



Instruction Manual

RF

Flexible Impeller Pump



EC Declaration of Conformity



INOXPA S.A.U.

Telers, 60
17820 - Banyoles (Spain)

assumes responsibility for declaring that

Machine: **FLEXIBLE IMPELLER PUMP**

Model: **RF**

Type: **RF-02/20, RF-05/25, RF-10/40, RF-20/50, RF-30/65**

Serial number: **IXXXXXXXXXX to IXXXXXXXXXX**
XXXXXXXXXXIINXXX to XXXXXXXXXXXIINXXX

complies with the applicable provisions in the following directives:

Machinery Directive 2006/42/EC
Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment
Regulation (EC) No 1935/2004
Regulation (EC) No 2023/2006

and with the following harmonised standards:

EN ISO 12100:2010
EN 809:1998+A1:2009/AC:2010
EN 60204-1:2018
EN ISO 14159:2008
EN 1672-2:2005+A1:2009
EN 12162:2001+A1:2009
EN IEC 63000:2018

The technical file was prepared by the signatory of this document.

A handwritten signature in black ink, appearing to read 'DRB'.

David Reyer Brunet
Technical Office Manager
1 September 2025



Document: 01.650.30.07EN
Revision: (0) 2025/09

Declaration of Conformity



INOXPA S.A.U.

Telers, 60
17820 - Banyoles (Spain)

assumes responsibility for declaring that

Machine: **FLEXIBLE IMPELLER PUMP**

Model: **RF**

Type: **RF-02/20, RF-05/25, RF-10/40, RF-20/50, RF-30/65**

Serial number: **IXXXXXXXXXX to IXXXXXXXXXX**
XXXXXXXXXXIINXXX to XXXXXXXXXXXIINXXX

complies with the applicable provisions of the following regulations:

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

and with the following harmonised standards:

EN ISO 12100:2010
EN 809:1998+A1:2009/AC:2010
EN 60204-1:2018
EN ISO 14159:2008
EN 1672-2:2005+A1:2009
EN 12162:2001+A1:2009
EN IEC 63000:2018

The technical file was prepared by the signatory of this document.

A handwritten signature in black ink, appearing to read 'DRB'.

David Reyero Brunet
Technical Office Manager
1 September 2025



Document: 01.650.30.08EN
Revision: (0) 2025/09

1. Table of contents

1. Table of contents	
2. General considerations	
2.1. Instruction manual	5
2.2. Compliance with the instructions	5
2.3. Warranty	5
3. Safety	
3.1. Warning symbols.....	6
3.2. General safety instructions	6
4. General information	
4.1. Description	8
4.2. How it works	8
4.3. Application	8
5. Installation	
5.1. Taking delivery of the pump.....	9
5.2. Identification of the pump	9
5.3. Transportation and storage.....	9
5.4. Location	10
5.5. Pipes	10
5.6. Electrical installation	12
6. Start-up	
6.1. Checks before starting up the pump	13
6.2. Checks when starting up the pump	13
7. Troubleshooting	
8. Maintenance	
8.1. General considerations.....	16
8.2. Mechanical seal check.....	16
8.3. Tightening torque	16
8.4. Storage.....	16
8.5. Maintenance of gaskets and the impeller	16
8.6. Cleaning.....	17
8.7. Disassembling and assembling the pump.....	17
9. Technical specifications	
9.1. RF monoblock pump dimensions	23
9.2. RF bare shaft pump dimensions and weight	23
9.3. Exploded view of RF monoblock pump	24
9.4. List of parts of RF monoblock pump	24
9.5. Exploded view of RF bare shaft pump.....	25
9.6. List of parts of RF bare shaft pump	25

2. General considerations

2.1. INSTRUCTION MANUAL

This manual contains information regarding the receipt, installation, operation, assembly, disassembly and maintenance of the RF pump.

Read the instructions carefully before starting up the pump, familiarise yourself with how the pump functions and operates, and follow the instructions provided closely. These instructions must be kept in a designated location near where the product is installed.

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

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

2.2. COMPLIANCE WITH THE INSTRUCTIONS

Failing to comply with the instructions may prove hazardous for operators, the environment and the machine, and may lead to a loss of rights for damage claims.

Failure to comply may result in the following risks:

- The malfunction of important machine/plant functions
- Specific maintenance and repair process errors
- Potential electrical, mechanical and chemical risks
- Potential environmental damage from released substances

2.3. WARRANTY

Any warranty shall be immediately and fully void, and INOXPA shall also be indemnified for any product civil liability claim submitted by third parties, in the following cases:

- Service and maintenance work took place without observance of the service instructions, our personnel did not perform the repairs, or the repairs were performed without our written authorisation.
- Modifications were made to our equipment without prior written authorisation.
- The parts used or the lubricants were not INOXPA originals.
- The equipment was used incorrectly, negligently or without observance of the instructions and intended purpose.
- The pump parts are damaged from being subjected to high pressure because a safety valve is not in place.

The General Terms of Delivery already in your possession also apply.



The machine cannot be modified in any way without first checking with the manufacturer. For your safety, use original spare parts and accessories. The manufacturer shall no longer be liable should other parts be used. Any change to the service conditions requires written authorisation from INOXPA.

Please do not hesitate to contact us if you have any queries or require more in-depth explanations about specific data (adjustments, assembly, disassembly and so on).

3. Safety

3.1. WARNING SYMBOLS



General warning of danger to persons and/or the equipment



Electrical hazard

ATTENTION

A safety instruction to prevent damage to the equipment and/or its functions

3.2. GENERAL SAFETY INSTRUCTIONS



Read the instruction manual carefully before installing and starting up the pump. If in doubt, contact INOXPA.

3.2.1. During installation



Always consider the [Technical specifications in section 9](#).

Never start up the pump before connecting it to the pipes.

Do not start up the pump if the pump cover has not been fitted.

Check that the specifications of the motor are correct, especially if there is a risk of explosion due to the operating conditions.



Authorised personnel must carry out all electrical work during the installation.

3.2.2. During operation



Always consider the [Technical specifications in section 9](#).

NEVER exceed the specified limit values.

NEVER touch the pump and/or pipes during operation if the pump is being used to move hot liquids or during cleaning.

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

NEVER operate it with the suction and discharge valves closed.

NEVER spray water directly on the electric motor. The standard motor protection is IP55: Protection against dust and water jets.

3.2.3. During maintenance



Always consider the [Technical specifications in section 9](#).

NEVER remove the pump until the pipes have been emptied. Remember that liquid will always remain inside the body of the pump (if it does not come with a purge). Bear in mind that the liquid being pumped 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 supply to the pump before starting maintenance. Remove the fuses and disconnect the cables from the motor terminals.

Authorised personnel must carry out all electrical work.

