

EVOPUS LITE

ELECTRONIC CIRCULATORS



EVOPLUS LITE / EVOPLUS LITE SAN

WET ROTOR ELECTRONIC CIRCULATORS

DESIGN FEATURES OF EVOPLUS FOR SMALL COMMUNITY SYSTEMS (ELECTRONIC DEVICE)

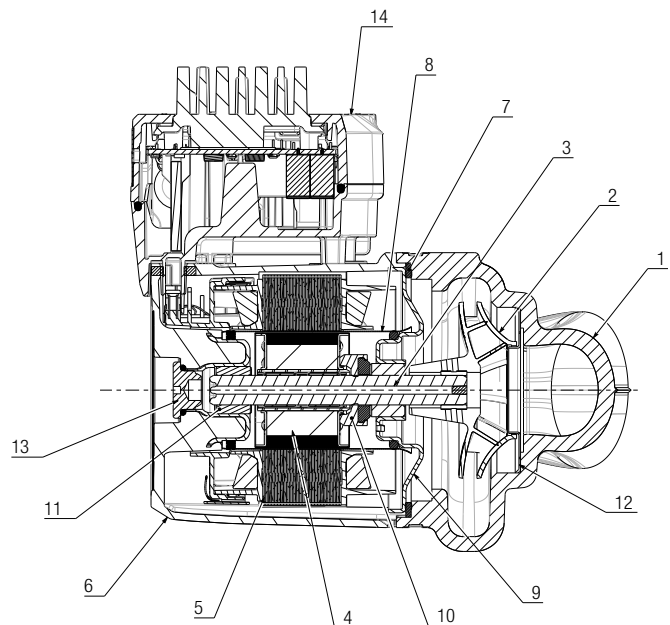
EVOPLUS circulators are controlled by an IGBT-based device employing latest generation NPT technology for greater efficiency and ruggedness. Its specific features are as follows:

- Sensorless motor control
- Sinusoidal PWM
- High carrier frequency to eliminate all noise in audio band
- Dedicated 32-bit processor
- Optimized „space vector“ algorithm

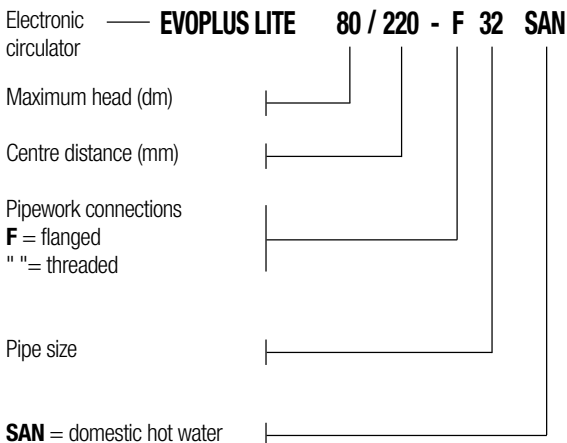
Courtesy of a functional, intuitive user interface, you can configure the circulator quickly and easily with a single button. Evoplus Lite is the perfect candidate for systems of all kinds: it can adjust the flow rate, adapting to suit the system's characteristics; all the installer needs to do is select the curve and type of control.

MATERIALI

No.	PARTS	MATERIALS
1	PUMP CASING	CAST IRON 250 UNI ISO 185 - CTF BRONZE (for SAN version)
2	IMPELLER	TECHNOPOLYMER
3	MOTOR SHAFT	ALUMINIUM
4	ROTOR	STAINLESS STEEL
5	STATOR	-
6	MOTOR HOUSING	DIE-CAST ALUMINIUM
7	O-RING	EPDM RUBBER
8	STATOR SLEEVE	STAINLESS STEEL
9	END FLANGE	STAINLESS STEEL
10	THRUST RING MOUNT	EPDM RUBBER
11	BEARINGS	GRAPHITE
12	SHIM WASHER	STAINLESS STEEL
13	BLEED CAP	BRASS
14	VARIABLE FREQUENCY DRIVE BOX	POLYCARBONATE



- Legend: (example)



EVOPLUS LITE / EVOPLUS LITE SAN

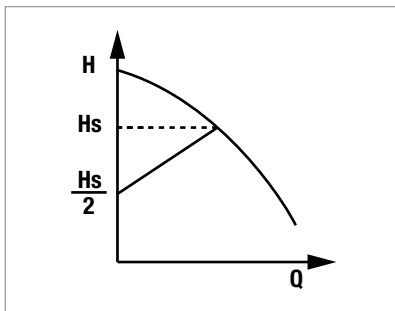
WET ROTOR ELECTRONIC CIRCULATORS

OPERATING MODES

All users (regardless of their role) can view all the functions listed below by simply scrolling down the menu. Parameter setting and editing is protected and restricted to expert users only. The EVOPLUS range is factory set to proportional differential pressure control on the curve that ensures the best energy efficiency index (EEI).

