

Tender specification:

The Oventrop dwelling stations “Regudis W-HTF” with circulation pipe supply heating water as well as cold and hot potable water to individual dwellings without using auxiliary energy. The hot water for heating purposes is provided by a central heat supply. The potable water is heated locally via a heat exchanger according to the continuous flow principle.

The model with variable temperature heating circuit features a thermostatic flow temperature control with integrated high-efficiency pump for the low temperature range.

All models are equipped with a potable water circulation pipe.

Advantages:

- time- and cost-saving installation as only three supply pipes are required in one riser for all dwellings
- depth 110 mm, therefore especially suitable for wall integration
- hygienic hot potable water preparation according to the continuous flow principle
- no auxiliary energy required for heat distribution (model with constant temperature heating circuit)
- no potable water reserve required
- hydronic and thermal control of hot potable water preparation
- setting of the potable water temperature at the temperature controller
- thermostatic flow temperature control of the heating circuit for the model with variable temperature heating circuit and thus suitable for the connection of an underfloor heating distributor/collector
- piping of the station and heat exchanger made of high-quality stainless steel
- station completely pre-assembled on a base plate, leakage and function tested at works
- heat exchanger resistant to furring due to the thermal compensation which is achieved through the installation position, sufficient thermal length and the type of hydronic connection
- a cold water meter and a heat meter can be integrated into the station and allow for an exact calculation of the water and energy consumption of each dwelling

Function:

The hot potable water preparation is controlled by a proportional flow controller with hydronic control without auxiliary energy. When drawing off water, the heating water of the central heat supply passes across the plate heat exchanger which warms up the potable water. The heating circuit is interrupted during this time (potable water priority function).

A heating circuit flow temperature between 20 °C and 50 °C is guaranteed by the thermostatic control of the model with various temperature heating circuit featuring a high-efficiency pump (Wilo Yonos PARA RS 15/1-6 RKA).

The potable water circulation guarantees the immediate availability of hot potable water at all draw off points. The circulation pump (Wilo Star-Z Nova C) is controlled via an adjustable timer. An actuator on the heating side guarantees that hot fluid passes across the heat exchanger during circulation operation only.

- The installation of a heated potable water system must be carried out in accordance with the valid standards, approved rules of technology and local regulations! The national standards and regulations must be observed!
- Especially when operating a circulation system, the hygiene regulations according to the DVGW work sheet W551 must be observed!
- According to the DVGW work sheet W551, dwelling stations are small installations if the pipe content of each potable water pipe behind the station does not exceed 3 litres. As a result, the following pipe lengths for copper and stainless steel pipes must not be exceeded:

	da [mm]	di [mm]	V/L [l/m]	lmax [m]
DN 10	12	10	0.08	37.9
DN 12	15	13	0.13	22.6
DN 15	18	16	0.20	14.9
DN 20	22	20	0.31	9.5
DN 25	28	25	0.49	6.1

Models “Regudis W- HTF” with constant temperature heating circuit and circulation pipe

Performance range		1	2	3
Heat exchanger	Cu			1341642
	Ni			1341662



“Regudis W-HTF” with constant temperature heating circuit and circulation pipe

Models “Regudis W- HTF” with variable temperature heating circuit and circulation pipe

Performance range		1	2	3
Heat exchanger	Cu			1341442
	Ni			1341462



“Regudis W-HTF” with variable temperature heating circuit and circulation pipe

Performance range of variable temperature heating circuit:
Up to 9 kW or a heating surface up to 120 m² with a heat demand of approx. 75 W/m²:

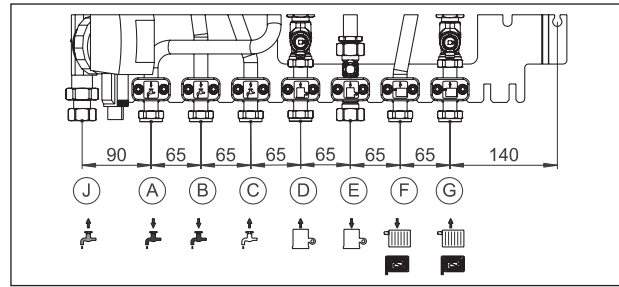
$V_{\text{Heating circuit}} = 1000 \text{ l/h}$ and $\Delta t = 8 \text{ K}$

Technical data:

