## **CENTRIFUGAL PUMP**

# **ESTAMPINOX EFI**









## **INOXPA S.A.U.**

Telers, 60 17820 - Banyoles (Spain)

hereby declare under our sole responsibility that the

Machine: CENTRIFUGAL PUMP

Model: ESTAMPINOX EFI

Type: ESTAMPINOX EFI 0, ESTAMPINOX EFI 1,

**ESTAMPINOX EFI 2, ESTAMPINOX EFI 3** 

Serial number: IXXXXXXXX to IXXXXXXXX

XXXXXXXXIINXXX to XXXXXXXXIINXXX

fulfils all the relevant provisions of the following directive:

Machinery Directive 2006/42/EC Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

and with the following harmonized standards:

EN ISO 12100:2010

EN 809:1998+A1:2009/AC:2010

EN 12162:2001+A1:2009

EN 60204-1:2018 EN IEC 63000:2018

The technical file has been prepared by the signer of this document.

David Reyero Brunet Technical Office Manager 10th June 2024

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Document: 01.020.30.09EN Revision: (A) 2024/06



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fulfils all the relevant provisions of these regulations:

Supply of Machinery (Safety) Regulations 2008
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (as amended).

and with the following designated standards:

EN ISO 12100:2010

EN 809:1998+A1:2009/AC:2010

EN 12162:2001+A1:2009

EN 60204-1:2018 EN IEC 63000:2018

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## 2. Generalities

#### 2.1. INSTRUCTIONS MANUAL

This manual contains information regarding the reception, installation, operation, assembly, disassembly and maintenance of the ESTAMPINOX EFI pump.

Carefully read the instruction prior to starting the pump, familiarize yourself with the installation, operation and correct use of the filter and strictly follow the instructions. These instructions should be kept in a safe location near the installation area.

The information published in the instruction manual is based on updated data.

INOXPA reserves the right to modify this instruction manual without prior notice.

#### 2.2. COMPLIANCE WITH THE INSTRUCTIONS

Not following the instructions may impose a risk for the operators, the environment and the machine, and may result in the loss of the right to claim damages.

This non-compliance may result in the following risks:

- failure of important machine/plant functions,
- failure of specific maintenance and repair procedures,
- · possible electrical, mechanical and chemical hazards,
- risk to the environment due to the type of substances released.

#### 2.3. WARRANTY

The conditions of the warranty are specified in the General Sales Condition that has been delivered at the time of placing your order.



The machine may not undergo any modification without prior approval from the manufacturer.

For your safety, only use original spare parts and accessories.

The usage of other parts will relieve the manufacturer of any liability.

Changing the service conditions can only be carried out with prior written authorization from INOXPA.

The non-compliance of the prescribed indications in this manual means misuse of this gear on the technical side and the personal safety and this, exempt INOXPA of all responsibility in case of accidents and personal injuries and/or property damage. Also, excluded from the warranty all breakdowns caused by improper use of the gear.

Please do not hesitate to contact us in case of doubts or if further explanations are required regarding specific data (adjustments, assembly, disassembly, etc.)

## 3. Safety

## 3.1. WARNING SYMBOLS



Safety hazard for people in general and/or for equipment



Electric hazard

**ATTENTION** 

Important instruction for the protection of the equipment and its functions

## 3.2. GENERAL SAFETY INSTRUCTIONS



Read the instruction manual carefully before installing and starting the pump. Contact INOXPA in case of doubt.

## 3.2.1. During the installation

The Technical Specifications of chapter 9 should always be observed.



Never start the pump before connecting it to the lines.

Check for proper specifications of the motors, especially if its working conditions create an explosions hazard.



During the installations, all the electric work should be carried out by authorized personnel.

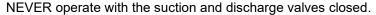
## 3.2.2. During operation

The Technical Specification of chapter 9 should always be observed. Under no circumstances can the specified limit values be exceeded.



NEVER touch the pump or the pipework during operation if the pump is being used for transferring hot liquids or during cleaning.

The pump contains moving parts. Never place your fingers inside the pump during operation.



NEVER spray water directly on the electrical motor. The standard motor protection is IP-55: protection against dust and water spray.

## 3.2.3. During maintenance



The Technical Specifications of chapter 9 shall always be observed.

NEVER disassemble the pump until the pipes have been emptied. Remember that liquid will remain inside the pump's pump casing (if does not have a purge). Bear in mind that the pumped liquid may be hazardous or extremely hot. Consult the regulations in effect in each country for these cases.

Do not leave loose parts on the floor.



