The supply of drinking water, industrial systems for purposes such as washing or air treatment, building services with heating and cooling or pressurisation, are uses that require specific solutions.

Surface electric pumps represent an extended range with all the requirements to meet the demands of increasingly complex and demanding applications. EBARA and its range of surface pumps, thanks to their reliability, flexibility, performance and high efficiency cover a vast area of applications and can be adapted for a range of uses in an increasingly demanding market, thanks to cutting-edge technical solutions.

The efficiency and reliability of the pumps is enhanced by the ability to use inverter technology systems, including E-drive and E-power, for energy and cost savings of the entire system and an improvement of environmental sustainability.
Sectors and Areas of Application

**Water supply**
For water supply in civil, agricultural and industrial plants

**Pressurisation**
For the pressurisation of water in residential, commercial, industrial and agricultural areas ensuring an efficient water supply

**Fire-fighting**
For the creation of fire-fighting sets compliant with the European standard UNI EN 12845

**Irrigation**
For the circulation of water required in refrigeration towers

**Washing**
For the creation of washing systems used in industry (car washing machines, dishwashers, cleaning in place, sterilizing in place)

**Air-conditioning**
For the circulation of water in air conditioning systems

**Heating**
For the circulation of water in air conditioning systems

**Handling**
Industrial liquid handling in process applications

**Swimming pools**
For water recirculation of swimming pools or sports facilities

**Refrigeration towers**
For the circulation of water required in refrigeration towers

**Emptying**
For the emptying of tanks
Hydroforming molding core

High efficiency is one of the main features of standard pumps. In addition to this the quality of the materials, the high performance and corrosion resistance are among the strong points. To do all this, we focused on the particular production process of the pump body: hydroforming.

This process uses a high pressure fluid (up to 1200 bar) for metal forming. The hydraulic fluid, in our case water, with increasing pressure pushes the stainless steel to copy the shapes of the template until it comes into contact with the internal walls of the matrix that constitutes the mold. Hydroforming, which combines the power of a press with the power of water, has significant advantages over traditional processes: perfectly smoothed, highly flowing and without welding points.

These features thus ensure high corrosion resistance, high efficiency with efficiency of over 80% and reduced losses. For high efficiency and high level performance.
Compact, silent, efficient, reliable

This range of electric pumps includes various types of pumps and models. Self-priming pumps, peripheral, in cast iron or steel including those for swimming pools, allow EBARA to adapt to the most disparate uses and applications to respond, thanks to their versatility, to a wide area of residential and industrial applications. EBARA always ensures efficiency, reliability, compactness and silence.

The DWC and DWO surface pumps, respectively with closed or open impeller, as well as the electric pumps of the series CD, CDX and 2CDX, all built with hydraulics in AISI 304 or AISI 316 stainless steel for the versions (L) are pumps that fit many different uses. The handling of clean water in general, ideal for CDX, or the use in industrial applications such as chillers, hydronic groups and washers where DWC and DWO are widely used are an example of the multiple possibilities of use offered by the EBARA electric pumps.

The self-priming electric pumps, with their particular hydraulic system including Venturi group (ejector and diffuser), allow the suction of water up to 8 meters deep. A feature that allows these pumps to be commonly used in gardening and irrigation applications. Available both in cast iron, such as the AGA models, and in stainless steel, JE - JES and JEX - JESX models, they offer a wide choice.
**DWO**

Open impeller centrifugal electric pumps in stainless steel AISI 304

Centrifugal surface electric pumps with molded AISI 304 body, obtained through the hydroforming process: this process exploits the water pressure to deform the material. This guarantees the highest quality standards, the drastic reduction of welding points, the ability to shape the pump body ensuring the most efficient form absolutely and the ability to work steel with high thickness ensuring maximum construction strength.

It mounts the open radial flow impeller, which makes it suitable for pumping liquids that are not completely clean, but with solid parts up to 19 mm in diameter: this is the case of machinery such as washers, car washes, industrial dishwashers to name but a few.

The standard mechanical seal is in Ceramic/Carbon/NBR, and are then available in the version with special seals.

