STRATIFIED TANK ACCESSORIES mastersolar

SPHERICAL EXCHANGER

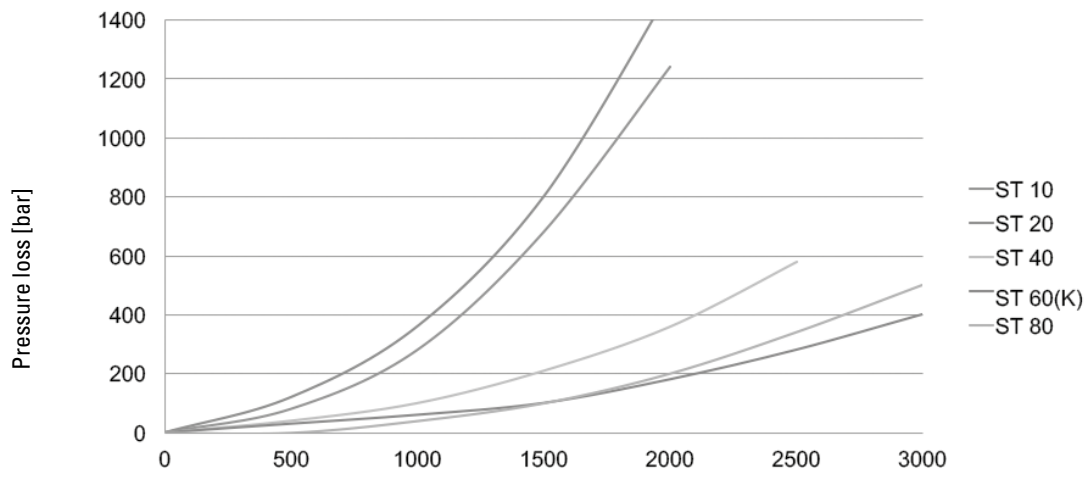
Spherical exchanger for solar stratified tank Pro-Clean® / 2WR / Pro-Heat

The spherical exchanger ensures optimum charging of the stratified tank. Includes an integrated copper finned tube heat exchanger.
4 x connection flange for assembly on the stratified tank are included in delivery.

General information

Type	ST 10	ST 20	ST 40	ST 60K	ST 60	ST 80
Item no.	**1620093**	**1620094**	**1620095**	**1620002**	**1620003**	**1620123**
Material	Housing: S 235 JR/heat exchanger: Cu					
Installation	Install via flange to Pro-Clean® and Pro-Heat tank					
Housing Max. operating pressure / max temp.	3 bar / 110°C					
Heat exchanger Max. operating pressure / max temp.	10 bar / 110°C					
Height without insulation	1457 mm			1457 mm	1927 mm	1927 mm
Diameter without insulation	216 mm				300 mm	
Connection dimension	3/4"	3/4"	1"	5/4"	5/4"	5/4"
Total volume with heat exchanger	32 lt			67,5 lt		82,5 lt
Volume of housing without heat exchanger	29,9 lt	29,6 lt	27,8 lt	60 lt		80,5 lt
Heat exchanger volume	2,1 lt	2,4 lt	4,2 lt	7,5 lt		12 lt
Empty weight	40 kg	44 kg	50 kg	59 kg	61 kg	72 kg
Heat exchanger outer diameter	190 mm			257 mm		257 mm
Length (insertion depth) **of heat exchanger**	570 mm	665 mm	850 mm	980 mm		1200 mm
Surface area of heat exchanger	2,63 m^2	3,87 m^2	5,5 m^2	9,5 m^2		13,0 m^2
Max. recommended collector surface area	10 m^2	20 m^2	40 m^2	60 m^2		80 m^2

