



# QUOTATION

14-09-15

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DAB PUMPS S.p.A.  
Via Marco Polo, 14 - 35035 Mestrino (PD), Italy  
Tel. +39 049 5125000 - Fax +39 049 5125950  
www.dabpumps.com

Receiver

From

Society  
Reference  
Address  
Phone  
Fax  
E-mail

| Ref.    | Art.-nr.      | Omschrijving  | Aant.         | Enheidsprijs      | Totale lijstprijs |
|---------|---------------|---|---------------|-------------------|-------------------|
|         | 60151165      | <p><b>SERIES EVOPLUS SAN</b><br/><b>EVOPLUS B 150/250.40 SAN M</b></p> <p>GENERAL DATA</p> <p>APPLICATIONS<br/>EVOPLUS electronic circulators can be used in heating, ventilation and air conditioning systems for residential and commercial buildings including:<br/>-Large residential buildings - Condominiums and apartment blocks - Homes<br/>-Clinics and Hospitals - Schools - Office buildings<br/>-Real Estate Assets<br/>All models are available in both the single and twin version.<br/>Made with bronze pump body for secondary hot water circulation. Available in single version with 1 1/2" threaded connection as well as DN 32 and DN 40 flanged connection.<br/>Compatible for external signal 0-10 or PWM and for communication between devices Modbus (Lonbus with dedicated communication module).</p> <p>APPLICATIONS IN HEATING<br/>The heating required in various applications changes significantly during the day/night due to the ambient temperature and changing occupancy levels. This situation is compounded by the different requirements of the various rooms and opening or closing of the various circuit branches in complex installations. Electronically controlled wet rotor pumps constantly ensure, in almost all correctly sized installations, sufficient power and, simultaneously, lower noise emissions, greater comfort and a significant reduction in running costs.</p> <p>APPLICATIONS IN AIR CONDITIONING<br/>Unlike conventional electronic pumps, EVOPLUS electronic circulators can also be used in air conditioning systems where the temperature of the liquid pumped is lower than the ambient temperature. In these conditions condensate tends to form on the outer surface of the circulator although this does not impair proper operation of either the electronic or mechanical sections. The unit is designed and sized in such a way as to allow the condensate to drain without damaging the construction components.</p> <p>APPLICATIONS FOR HOT WATER CIRCULATION *<br/>The SAN version pump with bronze body has been developed specifically for the circulation of secondary hot water. The constant temperature operating mode controls the water temperature in the circulation pipe without needing to use thermostatic valves, thus maintaining required water temperature for user.</p> <p>CONSTRUCTION FEATURES<br/>Enbloc circulator composed of cast iron hydraulic section and wet rotor synchronous motor. Motor casing in aluminium. Scroll type pump body featuring high hydraulic efficiency thanks to highly precise design and smooth internal surfaces. Flanged suction and discharge ports equipped with threaded fittings for pressure and temperature readings.<br/>The single version is supplied as standard with insulating covers to avoid heat loss and/or the formation of condensate on the pump body.<br/>Insulation of the twin version is to be provided by the installer. Use special caution to avoid obstructing the condensate drainage labyrinths in order to avoid impairing operation.</p> | 1             |                   |                   |
|         |               |   | 1             | Pr. op aanvr.     | Pr. op aanvr.     |
| Project | Projectnummer | Aangemaakt door:  | Aangemaakt op | Laatste wijziging |                   |
|         |               |   | 14-09-15      |                   |                   |



