

EVOSTA 2

ELECTRONIC CIRCULATORS
FOR HEATING AND AIR CONDITIONING SYSTEMS



EVOSTA 2 OEM

WET ROTOR ELECTRONIC CIRCULATORS



TECHNICAL DATA

Operating range: 0-4 m³/h with head up to 7,5 metres.

Pumped liquid temperature range: from -10 °C to +110 °C.
(130 °C at 60 °C ambient)

Working pressure: 10 bar (1000 kPa)

Protection class: IPX5

Insulation class: F

Installation: with horizontal motor axis

Standard power input: single-phase 1 x 230 V~ 50/60 Hz

Power cable: molex plug with 1.5m cable

Signal cable: plug with 1.5 m cable (OEM versions only)

Pumped liquid: Clean, free of solids and mineral oils, non-viscous, chemically neutral, with properties similar to water.
(max. glycol 50%)

APPLICATIONS

Low energy consumption electronic pump designed to meet the requirements of the OEM industry in terms of performance and ergonomics.

ADVANTAGES

EVOSTA 2 OEM is the new range of DAB circulators that combines the strength of the mechanical circulator with the benefits of the electronic circulator.

Thanks to the permanent magnet synchronous motor, the frequency converter and the energy efficiency index of $EEL \leq 0.20$, as well as the IPX5 protection class and the integrated breather plug, the EVOSTA 2 OEM family ranks as one of the best products in the category in terms of performance and reliability. The range of EVOSTA 2 OEM circulators is the perfect substitute for old three-speed circulators due to its compact size and all-round performance.

The product is also extremely user-friendly, with a single key for sequential setting and direct access to the motor shaft for unlocking this when necessary.

CONSTRUCTION FEATURES

Cast iron pump body with cathaphoresis paint coating and wet rotor motor. Steel motor casing, technopolymer impeller. Ceramic motor shaft on ceramic bushings lubricated by the pumped liquid. Stainless steel rotor liner, stator liner and closing flange. Graphite thrust ring. EPDM seal ring and brass air breather plug.

Thanks to the internal protection of the motor, the pump does not require overload protection.

CONTROL PANEL

The functions of the EVOSTA 2 SOL circulators can be modified at the control panel on the cover of the electronic control device. The pump has nine settings that can be selected at the MODE button.

Six illuminated segments on the display indicate the settings of the pump.

The EVOSTA OEM PWM version can be controlled from an external control unit using the PWM (Pulse Width Modulation) digital signal. The setpoint of the adjustment curve can be of the following types:

- Proportional pressure
- Constant speed.

This is set through the PWM signal duty cycle, applied according to the VDMA Einheitsblatt 24244 standard "Wet runner circulating pumps – Specification of PWM control signals".

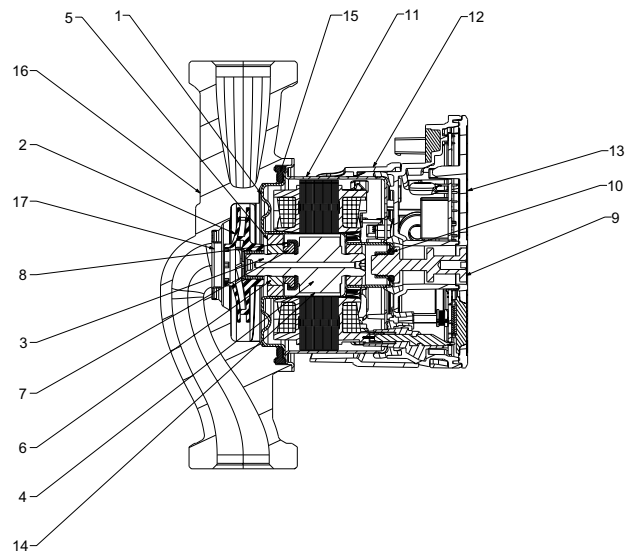
Moreover, a PWM signal on the output of the board indicates the operating mode of the circulator, as specified below.

EVOSTA 2 OEM

WET ROTOR ELECTRONIC CIRCULATORS

MATERIALS

N.	PARTS	MATERIALS
1	STATOR LINER	AISI 316
2	IMPELLER	ULTRASON
3	SHAFT	ALUMINA
4	ROTOR	Fe
5	BUSH HOLDER	BRASS
6	BUSH	ALUMINA
7	THRUST BUSH	GRAPHITE
8	THRUST BOX	EPDM
9	BREATHER PLUG	BRASS
10	O-ring	EPDM
11	MOTOR CASING	AISI 304
12	ENCLOUSER SHELL	POLYCARBONATE
13	ENCLOUSER	POLYCARBONATE
14	ROTOR LINER	AISI 304
15	GASKET	EPDM
16	PUMP BODY	CAST IRON-BRONZE (SAN VERSION)
17	SEAL RING	AISI 304



OPERATING MODES

PROPORTIONAL DIFFERENTIAL PRESSURE OPERATION

PP1 PP2 PP3

FIXED CURVE OPERATION

I II III IV V VI

CONSTANT DIFFERENTIAL PRESSURE OPERATION

PC1 PC2 PC3

- Legend:
(example)

EVOSTA 2 OEM 20/75 130 1/2"

