



A LED provides information about the operation status of the circulator



Wide range of temperature from +2°C to +110°C, suitable for circulation in solar thermal systems



The pump housing is cataphoresis treated (KTL) and resistant to corrosion

DESIGN

Askoll ENERGY SAVING is a wet rotor high efficiency circulator, driven by 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.

PRODUCT FEATURES AND BENEFITS

- Very high degrees of efficiency due to Askoll 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

MOTOR TECHNICAL DATA

Power supply	1x230 V (-10%; + 6%); Frequency: 60 Hz
Electrical connection	Pull resistant cable clamp PG11
Energy Efficiency Index (EEI)*	≤ 0,21 – Part 2
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

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
Maximum 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	≤ 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
Approved fluids	Water for heating according to VDI 2035. Mixtures of water and glycol with glycol percentages not greater than 30%.

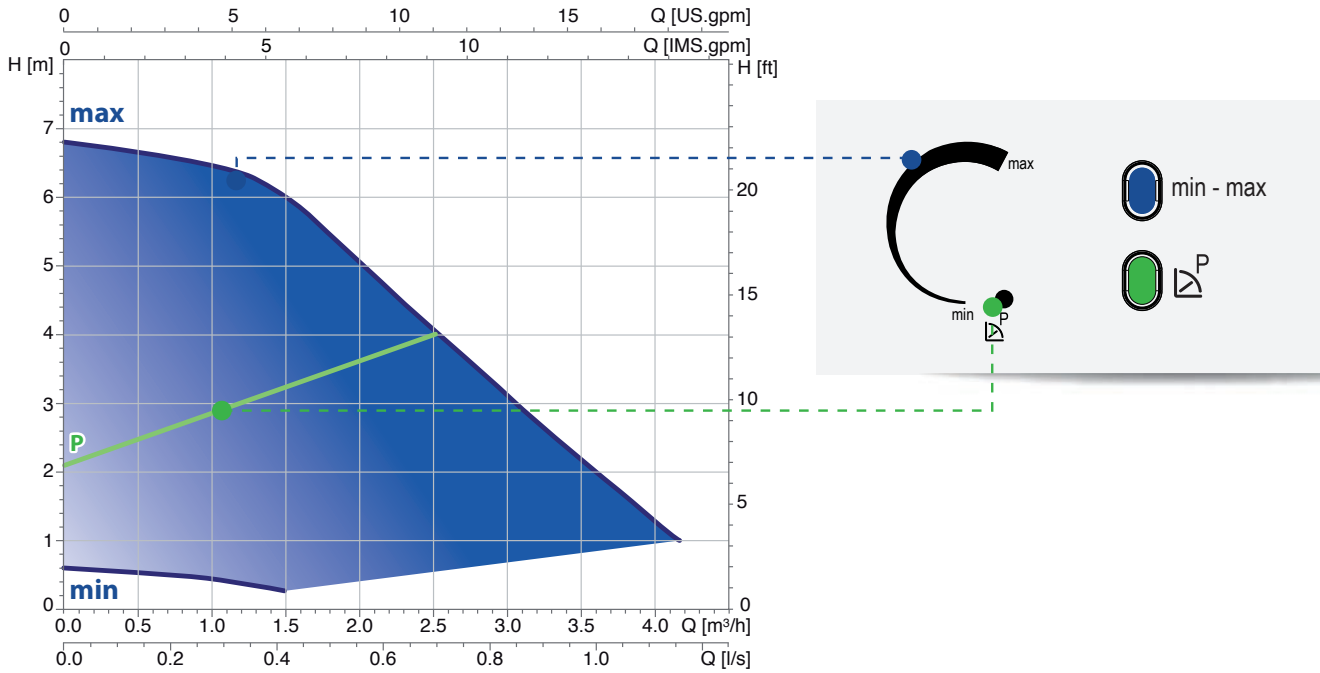
TYPE KEY

Example	ES2	SOLAR	15 - 70 / 130
Electronic circulator	----- ----- ----- -----		
Standard version	----- ----- ----- -----		
ADAPT: Version with active ADAPT	----- ----- ----- -----		
SOLAR: Solar thermal version	----- ----- ----- -----		
Cast-iron pump housing	----- ----- ----- -----		
C: Composite pump housing	----- ----- ----- -----		
B: Bronze pump housing	----- ----- ----- -----		
A: Pump housing with air separator	----- ----- ----- -----		
Nominal diameter (DN) of suction and discharge ports (15 = G1, 25 = G1 1/2, 32 = G2)	----- ----- ----- -----		
Maximum head [dm]	----- ----- ----- -----		
Port-to-port length [mm]	----- ----- ----- -----		

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

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

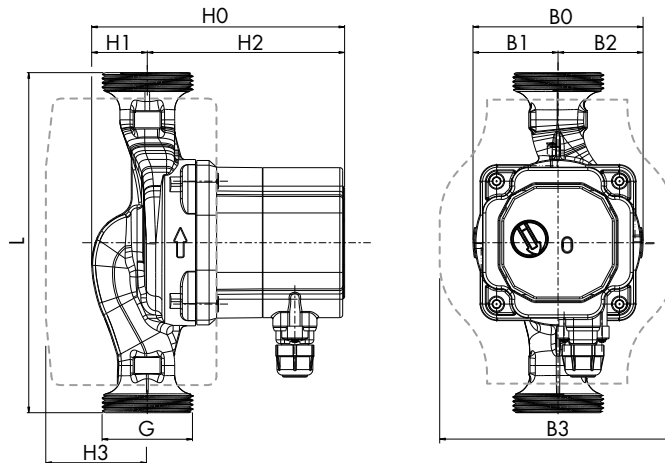
PERFORMANCE CURVES AND PUMP SETTINGS



MATERIALS

Model	Pump housing	Impeller	Shaft	Bearing	Thrust bearing	Rotor can
ES2 SOLAR 70	Cast iron EN-GJL-200 with cataphoretic coating (KTL)	Composite	Ceramic	Carbon	Ceramic	Composite

DIMENSIONS, WEIGHTS



MODEL	THREAD	DIMENSIONS [mm]									WEIGHTS [kg]	
		L	B0	B1	B2	B3	H0	H1	H2	H3	Net	Gross
ES2 SOLAR 15 - 70/130	G 1	130	90	45	45	124	143,8	29,4	114,4	49	1,91	2,11
ES2 SOLAR 25 - 70/130	G 1 1/2	130	90	45	45	124	143,8	29,4	114,4	49	2,05	2,25
ES2 SOLAR 25 - 70/180	G 1 1/2	180	90	45	45	124	143,8	29,4	114,4	49	2,20	2,40