

# TACOFLOW2 SOLAR

CIRCULATION PUMPS FOR SOLAR THERMAL SYSTEMS



Glandless circulation pumps for solar thermal systems in residential and commercial buildings.

## DESCRIPTION

The TacoFlow2 SOLAR is driven by permanent-magnet synchronous motors.

These innovative motors achieve a high efficiency at low operating costs.

They are maintenance-free and do not need replacement of seals and gaskets.

## INSTALLATION POSITION

The pump can be installed both horizontally or vertically.

The arrow indicating the medium's flow direction must be observed.

## ADVANTAGES

- Efficient throughput setting with variable  $\Delta p$ -v proportional pressure curves or fixed Min-Max speed
- Media temperature range from +2°C to +110°C
- A colour LED indicates the current operating state

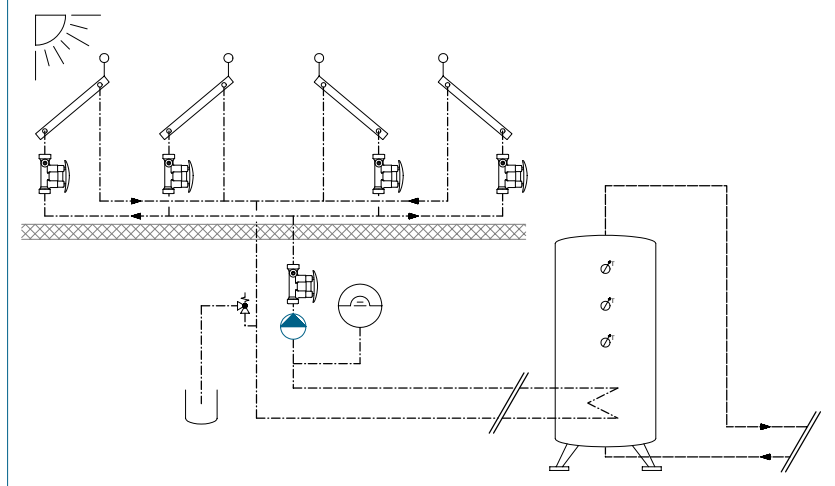
## OPERATION

The circulation pump are of a glandless design, since the rotating parts of the motor run inside the pumped medium. This provides lubrication for the motor and the rotating parts. The circulation pump is equipped with anti-blocking protection, since the high efficiency pumps no longer have a pump head screw for manual unblocking. They also feature an automatic venting function, which detects and indicates any air in the pump.

## BUILDING CATEGORIES

- Apartment blocks, single family dwellings, housing estates, multiple dwelling units
- Smaller public buildings
- Office, commercial and industrial buildings
- Facilities with partial use, such as barracks, camping sites

## SYSTEM/BASIC DIAGRAM



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## SPECIFICATION TEXT

See [www.taconova.com](http://www.taconova.com)

## TECHNICAL DATA

### Pump

- Ambient temperature: +0 °C to +40 °C
- Permissible temperature range\*: +2 °C to +110 °C
- Permissible temperature ranges at max. ambient temperature:
  - at 30 °C: +30 °C to +110 °C
  - at 35 °C: +35 °C to +90 °C
  - at 40 °C: +40 °C to +70 °C
- Static pressure: Max. 1.0 MPa - 10 bar
- Minimum pressure at suction port:
  - 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
- Max. relative humidity: ≤ 95%
- Sound pressure level: <43 dB (A)
- Low Voltage Directive (2006/95/EC): Standards applied: EN 62233, EN 60335-1 and EN 60335-2-51
- EMC Directive (2004/108/EC); Standards applied: EN 61000-3-2, EN 61000-3-3, EN 55014-1 and EN 55014-2
- Ecodesign Directive (2009/125/EC); Standards applied: EN 16297-1 and EN 16297-2

### Material

- Pump body: Cast iron, CDP-coated (EN-GJL-200)
- Impeller: Composite plastic
- Shaft: Ceramic
- Bearing: Graphite
- Axial thrust bearing: Ceramic
- Can: Composite plastic

\* To prevent condensate in the motor and on the control electronics, the temperature of the pumped medium must always be higher than the ambient temperature.