Nominal size:	DN 20
Max. operating pressure p_s :	10 bar
Max. operating temperature t_s :	90 °C
(Heating water - supply)	
Min. cold water pressure:	
without flow limiter:	2.0 bar
with flow limiter:	2.5 bar
Min. differential pressure supply:	300 mbar
Draw off temperature $t_{\text{draw off}}$:	40-70 °C
Min. flow temperature:	$t_{\text{draw off}} + 15 \text{ K}$
Connections:	G $\frac{3}{4}$ collar nut, flat sealing
Performance range 1:	
Nominal draw off capacity (PWH):	12 l/min
Draw off capacity at dT 35 K:	29 KW
Performance range 2:	
Nominal draw off capacity (PWH):	15 l/min
Draw off capacity at dT 35 K:	36 KW
Performance range 3:	
Nominal draw off capacity (PWH):	17 l/min
Draw off capacity at dT 35 K:	42 KW
Fluid primary side:	Heating water
Fluid secondary side:	Potable water
Materials:	
Plate heat exchanger:	Stainless steel 1.4401 / brazed copper or nickel
Pipes:	Stainless steel 1.4404 / 1.4401
Valves and fittings:	Brass/ brass resistant to dezincification
Seals:	EPDM / PTFE

Note:

- A copper or nickel brazed stainless steel plate heat exchanger is part of the dwelling station “Regudis W-HTF”. The specifying engineer and the user of the system are responsible to incorporate and evaluate substances and other factors in the water, which influence corrosion and the formation of calcium deposits. Please observe the document “Demands on potable water when using the Oventrop fresh water and dwelling stations”, see www.ventrop.com.
- When using a heat meter, it is recommended to only use heat meters with quick sampling rate at one second intervals and with integrated return sensor in the body.
- An electric sensor attached to the pipe with concealed temperature setting for the max. limitation of the flow temperature in surface heating systems is available as accessory. Further accessories can be found in the catalogue “Products” or on the Internet under www.ventrop.com.



Connections

Potable water dwelling	Supply
A – Potable water hot	C – Cold water supply
B – Potable water cold	D – Heating water supply
J – Circulation pipe return	E – Heating water return

Heating circuit dwelling
F – Heating circuit supply
G – Heating circuit return

Nominal draw off capacity

Since 01.04.2016, the Oventrop dwelling stations are no longer supplied with flow limiters for the limitation of the maximum potable water draw off capacity.

The use of different plate heat exchangers allows for the adaptation of the performance range to the individual requirements.

Performance range 1: Nominal draw off capacity 12 l/min.

Performance range 2: Nominal draw off capacity 15 l/min.

Performance range 3: Nominal draw off capacity 17 l/min.

Draw off temperature $t_{\text{draw off}}$

The draw off temperature is adjustable between 40 °C and 70 °C and remains constant within the performance range. If the nominal draw off capacity is exceeded, $t_{\text{draw off}}$ may drop below the set value.

The nominal draw off capacity depends on the selected performance range and the flow temperature of the heating water.

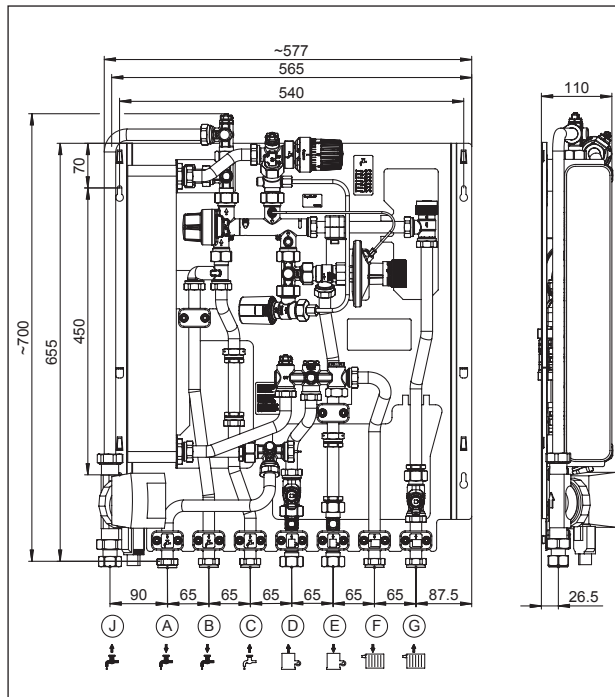
The indicated performance range (nominal draw off capacity 12/15/17 l/min.) is related to a heating water flow temperature lying 15 K above the set draw off temperature (temperature difference of 15 K). If the temperature difference exceeds 15 K, the effective draw off capacity increases.

