Tender specification:

Control unit DN 25 for local flow temperature control of surface heating systems and for system separation into a primary and secondary circuit in combination with Oventrop stainless steel distributors/collectors.

Consisting of:
- Electronically controlled high-efficiency pump or pump
- Heat exchanger, pressure gauge, safety valve
- Regulating valve "Hycocon HTZ"
- Diaphragm expansion tank
- Temperature controller with immersion sensor
- Connection and fixing fittings

Pre-assembled and leak tested.

Technical data:

Max. operating pressure p_S:	
Primary side:	6 bar
Secondary side:	3 bar
Diaphragm safety valve:	3 bar
Max. operating temperature t_S:	
Primary side:	90 °C
Secondary side:	50 °C
Control range temperature controller:	20-50 °C
Heat exchanger:	
Capacity 14 kW:	14 plates
Material:	Stainless steel 1.4401/ copper brazed

The performance dates are determined by the fixed default values in the primary circuit (70/50 °C) and the secondary circuit (40/50 °C).

Diaphragm expansion tank:	
Volume:	3 l
Corrosion resistance:	Internal coating

Fluid: Non-aggressive fluids (e.g. water and suitable water and glycol mixtures according to VDI 2035). Not suitable for steam, oily and aggressive fluids.

Models:	**Item no.:**
with high-efficiency pump	
Wilo-Yonos PARA RS Ku 15/6	1151065
with Wilo pump E15/1-5 - export model, only for sales outside the European Union	1151060

Description and function:

The control unit "Regufloor HX" is used for constant flow temperature control in surface heating systems. The integrated heat exchanger allows for a separation of the heating system (primary circuit) from the surface heating circuit (secondary circuit). This way, even open vented surface heating circuits which can be found in old installations can be connected. A penetration of possible corrosion products from the boiler circuit into the surface heating circuit is also prevented. Moreover, the surface heating circuits on the secondary side may be operated with a water and glycol mixture, for instance in open space heating systems.

The regulating valve on the primary side controls the set flow temperature. Temperature detection is carried out by the immersion sensor on the secondary side.

The automatic pump control steadily adjusts the pump output to the current hot water demand.

Dimensions/Connection sizes:

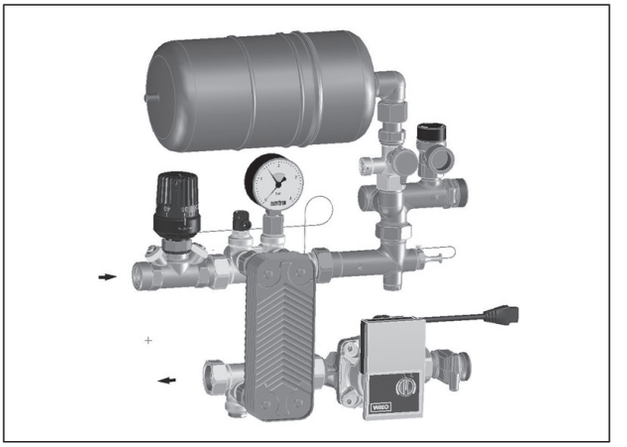
The installation depth of the control unit inside the cabinet amounts to approx. 160 mm from the leading edge of the pump head to the rear wall of the cabinet (fixing rails have been taken into account), see illustr. "Dimensions" on the right hand side. This installation depth has to be taken into account when installing the cabinet (pull out frame accordingly).

Installation advice:

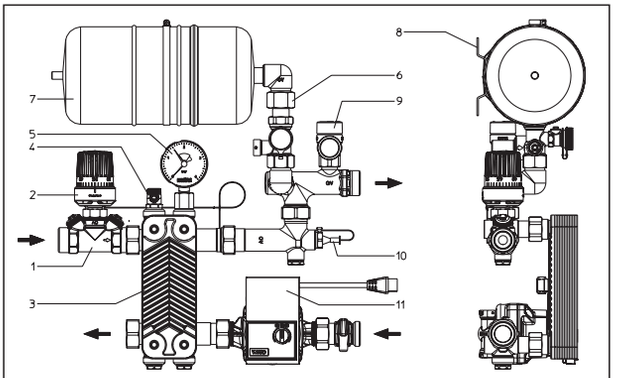
The correct flow direction must be observed when connecting the control unit to the stainless steel distributor/collector, see illustr. "Flow direction" on the right hand side.

The supply at the control unit is always located at the top and the return at the bottom.