ALWAYS disconnect the electrical power to the pumps prior to carrying out any maintenance.

Remove the fuses and disconnect the cable from the motor's terminals.

All electrical work must be carried out by authorized personnel.

## 4. General Information

## 4.1. DESCRIPTION

ESTAMPINOX EFI centrifugal pumps have designed to pump water and compatible liquids with AISI 316L stainless steel.

ESTAMPINOX EFI is a close-coupled centrifugal pump. It is made of a cold-formed stainless steel casing, open impeller manufactured with stainless steel cold-formed plate or investment casting according to model, mechanical seal, pump cover, lantern and shaft. ESTAMPINOX EFI centrifugal pump is provided with an internal single mechanical seal.

The motor is IEC standard, B34 flange (B35 for frame 132), protection IP55, class F-insulation, three-phase 220-240/380-420 a 50 Hz.

#### 4.2. APPLICATION

ESTAMPINOX EFI is designed to cater for the needs of auxiliary services in the food-processing, chemical, pharmaceutical and wine-making industries.

For each type of the pump, the hydraulic performance is given by the choice of impeller diameters and speeds. The characteristic curves also show the power requirements. The intended us of the pump is defined by its characteristic curve and operating limits provided in the chapter 9. Technical Specifications.

### **ATTENTION**



The range of application for each type of pump is limited. The pump was selected for a given set of pumping conditions when the order was placed. INOXPA shall not be liable for any damage resulting from the incompleteness of the information provided by the purchaser (nature of the fluid, rpm, etc.).

## 5.Installation

## 5.1. RECEPTION OF THE PUMP



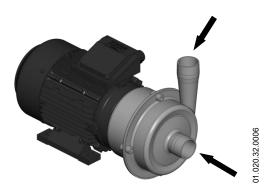
INOXPA cannot be held responsible for the damage sustained by the equipment during transport or unpacking. Please visually check that the packaging is not damaged.

The pump package includes the following documents:

- · shipping documents,
- installation, service and maintenance instructions manual,
- instructions and service manual of the motor1.

Unpack the pump and check the following:

The suction and discharge connections of the pump, removing any rest of packaging materials,



- The pump and the motor are not damaged,
- If the equipment is not in good condition and/or any part is missing, the carrier should report accordingly as soon as possible.

## 5.2. IDENTIFICATION OF THE PUMP

Each pump has a nameplate with the basic data required to identify the model.



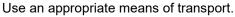
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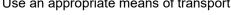
<sup>&</sup>lt;sup>1</sup> If the pump has been supplied with a motor from INOXPA

#### 5.3. TRANSPORT AND STORAGE

### **ATTENTION**

The ESTAMPINOX EFI pumps are often too heavy to be stored manually.





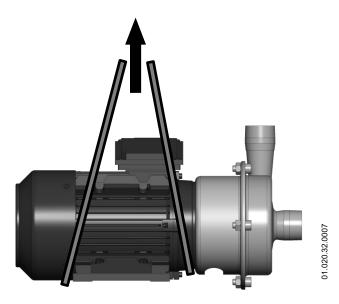
Use the points which are indicated in the drawing for lifting the pump.

Only authorized personnel should transport the pump.

Do not work or walk under heavy loads.

Lift the pump as indicated below:

• Always use two support points placed as far apart as possible.





## **ATTENTION**

Always remove the motor shroud before hoisting.

Secure the supports so that they will not move.

See chapter 9. Technical Specifications to consult dimensions and weights.



## **ATTENTION**

During the transport, disassembly or assembly of the pump, there is a risk of loss of stability and that the pump could fall down and cause damages to the operators. Make sure that the pump is properly supported.

### 5.4. LOCATION

Place the pump in a position that allows enough space around it to provide access to the pump as well as to the motor. See chapter 9. Technical Specifications to consult dimensions and weights.

### **ATTENTION**

Install the pump to allow proper ventilation.

If the pump is installed outdoors, it should be covered by a roof. Its location should allow easy access for inspection or maintenance operations.

### 5.4.1. Excessive temperatures

Depending on the fluid to be pumped, high temperatures can be reached inside and around the pump.



Over 68°C the operator should take protective measures and place warning notices advising of the danger which exists if the pumped is touched.

The type of protection selected should not isolate the pump entirely. It should allow for the bearings to be cooled more efficiently and for the bearings to be lubricated.