## TECHNICAL DATA (CONTINUED)

### Motor and electronics

- Supply voltage: 1x230 V (±10%); frequency: 50/60 Hz
- Pump power plug
- Power rating (P1): Min. 3 W, max. 42 W
- Rated current (I1): Min. 0.03 A, max. 0.33 A
- Insulation class: H
- Protection rating: IP 44
- Safety category: II

## TECHNICAL DATA (CONTINUED)

### Fluids

- Heating water (VDI 2035; SWKI BT 102-01; ÖNORM H 5195-1)
- Water and proprietary additives used against corrosion and freezing up to 30 %

## TYPE OVERVIEW

TacoFlow2 SOLAR | Circulation pumps for solar thermal systems

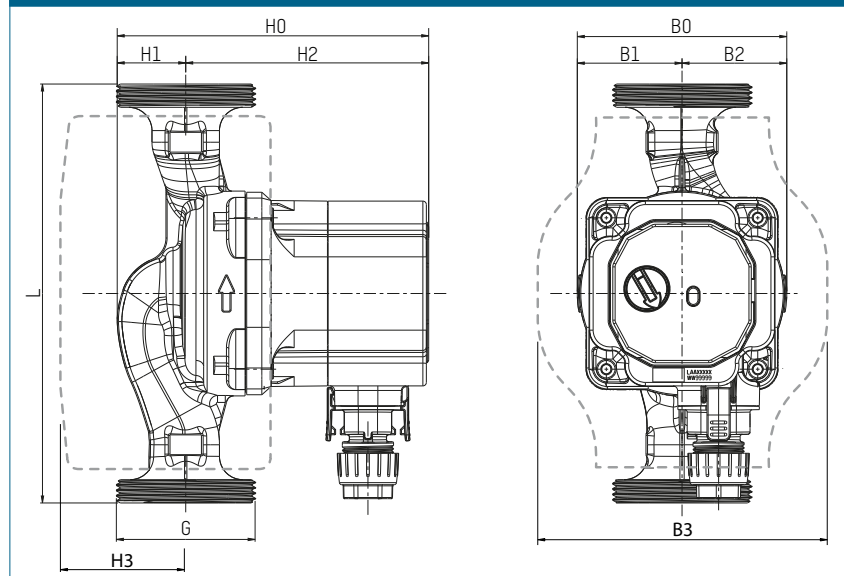
Cast iron high efficiency pump with plug connection.

Also suitable for heating systems.

Pump head: 6 m

Order no.	Designation	Connection	Centre distance	Weight
302.2235.000	SOLAR 15-60/130	G 1"	130 mm	1,67 kg
302.4235.000	SOLAR 25-60/130	G 1 ½"	130 mm	1,81 kg
302.5235.000	SOLAR 25-60/180	G 1 ½"	180 mm	1,96 kg