WATER • TECHNOLOGY

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|---------|---------------|---|---------------|-------------------|-------------------|
|         |               | <p>Impeller in technopolymer, motor shaft in hardened stainless steel held in ceramic bearings lubricated by the pumping medium. Rotor protective jacket in stainless steel. Ceramic thrust ring, ethylene propylene seals and stator jacket in carbon fiber composite. Permanent magnet synchronous motor. The twin version features an automatic swing check valve incorporated in the discharge port to avoid water recirculating through the unit when it is not running; moreover, a blank flange is supplied as standard to allow either of the two motors to be removed for servicing. Standard execution of the pump body is PN 16. Both the DN 80 and the DN 100 PN 16 (8 holes) versions can be supplied on request</p> <p>Circulator protection rate: IP X4<br/>Insulation Class: F<br/>Standard voltage: single-phase 220/240 V , 50/60Hz<br/>This product complies with European standards EN 61800-3 - EN 60335-1 - EN 60335-2-5151</p> <p>EVOPLUS CONSTRUCTION FEATURES FOR SMALL COMMUNITY SYSTEMS (ELECTRONIC DEVICE) *</p> <p>EVOPLUS circulators are controlled by means of an IGBT-based device in NPT-technology of the latest generation for higher efficiency and robustness. Specific features includes:</p> <ul style="list-style-type: none"> <li>o Sine wave modulated PWM</li> <li>o High carrier frequency to eliminate all audio band noise</li> <li>o 2 dedicated 32-bit processors: <ul style="list-style-type: none"> <li>one dedicated to motor control</li> <li>one dedicated to the user interface allowing the following functions: <ul style="list-style-type: none"> <li>- start/stop control</li> <li>- Economy control</li> <li>- 0-10V analogue signal control</li> <li>- PWM signal control</li> <li>- 4-20 mA analogue signal control</li> <li>- ?T Temperature sensor signal control</li> <li>- Connection to ModBus control systems. Optional Lonbus with relative module.</li> </ul> </li> </ul> </li> <li>o Optimised space vector algorithm</li> <li>o Alarms system availability</li> <li>o Indication pump running</li> </ul> <p>* Available input when the asocciadet operation is activated</p> <p>An intuitive and functional user interface ensures ease of calibration for all users. The easy to read OLED display on the control panel, three easy navigation keys, a drop down menu in line with the latest trends in the field of mobile telephony and a very wide range of functions mean that EVOPLUS circulators are truly revolutionary products. A reliable and robust construction combined with a modern and innovative design completes the product also from an aesthetic point of view.</p> <p>TECHNICAL DATA<br/>Operating range: 3 to 75,6 m<sup>3</sup>/h with head up to 18 meters;<br/>Liquid temperature range: from -10 °C a +110 °C<br/>Pumped liquid: clean, free of solid contaminants and mineral oils, non-viscous, chemically neutral, close to the properties of water. (max. glycol contents 30%).<br/>Maximum working pressure: 16 bar (1600 kPa)<br/>Standard flanging: DN 32, DN 40, DN 50, DN 65, PN 6 / PN 10 / PN 16 (4 slots), DN</p> |               |                   |                   |
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|------|----------|--|------|---------------|-------------------|
|      |          | <p>80 and DN 100, PN 6 (4 slots)<br/>Minimum suction pressure: the values are given in the relevant tables.<br/>Special executions on request: DN 80 , DN 100 PN 10 / PN 16 (8 holes)<br/>Accessories: counterflanges PN 10 DN 32 - DN 40 - DN 50 - DN 65 PN 6 DN 80 - DN 100<br/>Electromagnetic compatibility: EVOPLUS circulators comply with standard EN 61800-3, in category C2, in terms of electromagnetic compatibility.<br/>Electromagnetic emissions - Residential environment (containment measures may be necessary in certain cases).<br/>Conducted emissions - Residential environment (containment measures may be necessary in certain cases).</p> |      |               |                   |

Subtotaal:

Pr. op aanvr.

Pr. op aanvr.

Totale prijs zonder BTW

BTW in %

Totale prijs incl. BTW

20

Project

Projectnummer

Aangemaakt door:

Aangemaakt op Laatste wijziging

14-09-15

**Receiver**
**From**

 Society  
 Reference  
 Address  
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 E-mail

**Item no.**

60151165

**Model:**

EVOPLUS B 150/250.40 SAN M

**Pump data**

 Pressure rating : 16 bar (1600 kPa)  
 Min. fluid temperature : -10 °C  
 Max. fluid temperature : 110 °C  
 EEI : ≤ \*\*\*

**Minimum suction head :**

 Temperatuur: °C 90 100  
 Minimum suction head : m 20 25

**Requested data**

 Flow : 12,00 m<sup>3</sup>/h  
 Head : 10,00 m  
 Fluid (%) : Water  
 Fluid Temperature : 20 °C  
 Density : 0,99819 kg/dm<sup>3</sup>  
 Kinematische viscositeit: 1,0004 mm<sup>2</sup>/s  
 Dampsparing: 2,20 kPa