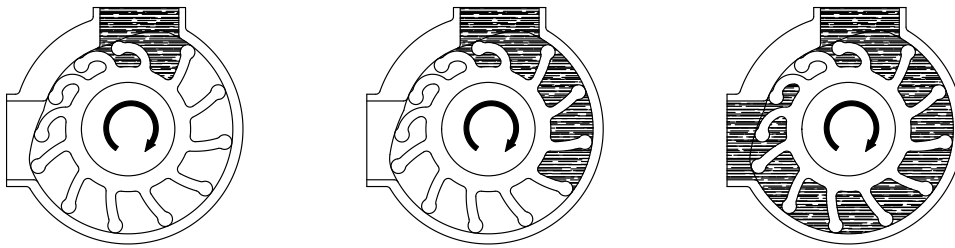
4. General information

4.1. DESCRIPTION

Flexible impeller pumps are part of INOXPA's range of rotary pumps. They are self-priming, reversible pumps. The basic structure consists of an investment-cast body made from AISI 316L and a neoprene impeller suitable for contact with foodstuffs. The rest of the parts that come into contact with the product are also made from AISI 316L.

4.2. HOW IT WORKS

The figure below illustrates the operating principle of the pump:



1. The special contour of the body means that the volume of the cavities formed between it and the paddles increases progressively. This forces the liquid into the body.
2. The continuous rotation of the impeller transports the liquid-filled chambers from the suction side to the discharge side.
3. On the discharge side, the volume of the cavities is gradually reduced, expelling the liquid towards the installation.
4. The operating principle illustrates that these pumps are reversible pumps. This means that changing the direction of rotation of the impeller reverses the pumping direction.

Pumps in the RF series are available in a monoblock version with a direct 4-pole and 6-pole motor and in a bare shaft version.

4.3. APPLICATION

The main applications include pumping dairy products, oil, wine and beverages in general.

ATTENTION



Each pump type has a limited field of use. The pump was selected for certain pumping conditions when it was ordered. Improper use or use beyond the limit values may be hazardous or cause permanent damage to the equipment. INOXPA will not be liable for any potential damage should the purchaser have provided incomplete information (type of liquid, RPM and so on).

5. Installation

5.1. TAKING DELIVERY OF THE PUMP



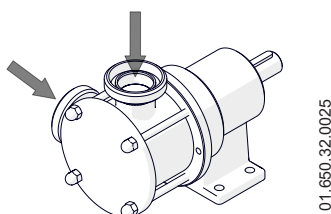
INOXPA will not be liable for any material wear during shipping or unpacking. Visually check that the packaging remains intact.

The following documentation comes with the pump:

- Shipping documents
- A quick installation guide with access to the full instruction manual

Unpack the pump and check the following:

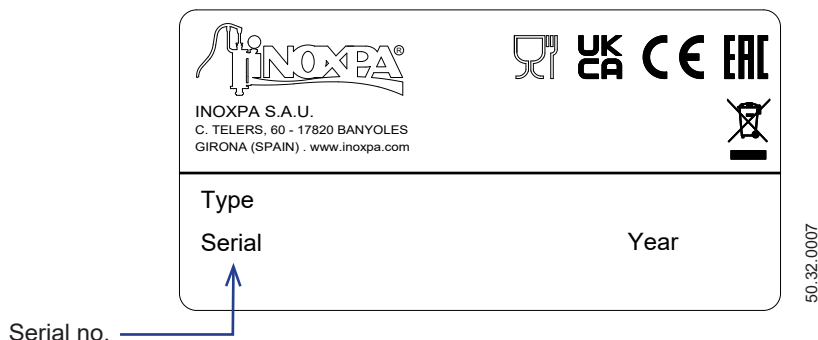
- The suction and discharge connections on the pump, removing any remaining packaging material



- That the pump and motor have not been damaged
- If the delivery is not in good condition and/or parts are missing, the shipping carrier must submit a report as soon as possible.

5.2. IDENTIFICATION OF THE PUMP

Each pump has a nameplate with basic data that identifies the model.



5.3. TRANSPORTATION AND STORAGE

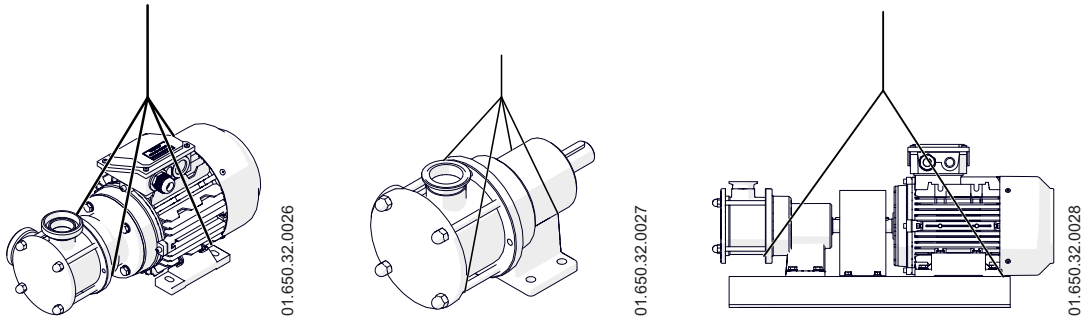
ATTENTION



The RF pumps can be too heavy to be placed into storage manually. Use a suitable means of transportation. Use the points indicated in the diagram to lift the pump. Only authorised personnel may transport the pump. Do not work or walk underneath heavy loads.

Lift the pump as indicated below:

- Always use two supporting points located as far away from each other as possible.



- Secure the points to prevent slippage.

See section 9. [Technical specifications](#) for the dimensions and weights of the equipment.

ATTENTION



There is a risk of loss of stability while the pump is being transported, assembled or disassembled, and the pump could fall and cause damage to the equipment and/or operators. Ensure the pump is properly secured.

5.4. LOCATION

- Place the pump as close as possible to the suction tank, and below the liquid level whenever possible.
- Place the pump so there is enough space around it to provide access to both the pump and the motor. See section 9. [Technical specifications](#) for the dimensions and weights of the equipments.
- Place the pump on a flat and level surface.
- The base must be rigid, horizontal and protected against vibrations.

ATTENTION



Install the pump in a way that enables adequate ventilation. Any outdoor pump installation must be under a roof. The location must allow for easy access for inspection or maintenance tasks.