#### 5.5. PIPES

- As a general rule, install the suction and discharge lines in straight sections, with the minimum possible number of elbows and fittings in order to reduce any pressure losses that may be caused by friction.
- Make sure that the pump's ports are properly aligned with the pipework and have a diameter similar to that
  of the pump connections.
- Place the pump as close as possible to the suction tank and whenever possible below the liquid level, or even below the tank level in order to achieve the largest possible static head for suction.
- Install support brackets for the lines as close as possible to the pump's suction and discharge ports in order to avoid vibrations and stress on the pump.

## 5.5.1. Shut-off valves

The pump may be isolated for maintenance. To accomplish this, shut-off valves must be installed and connected to the pump's suction and discharge connections.



#### **ATTENTION**

These valves must ALWAYS be open during the operation of the pump.

#### 5.6. ELECTRICAL INSTALLATION



Only qualified personnel can connect the electric motors.

Take the necessary measures to prevent damage to cables and connections.

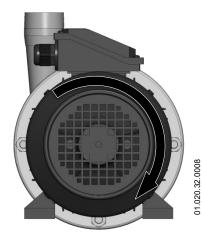


Electrical equipment, terminals and components of the control systems may still carry current when they are disconnected. Contacting them may impose a hazard to operators or cause irreparable material damage.

Before handling the pump, make sure that the motor is stopped.

- Connect the motor in accordance with the instructions supplied by the motor manufacturer, in accordance with the current national legislation and in compliance with EN 60204-1.
- Check the direction of rotation (see the signalling label on the pump).
- Start and stop the pump motor momentarily. Make sure that the direction of rotation is correct. If the pump rotates in the wrong direction it could cause serious damage.

See from the rear of the motor



## **ATTENTION**



See indicator label on the pump.

 $\label{eq:ALWAYS} \textbf{ALWAYS check the direction of rotation of the motor with liquid inside the pump.}$ 

## 6. Start-up



Prior to starting the pump, carefully read the instructions in chapter 5. Installation.

Carefully read chapter 9. Technical Specifications. INOXPA will not be liable for improper use of the equipment.



NEVER touch the pump or the lines if hot liquids are being pumped.

#### 6.1. CHECKS BEFORE STARTING THE PUMP

- Completely open the shut-off valves on the suction and discharge lines.
- If liquid does not flow towards the pump, fill it with the liquid to be pumped.



## **ATTENTION**

The pump must never turn dry.

- Check that the power supply matches the rating indicated on the motor plate.
- Check that the direction of rotation of the motor is the right one.

#### 6.2. CHECKS WHEN STARTING THE PUMP

- Check that the pump is not making any strange noises.
- Check if the absolute inlet pressure is sufficient to prevent cavitation in the pump.
- · Control the discharge pressure.
- · Check for leaks in the sealing areas.



## **ATTENTION**

Shut-off valves on the suction pipe must not be used to regulate the flow. All shut-off valves must be fully open during operation.

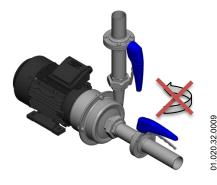


## **ATTENTION**

Control the motor consumption to prevent an electrical overload.

Reduce the flow rate and the electrical power consumed by the motor:

- by regulating the pump's discharge flow
- · by decreasing the motor speed





Use special protection when the sound pressure in the operation area exceeds 85 db(A).



If the pump has not incorporated a pressure by-pass you should mount a relief valve or any other device that limits the pressure to 7 bar.

## 7. Troubleshooting

The following table provides solutions to problems that might arise during the operation of the pump. The pump is assumed to have been properly installed and be suitable for the relevant application.

Please contact INOXPA if technical assistance is required.