Series name _____

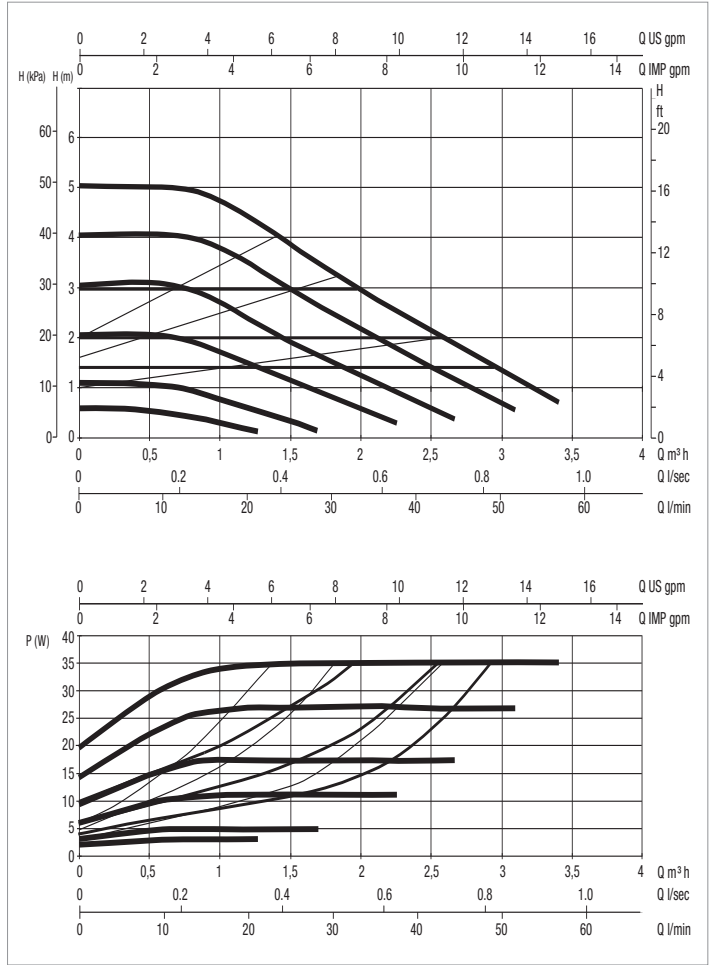
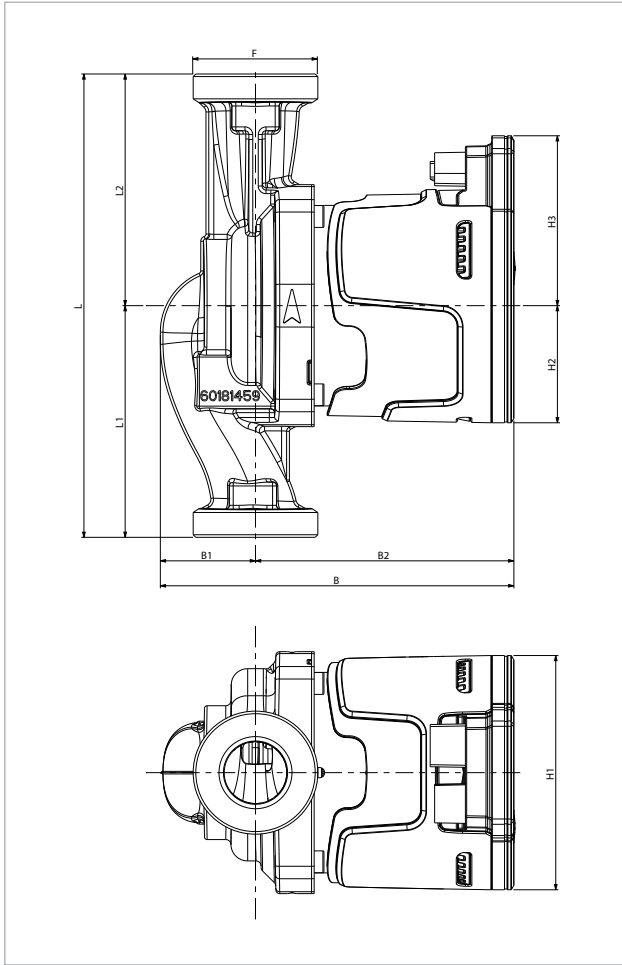
Maximum head range (dm) _____

Centre distance (mm) _____

Standard (no ref.) = 1" 1/2 threaded ports
 1/2" = 1" threaded ports

EVOSTA 2 OEM - ELECTRONIC CIRCULATORS FOR DOMESTIC HEATING AND AIR CONDITIONING SYSTEMS SINGLE, WITH UNIONS

Liquid temperature range: from -10°C to +110°C - Maximum operating pressure: 10 bar (1000 kPa)



