

Tender specification:

The Oventrop energy storage centres “Regucor WHS” is a system of modular construction for the solar-assisted of detached and semi-detached houses with heat and hot water.

The storage cylinder and the add-on groups are co-ordinated functionally and thermodynamically. With integrated piping and plug-in cabling.

For combination with classic (e.g. gas/oil) or regenerative heat generators (e.g. heat pump/solid fuels) in existing and new buildings.

Advantages:

- high energy efficiency during heat storage and heat supply
- time- and cost-saving assembly and pipe installation due to internal pipework, pre-assembled product groups and only one connection level to the domestic installation
- especially suitable for existing and new detached and semi-detached houses
- system temperatures visible at a glance
- heating circuit group, fresh water station and solar station with high-efficiency pumps
- hydraulically co-ordinated components for heat storage and heat supply
- realization of regenerative pipework configurations (solar, solid fuel, etc.)
- all three return pipes (heating circuit 1 + 2 and fresh water) are connected to the layering devices of the buffer storage cylinder. A stable temperature layering is thus guaranteed (important during potable water circulation operation!)
- low heat loss as the product group is connected to the lower section of the storage cylinder (lowest temperature level)

Consisting of:

Solar buffer storage cylinder	Type 500	Type 800	Type 1000
	Item no.	Item no.	Item no.
Heat exchanger made of stainless steel, copper brazed	1383645*	1383550	1383555
Heat exchanger made of stainless steel, nickel brazed	-	1383562	1383567
Nominal content	475 l	706 l	839 l
Total height (without insulation)	1720 mm	1775 mm	2055 mm
Diameter (without insulation)	650 mm	790 mm	790 mm
Max. pivot height (without insulation)	1770 mm	1810 mm	2100 mm
Surface plain tube heat exchanger	2.4 m ²	3.1 m ²	3.4 m ²
Connections	8 x G 1 1/2 female thread		
Max. operating pressure storage cylinder	3 bar		
Max. operating pressure solar heating coil	10 bar		
Continuous operation temperature storage cylinder	max. 95 °C		
Continuous operating temperature coil	max. 110 °C		
Material insulation	Vacuum compound insulation	Fibre fleece	Fibre fleece
Thickness insulation	140 mm		
Fire protection c DIN 4102	B2	B1	B1

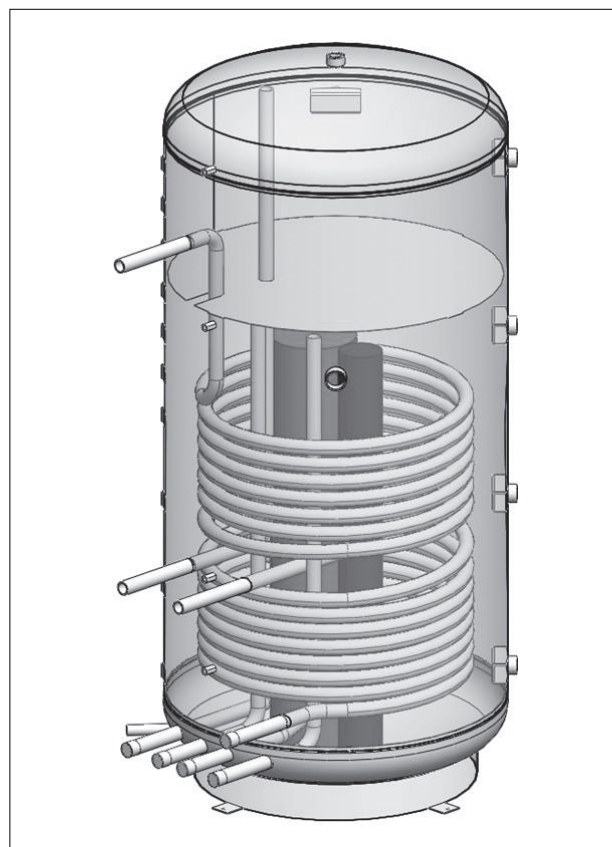
*Insulation, item no. 1383646, to be ordered separately