- **Silent**
- **Sturdy structure**
- **Compact dimensions**

- Total head from 19 to 7,2 m
- Capacity from 6 to 66 m³/h
- Liquid temperature: from -5°C to +90°C (from -15°C to +110°C for H, HS, HW and HSW versions)
- Liquid with solids up to 19 mm in diameter

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**DWC**

Closed impeller centrifugal electric pumps in stainless steel AISI 304

Centrifugal surface electric pumps with molded AISI 304 body, obtained through the hydroforming process: this process exploits the water pressure to deform the material. This guarantees the highest quality standards, the drastic reduction of welding points, the ability to shape the pump body ensuring the most efficient form absolutely and the ability to work steel with high thickness ensuring maximum construction strength. It mounts the closed radial flow impeller, and is available both with threaded connections (DWC-N), and with victaulic connections (DWC-V) that make it suitable for installations in chillers or in hydronic groups.

The standard mechanical seal is made of Ceramic/Carbon/EPDM, but the product is available with special seals for harder applications and higher liquid temperature limits.

- **Silent**
- **Sturdy structure**
- **Dimensions dimensions**

- Total head from 35 to 9,7 m
- Capacity from 6 to 51 m³/h
- Liquid temperature: from -15°C to +90°C (from -15°C to +110°C for H, HS, HW and HSW versions)
- Threaded or Victaulic connections
**CDX(L)**

Single impeller centrifugal electric pumps with hydraulics in AISI 304 and AISI 316

CDX(L) are surface centrifugal electric pumps with radial impeller, with hydraulics completely in molded AISI 304 or AISI 316 (version L), whose components are obtained through the hydroforming process, which guarantees strength, hydraulic efficiency and reliability.

CDX(L) model is suitable for different uses ranging from domestic pressurisation to small irrigation, from water treatment plants to evaporative towers; therefore for handling clean water in general. The standard mechanical seal is made of Ceramic/Carbon/NBR, but several special seals are available.

- **Compact dimensions**
- **Robust structure**
- **Available in AISI 316**

**Graph:**
- Liquid temperature:
  - -5°C ÷ +60°C for the models 70/05-70/07-90/10
  - -5°C ÷ +90°C for the rest of the range
- Total head from 45,5 to 13,5 m
- Flow rate 1.2 to 15 m³/h
- Hydraulic efficiency index MEI > 0.4

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**2CDX(L)**

Twin impeller centrifugal electric pumps with hydraulic in AISI 304 and AISI 316

2CDX(L) are surface centrifugal electric pumps with double radial impeller, with the hydraulics completely in molded AISI 304 or AISI 316 (version L), whose components are obtained through the hydroforming process, which guarantees strength, hydraulic efficiency and reliability.

2CDX(L) model is suitable for different uses ranging from domestic pressurisation to small irrigation, from water treatment plants to evaporative towers; therefore for handling clean water in general. The double impeller makes it possible to expand the performance range with respect to the single impeller version. The standard mechanical seal is made of Ceramic/Carbon/NBR, but several special seals are available.

- **Compact dimensions**
- **Robust structure**
- **Available in AISI 316**

**Graph:**
- Total head from 73 to 36,5 m
- Flow rate 1,2 to 15 m³/h
- Liquid temperature -5°C ÷ +60°C
AGA - AGC
Self-priming cast iron electric pumps
AGA - AGC electric pumps are self-priming cast iron electric pumps equipped with Venturi group (ejector and diffuser) in PPE + PS reinforced with glass fibres. Practical, easy to use and easily transportable thanks to their low weight. The pump body is made of cast iron for all models. Among their peculiarities is that of having a shaft in steel AISI 303 (for the part in contact with the liquid). The impellers are available in PPE + PS reinforced with glass fibres for AGA 0.60 - 0.76 - 1.06 and in brass for the rest of the range. The mechanical seal is in Ceramic/Carbon/NBR. The self-ventilated 2-pole asynchronous motors are IE3 high energy efficiency starting from 0.75 kW.