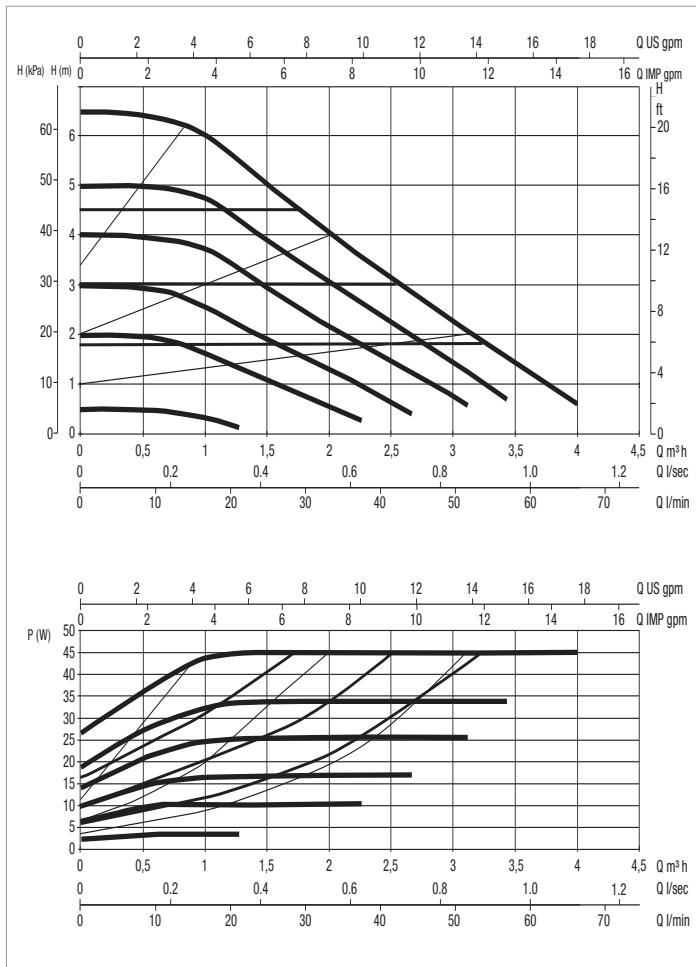
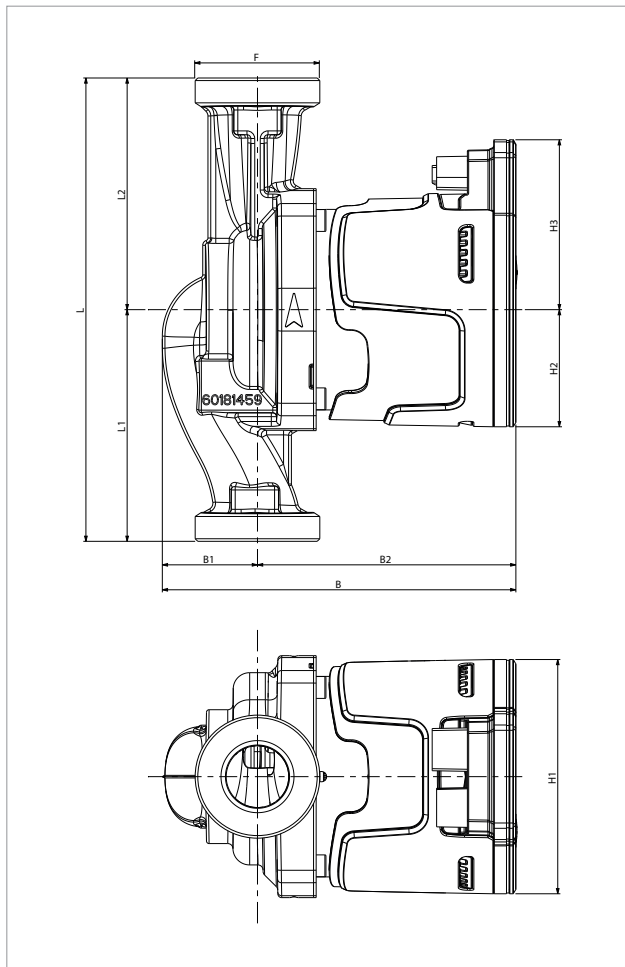
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

MODEL	CENTRE DISTANCE mm	POWER INPUT 50 Hz	P1 MAX W	P1 MIN W	In MAX A	In MIN A	EEl detail 3	GRADE IP
EVOSTA2 50/130 OEM PWM (1/2")	130	1x230 V ~	35	2	0.29	0.026	<0,20	IP X5
EVOSTA2 50/130 OEM (1/2")	130	1x230 V ~	35	2	0.29	0.026	<0,20	IP X5
EVOSTA2 50/130 OEM PWM (1")	130	1x230 V ~	35	2	0.29	0.026	<0,20	IP X5
EVOSTA2 50/130 OEM (1")	130	1x230 V ~	35	2	0.29	0.026	<0,20	IP X5
EVOSTA2 50/180 OEM PWM (1")	180	1x230 V ~	35	2	0.29	0.026	<0,20	IP X5
EVOSTA2 50/180 OEM (1")	180	1x230 V ~	35	2	0.29	0.026	<0,20	IP X5

MODEL	L	L1	L2	B	B1	B2	F	H	H1	H2	H3	Q.TY X PALLET
EVOSTA2 50/130 OEM PWM (1/2")	130	65	65	135	36	99	1"	94	91	45,5	66	240
EVOSTA2 50/130 OEM (1/2")	130	65	65	135	36	99	1"	94	91	45,5	66	240
EVOSTA2 50/130 OEM PWM (1")	130	65	65	135	36	99	1" 1/2	94	91	45,5	66	240
EVOSTA2 50/130 OEM (1")	130	65	65	135	36	99	1" 1/2	94	91	45,5	66	240
EVOSTA2 50/180 OEM PWM (1")	180	90	90	135	36	99	1" 1/2	94	91	45,5	66	144
EVOSTA2 50/180 OEM (1")	180	90	90	135	36	99	1" 1/2	94	91	45,5	66	144