1 - Proportional differential pressure control mode $\Delta P-v$

The $\Delta P-v$ control mode varies the head delivery value linearly from H_{setp} to $H_{setp}/2$ as the flow rate varies.



This control option is particularly well suited to the following systems:

a. Two-pipe heating systems with thermostatic valves and with:

- a head greater than 4 metres;
- very lengthy piping;
- valves with broad working range;
- differential pressure regulators;
- large pressure losses in those parts of the system experiencing the full amount of water flow;
- low differential temperature.

b. Underfloor heating systems and systems with thermostatic valves and large pressure losses in the boiler circuit.

c. Systems with primary circuit pumps with high pressure losses

Example of unit setup with $\Delta P-v$

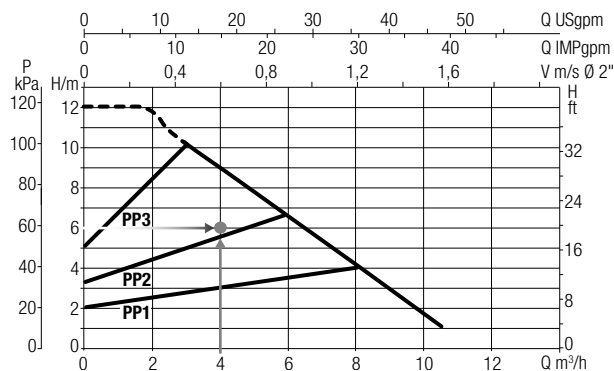
The following duty point is required:

$$Q = 4 \text{ m}^3/\text{h}$$

$$H = 6 \text{ m}$$

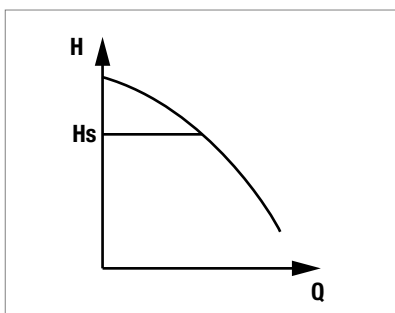
PROCEDURE:

1. Mark the desired duty point on the graph and locate the proportional control curve of your Evoplus Lite model that is closest to the desired duty point.
2. In the case of our example with $Q = 4 \text{ m}^3/\text{h}$ and $H = 6 \text{ m}$, the proportional control curve closest to this duty point is **PP2**.



2 - Constant differential pressure control mode $\Delta P-c$

The $\Delta P-c$ control mode keeps the system's differential pressure constant at the settable H_{setp} value as the flow rate varies.



This control option is particularly well suited to the following systems:

a. Two-pipe heating systems with thermostatic valves and with:

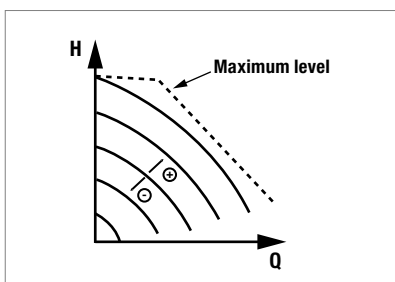
- a head less than 2 metres;
- natural circulation;
- low pressure losses in those parts of the system experiencing the full amount of water flow;
- high differential temperature (central heating).

b. Underfloor heating systems with thermostatic valves

c. One-pipe heating systems with thermostatic valves and adjustment valves

d. Systems with primary circuit pumps with low pressure losses

3 - Constant curve control mode



In this control mode, the circulator works on characteristic curves at constant speed. The performance curve is selected by setting rpm by means of a percentage factor. The value 100% indicates the maximum limit curve. Actual rpm may depend on the power and differential pressure limitations of your circulator model. Rpm can be set via the display or with a 0-10V external signal.

Control option recommended for constant-flow heating and air-conditioning systems.