- Total head from 20 to 69 m
- Capacity from 0.3 to 6 m³/h
- Maximum operating pressure:
  - 6 bar for AGA 0.60 - 0.76 - 1.06
  - 10 bar for the rest of the range
- Maximum liquid temperature 45°C
- Maximum working width 8 m

Available with impeller in brass
Practical and easy to use
Light and easy to transport

JESX - JEX
Self-priming electric pumps in stainless steel AISI 304
The electric pumps of the JESX – JEX series are electric pumps in AISI 304 stainless steel. These are self-priming pumps equipped with Venturi group (ejector and diffuser), which are easy to use and light thanks to their small size. Constructively they have the pump body, the support, the seal bearing disc in AISI 304 steel. They are equipped with an AISI 303 shaft (for the part in contact with the liquid). The impellers are different depending on the model: for the JESX electric pumps the impeller is in PPE + PS reinforced with glass fibres, while for the JEX the impeller is in AISI 304. For both versions the mechanical seal is in Ceramic/Carbon/NBR. The motors are 2-pole, asynchronous, self ventilated. High energy efficiency IE3 starting from 0.75 kW.

- Total head from 11 to 57 m
- Capacity from 0.3 to 4.2 m³/h
- Maximum operating pressure 8 bar
- Maximum liquid temperature 45°C
- Maximum working width 8 m

Practical and easy to use
Light and easy to transport
Self-ventilated motor
CDA
Cast iron twin impeller centrifugal electric pumps
CDA centrifugal electric pumps are cast iron electric pumps fitted with a double impeller to allow them to expand their performance while maintaining compact dimensions. The pump body is in cast iron, they mount a mechanical seal in Ceramic/Carbon/NBR. The impeller is made of PPE + PS reinforced with glass fibres for CDA models 0.76 - 1.06, while the rest of the range is equipped with a brass impeller. Among the technical specifications are noted the AISI 303 steel shaft for CDA models 0.75 - 1.06 - 1.56 - 2.06 - 3.06, in AISI 304 steel for CDA models 4.06 - 5.06. CDA models 0.76 - 1.06 have an aluminium support, while the rest of the range is equipped with cast iron supports. The motors are asynchronous 2-pole self-ventilated, high energy efficiency IE3 starting from powers of 0.75 kW.

Compact dimensions
- Total head from 16.2 to 81 m
- Capacity from 1.2 to 12.6 m³/h
- Maximum operating pressure: - 6 bar for CDA 0.76 - 1.06
- 10 bar for the rest of the range
- Maximum liquid temperature: - 40°C for CDA 0.76 - 1.06
- 90°C for the rest of the range

CM(A-B-C-D) - CMR
Cast iron single impeller centrifugal electric pumps
CM series electric pumps are single impeller electric pumps with cast iron body. Within the series there are several models: CMA - CMB - CMC - CMD and the CMR model that has the peculiarity of being equipped with an open impeller. They are equipped with a mechanical seal in Carbon/Ceramic/NBR. The impeller, the shaft and the support change according to the electric pump model. Depending on the models, the impellers can be made of PPE + PS reinforced with fibre glass, brass or cast-iron. The shafts can be in AISI 416, AISI 303 steel or, alternatively, in AISI 304. The supports available are in aluminium or cast iron. The motors combined with these electric pumps are 2-pole self-ventilated asynchronous motors and IE3 high efficiency starting from 0.75 kW.

Possibility of insertion in machinery for industrial use
- Prevalence:
  - for CMA from 11 to 54.5 m
  - for CMB from 8 to 56.5 m
  - for CMC from 5.6 to 17.8 m
  - for CMD from 5.6 to 16.3 m
  - for CMR from 6 to 16.8 m
- Flow rate:
  - for CMA from 1.2 to 8.4 m³/h
  - for CMB from 6 to 16.8 m³/h
  - for CMD from 18 to 66 m³/h
  - for CMR from 1.2 to 16.5 m³/h
- Maximum operating pressure:
  - 6 bar for CMA 0.56 - 0.76 - 1.06, CMB 0.76 - 1.06 - 1.56 - 2.06 - 3.06, CMC, CMD, CMR
  - 8 bar for CMA 1.56 - 2.06 - 3.06, CMB 4.06 - 5.06
- Maximum liquid temperature:
  - 40°C for CMA 0.56 - 0.76 - 1.06
  - 90°C for the rest of the range
Peripheral electric pumps with cast iron body and support particularly suitable for domestic use, boiler supply, autoclave units, etc. The shaft is in AVZ for the PRA 0.50 model, in AISI 303 for the rest of the range (part in contact with the liquid). Brass impeler and mechanical seal in Carbon/Ceramic/NBR. The motors combined with PRA pumps are IE3 2-pole high energy efficient asynchronous motors starting from 0.75 kW.