5.4.1. Excessive temperatures

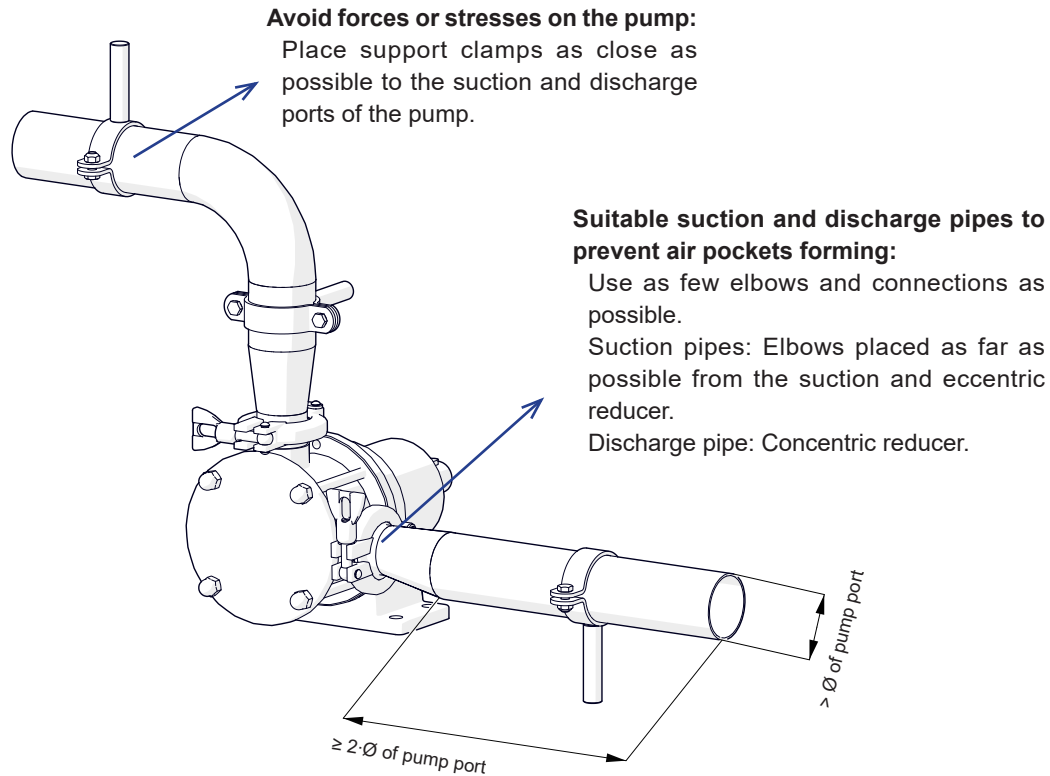
Temperatures inside and around the pump may become high depending on the liquid being pumped.



From 68°C upwards, measures must be taken to protect personnel and warnings should be posted about the potential hazard when touching the pump. The selected protection type should not fully isolate the pump. This allows for greater cooling of the bearings and lubrication of the bearing support.

5.5. PIPES

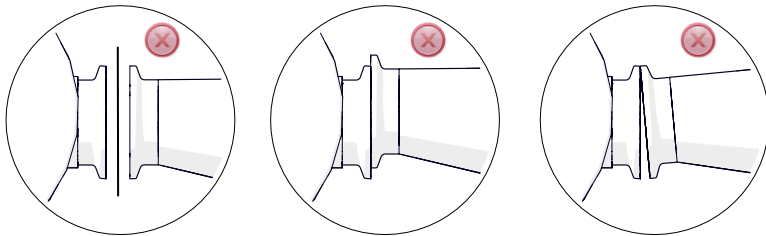
Ideal installation for maximum pump efficiency:



01.650.32.0043

Correct alignment of pump with pipes:

Pump port centre ↔ pipe centre



01.650.32.0044

ATTENTION



The expansion joints must NOT compensate for incorrect assembly or be used to correct incorrect pipe alignment.
Ensure the expansion joint connections are properly secured.

We recommend installing pressure sensors as close as possible to the pump inlet and outlet so that the pump operating conditions are known at all times and any problems can be easily detected.

5.5.1. Shut-off valves

The pump can be isolated in order to perform maintenance tasks. This involves installing shut-off valves in the suction and discharge connections of the pump.

ATTENTION



These valves must ALWAYS be open when the pump is operating.

5.6. ELECTRICAL INSTALLATION

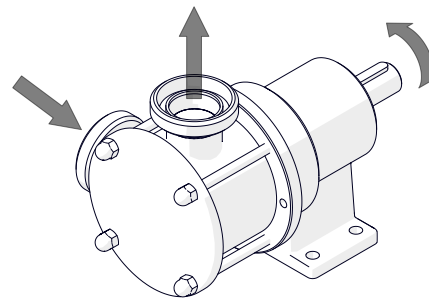
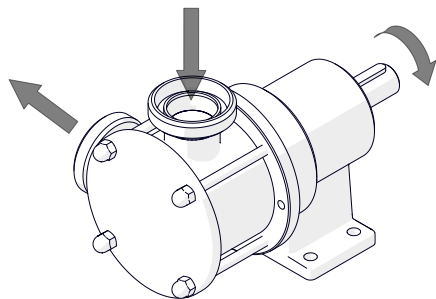


The connection of the electric motors must be performed by qualified personnel. Take whatever measures are necessary to prevent connection and cable faults.



The electrical equipment and the terminals and components of the control system may still carry a charge even when they are disconnected. Coming into contact with them can jeopardise operator safety or cause irreversible damage to the equipment. Ensure that the motor is stopped before handling the pump.

- Connect the motor in accordance with the instructions supplied by the motor's manufacturer, national legislation and the EN 60204-1 standard.
- Check the direction of rotation.
- Momentarily start up the motor and stop it. Make sure that the pumping direction is as desired. Operating the pump in the wrong direction can cause serious damage.



ATTENTION



ALWAYS check the direction of rotation of the motor with liquid inside the pump.

6. Start-up



Read the instructions in section 5. [Installation](#) carefully before starting up the pump. Read section 9. [Technical specifications](#) carefully. INOXPA is not liable for the equipment being used incorrectly.



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

6.1. CHECKS BEFORE STARTING UP THE PUMP

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



ATTENTION

The pump must NEVER rotate when dry.

- Check that the electrical power supply matches the indications on the motor's nameplate.
- Check that the direction of rotation of the motor is correct.

6.2. CHECKS WHEN STARTING UP THE PUMP

- Check that the pump is not making any strange noises.
- Check that the absolute inlet pressure is enough to prevent cavitation in the pump. Check the curve to determine the minimum pressure required above the vapour pressure (NPSHr).
- Check the discharge pressure.
- Check that no leaks are present in the sealing areas.



ATTENTION

Do not use a shut-off valve to regulate the flow rate in the suction pipe. Such valves must be fully open during operation.

