APPLICATIONS
Hot or cold water circulation pump with in-line ports, suitable for installation directly on the pipework of civil and industrial heating, air conditioning, refrigeration, and sanitary water plants. Particularly versatile thanks to the use of the MCE/C inverter, offering performance features capable of automatically adapting to the different needs of the system, keeping a consistent differential pressure.

CONSTRUCTION FEATURES OF THE PUMP
Pump body and motor support in cast iron.
2” M-GAS suction and delivery ports. Technopolymer impeller. Carbon/ceramic mechanical seal.
Construction features of the motor
External ventilation cooling, closed, asynchronous type, with four poles for the ALM version, and two poles for the ALP version.
Rotor running on permanently lubricated ball bearings, oversized to ensure low noise and durability.
Construction according to CEI 2-3.

CONSTRUCTION FEATURES OF THE ELECTRONICS: MCE/C INVERTER
MCE/C inverters are the latest technological achievement of the DAB inverter range. They represent a new generation of inverters for use with circulation pumps, and set themselves apart due to ease of use, power, simplicity of installation and management. MCE/C inverters have been designed for managing circulation pumps. By allowing a simple adjustment of the differential pressure, they give the possibility of adjusting the performance of the circulation pump to the actual system requirements. They are fitted on the fan cover of the motor. This makes the installation of the pump with MCE/C particularly easy and quick. The protection class of the MCE/C is IP55. The easy of programming is guaranteed by the use of a simple and intuitive interface, similar to Dialogue electronic circulators, and a graphic display. MCE/C inverters have a double micro-processor construction that guarantees maximum efficiency and reliability.

A reliable and sturdy construction, together with a modern and innovative design, complete the product, also in terms of aesthetic value. MCE/C inverters protect the motor and the pump, and increase their life, by eliminating hammering effects and making the pump rotate at the minimum number of rotations capable of meeting the requirements of the user. In addition, electric pumps controlled by the MCE/C inverter are environmentally friendly. In fact, by ensuring that the pump only uses the power that is strictly necessary for meeting the needs of the users, electricity consumption is strongly reduced when compared with fixed speed pumps. It is possible to create twin units by using the appropriate cable for the connection of MCE/C inverters.

TECHNICAL DATA
Operating range: from 1 to 8,4 m³/h with head up to 21 metres.
Liquid temperature range: from -15 °C to +120 °C.
Pumped liquid: clean, free of solids and abrasives, non-viscous, non-aggressive, non-crystallised and chemically neutral, with properties similar to water. Maximum, glycol content 30% (for other glycol percentages contact Technical Support).
Installation: fixed, horizontal position.
Maximum ambient temperature: +40 °C.
Maximum operating pressure: 10 bar (1000 kPa).
Protection class: IP 55.
Insulation class: F.
Standard voltage: single-phase 220-240 V, 50/60 Hz.

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from -15 °C to +120 °C.
Pumped liquid:
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MATERIALS

<table>
<thead>
<tr>
<th>N.</th>
<th>PARTS</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PUMP BODY</td>
<td>CAST IRON 250 UNI ISO 185</td>
</tr>
<tr>
<td>3</td>
<td>SUPPORT</td>
<td>CAST IRON 250 UNI ISO 185</td>
</tr>
<tr>
<td>4</td>
<td>IMPELLER</td>
<td>TECHNOPOLYMER</td>
</tr>
<tr>
<td>7</td>
<td>SHAFT WITH ROTOR</td>
<td>AISI 303 STAINLESS STEEL X10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CUNS 1809 UNI 6900/71</td>
</tr>
<tr>
<td>16</td>
<td>MECHANICAL SEAL</td>
<td>CARBON / CERAMIC</td>
</tr>
<tr>
<td>28</td>
<td>OR RING</td>
<td>EPDM RUBBER</td>
</tr>
</tbody>
</table>

- Legend:
  (example)

  Series
  M = 4-pole motor
  P = 2-pole motor
  E = motor complete with MCE/C inverter
  Maximum head (cm)
  M = single-phase motor
  MCE = DAB inverter
  11 = P. max in Kw x 10
  C = Circulation version

Installation: fixed, horizontal position.
MCE/C INVERTER

MODES OF OPERATION
All the functions listed below can be consulted by the users (including less experienced ones) by simply scrolling through the MCE/C menu. The calibration and the modification of the parameters are protected, and can only be completed by expert users.

1 - ΔP-c constant differential pressure adjustment mode
The ΔP-c adjustment mode keeps the differential pressure of the system constantly at the H(setp) value set, even in case of variation of the flow rate. This is the standard adjustment used. It can be set directly from the MCE/C control panel. The inverter keeps the differential pressure (H setp) constant even in case of flow variation.