Integrated temperature layering devices

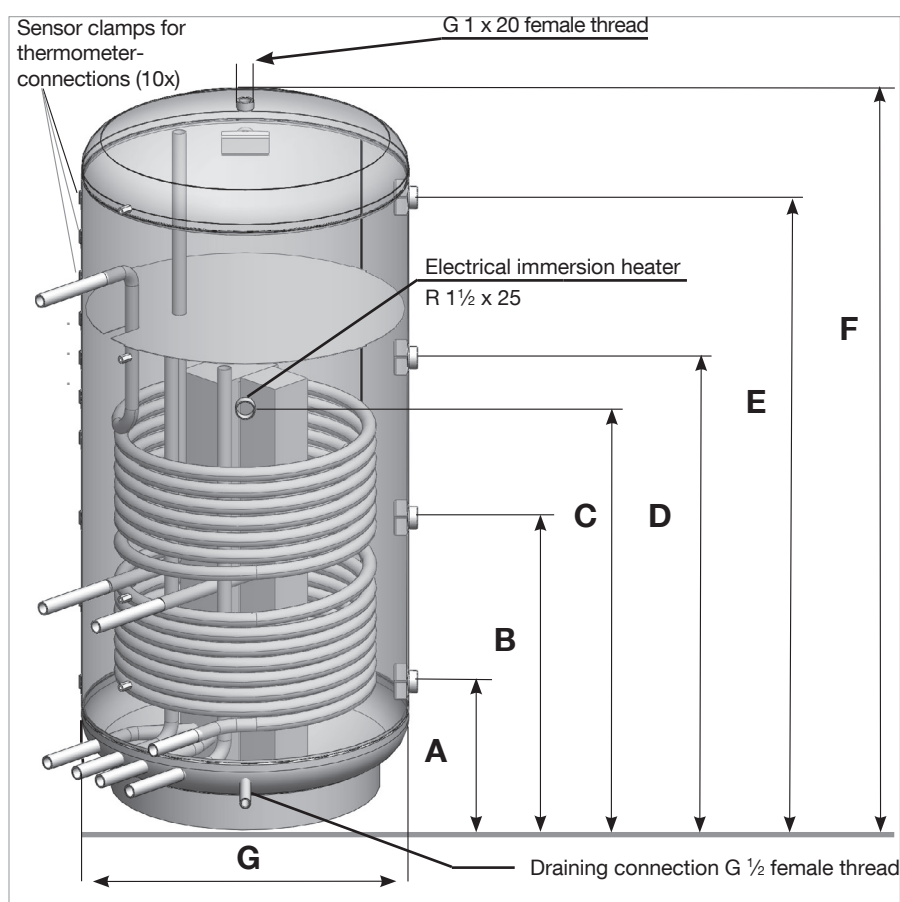
Connections and fixing points co-ordinated with “Regucor WHS” storage cylinder add-on groups



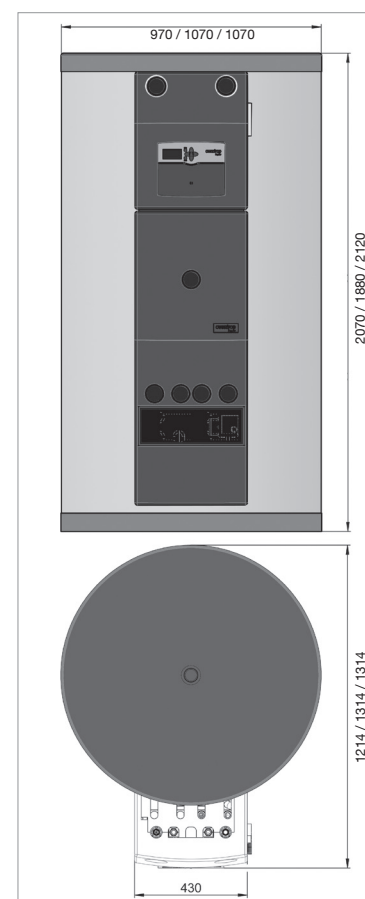
“Regucor WHS”