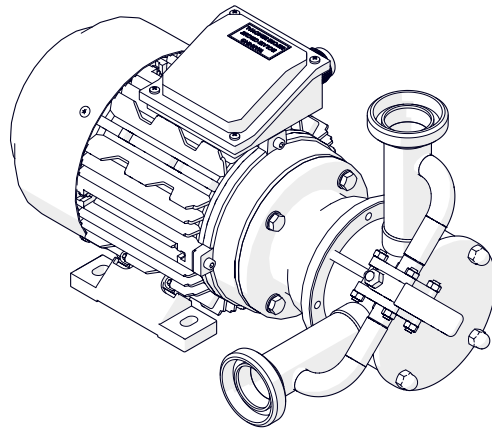


ATTENTION

Monitor the consumption of the motor to prevent electrical overload.

To reduce the flow and the power consumed by the motor, reduce the motor speed.

To prevent excess pressure from damaging the pump, mount a device to limit the pressure to the differential pressure of the pump. This varies depending on the pump model. Refer to the pressures stated in section 9. [Technical specifications](#).



01.650.32.0031



Use suitable personal protective equipment if the sound pressure level in the area of operation exceeds 85 dB(A).

7. Troubleshooting

The table below contains solutions to problems that may arise during the operation of the pump. It is assumed that the pump was installed and selected correctly for the usage case. Please contact INOXPA if technical support is required.

Motor overload																																													
Insufficient pump flow or pressure																																													
No pressure on discharge side																																													
Irregular discharge flow/pressure																																													
Noise and vibrations																																													
Clogged pump																																													
Overheated pump																																													
Abnormal wear																																													
Mechanical seal leak																																													
	<table border="1"> <thead> <tr> <th>PROBABLE CAUSES</th> <th>SOLUTIONS</th> </tr> </thead> <tbody> <tr> <td>Wrong direction of rotation</td> <td>Reverse the direction of rotation.</td> </tr> <tr> <td>Insufficient NPSH</td> <td>Raise the suction tank. Lower the pump. Reduce the vapour pressure. Increase the diameter of the suction pipe. Shorten and simplify the suction pipe.</td> </tr> <tr> <td>Pump not purged</td> <td>Purge or fill the pump.</td> </tr> <tr> <td>Cavitation</td> <td>Increase the suction pressure.</td> </tr> <tr> <td>Pump sucks in air</td> <td>Check the suction pipe and all the connections.</td> </tr> <tr> <td>Suction pipe blocked</td> <td>Check the suction pipe and any filters.</td> </tr> <tr> <td>Discharge pressure too high</td> <td>If necessary, reduce head losses by increasing the pipe diameter, for example.</td> </tr> <tr> <td>Liquid too viscous</td> <td>Reduce the viscosity by heating the liquid, for example.</td> </tr> <tr> <td>Liquid temperature too high</td> <td>Reduce the temperature by cooling the liquid.</td> </tr> <tr> <td>Mechanical seal damaged or worn</td> <td>Replace the seal.</td> </tr> <tr> <td>O-rings unsuitable for the liquid</td> <td>Fit the correct O-rings after consulting with the supplier.</td> </tr> <tr> <td>Excessive impeller expansion</td> <td>Reduce the temperature. Replace the impeller.</td> </tr> <tr> <td>Stress in the pipes</td> <td>Connect the pipes to the pump so that they are not under stress.</td> </tr> <tr> <td>Foreign objects in the liquid</td> <td>Place a filter onto the suction pipe.</td> </tr> <tr> <td>Pump speed too low</td> <td>Increase the speed.</td> </tr> <tr> <td>Suction pipe shut-off valve closed</td> <td>Check and open it.</td> </tr> <tr> <td>Pump too small</td> <td>Choose a larger size.</td> </tr> <tr> <td>Worn bearings</td> <td>Replace the bearings.</td> </tr> <tr> <td>Pump coupling not aligned</td> <td>Align the coupling.</td> </tr> <tr> <td>Pump and/or motor not secured on the base-plate</td> <td>Secure the pump and/or motor, check that the pipes are connected without stress and align the coupling.</td> </tr> <tr> <td>Impeller worn or operated when dry</td> <td>Replace the impeller.</td> </tr> </tbody> </table>	PROBABLE CAUSES	SOLUTIONS	Wrong direction of rotation	Reverse the direction of rotation.	Insufficient NPSH	Raise the suction tank. Lower the pump. Reduce the vapour pressure. Increase the diameter of the suction pipe. Shorten and simplify the suction pipe.	Pump not purged	Purge or fill the pump.	Cavitation	Increase the suction pressure.	Pump sucks in air	Check the suction pipe and all the connections.	Suction pipe blocked	Check the suction pipe and any filters.	Discharge pressure too high	If necessary, reduce head losses by increasing the pipe diameter, for example.	Liquid too viscous	Reduce the viscosity by heating the liquid, for example.	Liquid temperature too high	Reduce the temperature by cooling the liquid.	Mechanical seal damaged or worn	Replace the seal.	O-rings unsuitable for the liquid	Fit the correct O-rings after consulting with the supplier.	Excessive impeller expansion	Reduce the temperature. Replace the impeller.	Stress in the pipes	Connect the pipes to the pump so that they are not under stress.	Foreign objects in the liquid	Place a filter onto the suction pipe.	Pump speed too low	Increase the speed.	Suction pipe shut-off valve closed	Check and open it.	Pump too small	Choose a larger size.	Worn bearings	Replace the bearings.	Pump coupling not aligned	Align the coupling.	Pump and/or motor not secured on the base-plate	Secure the pump and/or motor, check that the pipes are connected without stress and align the coupling.	Impeller worn or operated when dry	Replace the impeller.
PROBABLE CAUSES	SOLUTIONS																																												
Wrong direction of rotation	Reverse the direction of rotation.																																												
Insufficient NPSH	Raise the suction tank. Lower the pump. Reduce the vapour pressure. Increase the diameter of the suction pipe. Shorten and simplify the suction pipe.																																												
Pump not purged	Purge or fill the pump.																																												
Cavitation	Increase the suction pressure.																																												
Pump sucks in air	Check the suction pipe and all the connections.																																												
Suction pipe blocked	Check the suction pipe and any filters.																																												
Discharge pressure too high	If necessary, reduce head losses by increasing the pipe diameter, for example.																																												
Liquid too viscous	Reduce the viscosity by heating the liquid, for example.																																												
Liquid temperature too high	Reduce the temperature by cooling the liquid.																																												
Mechanical seal damaged or worn	Replace the seal.																																												
O-rings unsuitable for the liquid	Fit the correct O-rings after consulting with the supplier.																																												
Excessive impeller expansion	Reduce the temperature. Replace the impeller.																																												
Stress in the pipes	Connect the pipes to the pump so that they are not under stress.																																												
Foreign objects in the liquid	Place a filter onto the suction pipe.																																												
Pump speed too low	Increase the speed.																																												
Suction pipe shut-off valve closed	Check and open it.																																												
Pump too small	Choose a larger size.																																												
Worn bearings	Replace the bearings.																																												
Pump coupling not aligned	Align the coupling.																																												
Pump and/or motor not secured on the base-plate	Secure the pump and/or motor, check that the pipes are connected without stress and align the coupling.																																												
Impeller worn or operated when dry	Replace the impeller.																																												

8. Maintenance

8.1. GENERAL CONSIDERATIONS

Just like any other machine, this pump requires maintenance. The instructions in this manual cover spare part identification and replacement. These instructions were prepared for maintenance personnel and those responsible for the supply of spare parts.