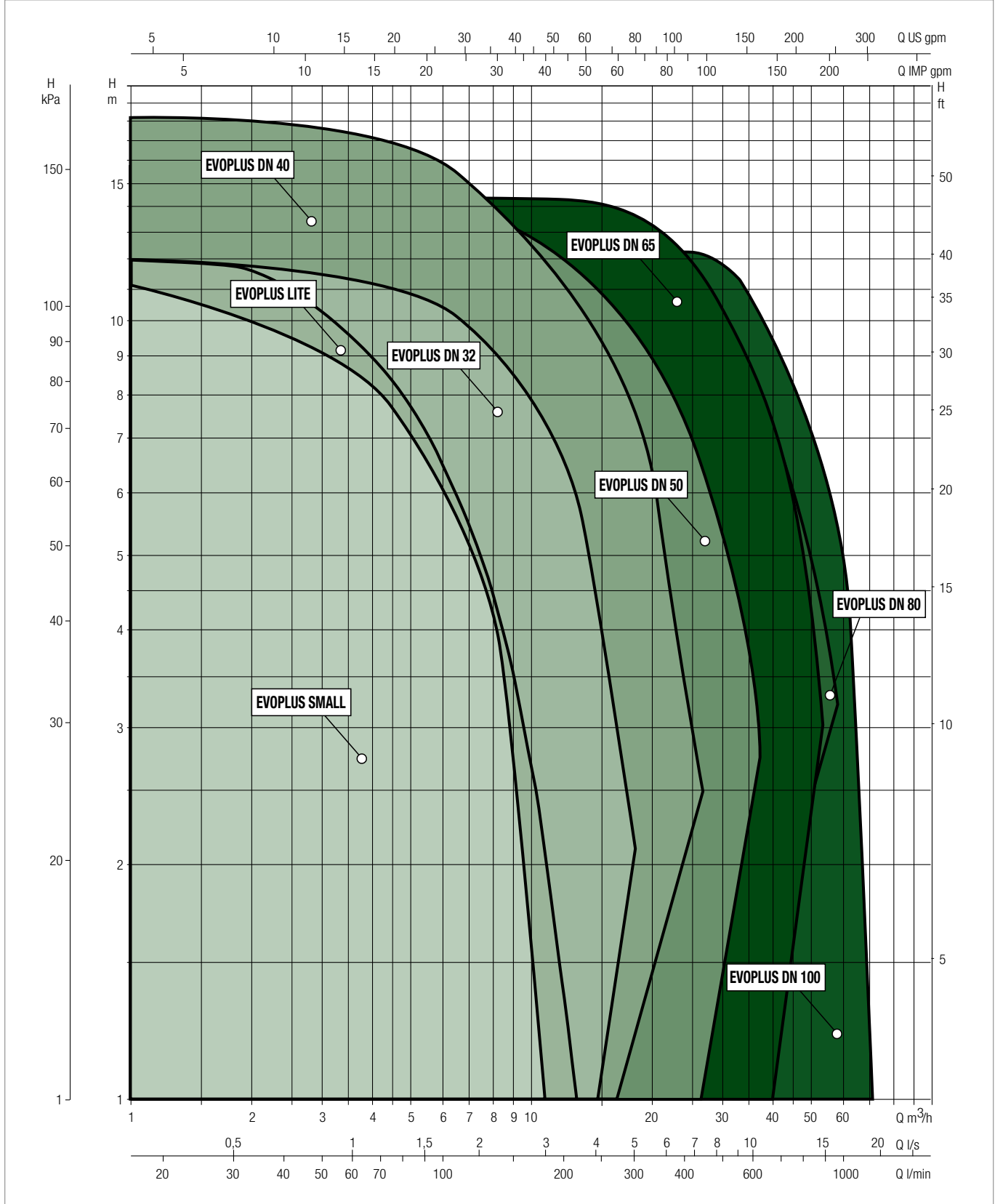
EVOPLUS RANGE

WET ROTOR ELECTRONIC CIRCULATORS

PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

GRAPHIC SELECTION TABLE



EVOPLUS LITE / EVOPLUS LITE SAN

WET ROTOR ELECTRONIC CIRCULATORS

SELECTION TABLE - EVOPLUS LITE

MODEL	Q=m ³ h	0	1,8	2,4	3	4,2	5,4	6,6	7,8	9	10,2	11,4
	Q=l/min	0	30	40	50	70	90	110	130	150	170	190
EVOPLUS LITE 60/180-25	H (m)	6,1	6,1	6,0	5,6	4,6	3,4	2,2	1,0			
EVOPLUS LITE 60/180-32		6,1	6,1	6,0	5,6	4,6	3,4	2,2	1,0			
EVOPLUS LITE 60/220-F32		6,0	6,0	6,0	5,5	4,5	3,5	2,6	1,6	0,7		
EVOPLUS LITE 60/250-F40		6,0	6,0	6,0	5,5	4,5	3,5	2,6	1,6	0,7		
EVOPLUS LITE 80/180-25		8,0	8,0	7,9	7,5	6,2	4,8	3,5	2,2	0,9		
EVOPLUS LITE 80/180-32		8,0	8,0	7,9	7,5	6,2	4,8	3,5	2,2	0,9		
EVOPLUS LITE 80/220-F32		8,0	8,0	7,8	6,9	5,8	4,7	3,6	2,5	1,5		
EVOPLUS LITE 80/250-F40		8,0	8,0	7,9	7,0	5,9	4,9	3,9	2,8	1,8	0,8	
EVOPLUS LITE 120/180-25		12,0	12,0	11,5	10,0	8,5	7,1	5,7	4,3	2,9	1,5	
EVOPLUS LITE 120/180-32		12,0	12,0	11,5	10,0	8,5	7,1	5,7	4,3	2,9	1,5	