**Hydraulic data (duty point)**

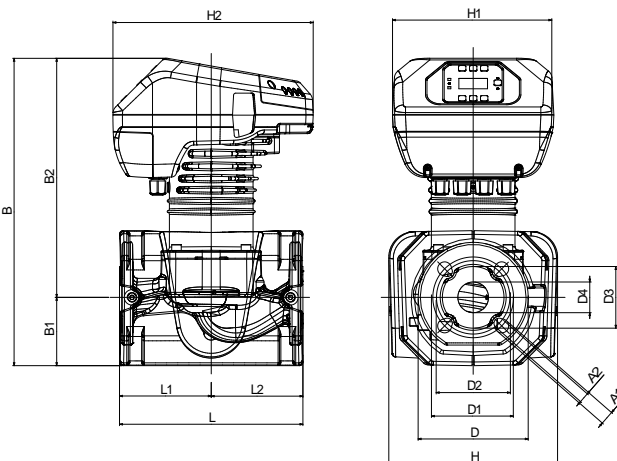
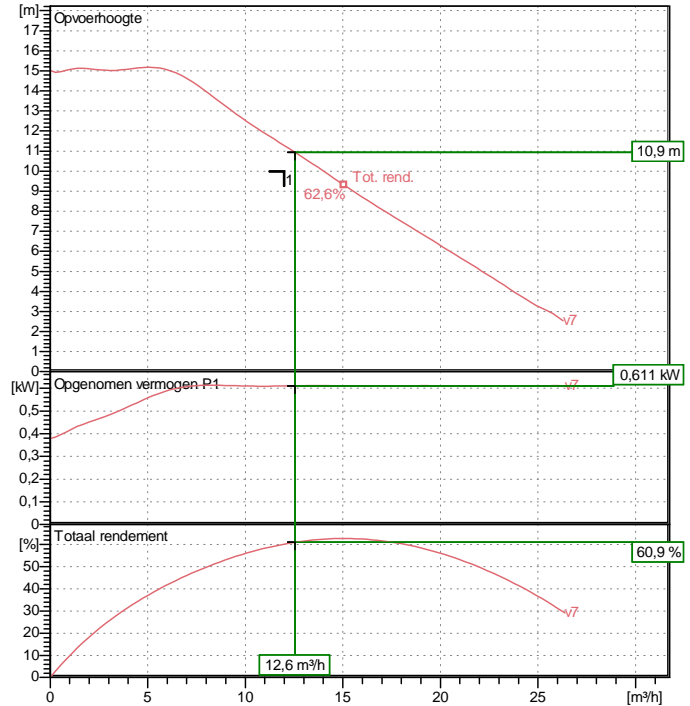
 Flow : 12,55 m<sup>3</sup>/h  
 Head : 10,94 m

**Materials**

 Pump body : Bronze  
 Impeller : Technopolymer  
 Motor shaft : Stainless steel  
 Seal ring : EPDM  
 Motor casing : Die cast aluminium  
 Closing flange : Stainless steel  
 Thrust ring support : Stainless steel

**Motor data**

 Merk : DAB  
 Power input P1 : 0,61 kW  
 Rated voltage : 1~ 220-240 V 50 Hz  
 Nominal current : 2,9 A  
 Degree of protection : IP 44

**Curve tolerance according to ISO 9906**

**Dimension mm**

|    |     |    |     |    |     |    |     |
|----|-----|----|-----|----|-----|----|-----|
| A1 | 19  | D  | 150 | H  | 230 | L2 | 125 |
| A2 | 14  | D1 | 110 | H1 | 220 |    |     |
| B  | 419 | D2 | 100 | H2 | 273 |    |     |
| B1 | 93  | D3 | 84  | L  | 250 |    |     |
| B2 | 326 | D4 | 42  | L1 | 125 |    |     |