EVOSTA 2 OEM - ELECTRONIC CIRCULATORS FOR DOMESTIC HEATING AND AIR CONDITIONING SYSTEMS SINGLE, WITH UNIONS

Liquid temperature range: from -10°C to +110°C - Maximum operating pressure: 10 bar (1000 kPa)



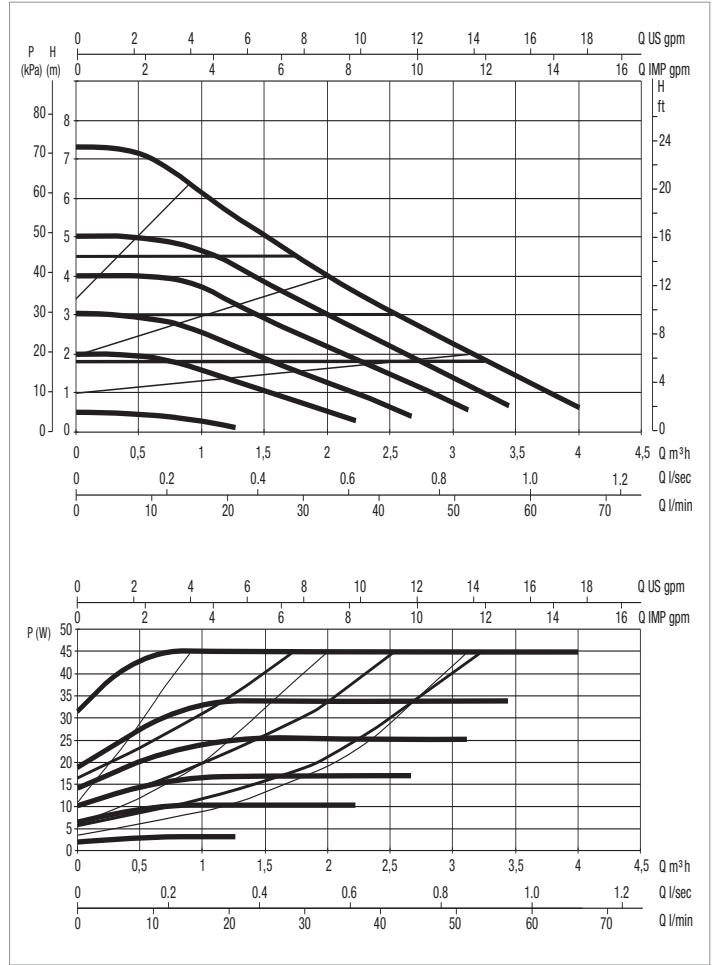
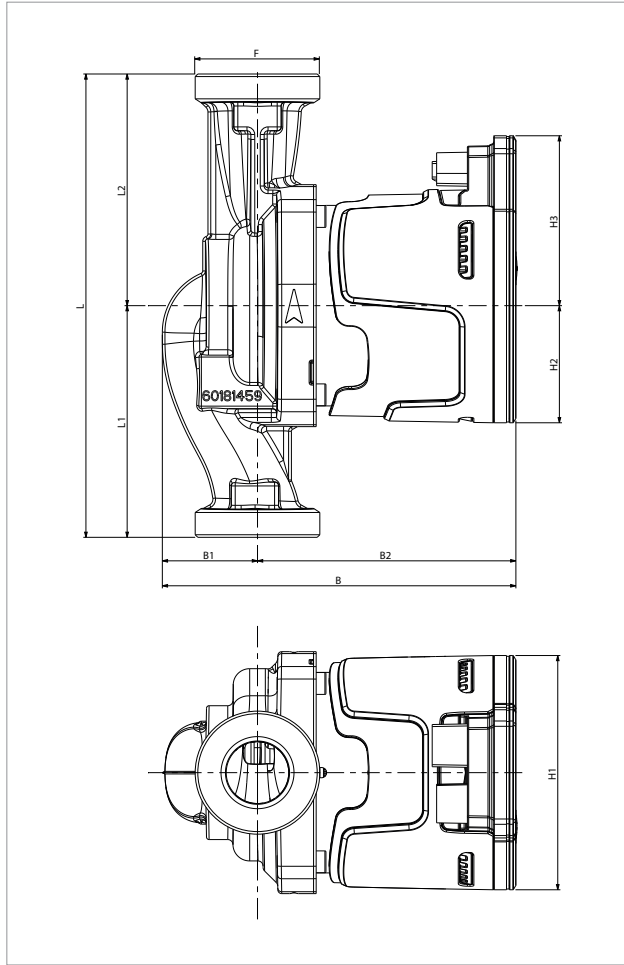
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

