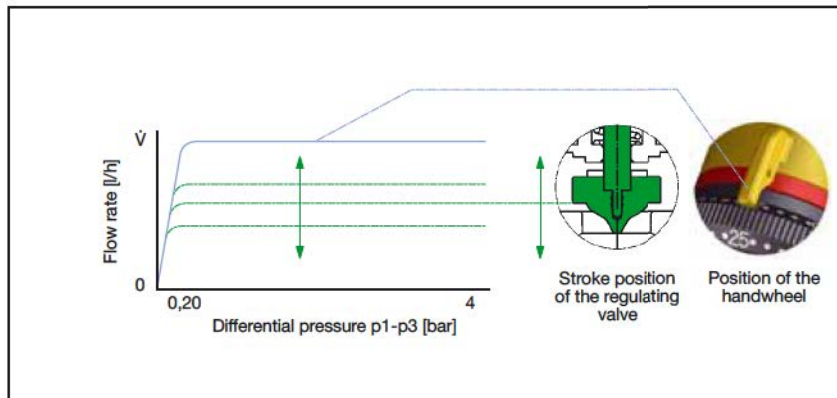
- 1 Diaphragm unit
- 2 Regulating valve
- 3 Balancing valve unit
- 4 Handwheel
- 5 Diaphragm
- 6 Sleeve



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The Oventrop regulating valve "Cocon QTZ" is a valve combination consisting of an automatic regulator (nominal value manually adjustable) and a regulating valve. The regulating valve can be equipped with an actuator, temperature controller or manual head (connection thread M 30 x 1.5).

The valve is used for the hydronic balancing and temperature control of appliances or sections of the system in chilled ceiling, Fan-Coil, convector, central heating and surface heating systems.

The valve is made of dezincification resistant brass and the seals of EPDM or PTFE. The valve stem is made of stainless steel.

### Models:

- DN 15 up to DN 32
- with or without pressure test points
- inlet port: coupling, outlet port: female thread or inlet and outlet port: female thread

**1** The desired flow rate is set at the handwheel (pos. 4). The nominal setting is protected against unauthorized tampering with the help of the handwheel which engages automatically. This setting can be additionally secured by inserting the locking ring. During low demand periods, regulation can be carried out with the help of an actuator or temperature controller which can be screwed onto the valve.

The illustrated section of the "Cocon QTZ" regulating valve shows three pressure ranges.

"p1" is the inlet and "p3" the outlet pressure of the valve. "p2" is the pressure actuating the diaphragm unit and maintaining the differential pressure "p2" - "p3" at a constant level.

**2** The regulating valve "Cocon QTZ" combines the functions of three valves. The integrated diaphragm unit (pos. 1) acts as a differential regulator and guarantees a constant pressure regulation of the differential pressure "p2" - "p3" across the second valve (regulating valve activated through the actuator or temperature controller - pos. 2) and across the third valve (manually adjustable balancing valve unit - pos. 3).

Even where high differential pressure variations "p1" - "p3" occur during part load conditions, the differential pressure "p2" - "p3" is kept at a constant level. This way, valve authorities of 100% are maintained.

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



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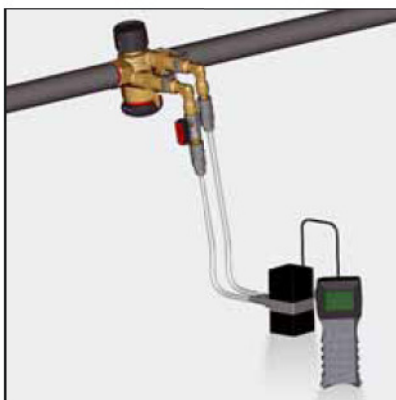
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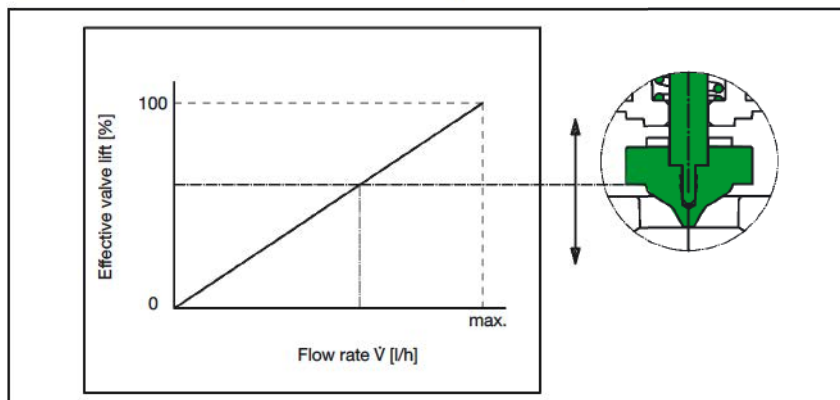
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### Advantages:

- constant, high valve authority
- reduced dimensions
- **1** even with the actuator in place, the desired nominal values can be set and controlled with the help of the handwheel which is easily accessible.
- **2** the set nominal value can be read off even with the actuator in place which is important for the control and documentation of the flow values. The nominal setting is protected against unauthorized tampering with the help of the handwheel which engages automatically. This setting can be additionally secured by inserting the locking ring.
- **3** the nominal values are imprinted on two oblique (45°) handwheel surfaces ensuring an excellent optical display of the values in any installation position.
- **4** the nominal values can be read off in l/h without conversion. The nominal value range of the valve is imprinted on the handwheel in a prominent position.
- **5** the locking ring can be lead sealed to secure the setting from unauthorised access.
- **6** the pump setting can be optimised with the help of a flow-meter (e.g. "OV-DMC 2") which is connected to the pressure test points of the valve. For this purpose, the pump head is reduced until the regulating valves "Cocon QTZ" are just working within the control range.
- **7** the regulating valve "Cocon QTZ" has a linear characteristic line which is advantageous when using actuators (electrothermal or electromotive) which also have a linear stroke behaviour. In general, the valve may also be combined with a temperature controller.



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**1** Regulating valve “Cocon” with electro-thermal actuator  
Connection thread M 30 x 1.5,  
for room temperature control in connection  
with 2 point controls, connection cable 1 m  
long.

- Models:
- closed with current “off” 230 V
  - closed with current “off” 24 V
  - closed with current “off” 230 V  
with auxiliary switch
  - 0-10 V

**2** Electromotive actuator  
Connection thread M 30 x 1.5,  
for room temperature control in connection  
with proportional (0-10 V) or three point  
controls.  
For use in radiant ceiling panels, chilled  
ceiling systems and induction air systems.

- Models:
- 24 V proportional actuator (0-10 V)  
with anti-blocking function
  - 24 V three point actuator  
without anti-blocking function

**3** Electromotive actuator  
Connection thread M 30 x 1.5,  
for room temperature control in connection  
with proportional (0-10 V) or three point  
controls.  
For use in radiant ceiling panels, chilled  
ceiling systems and induction air systems.

- Model:
- 230 V three point actuator,  
without anti-blocking function

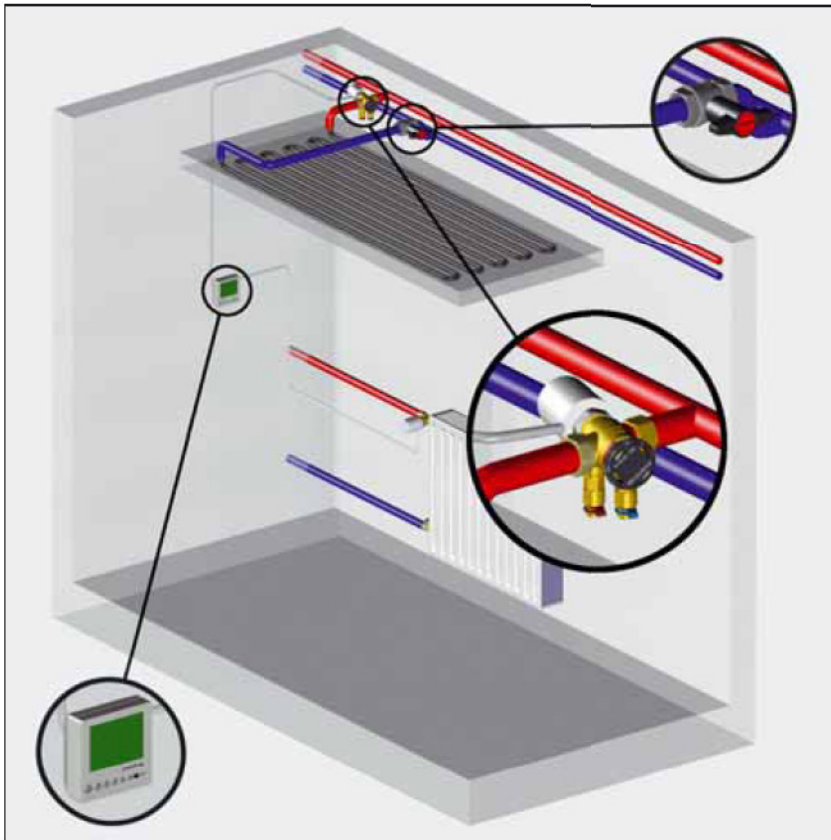
**4** Electromotive actuator  
Connection thread M 30 x 1.5,  
for room temperature control in connection  
with proportional (0-10 V) or two point  
controls.  
For use in radiant ceiling panels, chilled  
ceiling systems and induction air systems.