| Mot | or ov | erloa | nd    |        |        |        |       |        |   |   |
|-----|-------|-------|-------|--------|--------|--------|-------|--------|---|---|
| Û   | The   | pum   | np do | es no  | t pro  | vide e | enou  | gh flo | w or pressure                             |   |
|     | Û     | No    | press | sure o | on the | e disc | harg  | e side | е   |   |
|     |       | Û     | Une   | even   | disch  | arge   | flow  | / pres | ssure                                     |   |
|     |       |       | Û     | Noi    | se ar  | nd vib | ratio | า      |   |   |
|     |       |       |       | Û      | The    | e pur  | ıp ge | ts clo | gged                                      |   |
|     |       |       |       |        | Û      | Ove    | erhea | ited p | oump                                      |   |
|     |       |       |       |        |        | Û      | Exc   | essi   | ve wear                                   |   |
|     |       |       |       |        |        |        | Û     | The    | e mechanical seal leaks                   |   |
|     |       |       |       |        |        |        |       | Û      | PROBABLE CAUSES                           | SOLUTIONS   |
|     | •     |       |       |        |        |        |       |        | Wrong direction of rotation               | Reverse the direction of rotation   |
|     | •     | •     | •     | •      |        |        |       |        | NPSH is not high enough                   | Raise the suction tank Lower the pump Reduce the vapour pressure Widen the diameter of the suction pipe Shorten and simplify the suction line |
|     |       | •     |       |        |        |        |       |        | Pump not drained                          | Drain or fill   |
|     | •     |       | •     | •      |        |        | •     |        | Cavitation                                | Increase suction pressure   |
|     | •     |       |       | •      |        |        | •     |        | Air is suctioned by the pump              | Check the suction pipe and all its connections  |
|     |       | •     |       | •      |        |        |       |        | Clogged suction pipe                      | Check the suction pipe and all its filters, if any  |
|     | •     |       |       | •      |        |        |       |        | Discharge pressure too high               | If necessary, reduce load losses, e.g. by increasing the pipe diameter  |
| •   |       |       |       | •      |        | •      |       |        | Flow too high                             | Reduce the flow by means of a diaphragm. Partially close the discharge valve. Trim the impeller Decrease speed                                |
| •   | •     |       | •     | •      | •      | •      |       |        | Fluid viscosity too high                  | Reduce the viscosity, e.g. by heating the fluid   |
|     | •     |       |       | •      |        | •      | •     |        | Fluid temperature too high                | Reduce the temperature by cooling the fluid   |
|     |       | c     |       | c      |        |        |       | •      | Mechanical seal damaged or worn out       | Replace the seal  |
|     |       |       |       |        |        |        |       | •      | O-rings unsuitable for the fluid          | Fit suitable O-rings. Consult the manufacturer.   |
| •   |       |       |       | •      | •      | •      |       |        | The impeller scrapes                      | Lower the temperature Reduce the suction pressure Adjust the impeller / cover play  |
|     |       |       |       | •      | •      | •      | •     |        | Tension in the lines                      | Connect the pipes to the pump without tension   |
|     |       |       |       | •      | •      | •      | •     |        | Foreign matter in the liquid              | Install a filter in the suction pipe  |
|     |       |       |       |        |        |        |       | •      | Mechanical seal spring tension Is too low | Adjust as indicated in this manual  |

## 8. Maintenance

#### 8.1. GENERAL CONSIDERATIONS

This pump, just like any other machine, requires maintenance. The instructions contained in this manual cover the identification and replacement of spare parts. The instructions are aimed at maintenance personnel and those responsible for the supply of spare parts.



Carefully read chapter 9. Technical Specifications.

Maintenance work can only be carried out by qualified personnel that are trained and equipped with the necessary resources to carry out this work.

All parts or materials that are replaced must be properly disposed of/recycled in accordance with the current directives applicable in each area.



ALWAYS disconnect the pump before beginning any maintenance work.



The symbol indicates that the product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling.

#### 8.2. CHECK THE MECHANICAL SEAL

Periodically check that there are no leaks around the shaft. If leakage is detected through the mechanical seal, replace it following the instructions in the chapter 8.6. Disassembly and assembly of the pump.

#### 8.3. MAINTENANCE OF THE SEALS

| SEALS REPLACEMENT        |   |  |  |  |  |  |
|--------------------------|---|--|--|--|--|--|
| Preventive maintenance   | Replace after twelve (12) months. We also recommend replacing the gaskets during seal or pump shaft replacement.  |  |  |  |  |  |
| Maintenance after a leak | Replace at the end of the process. If the impeller nut gasket fails, the threaded hole on the impeller and the threads on the end shaft have to be cleaned. |  |  |  |  |  |
| Scheduled maintenance    | Regularly check that there are no leaks and that the pump is operating correctly.  Keep a record of the pump.  Use statistics to plan inspections.          |  |  |  |  |  |
| Lubrication              | During assembly, use soapy water when fitting the different gaskets to allow them to slide better.  |  |  |  |  |  |

The period between each preventive maintenance service will vary depending on the operating condition of the pump: temperatures, flow, number of operating hours, cleaning solutions used, etc.

### 8.4. TIGHTENING TORQUE

If not stated otherwise, the torques listed in the following table should be applied to the nuts and bolts of this pump.

| Size | Nm  | lbf∙ft |
|------|-----|--------|
| M6   | 10  | 7      |
| M8   | 21  | 16     |
| M10  | 42  | 31     |
| M12  | 74  | 55     |
| M16  | 112 | 83     |
|      |     |        |

#### 8.5. STORAGE

Before being stored the pump must be completely emptied of liquids. Avoid, as far as possible, the exposure of the parts to excessively damp atmospheres.