MODEL	CENTRE DISTANCE mm	POWER INPUT 50 Hz	P1 MAX W	P1 MIN W	In MAX A	In MIN A	EEI detail 3	GRADE IP
EVOSTA2 65/130 OEM PWM (1/2")	130	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 65/130 OEM (1/2")	130	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 65/130 OEM PWM (1")	130	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 65/130 OEM (1")	130	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 65/180 OEM PWM (1")	180	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 65/180 OEM (1")	180	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5

MODEL	L	L1	L2	B	B1	B2	F	H	H1	H2	H3	Q.TY X PALLET
EVOSTA2 65/130 OEM PWM (1/2")	130	65	65	135	36	99	1"	94	91	45,5	66	240
EVOSTA2 65/130 OEM (1/2")	130	65	65	135	36	99	1"	94	91	45,5	66	240
EVOSTA2 65/130 OEM PWM (1")	130	65	65	135	36	99	1" 1/2	94	91	45,5	66	240
EVOSTA2 65/130 OEM (1")	130	65	65	135	36	99	1" 1/2	94	91	45,5	66	240
EVOSTA2 65/180 OEM PWM (1")	180	90	90	135	36	99	1" 1/2	94	91	45,5	66	144
EVOSTA2 65/180 OEM (1")	180	90	90	135	36	99	1" 1/2	94	91	45,5	66	144

EVOSTA 2 OEM - ELECTRONIC CIRCULATORS FOR DOMESTIC HEATING AND AIR CONDITIONING SYSTEMS SINGLE, WITH UNIONS

Liquid temperature range: from -10°C to +110°C - Maximum operating pressure: 10 bar (1000 kPa)



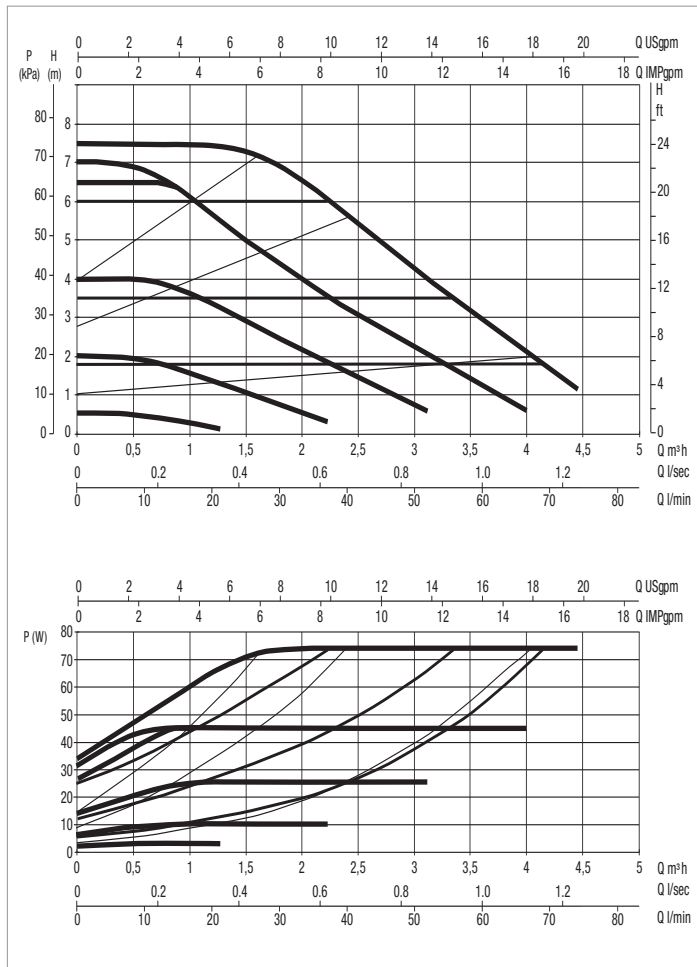
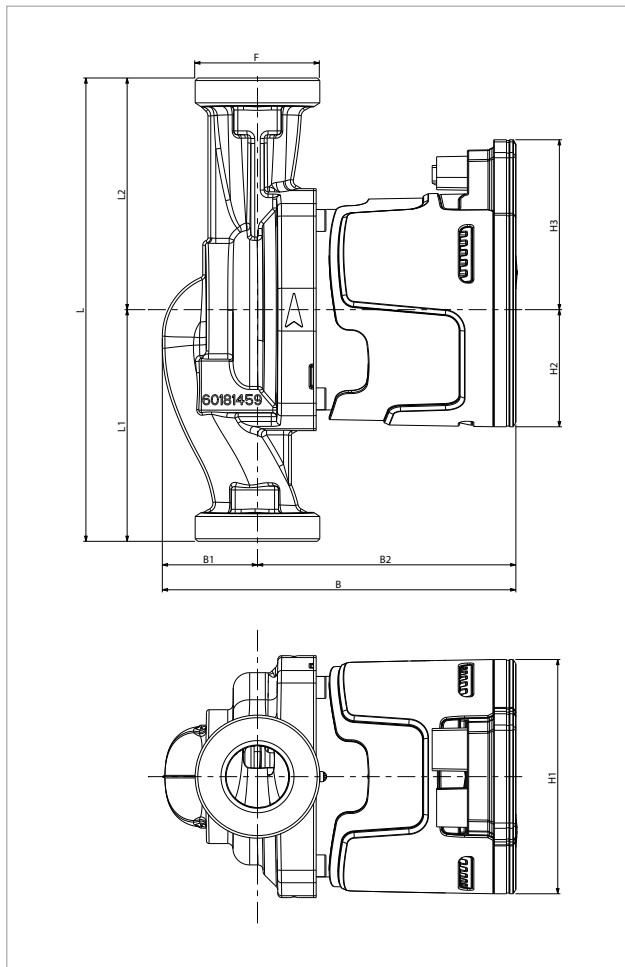
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

