

Description

Taco ES2 SOLAR is a wet rotor high efficiency circulator, driven by a permanent magnets synchronous motor (PM motor) controlled by an on board inverter. The motor is protected against overload thanks to a thermal protection and an automatic electronic release function of the rotor. No external protection is required. Operated by selector technology. LED user interface.

Application

Renewable energy solar thermal systems, biomass boilers and hot water heating systems of any kind.

Energy efficiency index

IEE \leq 0,21 - Part 2*

Product features and benefits

- Very high degrees of efficiency due to Taco permanent magnets motor
- Compact design: the smallest available on the market
- Hydraulics designed for solar thermal systems
- The pump housing is cataphoresis treated (KTL) and resistant to corrosion
- A LED provides information about the operation status of the circulator
- Min-Max mode: allows to set the exact working point across the range
- Wide temperature limit from + 2 °C to + 110 °C, ideal for renewable energy solar thermal systems



Pumped liquids

- Water for heating according to VDI 2035
- Mixtures of water and glycol with glycol percentages not greater than 30%
- Clean liquids, not aggressive and not explosive, not containing solid particles, fibers or mineral oils.

Pump technical data

Ambient temperature:	from +2°C to +40°C
Allowed liquid temperature**:	from +2°C to +110°C
Temperature range at max. ambient temperature:	of 30°C = +30°C to +110°C of 35°C = +35°C to +90°C of 40°C = +40°C to +70°C
Operating pressure:	Max 1.0 MPa (10 bar)
Minimum pressure on the intake opening:	0.03 MPa (0.3 bar) at 50°C 0.10 MPa (1.0 bar) at 95°C 0.15 MPa (1.5 bar) at 110°C
Maximum relative humidity:	\leq 95%
Sound pressure level:	< 43 dB(A)
Low Voltage directive (2006/95/CE):	Standard used: EN 62233, EN 60335-1 and EN 60335-2-51
EMC Directive (2004/108/CE):	Standard used: EN 61000-3-2 and EN 61000-3-3, EN 55014-1 and EN 55014-2
Ecodesign Directive (2009/125/CE):	Standard used: EN 16297-1 and EN 16297-2

* The benchmark for most efficient circulators is EEI \leq 0,20.

** To avoid condensation in the motor and electronics the temperature of the pumped liquid must always be greater than the ambient temperature.

