



EBARA

Ego

HIGH PERFORMANCE ELECTRONIC CIRCULATORS



Ego RANGE

HIGH PERFORMANCE ELECTRONIC CIRCULATORS

in cast iron with cataphoresis coating



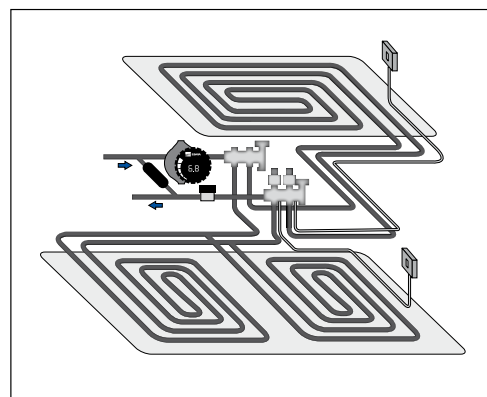
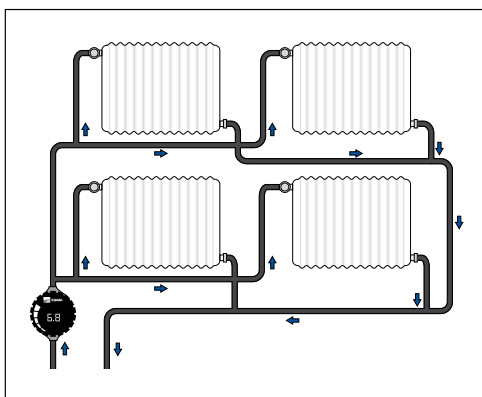
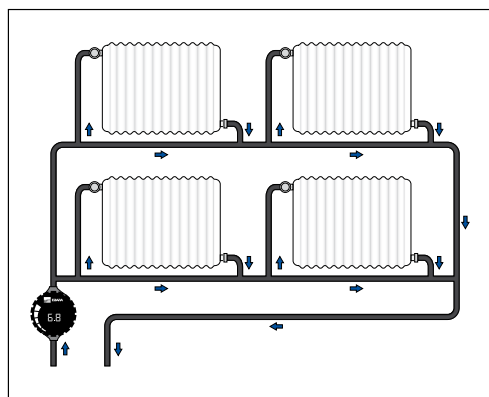
GENERAL FEATURES

“Ego” is a cutting-edge range of electronic circulators that fully comply with European Directive ErP 2009/125/CE.

All Ego circulators feature the **ECM technology (electronically commuted motor with rotor equipped with permanent magnets)**, that enables automatic and continuous regulation of the pump (flow rate/head) depending on the actual requirements of the system, ensuring important energy savings.

APPLICATIONS

Ego circulators are specifically designed for heating systems and circulation of liquids in air-conditioning systems.



Heating systems

The pumps are suitable for single-pipe systems, two-pipe systems, underfloor heating systems and mixing loops of great installations. All Ego circulators automatically and autonomously control the differential pressure, adjusting pump performance in accordance with heating requirements.

Air-conditioning systems

Please refer to the minimum allowed temperatures of every product range to see how to use the Ego pumps. Some models are suitable for circulation at temperatures below 0°C (they are, therefore, particularly recommended for air-conditioning and/or refrigeration systems).

CONSTRUCTION

All Ego pumps are wet-rotor type; therefore, the pump and the motor make up a single unit with no mechanical seal; rotor bearings are lubricated directly by the pumped liquid. One of the most important features of Ego circulators is **the rotor can**, made of **a single part in AISI 316 stainless steel without welding points**: this solution, present on all Ego models, ensures hermetic, stable and reliable separation of the stator from the parts that come into contact with the liquid.

Other design features common to all Ego models are the following:

- Rotor in material resistant to corrosion
- Pump body in cataphoresis treated cast iron
- Low-friction bearings with consequent low noise emissions and reduced power consumption

For details on materials used please refer to the technical data sheets of every model.

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PUMPED LIQUIDS

Ego circulators are suitable for the circulation of:

- clean, non-aggressive and non-explosive, free of solid particles or fibres (in compliance with VDI 2035)
- water/glycol mixtures

Liquid viscosity

During pump selection phase, one of the most important criteria is liquid viscosity that affects (reduces) the maximum performance of the circulator. In particular, **when using water/glycol mixtures with concentrations higher than 20%, the final viscosity should be verified carefully**, as it represents the criteria for selecting the most suitable circulator (contact our technical support centre for further information).