Flow limiters for the limitation of the potable water draw off capacity are available as accessory.

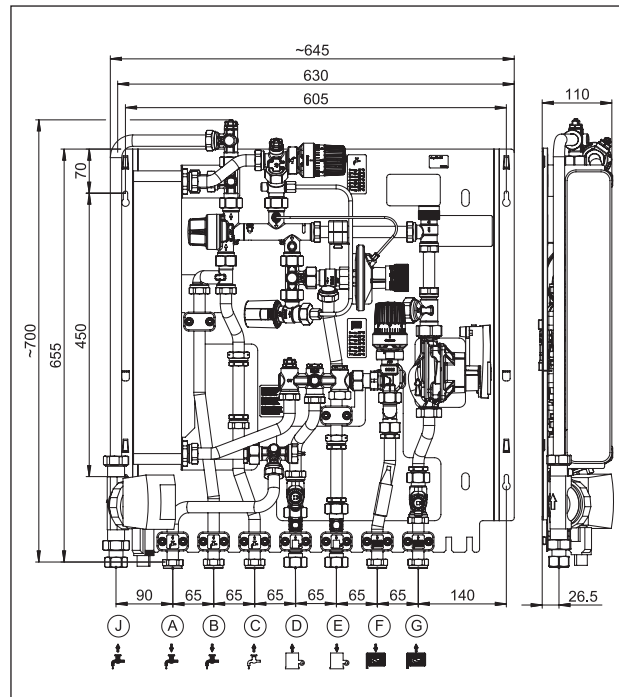
Item no.:

Draw off capacity limitation 12 l/min.:	1349980
Draw off capacity limitation 15 l/min.:	1349981
Draw off capacity limitation 17 l/min.:	1349982

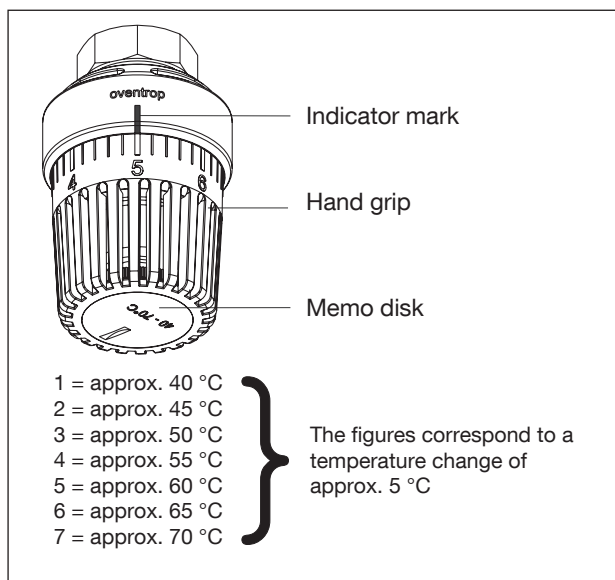
When leaving the factory, the differential pressure regulator is set to 150 mbar. Higher settings provoke an increase of the draw off capacity but may lead to noises in the heating circuit (the delivery capacity of the supply pump must be observed!).



Dimensions with constant temperature heating circuit



Dimensions with variable temperature heating circuit



Temperature controller - Potable water

Setting of the potable water temperature controller:

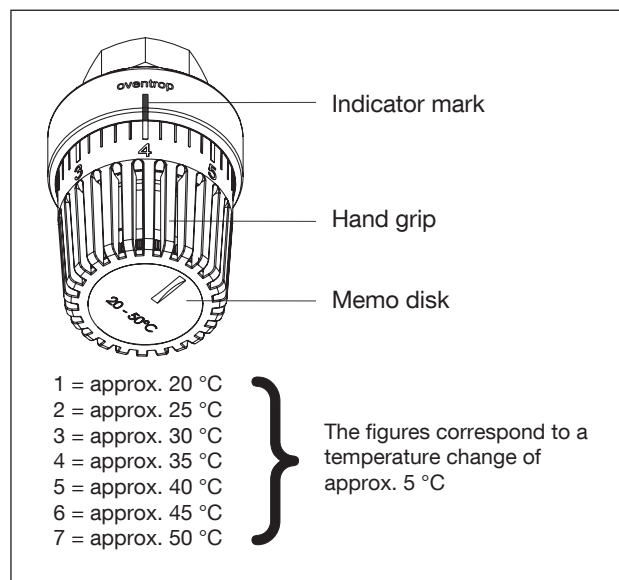
When leaving the factory, the temperature controller is set to position 5. This corresponds to a potable water temperature of approx. 60 °C. The setting can be adjusted to the required potable water temperature.