## DIMENSIONAL DRAWING



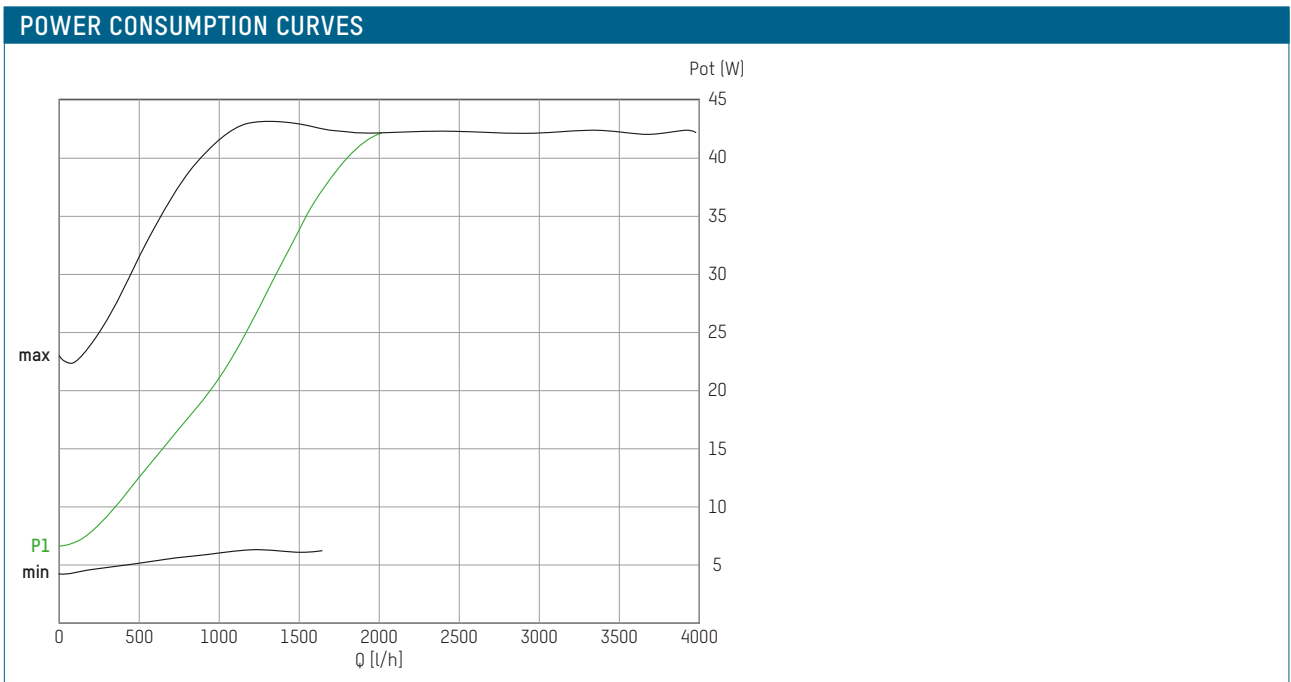
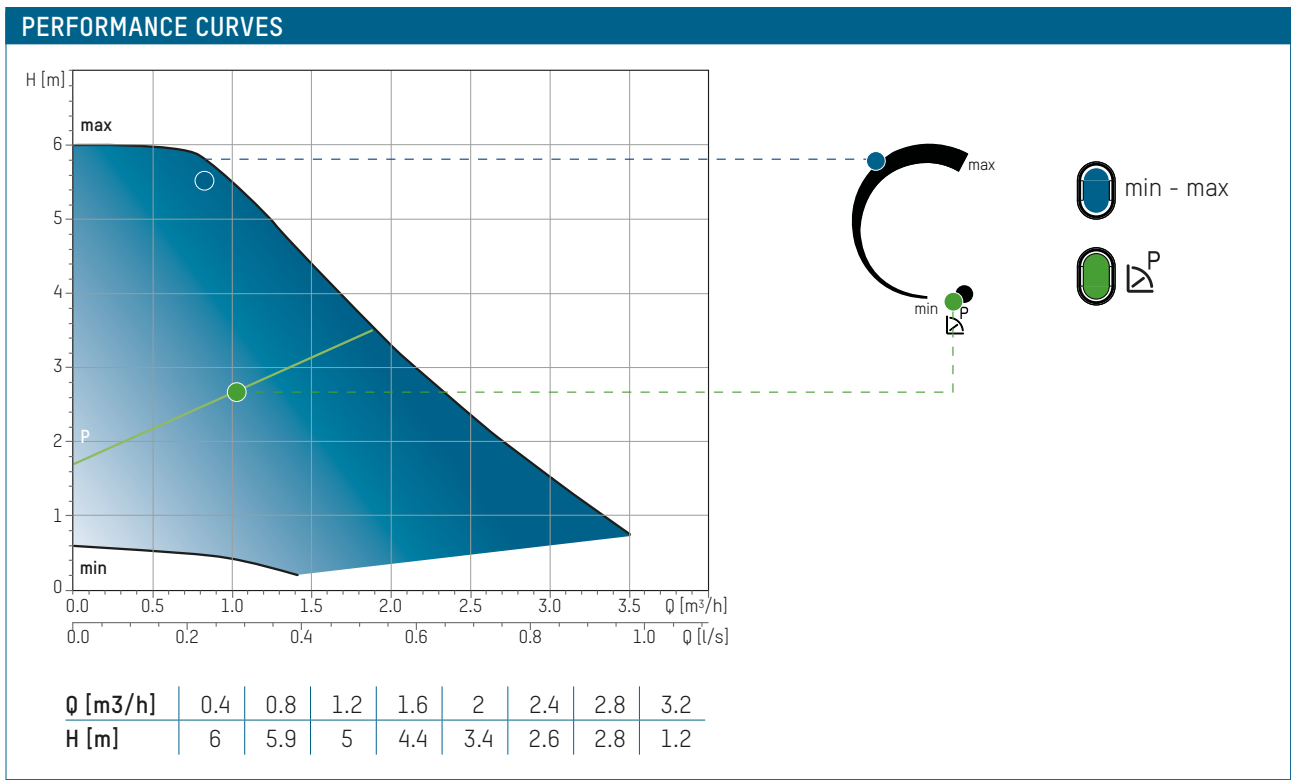
## MEASUREMENT TABLE

Order no.	L	B0	B1	B2	B3	H0	H1	H2	H3
302.2235.000	130	90	45	45	124	133,8	29,4	104,4	49
302.4235.000	130	90	45	45	124	133,8	29,4	104,4	49
302.5235.000	180	90	45	45	124	133,8	29,4	104,4	49