Carefully read the following section: [9. Technical specifications](#)

Only qualified, trained persons equipped with the necessary means for the work may perform maintenance.

All replaced parts and materials must be properly disposed of or recycled in accordance with the directives in force in the place in question.



ALWAYS disconnect the pump before starting any maintenance work.

8.2. MECHANICAL SEAL CHECK

Check regularly for any leaks around the shaft. In the event of mechanical seal leaks, replace the seal in accordance with the instructions provided in section [8.7. Disassembling and assembling the pump.](#)

8.3. TIGHTENING TORQUE

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

8.4. STORAGE

The pump must be completely drained of liquid before being stored. Avoid exposing parts to excessively humid environments as much as possible.

8.5. MAINTENANCE OF GASKETS AND THE IMPELLER

GASKET REPLACEMENT

Preventive maintenance	Replace every 12 months. We also recommend replacing gaskets if the mechanical seal is replaced.
Maintenance after a leak	Replace at the end of the process.
Scheduled maintenance	Regularly check that there are no leaks and that the pump works correctly. Keep a record of pump maintenance. Use statistics to schedule inspections.
Lubrication	During assembly, lubricate the gasket with soapy water or a food grade oil compatible with the gasket material.

The interval between each preventive maintenance run can vary depending on the operating conditions of the pump: Temperature, flow, number of operating hours per day, cleaning solution used etc.

8.6. CLEANING



Using aggressive cleaning products such as caustic soda and nitric acid can burn the skin. Wear rubber gloves during cleaning procedures. Always wear safety glasses.

8.6.1. CIP (clean-in-place) cleaning

The pump does not need to be disassembled if it is installed in a system with a CIP process.

If there is no automatic cleaning process, disassemble the pump as indicated in the following section: [8.7. Disassembling and assembling the pump](#)

Cleaning solutions for CIP processes. Only use clear water (chloride-free) to mix with the cleaning agents:

- a. Alkaline solution:** 1% by weight of caustic soda (NaOH) at 70°C (150°F)
1 Kg NaOH + 100 litres of H₂O = cleaning solution
or
2.2 litres of 33% NaOH + 100 litres of H₂O = cleaning solution
- b. Acidic solution:** 0.5% by weight of nitric acid (HNO₃) at 70°C (150°F)
0.7 litres of 53% HNO₃ + 100 litres of H₂O = cleaning solution

ATTENTION



Check the concentration of cleaning solutions. The wrong concentration can cause the valve gaskets to deteriorate.

ALWAYS perform a final rinse with clean water at the end of the cleaning process to remove any traces of cleaning products.

8.7. DISASSEMBLING AND ASSEMBLING THE PUMP

The assembly and disassembly of pumps may be carried out by qualified personnel only. Ensure the personnel read this instruction manual carefully, especially the instructions regarding the work they are going to perform.

ATTENTION



Incorrect assembly or disassembly may damage the workings of the pump and result in high repair costs and a long downtime. INOXPA is not liable for accidents or damage caused by not complying with the instructions in this manual.

Preparations

Ensure the working environment is clean, as some parts, including the mechanical seal, may need careful handling, and others have small tolerances.

Check that the parts used were not damaged during transportation. When doing so, check the fitted faces, mated faces, sealing and for the presence of burrs etc.

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

Tools

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

Cleaning

Clean the pump inside and out before disassembling it.

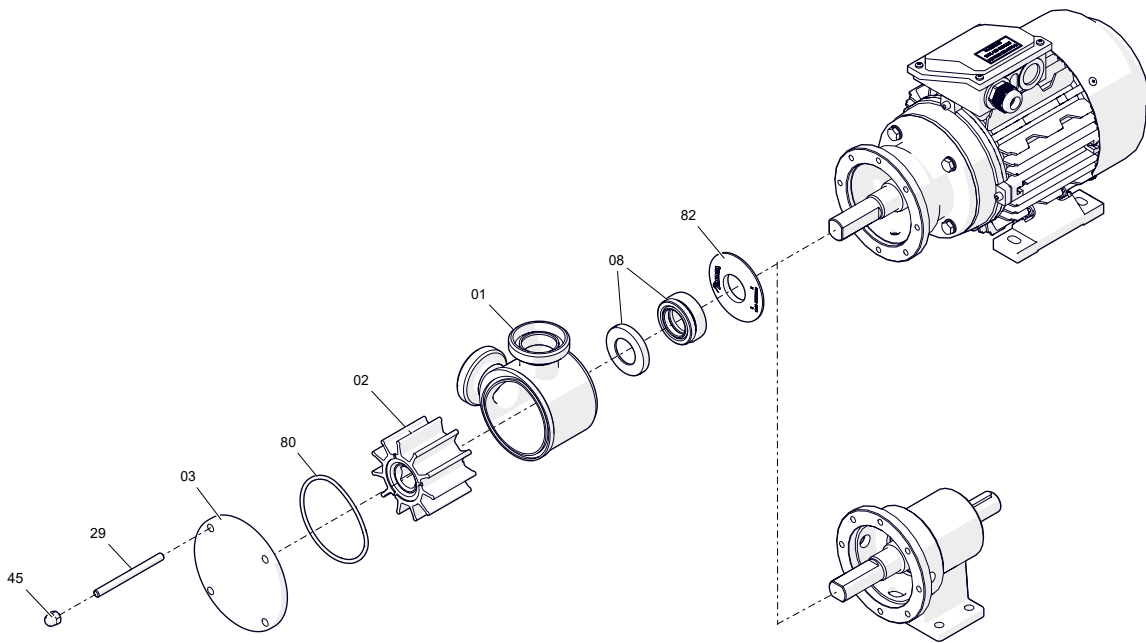


NEVER clean the pump by hand while it is running.