Control range: 40 - 70 °C

Note:

High system temperatures may enhance corrosion and the formation of calcium deposits. The specifying engineer and the user of the system are responsible to evaluate these factors and to take preventive measures if required (e.g. water treatment).

Risk of scalding! Outlet temperatures exceeding 43 °C can lead to scalding.



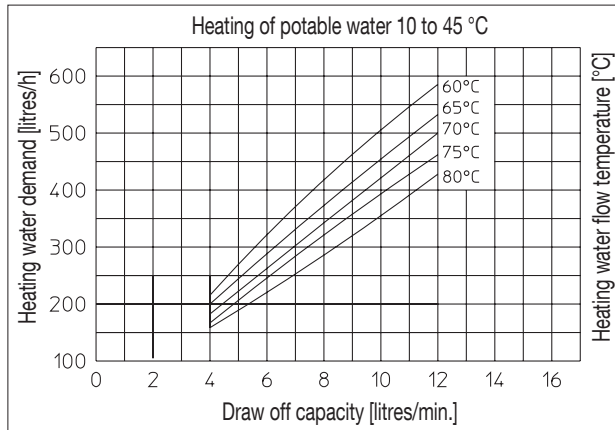
Temperature controller - Heating circuit

Setting of the flow temperature of the heating circuit (only for variable temperature heating circuit)

