Heating & Chilling

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Heater made of glass and other materials

AquaCare offers heater made of glass, porcelain, PTFE (Teflon) and stainless steel. You can choose between 500…5,000 W power.

Technical Data

Diameter of the heaters in mm:
Glass and porcelain Ø 48;
PTFE Ø 49,
stainless steel Ø 42;
power cable 1.5 m with Schuko-plug (other connectors on request)
starting with 1,500 W 3P-Version (400V) available, too.

Power in Watt	Length in mm*	Immersion depth in mm*
500	350	250
750	450	350
1000	600	450
1500	600	450
2000	800	600
2500	800	600
3000	800	600
5000	1100	900

* applies to glass heaters.

The heater has to be immersed minimum to the minimum immersion depth during operation. Before putting out of the water the heater has to cool down for minimum 15 min. Connections has to be done by authorized personnel in accordance with local regulations only. The heater should be protected by installation of a run dry protection, installation of the level control, installation of a thermal protection. Fragile heater have to be protected against mechanical forces.

Heat exchanger made of plastic for heating and chilling

Titanium and plastics are the main materials for heat exchangers used in sea water tanks. Titanium has a higher heat transfer coefficient and so the dimensions are smaller. The pressure losses of titanium exchangers are normally higher. Titanium is under suspicion to shed metal ions into the water. These ions may accumulated and hurt sensitive sea animals.
Heat exchangers made of PE-RT are totally inert, that means that any substance will reach the water. Disadvantage is the lower heat transfer coefficient that causes larger dimensions of the units. Exchangers made of PE-RT (RT-plastics have a higher heat transfer coefficient that normal PE) are perfectly suitable for sea water tanks.

Dimensioning

For dimensioning a heat exchanger we need following data for an offer:

- Maximum water temperature of the aquarium
- Water flow of the main pump that should be connected to the heat exchanger
- Temperature of the cooling / heating medium (e.g. well water)
- Needed power in kW of the exchanger: for a rough calculation please add the power of all pumps and lights

Technical data

The pressure lees at the aquarium side is only some mbar; in the other side only some 10 mbar.
Material: PE-RT; maximum pressure 8 bar at 20°C, 6 bar at 40°C, 4 bar at 60°C, 2 bar at 90°C