8.7.1. Body, pump, impeller and mechanical seal

Disassembly

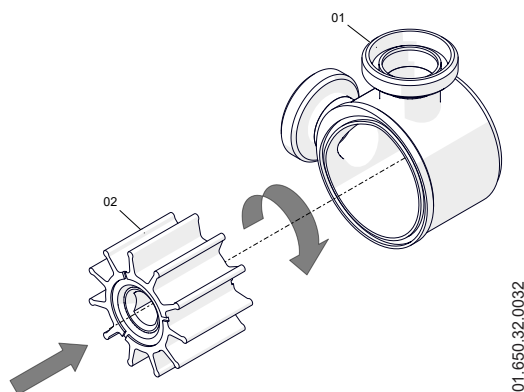
1. Undo the cap nuts (45) and remove the pump cover (03).
2. Remove the body (01) together with the impeller (02).
3. Remove the stationary part of the seal (08), the O-ring (80) and the stud bolts (29) from the body (01).
4. Disassemble the rotating part of the seal (08) and the drip ring (82) from the shaft (05/05A).



01.650.32.0033

Assembly

1. Place the drip ring (82) onto the shaft (05/05A) without pushing it all the way back.
2. Mount the rotating part of the seal on the shaft (05/05A) to the stop point.
3. Lubricate the impeller (02) with a grease compatible with food applications.
4. Place the impeller (02) and the stationary part of the seal (08) into the body (01). To insert the impeller (02) into the body (01), turn it in the direction of rotation.
5. Carefully fit the entire assembly into the lantern ring (04) in the case of a monoblock pump or into the bearing support (06) in the case of a bare shaft pump. The body can be rotated 360° to enable the connections to be placed in the most convenient position for the user.
6. Place the O-ring (80) onto the body (01) and screw in the stud bolts (29).
7. Mount the cover (03) and secure everything with the cap nuts (45).



ATTENTION

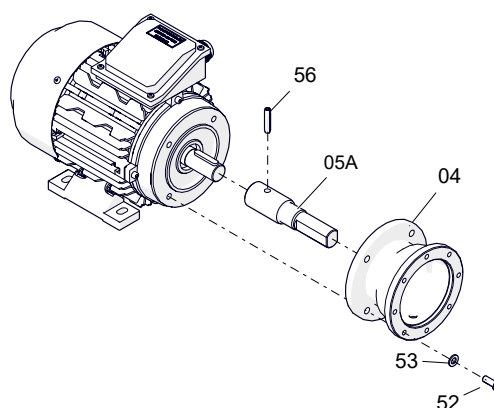


When mounting the new seal, take care to mount the parts and gaskets, both of the stationary part on the cover and the rotating part on the shaft, smeared with soapy water to facilitate their sliding.

8.7.2. Replacing the motor (monoblock)

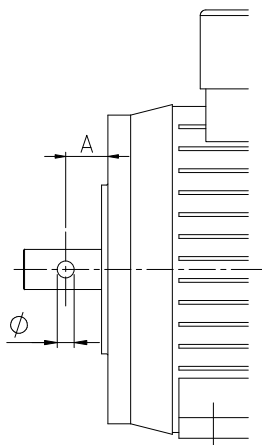
Disassembly

1. Undo and remove the hex screws (52) and the washers (53).
2. Disassemble the lantern ring (04) and the motor (93).
3. Remove the pin (56) that causes the motor shaft and the pump shaft to rotate together.
4. Remove the shaft (05B).



Assembly

1. Drill a hole in the drive shaft in accordance with the dimension in figure 01.650.32.0013.
2. Place the shaft (05B) on the motor shaft.
3. Insert the pin (56) into the shaft.
4. Mount the lantern ring (04) into the motor flange (93) and secure with the hex screws (52) and washers (53).



Motor size	A [mm]	Ø [mm]
T. 80	20	6
T. 90	25	8
T. 100	30	8

8.7.3. Replacing the bearings (bare shaft)

Pumps RF-02/20, RF-05/25 and RF-10/40

Disassembly

1. Remove the key (61) from the shaft (05).
2. Disassemble the bearing support (06), lip seal (88) and snap ring (66).
3. Remove the assembly formed by the shaft (05), bearings (70), spacer bushing (17), snap ring (66A) and stop ring (31).
4. Remove the snap ring (66A) and the stop ring (31).
5. Disassemble the bearings (70) and the spacer bushing (17).

Assembly

1. Mount the bearings (70) and the spacer bushing (17) on the shaft (05).
2. Fit the stop ring (31) and secure with the snap ring (66A).
3. Mount the entire assembly on the bearing support (06) and secure with the snap ring (66).
4. Place the lip seal on the bearing support (06).
5. Place the key (61) into the shaft (05).

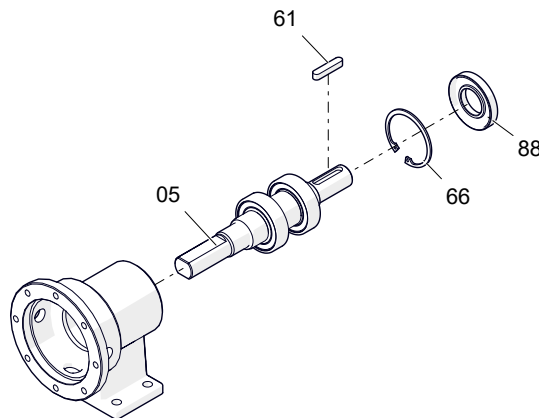
Pumps RF-20/50 and RF-30/65

Disassembly

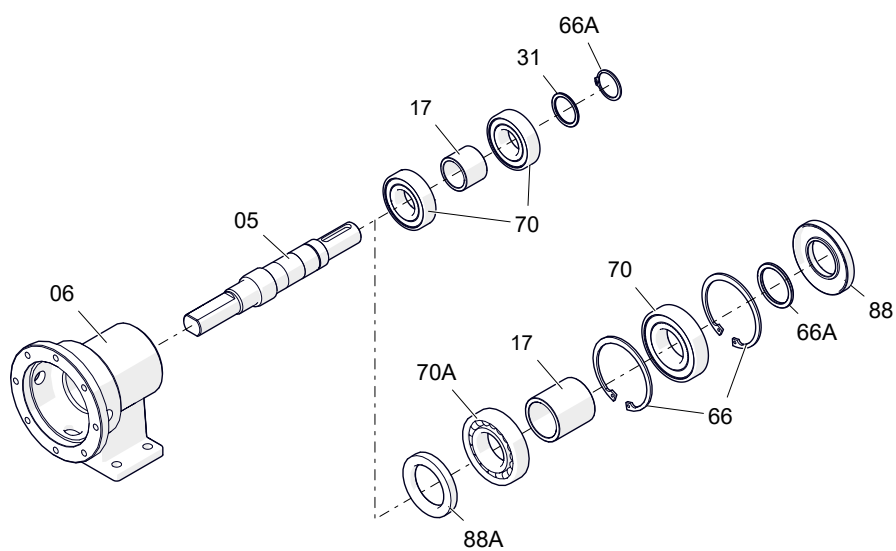
1. Remove the key (61) from the shaft (05).
2. Disassemble the bearing support (06), lip seal (88) and snap ring (66).
3. Remove the ball bearing (70).
4. Remove the second snap ring (66).
5. Remove the assembly formed by the shaft (05), bearings (70), spacer bushing (17), snap ring (66A) and stop ring (31).
6. Remove the snap ring (66A).
7. Disassemble the cylindrical roller bearing (70A) and the spacer bushing (17).
8. Disassemble the lip seal (88A).