Solar buffer storage cylinder



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1-3 Dimensions and technical data energy storage cylinders “Regucor WHS”, types 500, 800 and 1.000

No.	Technical data	Unit	Type 500	Type 800	Type 1000	Connection size
	Energy efficiency class		A			
A	Connection	mm	220	260	260	G 1 1/2 female thread
B	Connection	mm	630	680	760	G 1 1/2 female thread
C	Electrical immersion heater	mm	975	1110	1110	R 1 1/2 x 25
D	Connection	mm	1050	1090	1260	G 1 1/2 female thread
E	Connection	mm	1460	1500	1770	G 1 1/2 female thread
F	Total height (without insulation)	mm	1720	1750	2030	
G	Diameter (without insulation)	mm	650	790	790	
	Max. pivot height (without insulation)	mm	1770	1820	2095	
	Storage cylinder insulation thickness	mm	160	140	140	
	Permissible operating pressure	bar	3	3	3	
	Permissible operating pressure (coil)	bar	10	10	10	
	Permissible operating temperature	°C	95	95	95	
	Permissible operating temperature (coil)	°C	110	110	110	
	Solar heating coil	m ²	2.4	3.1	3.4	
	Weight (incl. insulation)	kg	about 190	about 194	about 210	
	Content solar heating coil	l	15.9	20	22.9	

Add-on group: Solar:

“Regusol LH-130” DN 20, similar to item no. 1360573

Station for the connection of the solar collectors to the storage cylinder

Technical data:

Continuous operating temperature: 120 °C
 Short-term starting temperature: 160 °C
 Max. operating pressure (safety valve): 6 bar
 Safety group for riser installation
 Opening pressure check valves: 20 mbar
 Control range flow measuring and regulating device: 2-14 l/min
 High-efficiency pump: Wilo-Yonos PARA ST 15/7 PWM

Power consumption: 3 – 70 W
 Connections:
 Storage cylinder side: G 1 male thread, flat sealing
 Collector side: G ¾ male thread according to DIN EN 16313

Materials:
 Valves and fittings: Brass
 Seals: EPDM / KAUTASIT 400
 Insulation: EPP (expanded polypropylene)

Add-on group: Hot potable water preparation:

“Regumaq XH” DN 20, similar to item no. 1381042

Hydraulically controlled product assembly with heat exchanger for the hygienic hot potable water preparation according to the continuous flow principle.

Technical data:

Max. continuous operating temperature: 95 °C
 Control range potable water temperature: 40-70 °C
 Max. operating pressure (primary side): 6 bar
 Max. operating pressure (secondary side): 10 bar
 Recommended discharge capacity: 15 – 20 l/min.*

*depending on the set potable water temperature and on the existing storage cylinder temperature

k_{vs} values:
 Primary side: 1.85
 Secondary side: 0.76
 Secondary side-circulation operation: 0.96

Minimum cold water pressure (with a nominal draw off capacity of 20 l/min.): 3.5 bar*

* In case of higher draw off capacities, the potable water pressure has to be increased accordingly – see technical data sheet “Regumaq XH”

Fluid:
 Primary side: Heating water
 Secondary side: Potable water
 High-efficiency pump: Wilo-Yonos PARA RS 5/7 PWM2

Power consumption: 3-45 W
 Protective system flow switch: IP 67
 Number of heat exchanger plates: 30

Connections:
 Primary side: G 1 male thread, flat sealing
 Secondary side: G ¾ male thread, flat sealing