Hydraulic performance and all main technical data given in this catalogue refer to liquids with viscosity of 1mm²/s at 18°C.

Liquid and room temperature

Allowed fluid temperature range:

- | | |
|--|---------------------|
| • Mod. Ego small (mod. Ego -/40, -/60, -/80): | from +5 to +95 °C |
| • Mod. Ego medium (mod. Ego Easy -60, -80, -100): | from +2 to +110 °C |
| • Mod. Ego large (mod. Ego slim 40, 50 - Ego 50, 65, 80, 100): | from -10 to +110 °C |
| • Mod. Ego B for sanitary water: | from +5 to +65 °C |

Room temperature allowed ranges from 0 to 40°C, with relative air humidity below 95%. In the event of use with fluids at low temperature, room temperature should always be lower than liquid temperature to prevent condensate from building up on stator casing.

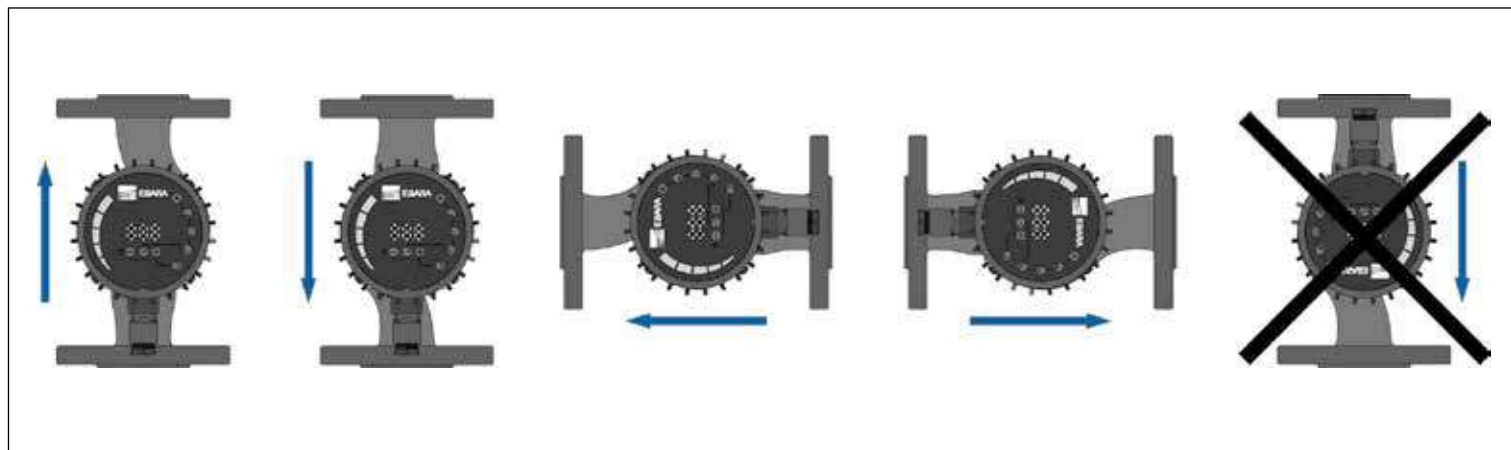
Input pressure

In order to avoid noise, cavitation phenomena and damaging the bearing, it is essential to ensure a minimum pressure at suction inlet at all times (check the manuals of every model to see the minimum pressure values in relation to fluid temperature).

Maximum operating pressure

The maximum operating pressure for all **Ego models is 1 MPa (10 bar) – PN10**.