- Model:
- 230 V two point actuator,  
without anti-blocking function

**5** Electromotive actuators  
Connection thread M 30 x 1.5,  
system EIB, LON® with integrated bus cou-  
pling.  
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.

Actuator	Voltage	Flow rate		
		2-point	3-point	Control
Electro-thermal	24V	1012486		1012951(0-10V)
	230V	1012485/87/89		
Electro-motive	24V		1012701	1012700(0-10V)
	230V	1012710	1012703	
	230V			
	EIB			1156065/66
	LON			1157065

Table actuators



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### 1 Chilled ceiling-Regulation

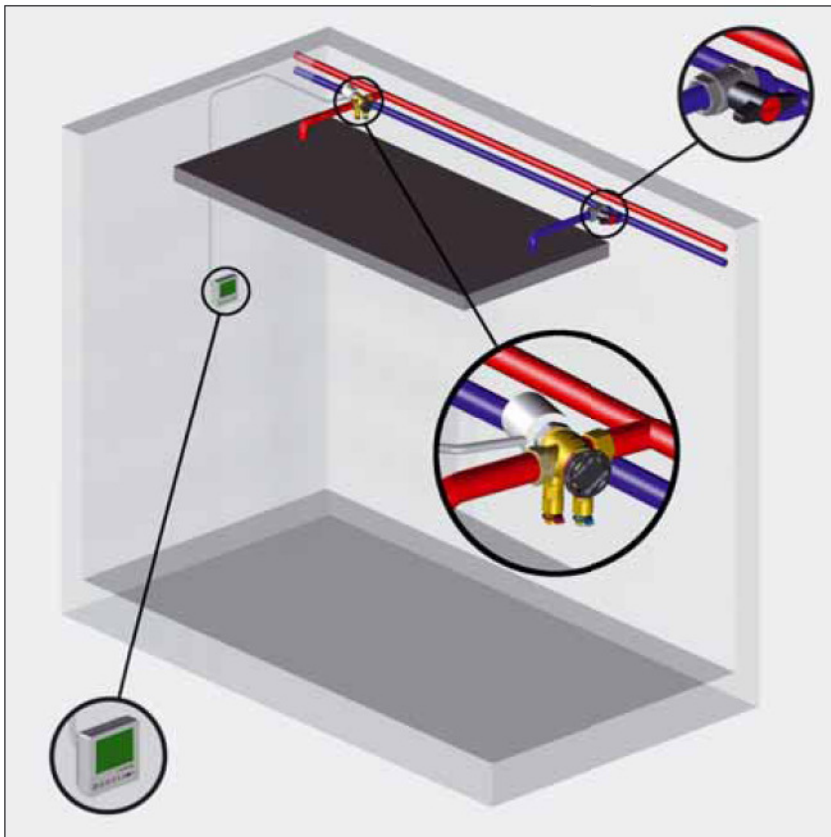
The regulating valve "Cocon QTZ" is used in chilled ceiling systems for the hydronic balancing of the individual chilled ceiling modules and for room temperature control.

When sections of the system are activated or inactivated, the regulation of the remaining chilled ceilings is not influenced.