EVOPLUS LITE 120/220-F32		12,0	12,0	10,6	9,7	8,5	7,3	6,1	4,9	3,7	2,5	1,3
EVOPLUS LITE 120/250-F40		12,0	12,0	10,6	9,7	8,5	7,3	6,1	4,9	3,7	2,5	1,3

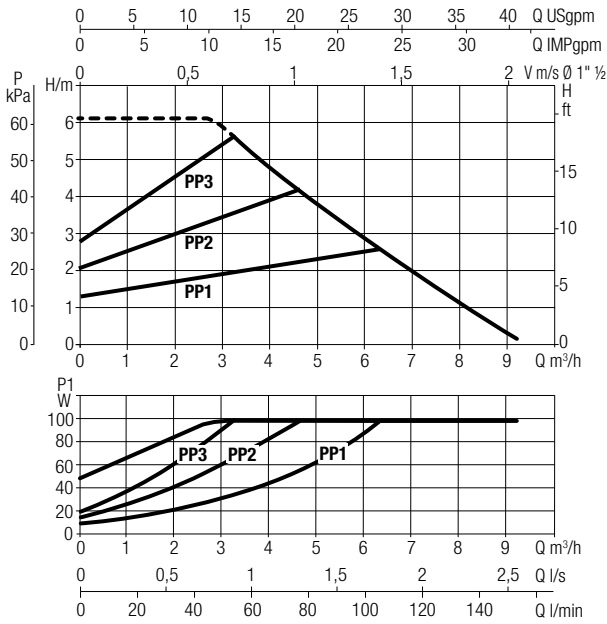
SELECTION TABLE - EVOPLUS LITE SAN

MODEL	Q=m ³ h	0	1,8	2,4	3	4,2	5,4	6,6	7,8	9	10,2	11,4
	Q=l/min	0	30	40	50	70	90	110	130	150	170	190
EVOPLUS LITE SAN 60/180-25	H (m)	6,1	6,1	6,0	5,6	4,6	3,4	2,2	1,0			
EVOPLUS LITE SAN 60/220-F32		6,0	6,0	6,0	5,5	4,5	3,5	2,6	1,6	0,7		
EVOPLUS LITE SAN 60/250-F40		6,0	6,0	6,0	5,5	4,5	3,5	2,6	1,6	0,7		
EVOPLUS LITE SAN 80/180-25		8,0	8,0	7,9	7,5	6,2	4,8	3,5	2,2	0,9		
EVOPLUS LITE SAN 80/220-F32		8,0	8,0	7,8	6,9	5,8	4,7	3,6	2,5	1,5		
EVOPLUS LITE SAN 80/250-F40		8,0	8,0	7,9	7,0	5,9	4,9	3,9	2,8	1,8	0,8	
EVOPLUS LITE SAN 120/180-25		12,0	12,0	11,5	10,0	8,5	7,1	5,7	4,3	2,9	1,5	
EVOPLUS LITE SAN 120/220-F32		12,0	12,0	10,6	9,7	8,5	7,3	6,1	4,9	3,7	2,5	1,3
EVOPLUS LITE SAN 120/250-F40		12,0	12,0	10,6	9,7	8,5	7,3	6,1	4,9	3,7	2,5	1,3