Materials:
 Valves and fittings: Brass / dezincification resistant brass

Seals: EPDM / AFREE 400

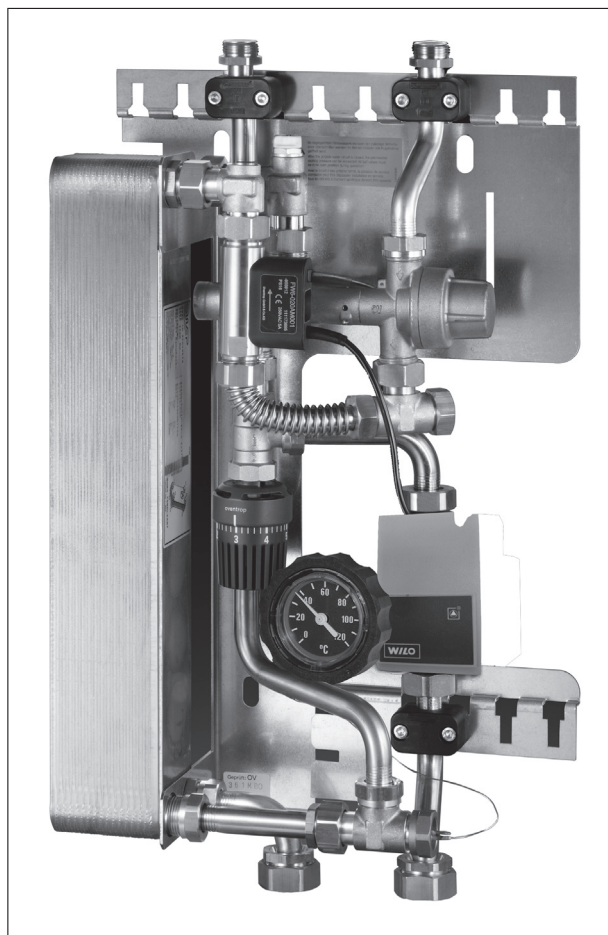
Insulation: EPP (expanded polypropylene)

Pipes: Stainless steel 1.4401 / 1.4404

Heat exchanger: Stainless steel 1.4401 / brazed copper (item no. 1383645, 1383550/55)
 Stainless steel 1.4404 / brazed nickel (item no. 1383562/67)



Add-on group: Solar



Add-on group: Hot potable water preparation

Add-on group: Heating circuit:

“Regumat M3-130” DN 20, similar to item no. 1355059

Station for the connection of the storage cylinder to the heating circuit and the weather guided flow temperature control.

Technical data:

Max. continuous operating temperature:	95 °C
Max. operating pressure:	10 bar
Opening pressure check valve:	20 mbar
k _v value:	5.1
Max. transmission capacity:	37 kW (ΔT = 20 K, Δp = 100 mbar)
Fluid:	Heating water
High-efficiency pump:	Wilo Stratos PICO 15/1-6
Power consumption:	3-40 W
Actuator:	230 V, 90° / 140 sec., 5 Nm
Power consumption:	2.5 W
Connections:	
Heating circuit side:	G 1 male thread, flat sealing
Storage cylinder side:	G 1 male thread, flat sealing
Materials:	
Valves and fittings:	Brass
Seals:	EPDM / KAUTASIT 400
Insulation:	EPP (expanded polypropylene)



Add-on group: Heating circuit

Multifunctional system controller:

Similar to item no. 1369555

“Regtronic RS” for the control of the energy storage centre “Regucor” and further system components. Up to 13 free inputs and up to 9 free solid-state relay outputs.

S-bus for the connection to the data logger “CS-BS”, SD-card slot for data recording. The SD-card slot is equipped with an SD card with 9 preloaded system diagrams.

Accessories:

Electrical immersion heater 9 kW with controller/limiter combination, item no. 1383594

The following accessories are required for the extension of the connection pipes for storage cylinder loading and for the extension of the electrical immersion heater connection:

Extension for electrical immersion heater
G 1½ female thread x G 1½ female thread, item no. 1383592

Extension for connection pipe for storage cylinder loading
G 1½ male thread x G 1½ male thread, item no. 1383593

Two extensions for the connection pipes for storage cylinder loading are included in the delivery!

Note:

A copper or nickel brazed stainless steel heat exchanger is part of the energy storage centre “Regucor WHS”.

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 Oventrop fresh water and dwelling stations”, see www.ventrop.com.

Further accessories can be found in our catalogue “Products” and on our homepage www.ventrop.com.

Further technical data and charts can be found in the technical data sheets of the individual components!



System controller

Subject to technical modifications without notice.

Product range 10
ti 302-EN/10/MW
Edition 2018