**Gewicht:** 20 kg

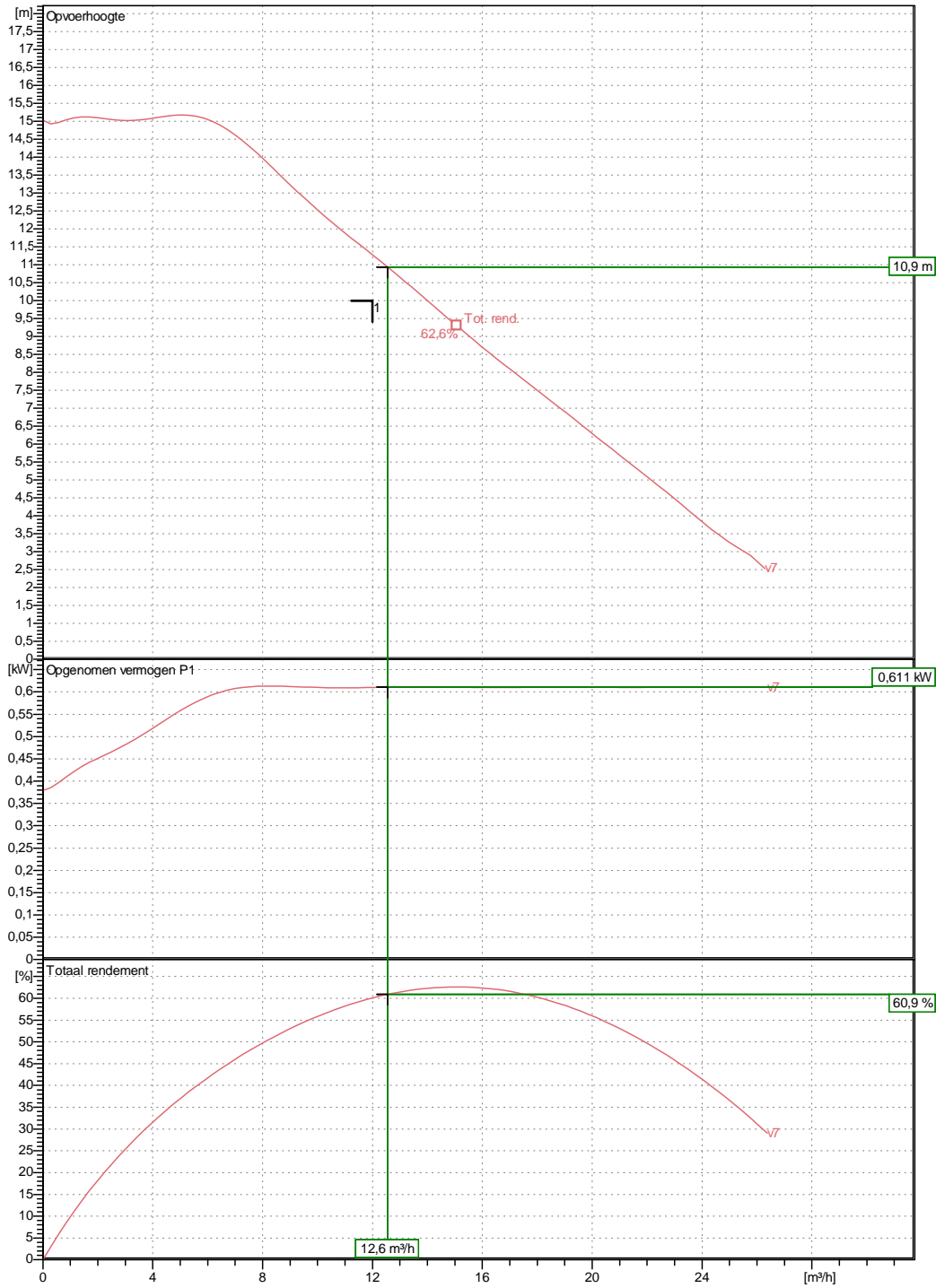
**Pump connection**

 Suction side : DN 40 / PN 16  
 Discharge side : DN 40 / PN 16

|   |                 |             |
|---|-----------------|-------------|
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## EVOPLUS B 150/250.40 SAN M