#### 8.6. DISSASEMBLY AND ASSEMBLY OF THE PUMP

The assembly and disassembly of the pumps should be done by qualified personnel. Make sure that the personnel read carefully this instruction manual and, in particular, those instructions which refer to the work they will perform.

## **ATTENTION**



Incorrect assembly or disassembly may cause damage to the pump's operation and lead to high repair costs and a long period of downtime.

INOXPA is not responsible for accidents or damages caused by a failure to comply with the instructions in this manual.

## Preparation

Provide for a clean working environment so some parts, including the mechanical seal, require very careful handling and others have close tolerances.

Check that the parts which are used are not damaged during transport. When doing this, you need to inspect the adjustment edge, the butted faces, the tight fit, burrs, etc.

After each disassembly, carefully clean the parts and check for any damage. Replace all damaged parts.

#### **Tools**

Use the proper tools for assembly and disassembly operations. Use them correctly.

#### Cleaning

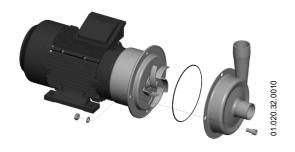
Before disassembling the pump, clean it outside and inside.



NEVER clean the pump by hand when it is running.

## 8.6.1. Disassembly of the pump and single mechanical seal

- 1. Remove the screws, nuts and washers (51, 53 and 54A) and disassembly the pump casing (01).
- 2. Check the condition of the O-ring (80) on the pump casing and replace it if damaged.



- 3. Place an open-end wrench on the flat sides of the shaft (05) to prevent it from rotating. For ESTAMPINOX EFI 3 pump place a pin into the shaft hole (05).
- 4. Pull out the impeller (02) disassembling the screw (52A) and washer (53). For the EFI-3, quit the blind nut (45) and washer (35).
- 5. Remove the rotating part of the seal (08) sliding in front of the shaft (05).
- 6. Remove the pump cover (03) from the lantern (04).
- 7. Manually remove the stationary part of the seal (08) which is located in the pump cover (03).



- 8. Remove the splash ring (82).
- 9. Loosen the studs (55) from the shaft (05) and take them off from the motor (93).



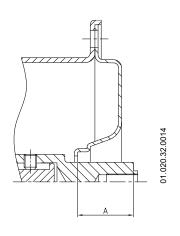
### 8.6.2. Assembly of the pump and single mechanical seal

- 1. Place the shaft (05) on the motor (93).
- 2. Fix the shaft (05) with the studs (55) to the motor (93) leaving it to gauge the impeller (02) with the pump cover (03).

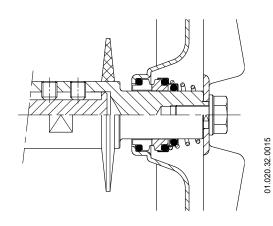


3. Hold the pump cover (03) on the lantern (04) with the hand and gauge the assembly position according to the distance A.

| Pump model  | A (mm) |
|-------------|--------|
| EFI - 0 / 1 | 33     |
| EFI - 2 / 3 | 35     |



- 4. Now, tighten the studs (55) strongly that fix the shaft (05) to the motor (93) from the bottom lantern window (04).
- 5. Take off the pump cover (03).
- 6. Place the splash ring (82) in the shaft (05).
- 7. Fit the stationary part of the mechanical seal (08) on the pump cover (03).
- 8. Put the pump cover (03) on the lantern (04).
- 9. Fit the rotating part of the mechanical seal (08) in the shaft (05) and place the impeller (02).
- 10. Fix the impeller (02) with the screw (52A) and washer (53). For the EFI-3, fix it with the washer (35) and blind nut (54B).



## **ATTENTION**



When installing the new seal, use soapy water when fitting the different parts and seals to allow them to slide better. Apply to the stationary as well as the rotating parts.

- 11. Mount the O-ring (80) on the pump cover (03) taking care that it is not twisted.
- 12. Put the pump casing (01) and secure it on the lantern (04) by the screws, nuts and washers (51, 53A and 54).



