Calculation and Selection - Compact Heat Meter

Initial data

3000 W	Heat load	**90 / 70 °C**	Flow and return temperature
		90 °C	Maximum water temperature at the flow meter installation place

Calculation results

1003 -0.156 *90 -0.0029 *90^2 = 966 [kg/m3]	Water density in the heating system t=90°C
4.187 [kJ/kg °C]	Specific heat capacity of water
(3.6 *3000) / (4.187 *(90-70)) /966 = 0.134 [m3/h]	Estimated water flow rate
Qmin 0.006 < 0.134 [m3/h] < Qn 0.6	Estimated water flow in the measuring range of the flow meter
17 [kPa] *(0.134 [m3/h] / 0.6 [m3/h])^2 = 0.85 [kPa]	Pressure loss across the flow meter at estimated flow rate
[0.134 m3/h] / {3600 *3.14 *([DN15] *0.001)^2 *0.25} = = 0.2 [m/s]	The flow rate is within normal limits V < 3.0[m/s]

Selection result : Compact heat meter

Landis Gyr : T 330

Germany

Qmax 1.2 [m3/h]	Maximum flow rate
Qn 0.6 [m3/h]	**Nominal flow rate**
Qmin 0.006 [m3/h]	Minimum flow rate
Class : 2	Accuracy class according to EN 1434-1
dT 3.0 ... 80°C	The temperature difference that ensures the measurement accuracy of the corresponding class
ultrasonic	Type of flow meter
DN 15 [mm]	Nominal diameter of the flow meter
PN 16 [bar]	Nominal pressure of the flow meter
T 5.0 ... 105°C	Permissible water temperatures for the flow meter
dP 17 [kPa]	Pressure loss across the flow meter at nominal flow rate QN0.6 [m3/h]
Pt500	Type of temperature sensor
T 0 ... 180°C	Permissible water temperatures for the temperature sensors