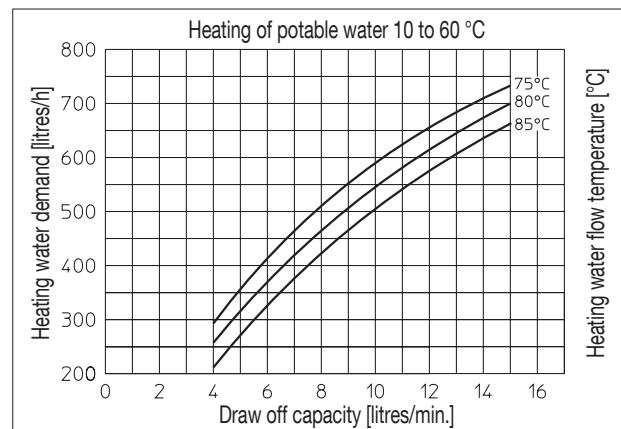
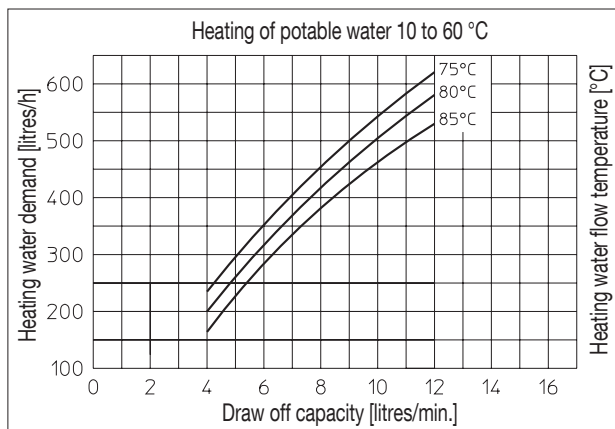
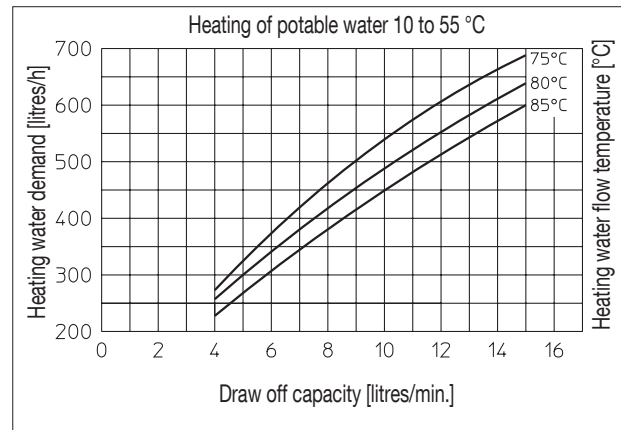
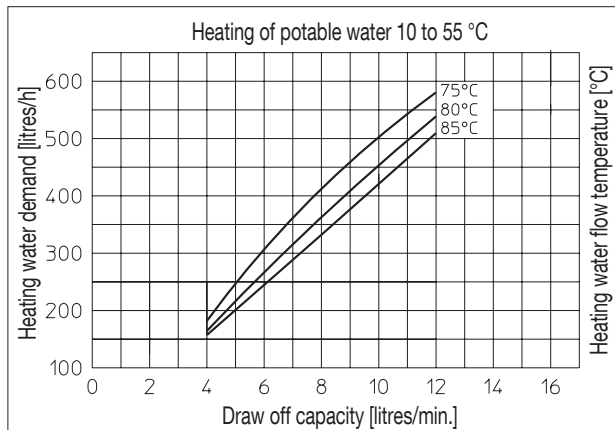
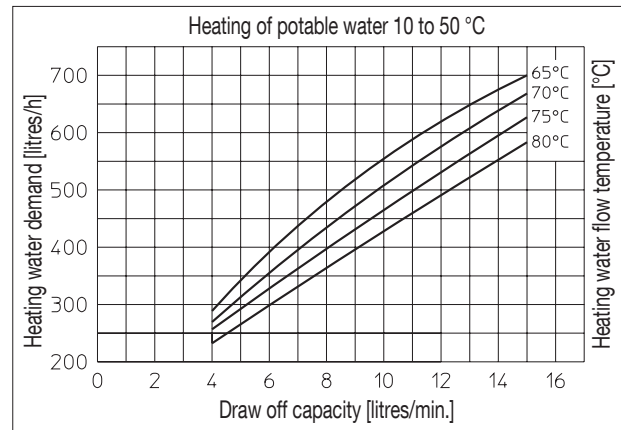
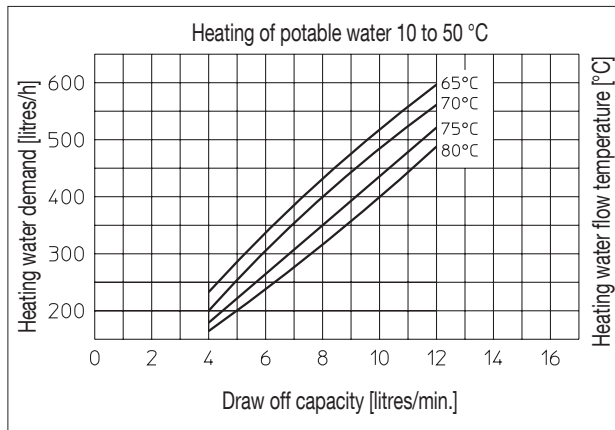
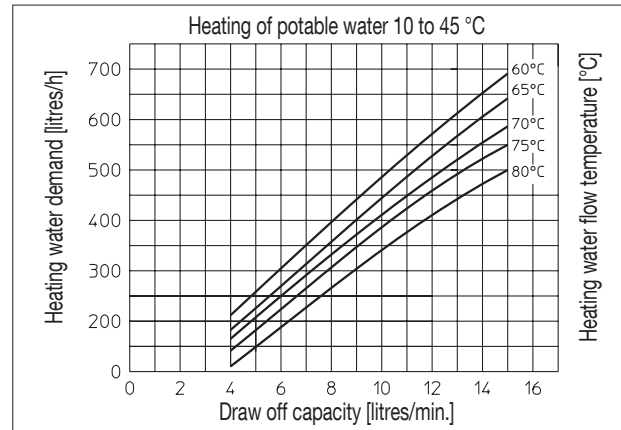
When leaving the factory, the temperature controller is set to position 4. This corresponds to a heating water temperature of approx. 35 °C. The setting can be adjusted to the required heating water temperature.