Pressure loss spherical exchanger

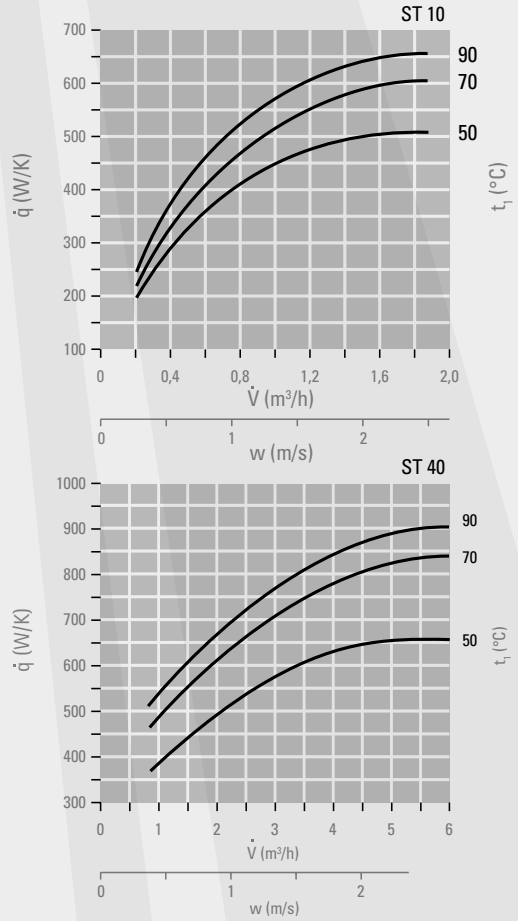


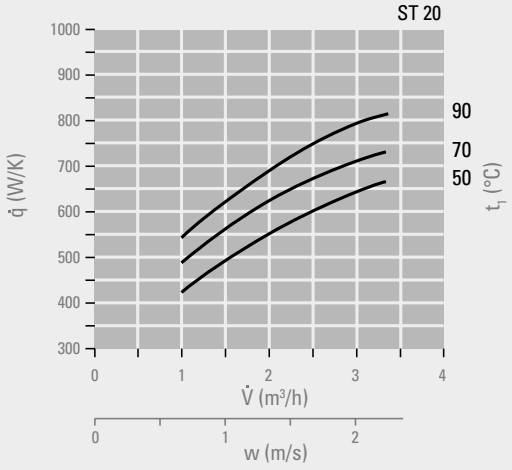
1) All size specifications have a tolerance range of +/- 3%

STRATIFIED TANK ACCESSORIES mastersolar

SPHERICAL EXCHANGER

Finned tube heat exchanger performance curves





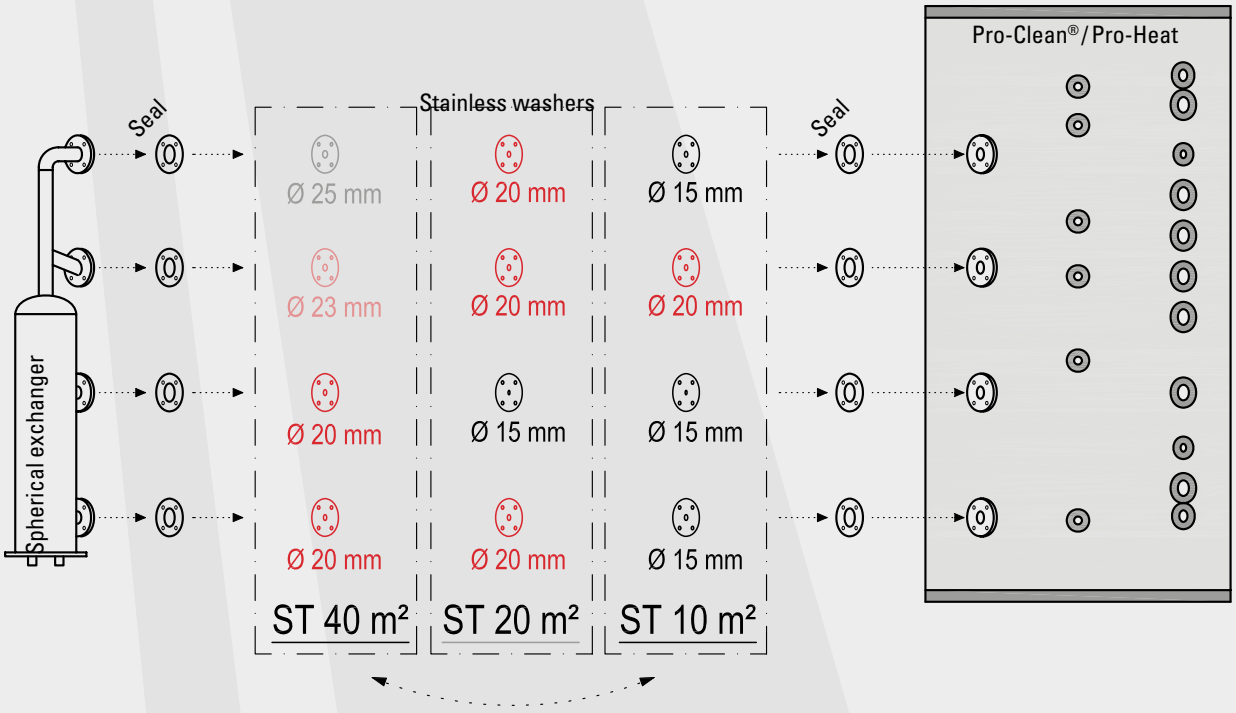
Power

Q [W]	Output to be transferred
q [W/K]	Output per 1 K temperature difference
t1 [°C]	Heating water on entry
ts [°C]	Average tank temperature
V [m³/h]	Heating water volume flow
w [m/s]	Heating water velocity (should not be greater than 1.8 m/s if possible)

Formula for calculation: Q = f1 x q x (t1-ts)

f1 = Factor for frost protection: 0.85 (for 40% antifreeze content)

SPHERICAL EXCHANGER INSTALLATION



No layer washers are installed in ST 60K, ST 60 and ST 80.