Curve tolerance according to ISO 9906



### Hydraulic data (duty point)

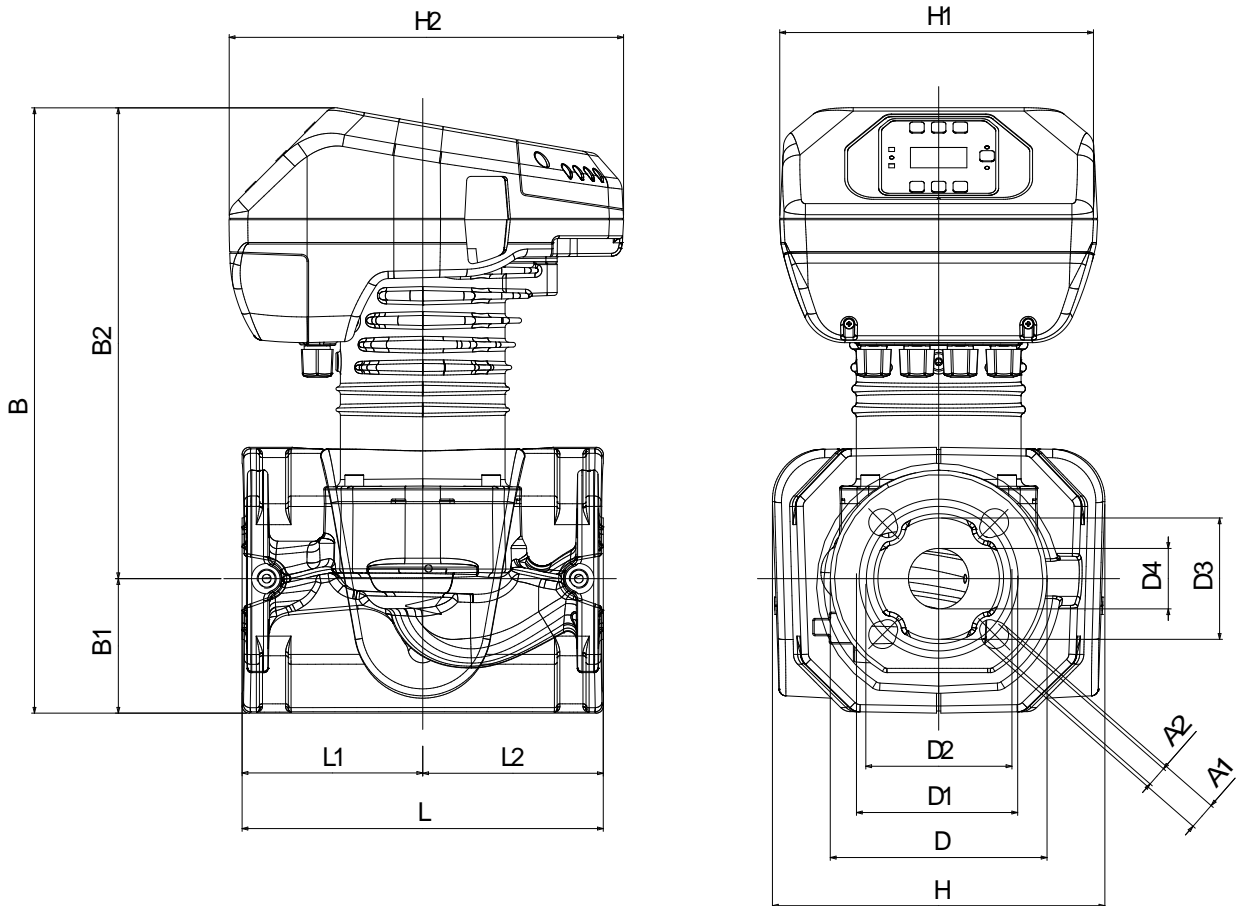
|                                |                                  |                   |                                  |                            |
|--------------------------------|----------------------------------|-------------------|----------------------------------|----------------------------|
| Suction side<br>DN 40<br>PN 16 | Discharge side<br>DN 40<br>PN 16 | Flow :<br>12 m³/h | Head :<br>10 m                   | Rated speed:<br>2900 1/min |
| Project                        | Projectnummer                    | Aangemaakt door:  | Aangemaakt op<br><b>14-09-15</b> |                            |

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## EVOPLUS B 150/250.40 SAN M


**Dimensions in mm**

|    |    |     |    |     |
|----|----|-----|----|-----|
| 1  | A1 | 19  | H  | 230 |
| 2  | A2 | 14  | H1 | 220 |
| 3  | B  | 419 | H2 | 273 |
| 4  | B1 | 93  | L  | 250 |
| 5  | B2 | 326 | L1 | 125 |
| 6  | D  | 150 | L2 | 125 |
| 7  | D1 | 110 |    |     |
| 8  | D2 | 100 |    |     |
| 9  | D3 | 84  |    |     |
| 10 | D4 | 42  |    |     |

**Pump connection**

 Suction  
 DN 40  
 PN 16

 Discharge  
 DN 40  
 PN 16

Project

Projectnummer

Aangemaakt door:

Aangemaakt op

**14-09-15**