MODEL	CENTRE DISTANCE mm	POWER INPUT 50 Hz	P1 MAX W	P1 MIN W	In MAX A	In MIN A	EEl detail 3	GRADE IP
EVOSTA2 70/130 OEM PWM (1/2")	130	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 70/130 OEM (1/2")	130	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 70/130 OEM PWM (1")	130	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 70/130 OEM (1")	130	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 70/180 OEM PWM (1")	180	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5
EVOSTA2 70/180 OEM (1")	180	1x230 V ~	45	2	0.35	0.026	<0,20	IP X5

MODEL	L	L1	L2	B	B1	B2	F	H	H1	H2	H3	Q.TY X PALLET
EVOSTA2 70/130 OEM PWM (1/2")	130	65	65	135	36	99	1"	94	91	45,5	66	240
EVOSTA2 70/130 OEM (1/2")	130	65	65	135	36	99	1"	94	91	45,5	66	240
EVOSTA2 70/130 OEM PWM (1")	130	65	65	135	36	99	1" 1/2	94	91	45,5	66	240
EVOSTA2 70/130 OEM (1")	130	65	65	135	36	99	1" 1/2	94	91	45,5	66	240
EVOSTA2 70/180 OEM PWM (1")	180	90	90	135	36	99	1" 1/2	94	91	45,5	66	144
EVOSTA2 70/180 OEM (1")	180	90	90	135	36	99	1" 1/2	94	91	45,5	66	144

EVOSTA 2 OEM - ELECTRONIC CIRCULATORS FOR DOMESTIC HEATING AND AIR CONDITIONING SYSTEMS SINGLE, WITH UNIONS

Liquid temperature range: from -10°C to +110°C - Maximum operating pressure: 10 bar (1000 kPa)



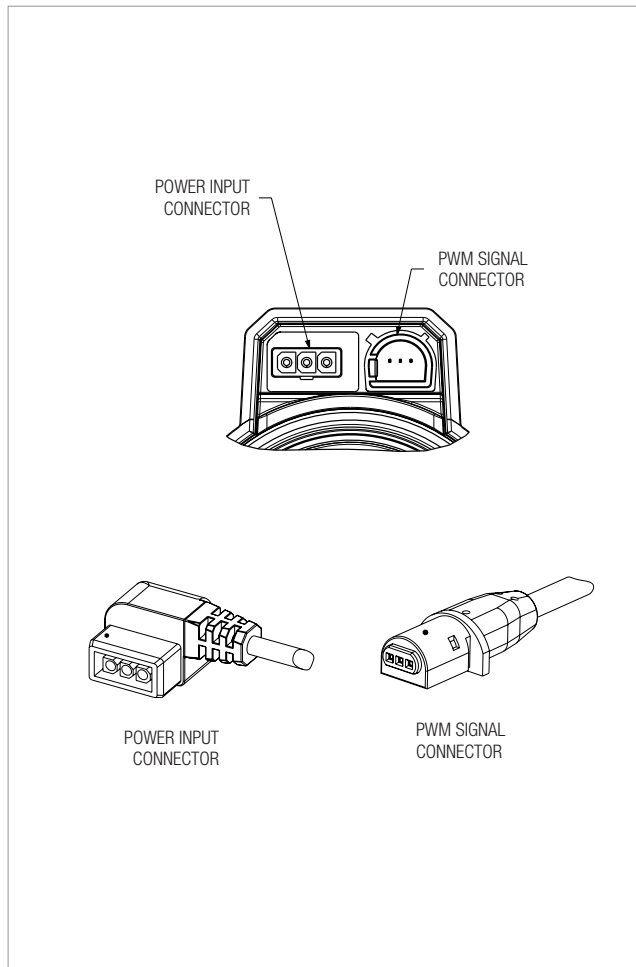
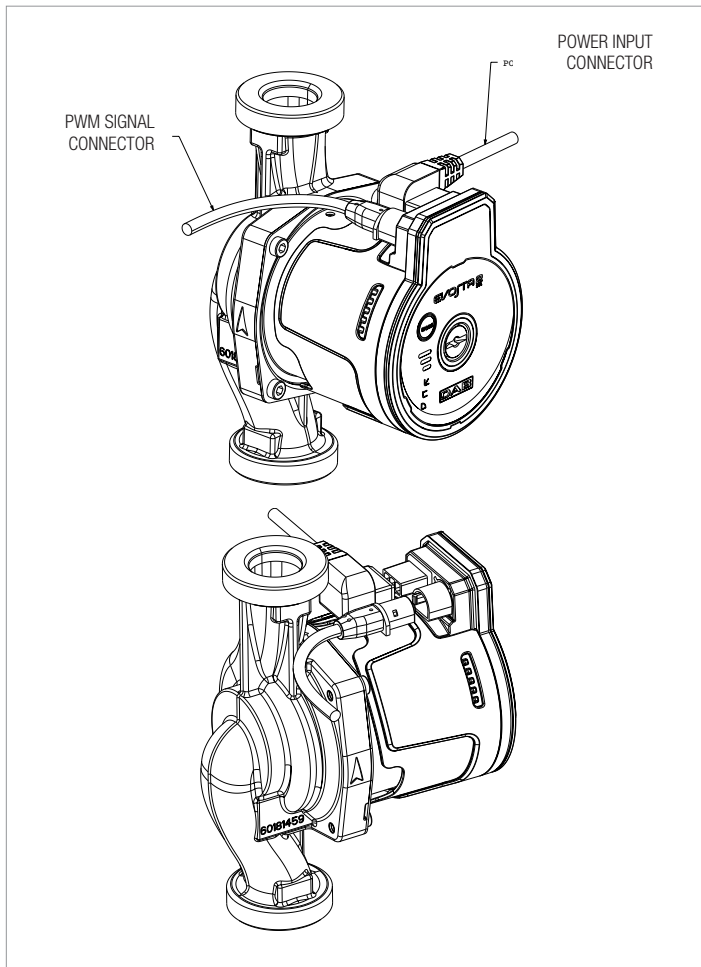
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