The control unit is supplied for left hand side connection. For right hand side connection, turn the pump accordingly.

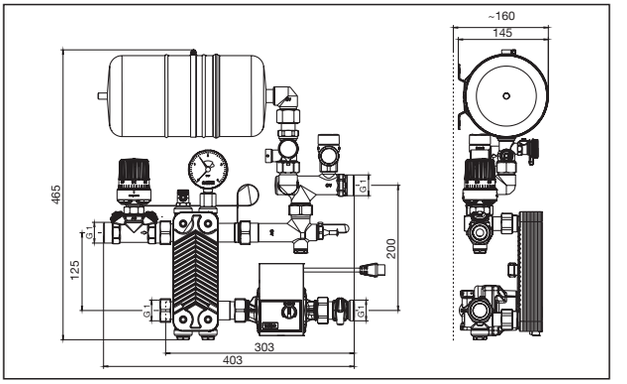


"Regufloor HX"

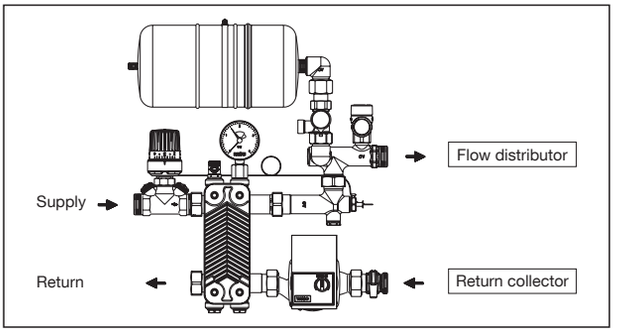


1. "Hycocon HTZ"
2. Temperature controller
3. Heat exchanger
4. Draining and venting valve
5. Pressure gauge
6. "Expa-Con" Valve with lead sealable cap
7. Diaphragm expansion tank
8. Bracket diaphragm expansion tank
9. Diaphragm safety valve
10. Immersion pocket
11. Pump

Summary



Dimensions



Flow direction

Performance data:

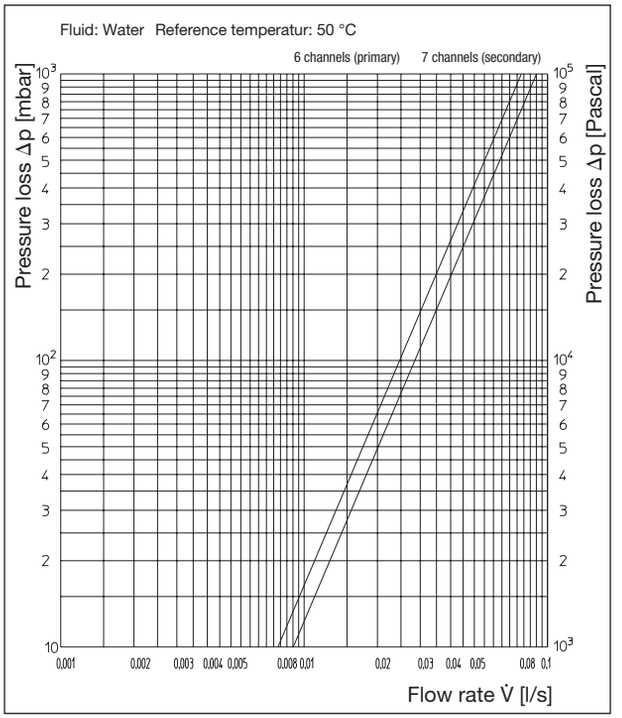


Chart heat exchanger

Max. system volume related to the expansion tank (volume 3 l) depending on the flow temperature

Conversion of the max. system volume to the possible pipe length related to the pipe dimension.

When cold, the water volume of the expansion tank amounts to 0.6 l (corresponds to 20% of the tank volume (3 l), according to DIN 12828 appendix D.2).