Control range: 20 – 50 °C

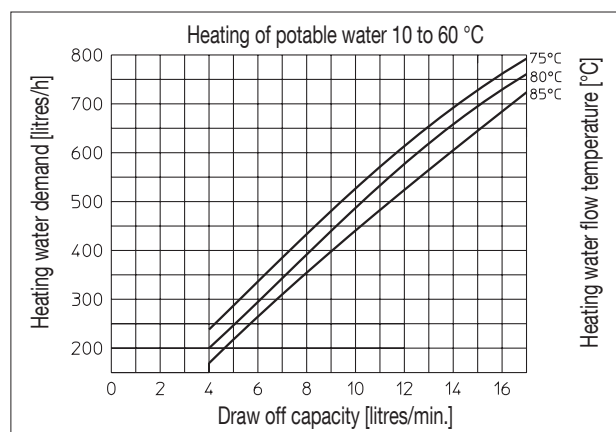
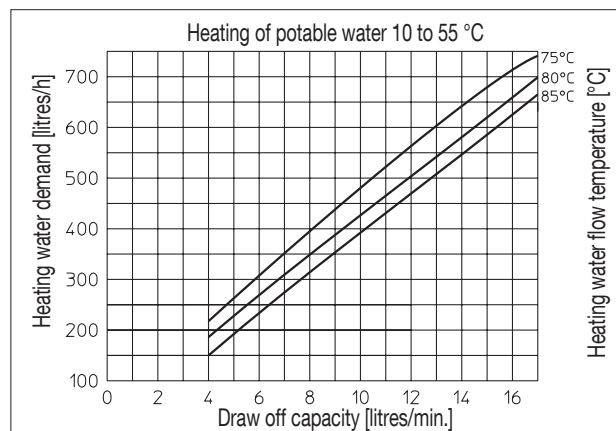
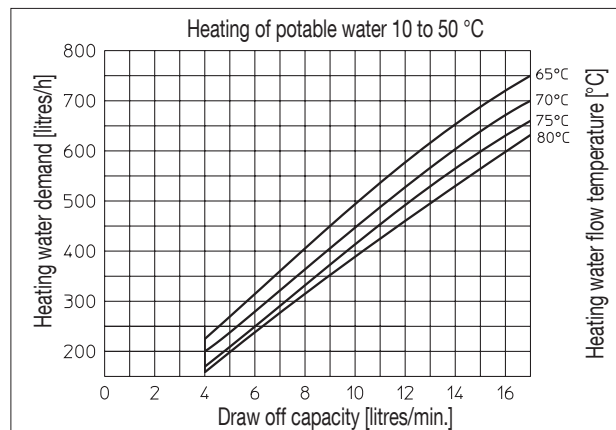
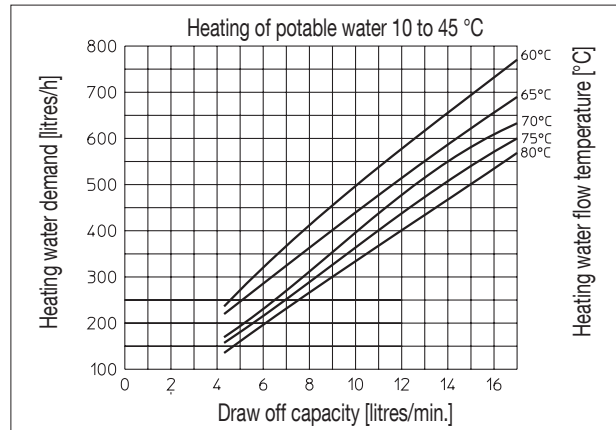
Heating water demand – Performance range 1



Heating water demand – Performance range 2



Heating water demand – Performance range 3



Return temperatures performance range 1 – 12 l/min

Potable water temperature from 10 °C to	45 °C	50 °C	55 °C	60 °C
Flow temperature [°C]				
60 °C	19 °C			
65 °C	18 °C	20 °C		
70 °C	18 °C	19 °C		
75 °C	17 °C	19 °C	20 °C	22 °C
80 °C	16 °C	18 °C	20 °C	22 °C
85 °C			20 °C	22 °C