## 9. Technical Specifications

Maximum operating pressure 600 kPa (6 bar)
Temperature range -10°C to 120°C
Maximum speed 3500 rpm (50 Hz)
Sound level 60 – 80 dB(A)

#### **Materials**

Parts in contact with the product

Other stainless steel parts

Seals in contact with the product

Other materials for the seal

Consult with INOXPA

Surface finish matt

## Mechanical seal

Type of seal: single inside seal
Stationary parts material graphite (C) (standard)
Rotary parts material ceramic (Cer) (standard)
Seal material EPDM (standard)

## Motor

Type three-phase asynchronous motor, flange B34 (B35 for

motor frame 132), 2 or 4 poles, IP55 protection, class F

insulation

Power 0,37 to 7,5 kW

Voltage and frequency  $220-240 \text{ V} \Delta / 380-420 \text{ V} \text{ Y}, \leq 4 \text{ kW}$ 

380-420 V  $\triangle$  / 660-690 V Y, ≥ 5,5 kW

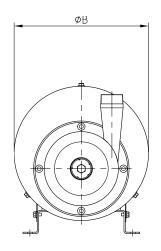
## 9.1. WEIGHT WITH SHROUD

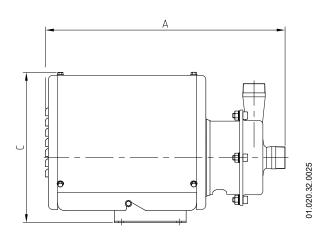
| Weight (kg) |      |      |      |      |     |     |     |      |     |     |    |     |
|-------------|------|------|------|------|-----|-----|-----|------|-----|-----|----|-----|
| IEC         | 7    | 1    | 8    | 0    | 9   | 90  |     | 90 1 |     | 1   | 12 | 132 |
| kW          | 0,25 | 0,37 | 0,55 | 0,75 | 1,1 | 2,2 | 2,2 | 4    | 5,5 | 7,5 |    |     |
| EFI 0       | 11   | 11   |      |      |     |     |     |      |     |     |    |     |
| EFI 1       |      |      | 17   | 18   |     |     |     |      |     |     |    |     |
| EFI 2       |      |      |      |      | 24  | 26  |     |      |     |     |    |     |
| EFI 3       |      |      |      |      |     |     | 39  | 44   | 48  | 78  |    |     |

#### 9.2. WEIGHT WITHOUT SHROUD

| Weight (kg) |      |      |      |      |     |     |     |    |     |     |
|-------------|------|------|------|------|-----|-----|-----|----|-----|-----|
| IEC         | 7    | 71   |      | 0    | 90  |     | 100 | 1  | 12  | 132 |
| Kw          | 0,25 | 0,37 | 0,55 | 0,75 | 1,1 | 2,2 | 2,2 | 4  | 5,5 | 7,5 |
| EFI 0       | 8    | 8    |      |      |     |     |     |    |     |     |
| EFI 1       |      |      | 12   | 13   |     |     |     |    |     |     |
| EFI 2       |      |      |      |      | 19  | 21  |     |    |     |     |
| EFI 3       |      |      |      |      |     |     | 32  | 37 | 41  | 67  |

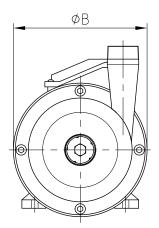
## 9.3. DIMENSIONS WITH SHROUD

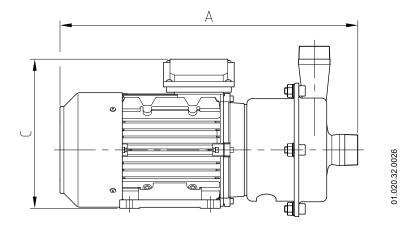




| Bump tupo | Motor | Dimensions (mm) |     |     |  |  |
|-----------|-------|-----------------|-----|-----|--|--|
| Pump type | IEC   | Α               | ØB  | С   |  |  |
| EFI 0     | 71    | 430             | 230 | 260 |  |  |
| EFI 1     | 80    | 500             | 290 | 315 |  |  |
| EFI 2     | 90    | 517             | 290 | 335 |  |  |
|           | 100   | 600             | 350 | 375 |  |  |
| EFI 3     | 112   | 600             | 350 | 390 |  |  |
|           | 132   | 730             | 400 | 425 |  |  |