- Total head from 4 to 82.5 m
- Capacity from 0.3 to 3.9 m³/h
- Maximum operating pressure:
  - 6 bar for PRA 0.56
  - 7.5 bar for PRA 0.86
  - 12 bar for the rest of the range
- Maximum liquid temperature 80°C

Silent
Light and easy to transport
Practical and easy to use
Available in nickel plated version
Accessories

EBARA not only provides electric pumps, but aims to be a complete partner for the entire pumping systems. This is why it is important to provide complementary products and accessories for the system. For surface electric pumps the choice is wide ranging from special seals to insulation casings, from variable speed control systems to different types of electrical panels, vessels and floats.

Insulation casing

In some applications in which coolants or liquids are used at low temperatures, or if there are high temperature differences, condensation may occur which could damage the operation of the electric pump. In order to prevent such phenomena and to preserve their functioning, EBARA provides as an accessory an insulating casing in cross-linked polyethylene foam that ensures its functioning even under severe conditions.

A driver for your system

Pressure or temperature variations, as well as the variation in the demand for water itself, are situations that commonly occur in water systems, whether they are civil pressurisation systems or related to irrigation or industrial uses. Responding promptly to these variations by linking the operation of the pressurization group to these events means improving the efficiency and reliability of the entire system.

To do this, different types of inverters are available that offer different modes of operation of the group ensuring optimal operation. The available options are: E-drive, E-power and Presscomfort.

E-drive

E-drive is an inverter with air cooling, to be installed directly on the motor pump, designed to control the start and stop of the pump and to adjust the motor revolutions.

- **High overall efficiency** of the system
- **Flexible and versatile** solution depending on the system.
- Remote operation control, either using the ModBus communication protocol, or via the analogue 0-10V and digital analog inputs provided as standard. This makes it a product that is compatible with the most modern and cutting-edge systems, in which the interconnection of the various devices is frequently requested
- **SOFT START and SOFT STOP**: ensures starting and stopping controlled by the motor, increasing reliability and efficiency
- It offers a multitude of standard controls, which protect the entire electric pump system: protection against dry running, overcurrent, overvoltage, undervoltage, P_{max} protection, P_{min} protection, etc.
E-power
E-power is a water-flow inverter for the control of the electric pumps. It allows starting and stopping and checks the motor rpm. The main features available are:

- It has the master-slave function for creating groups of up to 2 pumps
- It allows numerous protections with programmable automatic reset
- It allows the reduction of water hammer, thanks to the gradual start and stop of the electric pumps
- Fast commissioning: thanks to the reduced parameters to be set, installation is easier

Presscomfort
This is an automatic electronic device, whose purpose is to regulate the operation of the electric pump. Suitable for use with single-phase or three-phase electric pumps, it has the advantage of being able to operate both with drinking water and non-drinking water.

- It controls the automatic start and stop of the electric pump
- It is an adjustment device suitable for installation without the use of autoclave tanks
- Its operation is regulated by the opening or closing of a tap or valve connected to the installation
- It allows transmitting of the required flow to the network maintaining a constant pressure

EZ-finder, more than just a simple selector
EZ-finder, a way to look for a model of electric pump?? Much more. It is the ultimate tool to find and select the right product for your needs. Thanks to the logic of the selector, it is possible to search for a product in various ways: according to the duty point, by entering the model name or by selecting the application type. Simple, the right product in seconds.

EZ-finder is the ideal tool available to the installer, the designer or the engineer.

Discover it at the link https://ezfinder.ebara.com