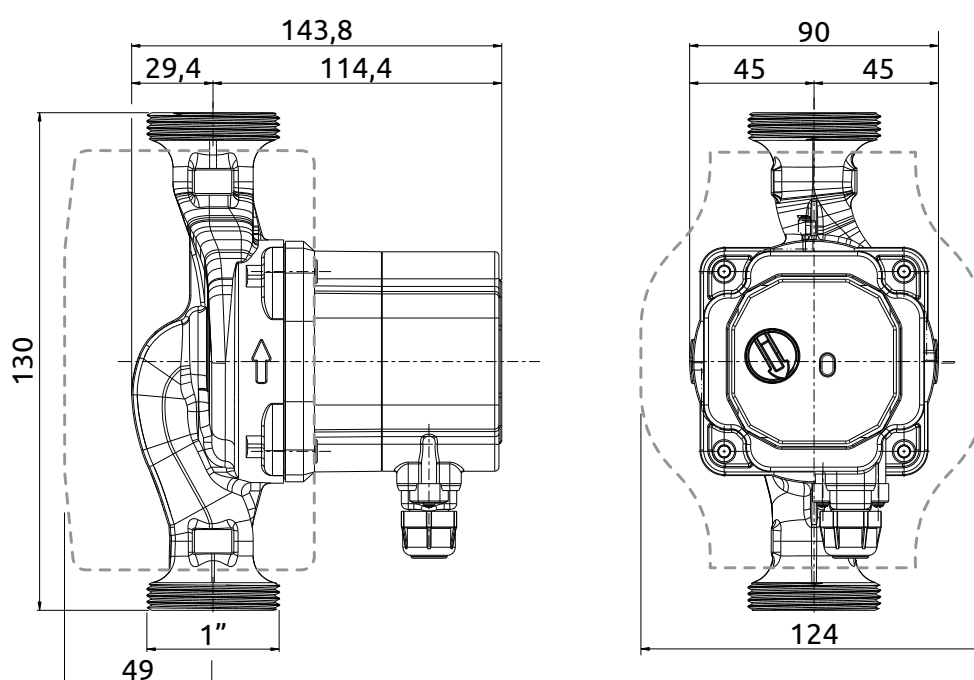
/ Materials

Pump housing:	Cast iron EN-GJL-200 with cataphoretic coating (KTL)
Impeller:	Composite
Shaft:	Ceramic
Bearing:	Carbon
Thrust bearing:	Ceramic
Rotor can:	Composite

/ Motor technical data

Power supply:	1x230 V (±10%); Frequency: 50/60 Hz
Electrical connection:	Pull resistant cable clamp PG11
Input power (P_i):	Min 3W, Max 56W
Input current (I_i):	Min 0.03A, Max 0.44A
Insulation class:	H
Protection class:	IP44
Appliance class:	II

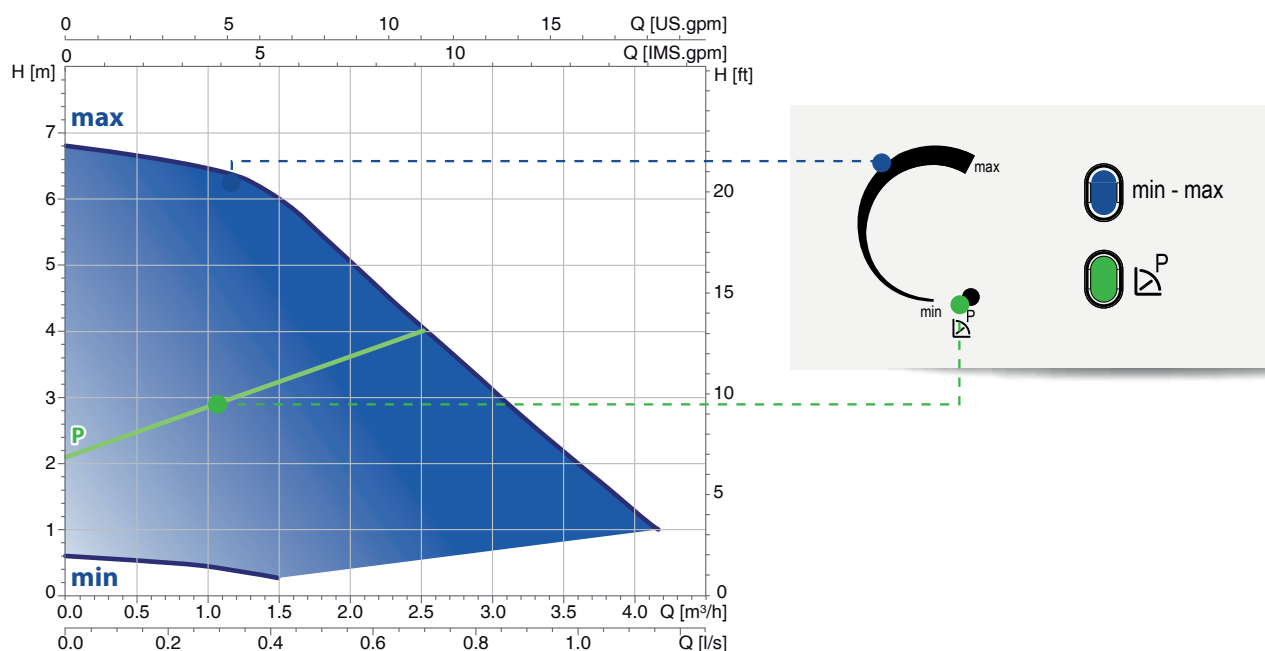
/ Dimensions



/ Performance curves and pump settings

Turn the regulator to select the desired operating curve

- nr. 1 proportional-pressure curve (P)
- min-max mode – Fixed speed



/ Certifications

- CE marking
- VDE GS marking