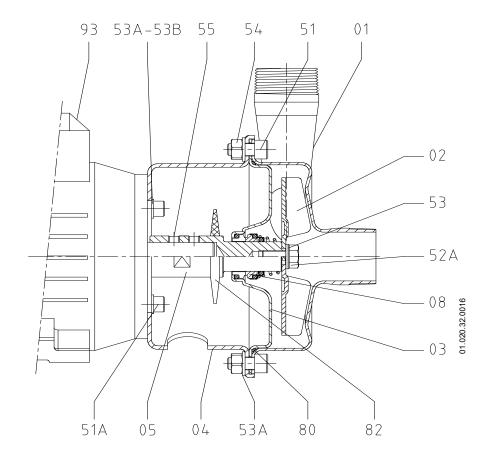
## 9.4. DIMENSIONS WITHOUT SHROUD





|           |     | Motor |       | Din | Dimensions (mm) |     |  |  |
|-----------|-----|-------|-------|-----|-----------------|-----|--|--|
| Pump type | IEC | kW    | rpm   | Α   | ØB              | С   |  |  |
| EFI 0     | 71  | -     | -     | 370 | 140             | 190 |  |  |
| EFI-1     | 80  | -     | -     | 405 | 165             | 220 |  |  |
| EE! 0     | 90L | 2,2   | 2 900 | 475 | 200             | 240 |  |  |
| EFI 2     | 908 | 1,1   | 1 450 | 450 | 200             | 240 |  |  |
|           | 100 | -     | -     | 520 | 250             | 265 |  |  |
| EFI 3     | 112 | -     | -     | 535 | 250             | 295 |  |  |
|           | 132 | -     | -     | 600 | 250             | 335 |  |  |

## 9.5. EXPLODED DRAWING OF ESTAMPINOX EFI 0/1/2 PUMP



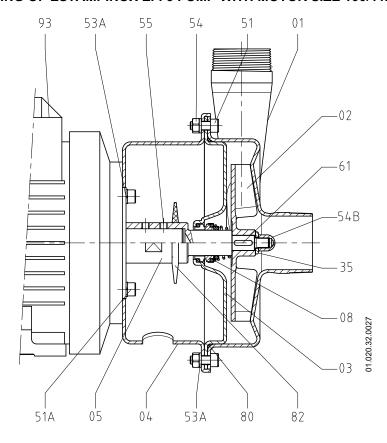
## 9.6. PARTS LIST OF ESTAMPINOX EFI 0/1/2 PUMP

| Position | Description      | ( | Quantit | у    | · Material         |  |
|----------|------------------|---|---------|------|--------------------|--|
| Position | Description -    |   | EFI 1   | EFI2 | Wiateriai          |  |
| 01       | Pump casing      | 1 | 1       | 1    | 1.4404 (AISI 316L) |  |
| 02       | Impeller         | 1 | 1       | 1    | 1.4404 (AISI 316L) |  |
| 03       | Pump cover       | 1 | 1       | 1    | 1.4404 (AISI 316L) |  |
| 04       | Lantern          | 1 | 1       | 1    | 1.4301 (AISI 304)  |  |
| 05       | Shaft            | 1 | 1       | 1    | 1.4404 (AISI 316L) |  |
| 08       | Mechanical seal* | 1 | 1       | 1    | -                  |  |
| 51       | Allen screw      | 4 | 4       | 4    | A2                 |  |
| 51A      | Allen screw      | 4 | 4       | 4    | A2                 |  |
| 52A      | Hexagonal screw  | 1 | 1       | 1    | A4                 |  |
| 53       | Flat washer*     | 1 | 1       | 1    | A4                 |  |
| 53A      | Grower washer*   | 8 | 4       | 4    | A2                 |  |
| 53B      | Grower washer*   | - | 4       | 4    | A2                 |  |
| 54       | Hexagonal nut    | 4 | 4       | 4    | A2                 |  |
| 55       | Stud             | 1 | 2       | 2    | A2                 |  |
| 80       | O-ring*          | 1 | 1       | 1    | EPDM               |  |
| 82       | Splash ring*     | 1 | 1       | 1    | EPDM               |  |
| 93       | Motor            | 1 | 1       | 1    | -                  |  |

<sup>\*</sup> Recommended spare parts

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## 9.7. EXPLODED DRAWING OF ESTAMPINOX EFI 3 PUMP WITH MOTOR SIZE 100/112