Flow temperature	Vmax	17 x 2	16 x 2	14 x 2
30 °C	220 l	1665 m	1945 m	2800 m
35 °C	150 l	1130 m	1325 m	1905 m
40 °C	115 l	865 m	1015 m	1460 m
45 °C	90 l	675 m	795 m	1145 m
50 °C	80 l	600 m	705 m	1015 m
55 °C	60 l	450 m	530 m	760 m

Example:

Given:

Required total heat output of the surface heating system: $Q = 7000$ W

Temperature difference: $\Delta t = 10$ K (45/35 K)

Available differential pressure (pump primary side): $\Delta p = 300$ mbar

Pressure loss boiler circuit (primary side): $\Delta p = 200$ mbar

Result:

Flow rate:

$$q_m = \frac{Q}{(c \times \Delta t)}$$

$$q_m = \frac{7000}{(1.163 \times 10)} \frac{kg}{h}$$

$$q_m = 602 \frac{kg}{h} = 0.170 \text{ l/s}$$

Pressure loss heat exchanger: $\Delta p = 45$ mbar (taken from chart heat exchanger)

Pressure loss at “Hycocon HTZ”: $\Delta p = 300 - (200 + 45)$ mbar
$\Delta p = 55$ mbar

Setting at “Hycocon HTZ”: 2.5 turns (taken from chart “Hycocon HTZ”)

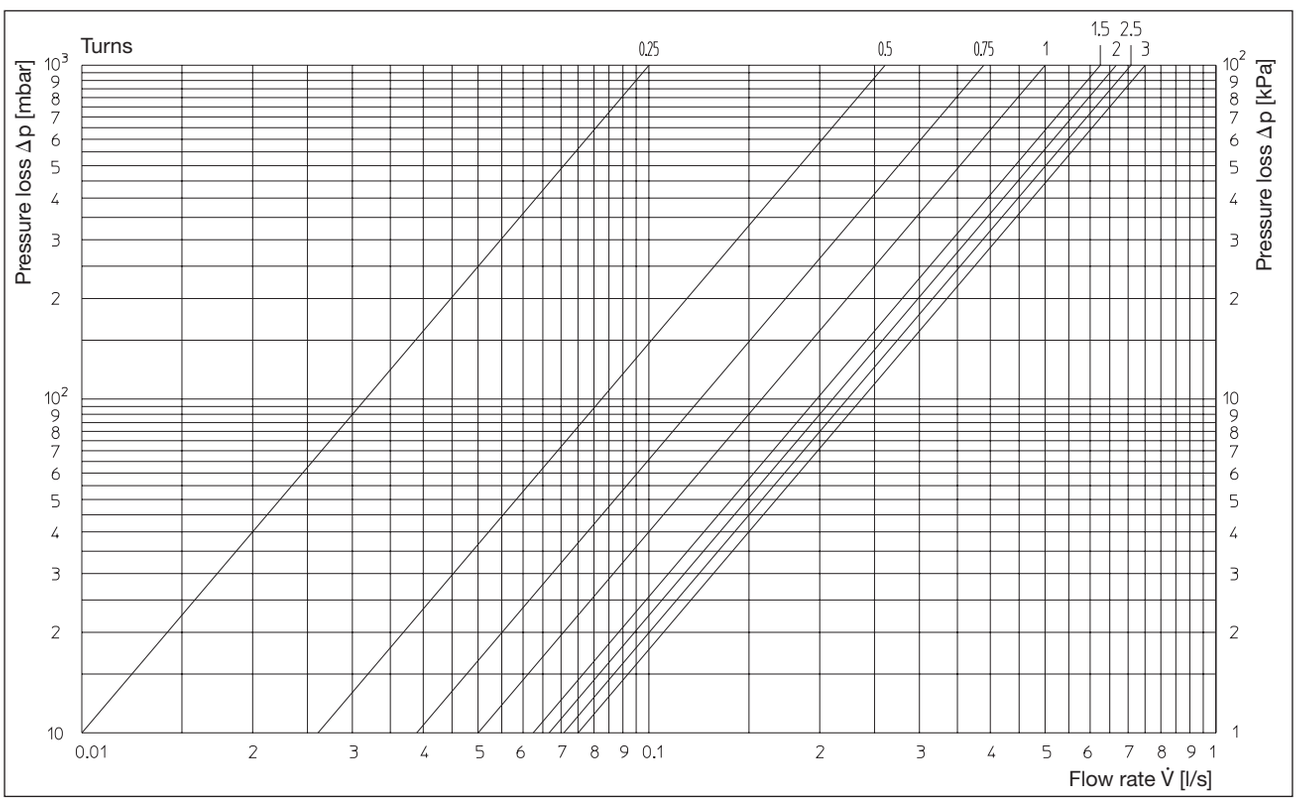


Chart regulating valve “Hycocon HTZ”

Subject to technical modifications without notice.

Product range 2
ti 200-EN/10/MW
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