ASSEMBLY POSITION



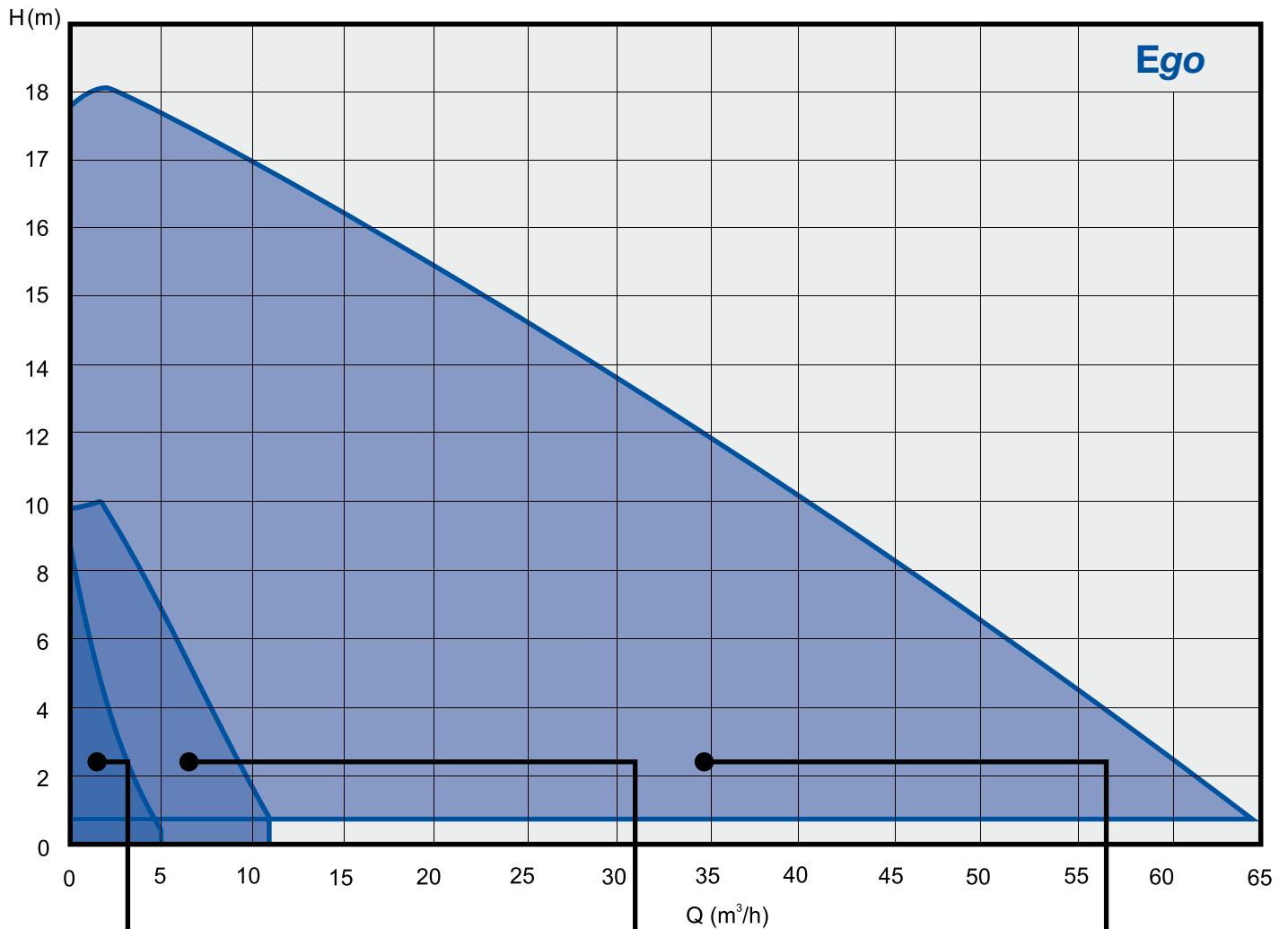
All Ego circulators should be installed with the **motor shaft in full horizontal position**, as shown in the figure above (example valid for all models). **The power cord should never be positioned upwards** (it may facilitate water inflow into the terminal box): in these cases, you should rotate the electronic unit or pump's body (please refer to the manual).

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PERFORMANCE RANGE



THREADED CIRCULATORS

Ego (T) (ER) -/40, -/60, -/80



THREADED/FLANGED CIRCULATORS

Ego easy (T) (C) -60, -80, -100



FLANGED CIRCULATORS

Ego (T) (C) 50, 65, 80, 100
Ego (T) (C) slim 40, 50

THREADED CIRCULATORS

Ego (T) (ER) -/40, -/60, -/80, single and twin



High performance wet-rotor circulation pump with threaded connection, motor with permanent magnets and built-in electronic controller.

APPLICATIONS

Residential heating and air-conditioning systems.