This adjustment is particularly indicated for the following systems:
- two-pipe heating systems with thermostat valves
- underfloor heating systems with thermostat valves
- single-pipe heating systems with thermostat valves and calibration valves
- systems with primary circuit pumps

2 - Constant curve adjustment modes
2.1 - Constant curve adjustment
The rotation speed is kept at a constant number of revolutions. This rotation speed can be set between a minimum value and the nominal frequency of the circulation pump (e.g. between 15 Hz and 50 Hz).

This mode can be set using the control panel on the MCE cover.

2.2 - Adjustment of the constant curve with external analogue signal
The rotation speed is kept at a constant number of revolution in proportion with the voltage of the external analogue signal.

The rotation speed changes in a linear way, between the nominal frequency of the pump when Vin = 10 V, and the minimum frequency when Vin = 0 V.

This mode can be set using the control panel on the MCE cover.

3 - ΔP-v * proportional differential pressure adjustment mode
With ΔP-v adjustment mode, with the variation of the flow rate, the value of the delivery of the head also varies in a linear manner, from Hsetp to Hsetp/2.

* in order to know the availability of the function on specific models contact our customer service.

For more information refer to the technical appendix.
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

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Q=m³/h</th>
<th>0</th>
<th>1,2</th>
<th>2,4</th>
<th>3,6</th>
<th>4,8</th>
<th>6</th>
<th>7,2</th>
<th>8,4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALME 500 M MCE11/C</td>
<td>Q=l/min</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>120</td>
<td>140</td>
</tr>
<tr>
<td>H (m)</td>
<td></td>
<td>5,5</td>
<td>5,4</td>
<td>5,3</td>
<td>4,8</td>
<td>4,1</td>
<td>3</td>
<td>1,5</td>
<td></td>
</tr>
<tr>
<td>ALPE 2000 M MCE11/C</td>
<td></td>
<td>21,1</td>
<td>20,6</td>
<td>19,6</td>
<td>18</td>
<td>16</td>
<td>13,8</td>
<td>10,5</td>
<td>5,3</td>
</tr>
</tbody>
</table>
ALME 500 - IN-LINE ELECTRIC PUMPS FOR HEATING, AIR CONDITIONING, REFRIGERATION, SOLAR, AND SANITARY SYSTEMS - SINGLE, THREADED, WITH MCE/C INVERTER

Pumped liquid temperature range: from -15 °C to +120 °C - Maximum ambient temperature: +40°C

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**ELECTRONIC IN-LINE PUMPS**

**ALME 500**

IN-LINE ELECTRIC PUMPS FOR HEATING, AIR CONDITIONING, REFRIGERATION, SOLAR, AND SANITARY SYSTEMS - SINGLE, THREADED, WITH MCE/C INVERTER

- Pumped liquid temperature range: from -15 °C to +120 °C
- Maximum ambient temperature: +40°C

---

**MODEL**

**ELECTRICAL DATA**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>POWER INPUT 50 Hz</th>
<th>MOTOR TYPE</th>
<th>n.p.m.</th>
<th>P1 MAX W</th>
<th>P2 NOMINAL kW</th>
<th>P2 NOMINAL HP</th>
<th>In A</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALME 500 M MCE11/C *</td>
<td>1x220-240 V ~</td>
<td>4 POLES</td>
<td>1425</td>
<td>0,20</td>
<td>0,25</td>
<td>0,33</td>
<td>3,20</td>
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</tbody>
</table>

* Three-phase version on request

---

**PACKING DIMENSIONS**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>L</th>
<th>IØ</th>
<th>H1</th>
<th>H2</th>
<th>H3</th>
<th>DNA</th>
<th>DNM</th>
<th>L/A</th>
<th>L/B</th>
<th>H</th>
<th>VOLUME (m³)</th>
<th>WEIGHT (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALME 500 M MCE11/C</td>
<td>586</td>
<td>200</td>
<td>63</td>
<td>95</td>
<td>8</td>
<td>250</td>
<td>125</td>
<td>125</td>
<td>256</td>
<td>2&quot; M</td>
<td>2&quot; M</td>
<td>600</td>
<td>234</td>
<td>275</td>
<td>0.039</td>
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</tbody>
</table>

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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.
ALPE 2000 IN-LINE ELECTRIC PUMPS FOR HEATING, AIR CONDITIONING, REFRIGERATION, SOLAR, AND SANITARY SYSTEMS - SINGLE, THREADED WITH MCE/C INVERTER

Pumped liquid temperature range: from -15 °C to +120 °C - Maximum ambient temperature: +40°C

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<th>P2 NOMINAL kW</th>
<th>HP</th>
<th>ln A</th>
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</thead>
<tbody>
<tr>
<td>ALPE 2000 M MCE11/C *</td>
<td>1x220-240 V ~</td>
<td>2 POLES</td>
<td>2870</td>
<td>0,69</td>
<td>0,55</td>
<td>0,75</td>
<td>6,36</td>
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<table>
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<tr>
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