Assembly

1. Mount the lip seal (88A).
2. Mount the cylindrical roller bearing (70A) and the spacer bushing (17) on the shaft (05) and secure with the snap ring (66A).
3. Mount the entire assembly on the bearing support (06) and secure with the snap ring (66).
4. Mount the ball bearing (70) and secure with the snap ring (66).
5. Place the lip seal on the bearing support (06).
6. Place the key (61) into the shaft (05).



01.650.32.0035



01.650.32.0036

9. Technical specifications

Maximum flow (1450 rpm)	30 m ³ /h
Maximum differential pressure	See table below
Maximum operating pressure:	800 kPa (8 bar)
Temperature range	3°C to 80°C
Sound level	60 – 80 dB(A)
Suction/discharge connections	DIN 11851, clamp, SMS

Pump type	Starting torque [Nm]	Reversing torque [Nm]	Maximum differential pressure [kPa]	
			Monoblock	Bare shaft
RF-02/20	4.7	7.1	300	400
RF-05/25	7.3	13.4	250	400
RF-10/40	15.1	31.6	250	400
RF-20/50	24.4	51.6	200	200
RF-30/65	64.3	110.5	-	400

ATTENTION



If the pump is operated above the maximum differential pressure values, there is a risk of the shaft breaking or rapid wear on the shaft.

The use of a frequency inverter can result in a drop in the motor starting torque.

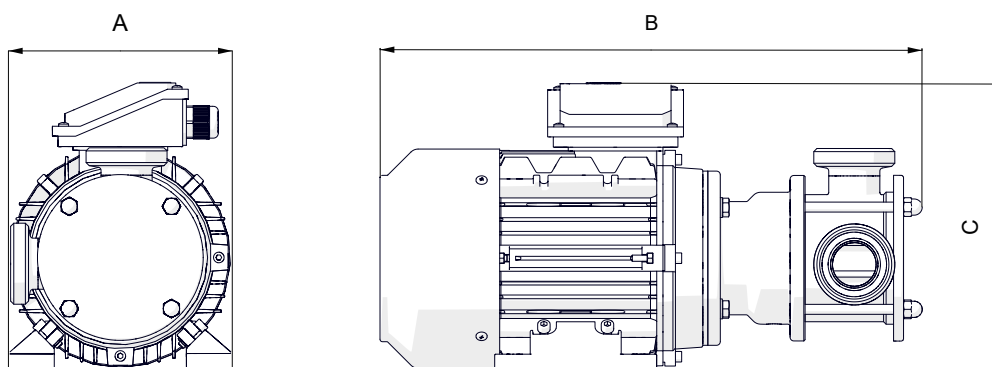
Materials

Impeller	CR (neoprene suitable for contact with foodstuffs)
Parts in contact with the product	1.4404 (AISI 316L)
Other steel parts	1.4301 (AISI 304)
Gaskets in contact with the product	FPM (standard) - EPDM
Other gaskets	Check with the supplier
Exterior finish	Matte
Interior finish	Ra ≤ 0.8 μm

Mechanical seal

Type	Single exterior seal
Material of stationary part	Silicon carbide (SiC)
Material of rotating part	Carbon (C)
Gasket material	FPM

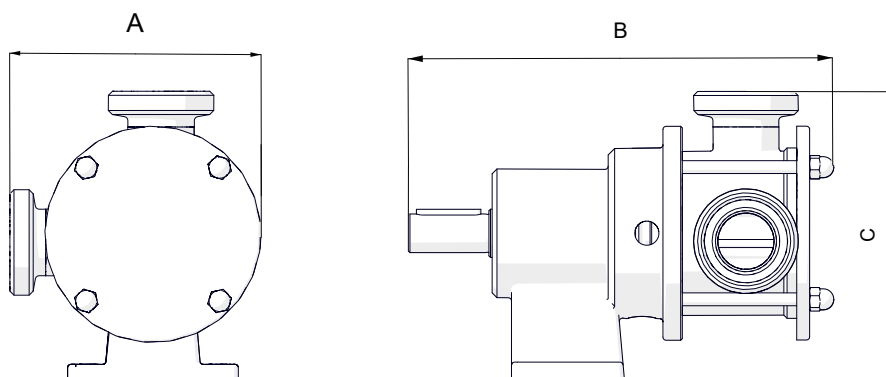
9.1. RF MONOBLOCK PUMP DIMENSIONS



01.650.32.0037 - 01.650.32.0038

Size	A [mm]	B [mm]	C [mm]	Weight [kg]
RF-02/20	155	350	220	14
RF-05/25	155	370	220	15
RF-10/40	180	445	240	25
RF-20/50	200	510	265	39