MODEL	CENTRE DISTANCE mm	POWER INPUT 50 Hz	P1 MAX W	P1 MIN W	In MAX A	In MIN A	EEI detail 3	GRADE IP
EVOSTA2 75/130 OEM PWM (1/2")	130	1x230 V ~	74	2	0.57	0.026	<0,20	IP X5
EVOSTA2 75/130 OEM (1/2")	130	1x230 V ~	74	2	0.57	0.026	<0,20	IP X5
EVOSTA2 75/130 OEM PWM (1")	130	1x230 V ~	74	2	0.57	0.026	<0,20	IP X5
EVOSTA2 75/130 OEM (1")	130	1x230 V ~	74	2	0.57	0.026	<0,20	IP X5
EVOSTA2 75/180 OEM PWM (1")	180	1x230 V ~	74	2	0.57	0.026	<0,20	IP X5
EVOSTA2 75/180 OEM (1")	180	1x230 V ~	74	2	0.57	0.026	<0,20	IP X5

MODEL	L	L1	L2	B	B1	B2	F	H	H1	H2	H3	Q.TY X PALLET
EVOSTA2 75/130 OEM PWM (1/2")	130	65	65	135	36	99	1"	94	91	45,5	66	240
EVOSTA2 75/130 OEM (1/2")	130	65	65	135	36	99	1"	94	91	45,5	66	240
EVOSTA2 75/130 OEM PWM (1")	130	65	65	135	36	99	1" 1/2	94	91	45,5	66	240
EVOSTA2 75/130 OEM (1")	130	65	65	135	36	99	1" 1/2	94	91	45,5	66	240
EVOSTA2 75/180 OEM PWM (1")	180	90	90	135	36	99	1" 1/2	94	91	45,5	66	144
EVOSTA2 75/180 OEM (1")	180	90	90	135	36	99	1" 1/2	94	91	45,5	66	144

EVOSTA 2 OEM - ELECTRONIC CIRCULATORS FOR DOMESTIC HEATING AND AIR CONDITIONING SYSTEMS SINGLE, WITH UNIONS

Liquid temperature range: from -10°C to +110°C - Maximum operating pressure: 10 bar (1000 kPa)



MODEL	Cable length
POWER INPUT CONNECTOR *	1.5 m
PWM SIGNAL CONNECTOR *	1.5 m

* available on request

EVOSTA 2 OEM - ELECTRONIC CIRCULATORS FOR DOMESTIC HEATING AND AIR CONDITIONING SYSTEMS SINGLE, WITH UNIONS

Liquid temperature range: from -10°C to +110°C - Maximum operating pressure: 10 bar (1000 kPa)

INPUT PWM SIGNAL

Inactive level: 0V

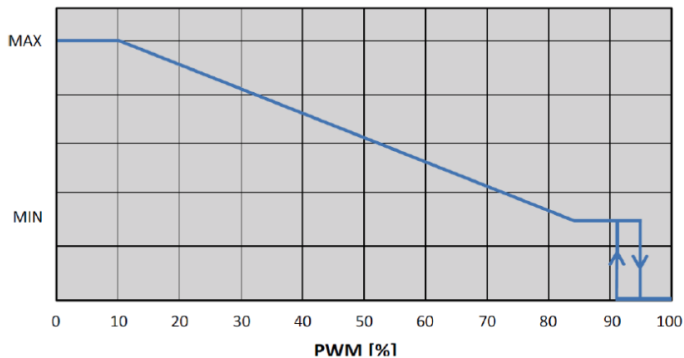
Active level from 5V-15V

Minimum current of active level: 5 mA

Frequency: 100Hz - 5 kHz

Insulation class: Class 2

ESD class Compliance with IEC 61000-4-2 (ESD)



OPERATING AREA	DUTY CYCLE PWM
STANDBY MODE	> 95 % / ≤ 100 %
HYSTERESIS AREA	> 91 % / ≤ 95 %
MINIMUM SETPOINT	> 84 % / ≤ 91 %
VARIABLE SETPOINT	≥ 10 % / ≤ 84 %
MAXIMUM SETPOINT	< 10 %