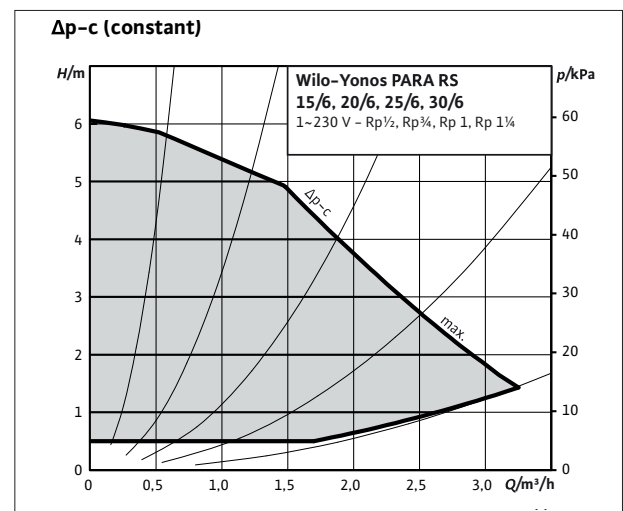
Return temperatures performance range 2 – 15 l/min

Potable water temperature from 10 °C to	45 °C	50 °C	55 °C	60 °C
Flow temperature [°C]				
60 °C	19 °C			
65 °C	19 °C	19 °C		
70 °C	18 °C	19 °C		
75 °C	17 °C	18 °C	19 °C	21 °C
80 °C	16 °C	17 °C	19 °C	21 °C
85 °C			19 °C	21 °C

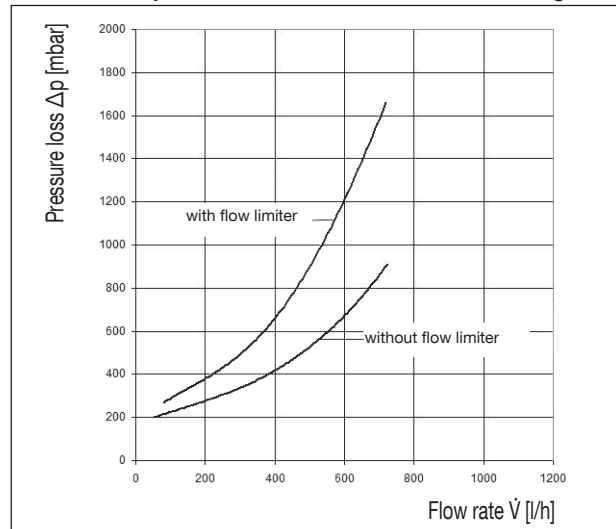
Return temperatures performance range 3 – 17 l/min

Potable water temperature from 10 °C to	45 °C	50 °C	55 °C	60 °C
Flow temperature [°C]				
60 °C	16 °C			
65 °C	15 °C	17 °C		
70 °C	14 °C	16 °C		
75 °C	14 °C	16 °C	17 °C	19 °C
80 °C	14 °C	15 °C	17 °C	18 °C
85 °C			16 °C	17 °C

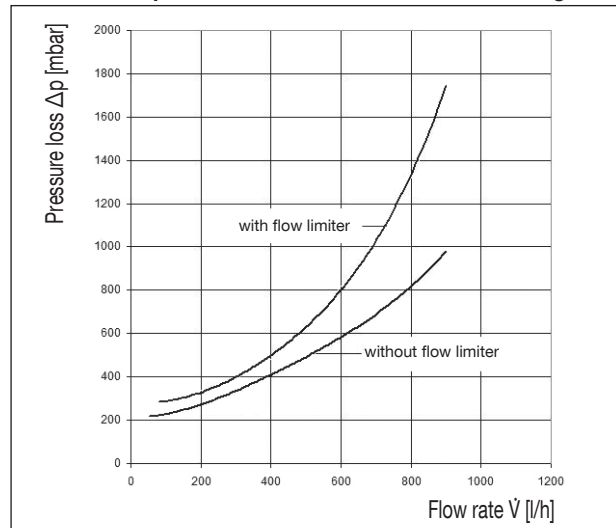
Pump characteristic line PARA RS 15/1-6 RKA



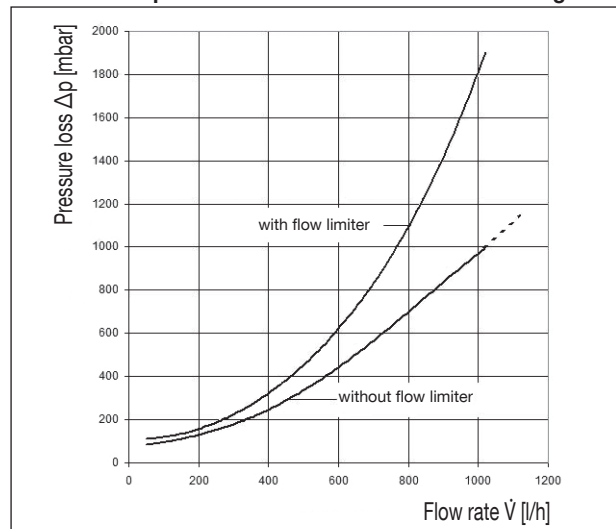
Pressure loss potable water circuit – Performance range 1