## ENERGY EFFICIENCY INDEX

### EEI ≤ 0,20 - Part 2

Reference value for the most efficient circulation pump is EEI ≤ 0.20



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## TECHNICAL DATA

### Pump

- Ambient temperature: +0 °C to +40 °C
- Permissible temperature range\*: +2 °C to +110 °C
- Permissible temperature ranges at max. ambient temperature:
  - at 30 °C: +30 °C to +110 °C
  - at 35 °C: +35 °C to +90 °C
  - at 40 °C: +40 °C to +70 °C
- Static pressure: Max. 1.0 MPa - 10 bar
- Minimum pressure at suction port:
  - 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
- Max. relative humidity: ≤ 95%
- Sound pressure level: <43 dB (A)
- Low Voltage Directive (2006/95/EC): Standards applied: EN 62233, EN 60335-1 and EN 60335-2-51
- EMC Directive (2004/108/EC); Standards applied: EN 61000-3-2, EN 61000-3-3, EN 55014-1 and EN 55014-2
- Ecodesign Directive (2009/125/EC); Standards applied: EN 16297-1 and EN 16297-2

### Material

- Pump body: Cast iron, CDP-coated (EN-GJL-200)
- Impeller: Composite plastic
- Shaft: Ceramic
- Bearing: Graphite
- Axial thrust bearing: Ceramic
- Can: Composite plastic

\* To prevent condensate in the motor and on the control electronics, the temperature of the pumped medium must always be higher than the ambient temperature.

## TECHNICAL DATA (CONTINUED)

### Motor and electronics

- Supply voltage: 1x230 V (±10%); frequency: 50/60 Hz
- Pump power plug
- Power rating (P1): Min. 3 W, max. 56 W
- Rated current (I1): Min. 0.03 A, max. 0.44 A
- Insulation class: H
- Protection rating: IP 44
- Safety category: II

## TECHNICAL DATA (CONTINUED)

### Fluids

- Heating water (VDI 2035; SWKI BT 102-01; ÖNORM H 5195-1)
- Water and proprietary additives used against corrosion and freezing up to 30 %

## TYPE OVERVIEW

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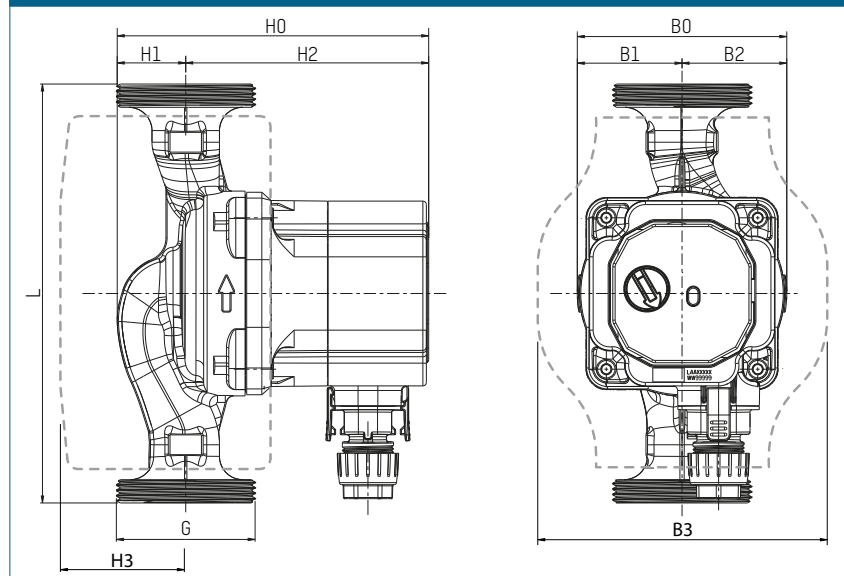
Cast iron high efficiency pump with plug connection.

Also suitable for heating systems.

Pump head: 7 m

Order no.	Designation	Connection	Centre distance	Weight
302.2245.000	SOLAR 15-70/130	G 1"	130 mm	1,91 kg
302.4245.000	SOLAR 25-70/130	G 1 ½"	130 mm	2,05 kg
302.5245.000	SOLAR 25-70/180	G 1 ½"	180 mm	2,20 kg

## DIMENSIONAL DRAWING



## MEASUREMENT TABLE

Order no.	L	B0	B1	B2	B3	H0	H1	H2	H3
302.2245.000	130	90	45	45	124	143,8	29,4	114,4	49
302.4245.000	130	90	45	45	124	143,8	29,4	114,4	49
302.5245.000	180	90	45	45	124	143,8	29,4	114,4	49

## ENERGY EFFICIENCY INDEX

### EEI ≤ 0,21 - Part 2

Reference value for the most efficient circulation pump is EEI ≤ 0.20