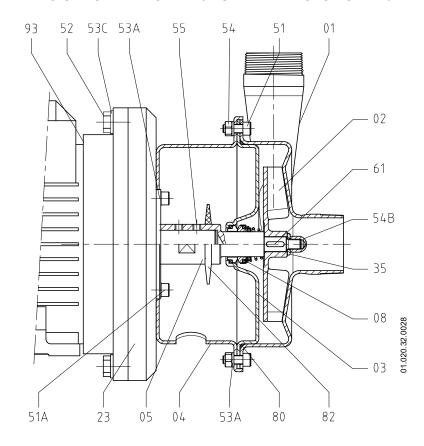


## 9.8. PARTS LIST OF ESTAMPINOX EFI 3 PUMP WITH MOTOR SIZE 100/112

| Position | Description      | Quantity | Material           |
|----------|------------------|----------|--------------------|
| 01       | Pump casing      | 1        | 1.4404 (AISI 316L) |
| 02       | Impeller         | 1        | 1.4404 (AISI 316L) |
| 03       | Pump cover       | 1        | 1.4404 (AISI 316L) |
| 04       | Lantern          | 1        | 1.4301 (AISI 304)  |
| 05       | Shaft            | 1        | 1.4404 (AISI 316L) |
| 08       | Mechanical seal* | 1        | -                  |
| 35       | Impeller washer* | 1        | A4                 |
| 51       | Allen screw      | 8        | A2                 |
| 51A      | Allen screw      | 4        | A2                 |
| 53A      | Grower washer*   | 12       | A2                 |
| 54       | Hexagonal nut    | 8        | A2                 |
| 54B      | Blind nut        | 1        | A4                 |
| 55       | Stud             | 2        | A2                 |
| 61       | Key              | 1        | 1.4404 (AISI 316L) |
| 80       | O-ring*          | 1        | EPDM               |
| 82       | Splash ring      | 1        | EPDM               |
| 93       | Motor            | 1        | -                  |
|          |                  |          |                    |

<sup>\*</sup> Recommended spare parts

## 9.9. EXPLODED DRAWING OF ESTAMPINOX EFI 3 PUMP WITH MOTOR SIZE 132

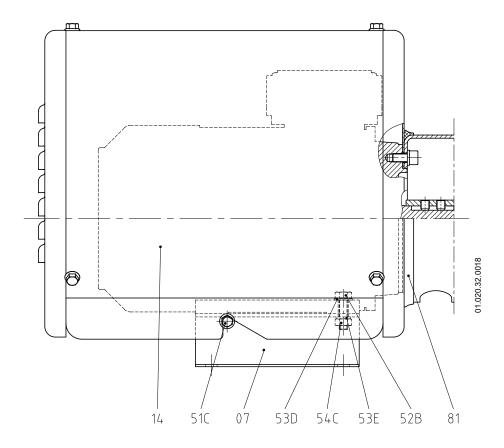


## 9.10. PARTS LIST OF ESTAMPINOX EFI 3 PUMP WITH MOTOR SIZE 132

| Position | Description      | Quantity | Material           |
|----------|------------------|----------|--------------------|
| 01       | Pump casing      | 1        | 1.4404 (AISI 316L) |
| 02       | Impeller         | 1        | 1.4404 (AISI 316L) |
| 03       | Pump cover       | 1        | 1.4404 (AISI 316L) |
| 04       | Lantern          | 1        | 1.4301 (AISI 304)  |
| 05       | Shaft            | 1        | 1.4404 (AISI 316L) |
| 08       | Mechanical seal* | 1        | -                  |
| 23       | Counterflange    | 1        | LM4                |
| 35       | Impeller washer  | 1        | A4                 |
| 51       | Allen screw      | 8        | A2                 |
| 51A      | Allen screw      | 4        | A2                 |
| 52       | Hexagonal screw  | 4        | A4                 |
| 53A      | Grower washer*   | 12       | A2                 |
| 53C      | Flat washer*     | 4        | A2                 |
| 54       | Hexagonal nut    | 8        | A2                 |
| 54B      | Blind nut        | 1        | A4                 |
| 55       | Stud             | 2        | A2                 |
| 61       | Key              | 1        | 1.4404 (AISI 316L) |
| 80       | O-ring*          | 1        | EPDM               |
| 82       | Splash ring      | 1        | EPDM               |
| 93       | Motor            | 1        | -                  |

<sup>\*</sup> Recommended spare parts

## 9.11. EXPLODED DRAWING OF ESTAMPINOX EFI PUMP WITH SHROUD



## 9.12. PARTS LIST OF ESTAMPINOX EFI PUMP WITH SHROUD

| Position | Description       | Quantity | Material          |
|----------|-------------------|----------|-------------------|
| 07       | Leg               | 2        | 1.4301 (AISI 304) |
| 14       | Shroud            | 1        | 1.4301 (AISI 304) |
| 51C      | Screw with flange | 2        | A2                |
| 52B      | Hexagonal screw   | 4        | A2                |
| 53D      | Flat washer*      | 4        | A2                |
| 53E      | Grower washer*    | 4        | A2                |
| 54C      | Hexagonal nut     | 4        | A2                |
| 81       | Lantern joint     | 1        | EPDM              |

<sup>\*</sup> Recommended spare parts

## How to contact INOXPA S.A.U.:

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