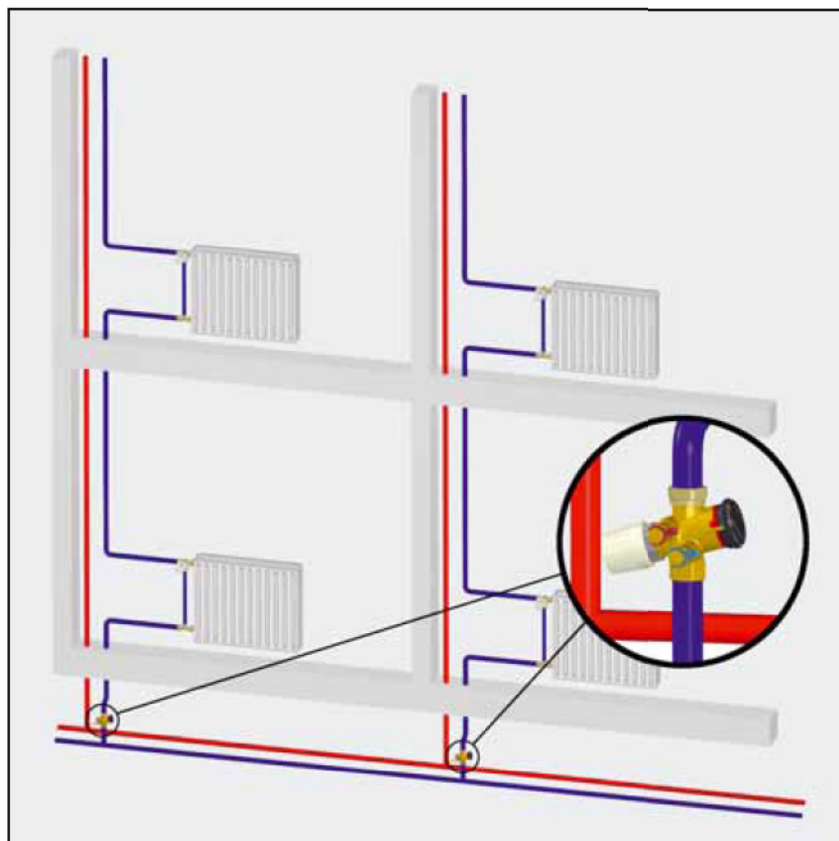
In the example of the application, the regulating valve "Cocon QTZ" is installed in the return pipe. The supply pipe can be isolated by using an Oventrop ball valve "Optibal". Oventrop room thermostats and actuators are used for room temperature control.

### 2 Fan-Coil-Regulation

The hydronic balance of each Fan-Coil unit is guaranteed by the installation of the regulating valves "Cocon QTZ" in the Fan-Coil system. Owing to the high authority of the valves, a good room temperature control is achieved even during low demand periods. Apart from the regulating valve "Cocon QTZ", Oventrop ball valves, actuators and room thermostats are also installed in this example.



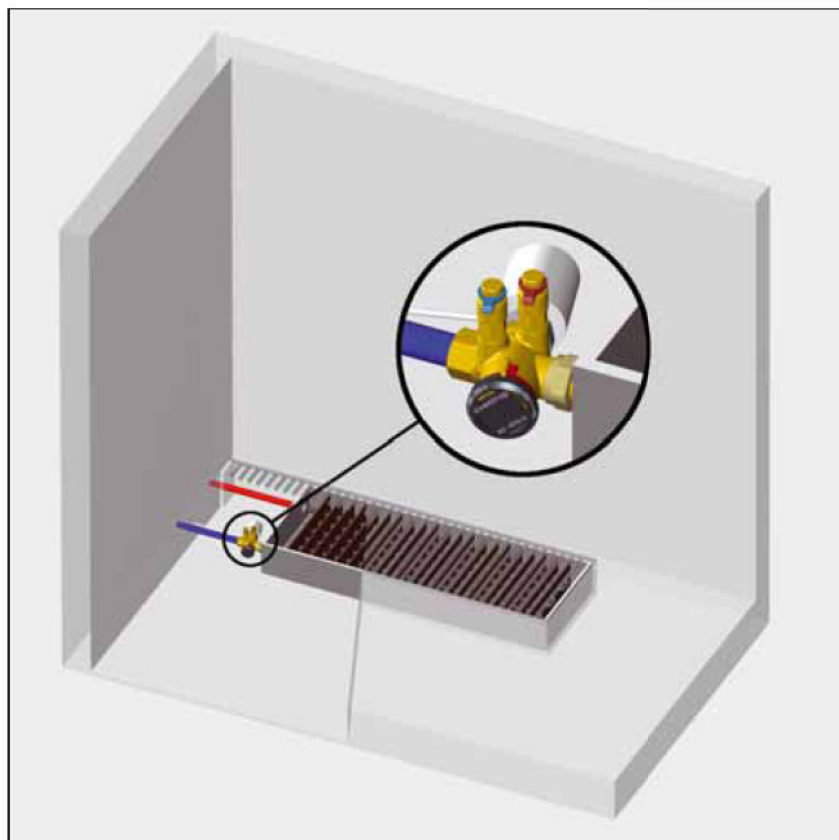
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**1 One pipe heating system-Regulation**  
The hydronic balancing of the one pipe heating system is achieved by installing the regulating valves "Cocon QTZ" in the return pipe. In the example, the regulating valve "Cocon QTZ" is equipped with a manual head for the isolation of the riser.

**2 Convectors-Regulation**  
The room temperature control and hydronic balancing of a heating or cooling system equipped with convectors, is guaranteed by using the regulating valves "Cocon QTZ" with mounted actuators.



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Further information can be found in the catalogue "Products" as well as on the internet under product range 3.

Subject to technical modification without notice

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