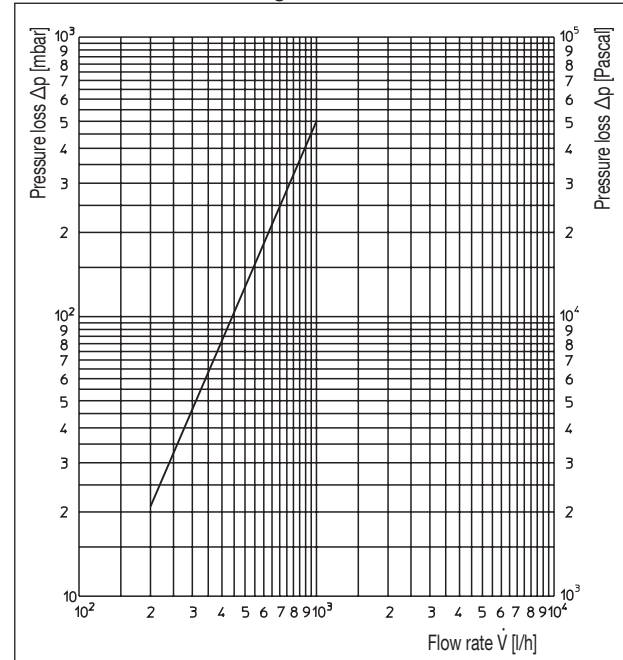
Pressure loss potable water circuit – Performance range 2



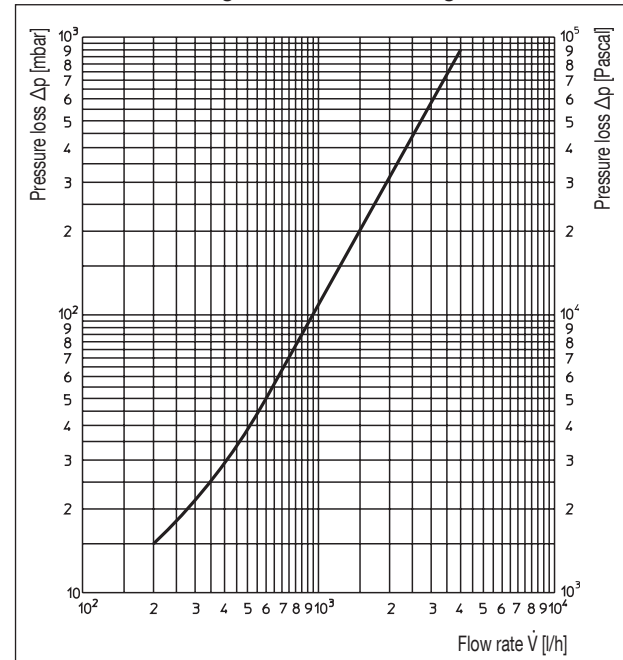
Pressure loss potable water circuit – Performance range 3



Pressure loss total heating water circuit



Pressure loss heating water circuit - Mixing function



Accessories:

Accessories:	Item no.:
Flow limiter	
Draw off capacity limitation 12 l/min.	1349980
Draw off capacity limitation 15 l/min.	1349981
Draw off capacity limitation 17 l/min.	1349982
Ball valve connector block	1341180
Ball valve connection set - circulation pipe	1341184
Flush-mounted cabinet - long model	1341175
Surface-mounted cabinet - long model	1341198
Derivative temperature control set	1341188
Connection set for stainless steel distributor/collector “Multidis SF”	1341187
Plug for temperature sensor (heat meter)	1349051
Electric sensor attached to the pipe (with concealed temperature setting - control range 20°C - 90 °C)	1143000

Subject to technical modifications without notice.

Product range 3.1
ti 328-EN/10/MW
Edition 2019

The complete range of accessories can be found in the catalogue “Products” or on the Internet under www.oventrop.de.