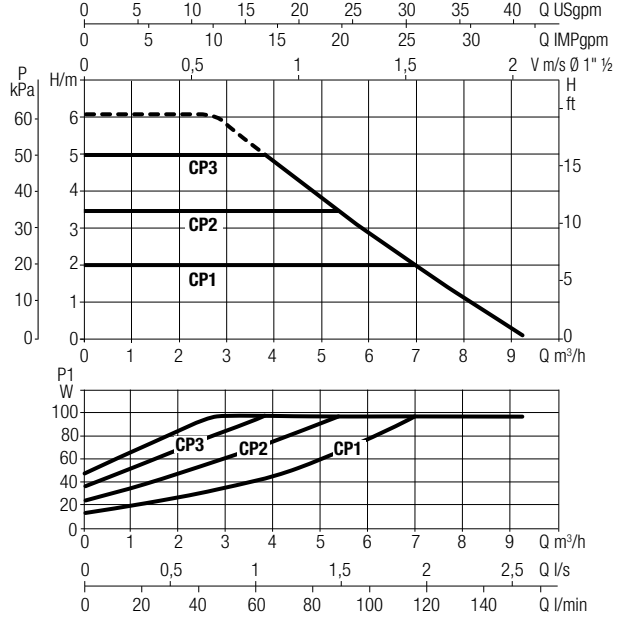
EVOPLUS LITE 60/180-25 - WET ROTOR ELECTRONIC CIRCULATORS

Pumped liquid temperature range: from -20°C up to +110°C - Maximum operating pressure: 16 bar (1600 kPa)

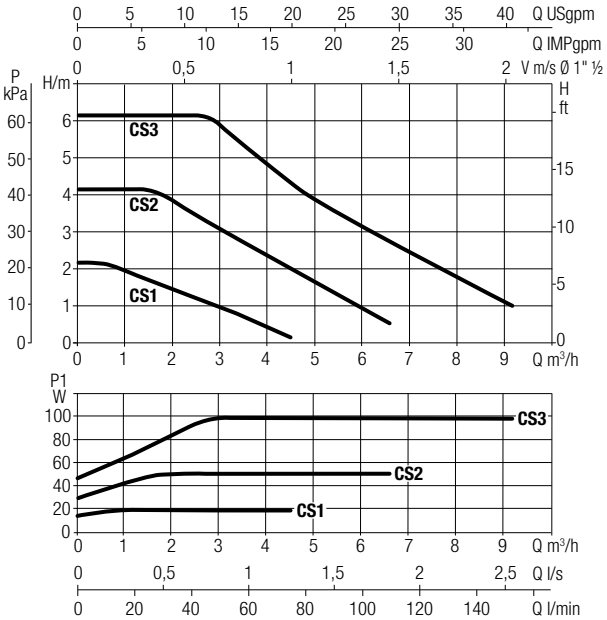
EVOPLUS LITE 60/180-25



EVOPLUS LITE 60/180-25



EVOPLUS LITE 60/180-25

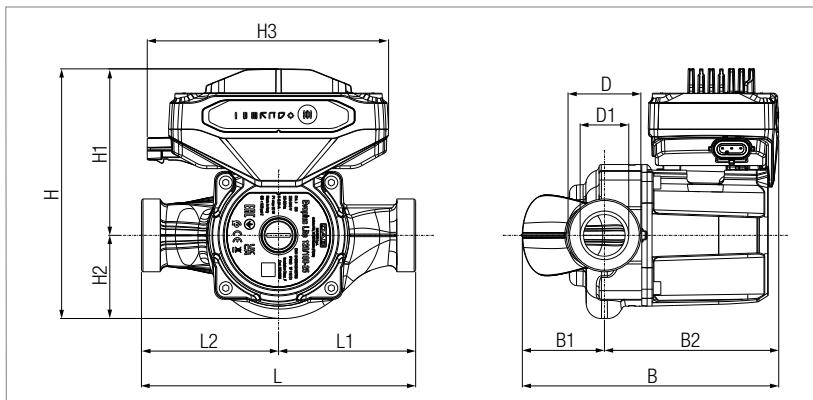


PPx = Proportional Differential Pressure - curve x
CPx = Constant Differential Pressure - curve x
CSx = Constant Speed - curve x

The curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906. Fixed speed curves available on the DNA.

MODEL	CENTRE DISTANCE mm	COUNTERFLANGES ON REQUEST	POWER INPUT 50/60 Hz	P1 MAX W	In A	EEI*	MINIMUM SUCTION PRESSURE			Q.TY x PALLET	WEIGHT Kg
							t°	90°	100°		
EVOPLUS LITE 60/180-25	180	-	220/240 V	98	0,78	EEI ≤ 0,20	m.c.w	20	25	92	3,4

* The parameter of reference for the more efficient circulators is EEI ≤ 0,20.



B	B1	B2	D	D1	H
168	54	114	1 1/2	32	164

H1	H2	H3	L	L1	L2
109	55	159	180	90	90