FEATURES

- Minimum power consumption only 5W
- Built-in frequency converter
- Two operating modes ("ΔP-v" and "constant speed")
- Automatic venting function
- High input torque (with consequent automatic release of the rotor)
- Easy installation and adjustment by means of a single LED button
- 0-10V contact (optional, see versions "ER")

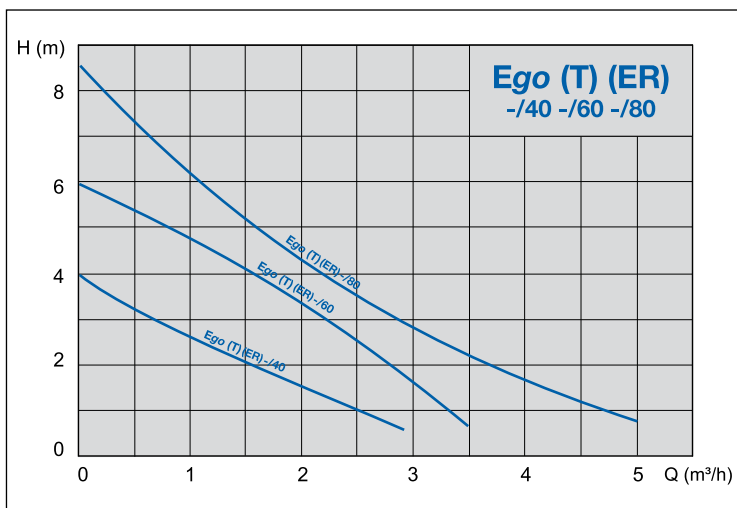
PUMP TECHNICAL DATA

- Liquid temperature: $+5 \div +95$ °C
- Room temperature: $0 \div +40$ °C
- Relative air humidity: $\leq 95\%$
- Allowed fluids: clean, not aggressive and not flammable, free of solid particles or fibres
- Maximum pressure: 10 bar
- Minimum suction pressure:
 - 0,05 bar a 50 °C
 - 0,4 bar a 80 °C
 - 1,1 bar a 110 °C
- Maximum amount of glycol: 20%*
- Threaded inlets: G1 - 1"½ - 2" (in accordance with ISO 228)
- Protection degree: IP44

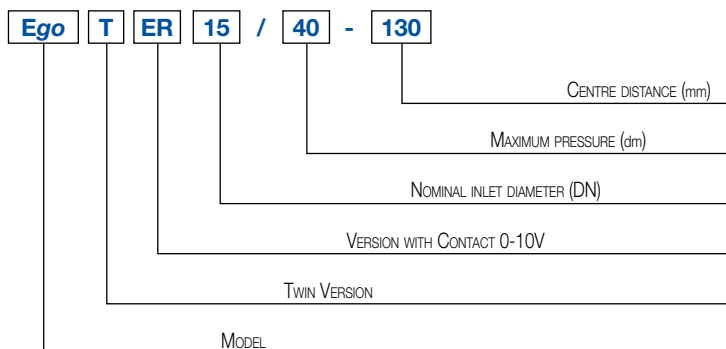
MOTOR TECHNICAL DATA

- Type: synchronous with permanent magnets
- Motor speed: variable
- Supply voltage: 1~230V
- Frequency: 50/60 Hz
- Insulation class: F