OUTPUT PWM SIGNAL

Type: Open collector V

Frequency: 5V-15V

Maximum current to output transistor: 50 mA

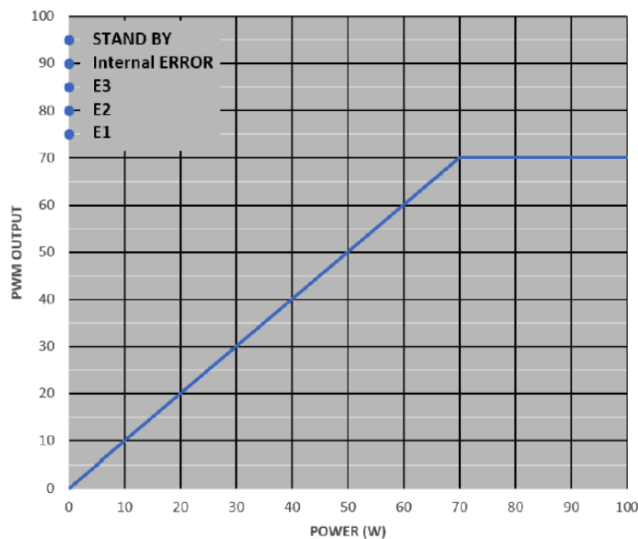
Maximum power to output resistor: 125 mW

Maximum power to 36 V output zener: 300 mW

Frequency: 75 Hz +/- 2%

Insulation class: Class 2

ESD class: Compliance with IEC 61000-4-2 (ESD)



OPERATING AREA	DUTY CYCLE PWM
PUMP ON	1%-70%
ERROR 1 DRY RUN	75%
ERROR 2 ROTOR BLOCKED	80%
ERROR 3 SHORT CIRCUIT	85%
INTERNAL ERROR	90%
STANDBY (STOP) FROM PWM SIGNAL	95%

DNA[®]

PUMPS SELECTOR



On-line product selection



DAB PUMPS LTD.

6 Gilbert Court
Newcomen Way
Severalls Business Park
Colchester
Essex
CO4 9WN - UK
salesuk@dwtgroup.com
Tel. +44 0333 777 5010



DAB PUMPS IBERICA S.L.

Calle Verano 18-20-22
28850 - Torrejón de Ardoz - Madrid
Spain
Info.spain@dwtgroup.com
Tel. +34 91 6569545
Fax: + 34 91 6569676



DAB PUMPS SOUTH AFRICA (PTY) LTD

Twenty One industrial Estate,
16 Purlin Street, Unit B, Warehouse 4
Olifantsfontein -1666 - South Africa
info.sa@dwtgroup.com
Tel. +27 12 361 3997



DAB PUMPS BV

*Hofveld 6 C1
1702 Groot Bijgaarden - Belgium
info.belgium@dwtgroup.com
Tel. +32 2 4668353



DAB PUMPS HUNGARY KFT.

H-8800
Nagykanizsa, Buda Ernő u.5
Hungary
Tel. +36 93501700



DAB PUMPS (QINGDAO) CO. LTD.

No.40 Kaituo Road, Qingdao Economic & Technological
Development Zone
Qingdao City, Shandong Province - China
PC: 266500
sales.cn@dwtgroup.com
Tel. +86 400 186 8280
Fax +86 53286812210



DAB PUMPS POLAND Sp. z o.o.

Ul. Janka Muzykanta 60
02-188 Warszawa - Poland
polska@dabpumps.com.pl



DAB PUMPS DE MÉXICO, S.A. DE C.V.

Av Amsterdam 101 Local 4
Col. Hipódromo Condesa,
Del. Cuauhtémoc CP 06170
Ciudad de México
Tel. +52 55 6719 0493



DAB PUMPS B.V.

Albert Einsteinweg, 4
5151 DL Drunen - Nederland
info.netherlands@dwtgroup.com
Tel. +31 416 387280
Fax +31 416 387299



OOO DAB PUMPS

Novgorodskaya str. 1, block G
office 308, 127247, Moscow - Russia
info.russia@dwtgroup.com
Tel. +7 495 122 0035
Fax +7 495 122 0036



DAB PUMPS OCEANIA PTY LTD

426 South Gippsland Hwy,
Dandenong South VIC 3175 - Australia
info.oceania@dwtgroup.com
Tel. +61 1300 378 677



DAB PUMPS GMBH

Am Nordpark 3
D - 41069 Mönchengladbach - Germany
info.germany@dwtgroup.com
Tel. +49 2161 47388-0
Fax +49 2161 47388-36



DAB PUMPS INC.

3226 Benchmark Drive
Ladson, SC 29456 - USA
info.usa@dwtgroup.com
Tel. 1- 843-797-5002
Fax 1-843-797-3366



PT DAB PUMPS INDONESIA

Satrio Tower lantai 26
unit C-D, Jl. Prof. Dr. Satrio Kav. C4,
Kel. Kuningan Timur, Kec. Setiabudi, Kota Adm.
Jakarta Selatan, Prov. DKI Jakarta. - Indonesia
Tel. +62 2129222850