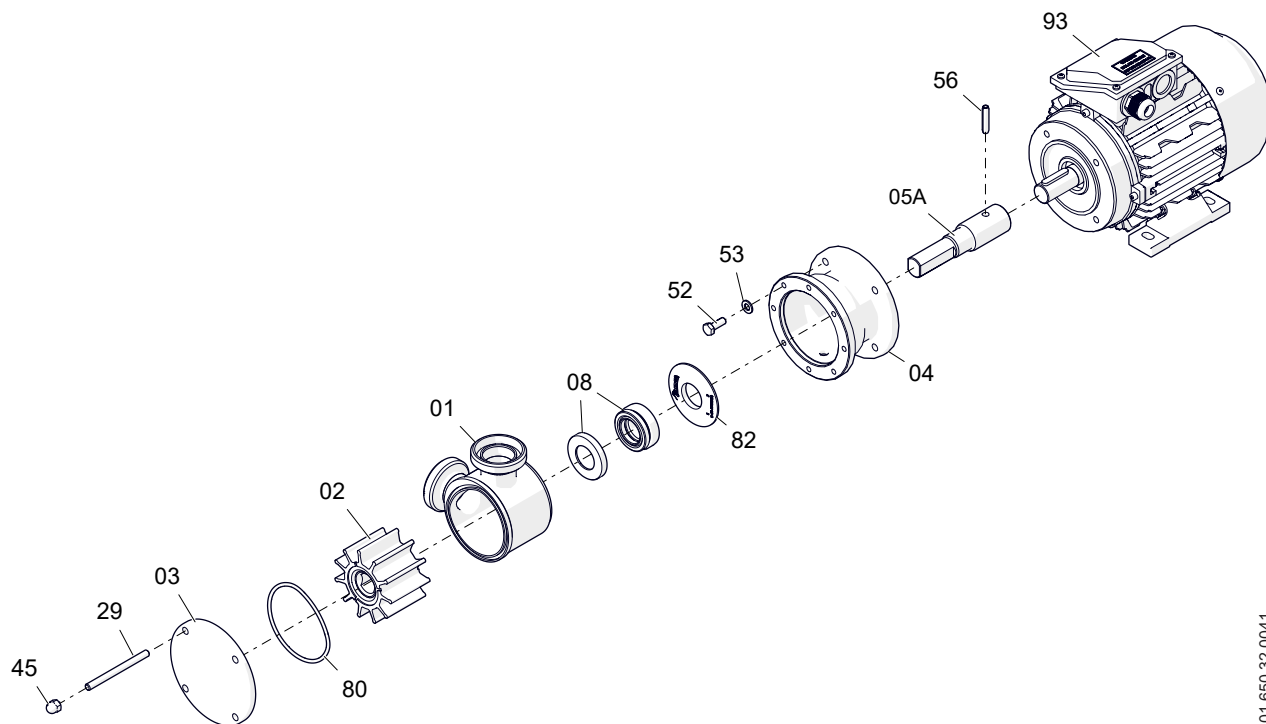
9.2. RF BARE SHAFT PUMP DIMENSIONS AND WEIGHT



01.650.32.0039 - 01.650.32.0040

Size	A [mm]	B [mm]	C [mm]	Weight [kg]
RF-02/20	125	210	155	4.5
RF-05/25	130	225	160	5
RF-10/40	155	265	180	9
RF-20/50	185	335	205	16
RF-30/65	195	350	210	19

9.3. EXPLODED VIEW OF RF MONOBLOCK PUMP



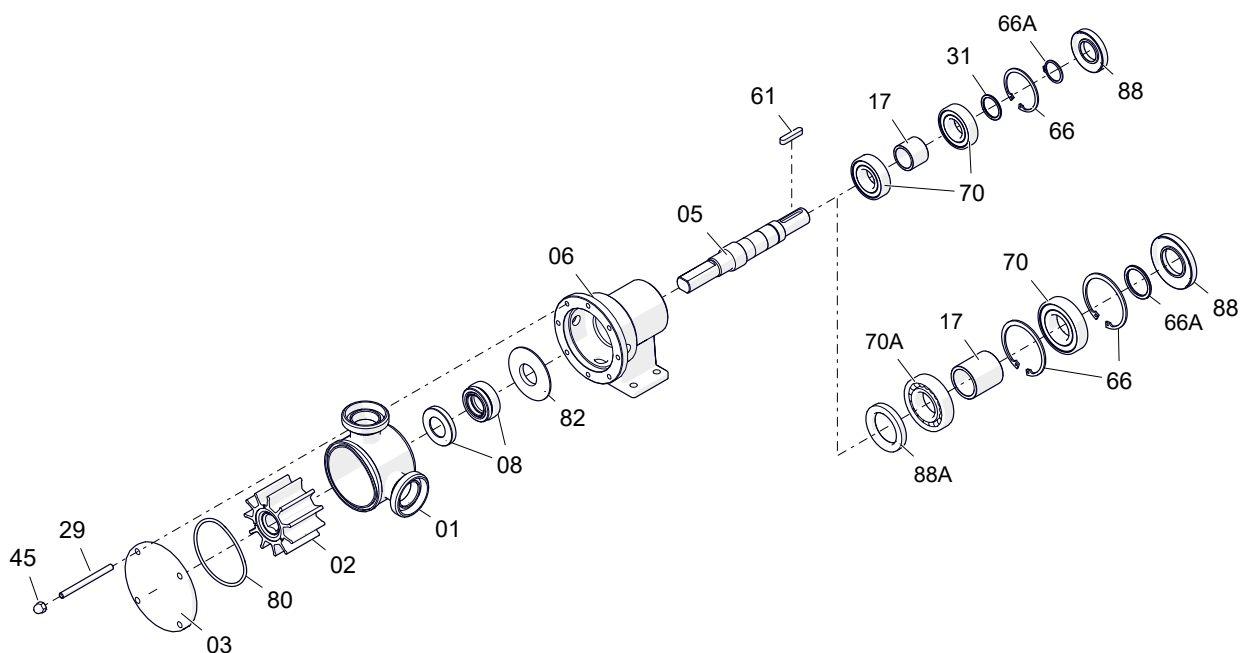
01.650.32.0041

9.4. LIST OF PARTS OF RF MONOBLOCK PUMP

Position	Description	Quantity	Material
01	Body	1	1.4404 (AISI 316L)
02	Impeller ¹	1	CR
03	Pump cover	1	1.4404 (AISI 316L)
04	Lantern ring	1	CF8
05A	Shaft	1	1.4404 (AISI 316L)
08	Mechanical seal ¹	1	-
29	Stud bolt	4	1.4301 (AISI 304)
45	Cap nut	4	A2
52	Hex screw	4	8.8
53	Flat washer	4	Steel
56	Spring pin	1	A2
80	O-ring ¹	1	FPM
82	Drip ring	1	EPDM
93	Motor	1	-

1) Recommended spare parts

9.5. EXPLODED VIEW OF RF BARE SHAFT PUMP



01.650.32.0042

9.6. LIST OF PARTS OF RF BARE SHAFT PUMP

Position	Description	Quantity		Material
		RF-02/20 RF-05/25 RF-10/40	RF-20/50 RF-30/65	
01	Body	1	1	1.4404 (AISI 316L)
02	Impeller ¹	1	1	CR
03	Pump cover	1	1	1.4404 (AISI 316L)
05	Shaft	1	1	1.4404 (AISI 316L)
08	Mechanical seal ¹	1	1	-
17	Spacer bushing	1	1	F-114
29	Stud bolt	4	4	1.4301 (AISI 304)
31	Stop ring	1	1	F-114
45	Cap nut	4	4	A2
61	Key	1	1	A4
66	Snap ring	1	2	Steel
66A	Snap ring	1	1	Steel
70	Ball bearing ¹	2	1	Steel
70A	Cylindrical roller bearing ¹	-	1	Steel
80	O-ring ¹	1	1	FPM
82	Drip ring	1	1	EPDM
88	Lip seal ¹	1	1	NBR
88A	Lip seal ¹	-	1	NBR

1) Recommended spare parts

How to get in touch with INOXPA S.A.U.:
The contact details for each country are constantly updated on our website.
Go to www.inoxpa.com to access the information.



INOXPA S.A.U.
Telers, 60 - 17820 - Banyoles - Spain