* For greater amounts please check the final viscosity and the conditions of use



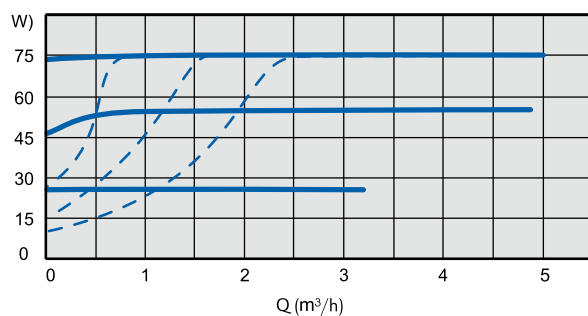
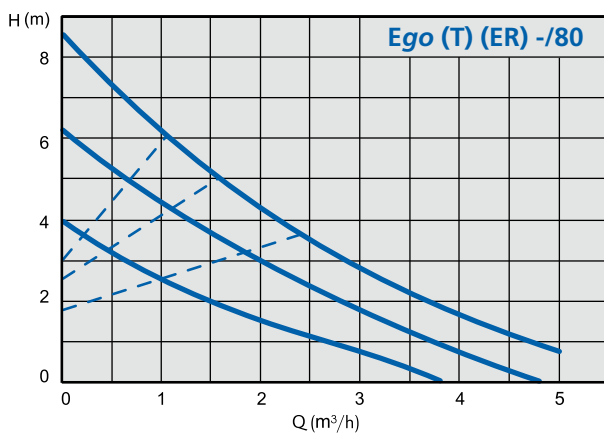
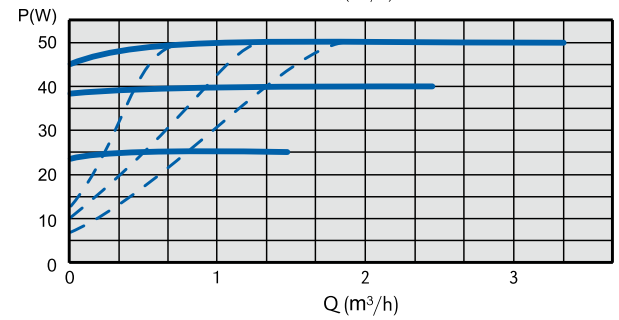
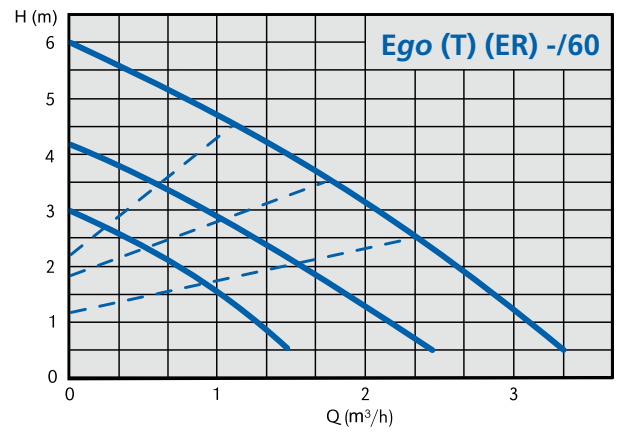
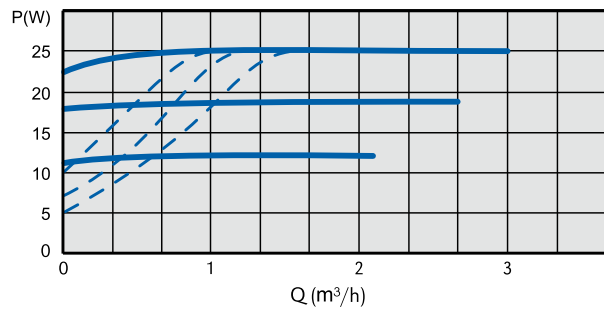
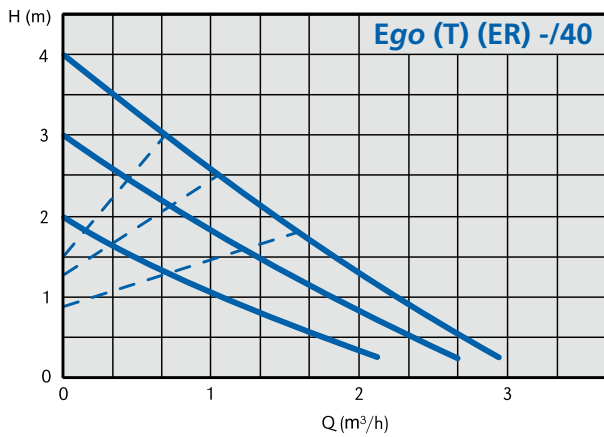
IDENTIFICATION CODE



THREADED CIRCULATORS

Ego (T) (ER) -/40, -/60, -/80, single and twin

PERFORMANCE CURVES



THREADED CIRCULATORS

Ego (T) (ER) -/40, -/60, -/80, single and twin

SECTIONAL VIEW

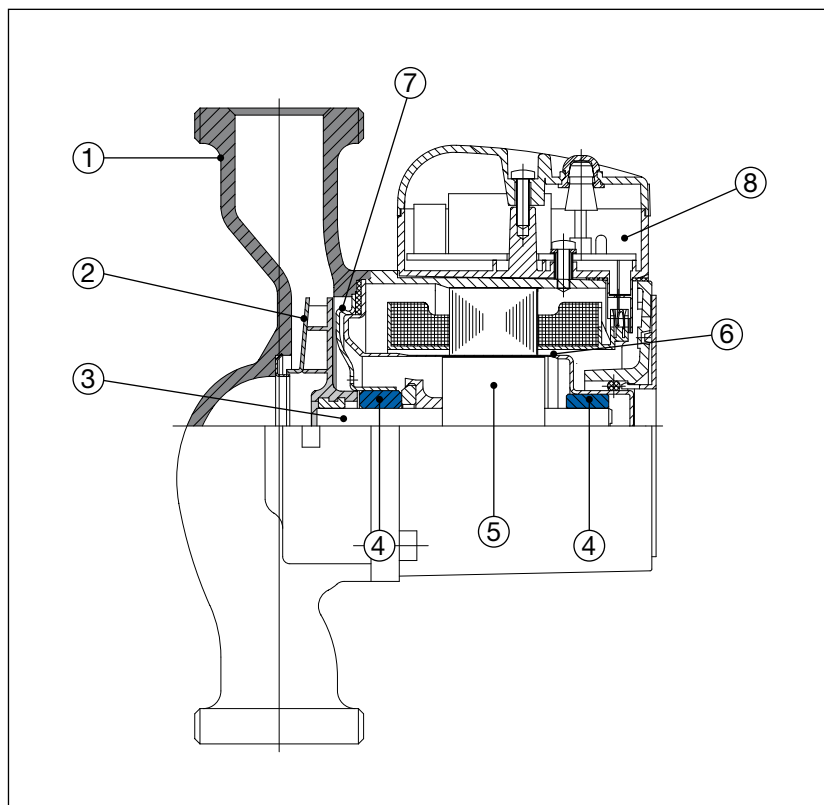


TABLE OF MATERIALS

Ref.	Part	Material
1	Pump body	Cast iron with cataphoresis coating
2	Impeller	Technopolymer
3	Shaft	Ceramic
4	Bearings	Ceramic
5	Rotor	Coated in stainless steel
6	Rotor can	AISI 316 Stainless Steel
7	Bearing plate	AISI 316 Stainless Steel
8	Electronic board	-

TECHNICAL FEATURES - single

Model	EEI (energy efficiency index)	Pipe connection	Inlet fitting	Power P_1 [W] P_{max}	Current consumption [A] $I_{min} - I_{max}$	Weight [kg]
Ego (ER) 15/40-130	$\leq 0,15$	G1	Rp 1/2"	25	0,05 ÷ 0,2	1,9
Ego (ER) 25/40-130	$\leq 0,15$	G1 1/2"	Rp 1"	25	0,05 ÷ 0,2	2,1
Ego (ER) 15/60-130	$\leq 0,17$	G1	Rp 1/2"	50	0,05 ÷ 0,4	1,9
Ego (ER) 25/60-130	$\leq 0,17$	G1 1/2"	Rp 1"	50	0,05 ÷ 0,4	2,1
Ego (ER) 25/80-130	$\leq 0,19$	G1 1/2"	Rp 1"	75	0,05 ÷ 0,6	2,1
Ego (ER) 25/40-180	$\leq 0,15$	G1 1/2"	Rp 1"	25	0,05 ÷ 0,2	2,4
Ego (ER) 32/40-180	$\leq 0,15$	G2	Rp 1 1/4"	25	0,05 ÷ 0,2	2,5
Ego (ER) 25/60-180	$\leq 0,17$	G1 1/2"	Rp 1"	50	0,05 ÷ 0,4	2,4
Ego (ER) 32/60-180	$\leq 0,17$	G2	Rp 1 1/4"	50	0,05 ÷ 0,4	2,5
Ego (ER) 25/80-180	$\leq 0,19$	G1 1/2"	Rp 1"	75	0,05 ÷ 0,6	2,4
Ego (ER) 32/80-180	$\leq 0,19$	G2	Rp 1 1/4"	75	0,05 ÷ 0,6	2,5

TECHNICAL FEATURES - twin

Model	EEI (energy efficiency index)	Pipe connection	Inlet fitting	Power P_1 [W] P_{max}	Current consumption [A] $I_{min} - I_{max}$	Weight [kg]
Ego T 25/60-180	$\leq 0,17$	G1 1/2"	Rp 1"	50	0,05 ÷ 0,4	5,5
Ego T 32/60-180	$\leq 0,17$	G2	Rp 1 1/4"	50	0,05 ÷ 0,4	5,5
Ego T 25/80-180	$\leq 0,19$	G1 1/2"	Rp 1"	75	0,05 ÷ 0,6	5,7
Ego T 32/80-180	$\leq 0,19$	G2	Rp 1 1/4"	75	0,05 ÷ 0,6	5,7

THREADED CIRCULATORS

Ego -/40, -/60, -/80

DIMENSIONS - single

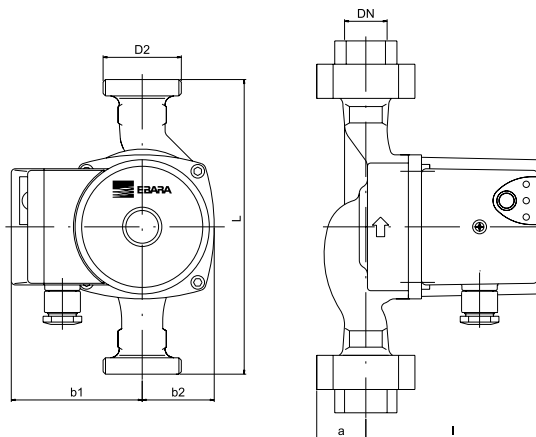


TABLE OF DIMENSIONS - single

Model	Dimensions [mm]						
	L	DN	b1	b2	I	a	D2
Ego (ER) 15/40-130	130	15	80	48	108	27	1"
Ego (ER) 25/40-130	130	25	80	48	108	32	1"½
Ego (ER) 15/60-130	130	15	80	48	108	27	1"
Ego (ER) 25/60-130	130	25	80	48	108	32	1"½
Ego (ER) 25/80-130	130	25	80	48	108	32	1"½
Ego (ER) 25/40-180	180	25	80	48	108	32	1"½
Ego (ER) 32/40-180	180	32	80	48	108	40	2"
Ego (ER) 25/60-180	180	25	80	48	108	32	1"½
Ego (ER) 32/60-180	180	32	80	48	108	40	2"
Ego (ER) 25/80-180	180	25	80	48	108	32	1"½
Ego (ER) 32/80-180	180	32	80	48	108	40	2"

DIMENSIONS - twin

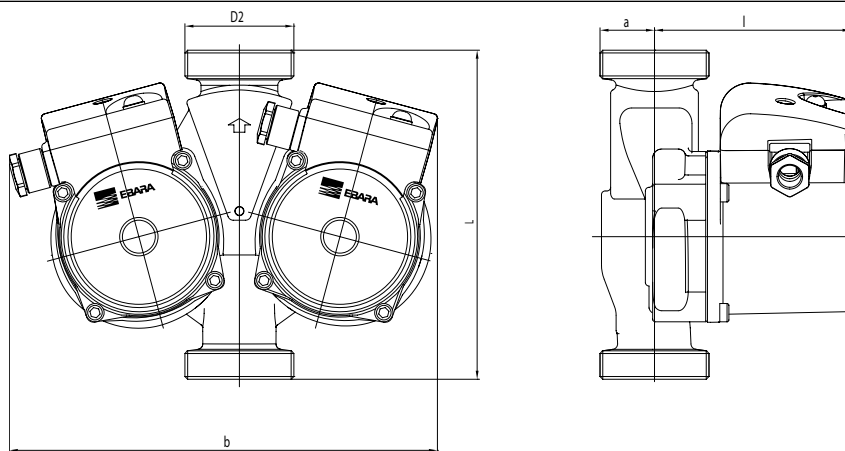


TABLE OF DIMENSIONS - twin

Modello	Dimensions [mm]					
	L	DN	b	I	a	D2
Ego T 25/80-180	180	25	234	107,2	29,8	1"½
Ego T 32/80-180	180	32	234	107,2	29,8	2"
Ego T 25/60-180	180	25	234	107,2	29,8	1"½
Ego T 32/60-180	180	32	234	107,2	29,8	2"