

INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTIONS

TANK BOTTOM MIXER

ME-6100



03.600.32.0015



Original Instructions
03.600.30.02EN
(B) 2023/02

EC Declaration of Conformity



INOXPA S.A.U.

Telers, 60
17820 - Banyoles (Spain)

hereby declare under our sole responsibility that the

Machine: **TANK BOTTOM MIXER**

Model: **ME-6100**

Type: **ME-6103, ME-6105, ME-6110, ME-6125, ME-6130**

Serial number: **IXXXXXXXXXX to IXXXXXXXXXX**
XXXXXXXXXXIINXXX to XXXXXXXXXXXXIINXXX

fulfills all the relevant provisions of the following directive:

Machinery Directive 2006/42/EC
Regulation (EC) n° 1935/2004
Regulation (EC) n° 2023/2006

and with the following harmonized standards and/or regulations:

EN ISO 12100:2010
EN 60204-1:2018
EN ISO 14159:2008
EN 1672-2:2005+A1:2009

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

A handwritten signature in black ink, appearing to read "Dr. Reyero Brunet".

David Reyero Brunet
Responsable Oficina Técnica
3th August 2022



Document: 03.600.30.05EN

Revision: (0) 2022/08

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fulfils all the relevant provisions of these regulations:

Supply of Machinery (Safety) Regulations 2008

and with the following designated standards:

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EN 60204-1:2018
EN ISO 14159:2008
EN 1672-2:2005+A1:2009

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

A handwritten signature in black ink, appearing to read "Dr Reyero", written over a light grey rectangular background.

David Reyero Brunet
Technical Office Manager
3th August 2022



Document: 03.600.30.06EN

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2. Generalities

2.1. INSTRUCTIONS MANUAL

This manual contains information about the reception, installation, operation, assembly, disassembly and maintenance of the tank bottom mixer ME-6100.

Carefully read the instruction before starting the mixer, familiarize yourself with the installation, operation and correct use of the mixer 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 mixer. Contact INOXPA in case of doubt.

3.2.1. DURING THE INSTALLATION



Always take into account the [Technical Specifications](#) of [chapter 9](#).

The installation and use of the mixer should always be in accordance with applicable regulations in regard to health and safety.

Before starting up the mixer, check that it is properly anchored and its shaft is perfectly aligned. Incorrect alignment and/or excessive stress during coupling can cause serious mechanical problems in the mixer.

Take all possible precautions when lifting the mixer. Always use properly attached slings when moving the mixer with a crane or other lifting device.



Keep the motor and the switchboard under control, particularly in areas where there is a risk of fire or explosion.

When cleaning, do not spray directly on the engine.

Do not disassemble the mixer until the switchboard has been disconnected. Remove the fuses and disconnect the power cable supplying the motor.

All electric work should be carried out by specialised personnel.

3.2.2. DURING OPERATION



The [Technical Specifications](#) of [chapter 9](#) should always be observed. Under no circumstances can the specified limit values be exceeded.

Before starting up the mixer, remove all the tools used during the assembly.

Do not open the tank while the mixer is in operation.

Do not operate the mixer when the rotating parts are not equipped with their guards or are not properly assembled.

If the mixer operates in an open bank, the safe distances of the moving parts should be in accordance with EN ISO 13857:2019.



The mixer has rotating parts. Do not place hands or fingers in the mixer while it is operating. This may cause serious injuries.

Do not touch the parts of the mixer that are in contact with the fluid when in operation. When the mixer operates with hot fluids (temperatures above 50°C), skin burning is risky. In such cases, collective protection means (in this order or priority: separation, protective screen, heat-insulating material) or, in the absence of this, personal protection gear (gloves) must be used.



The mixer and its installation can generate sound levels above 85 dB(A) under unfavourable operating conditions. In such cases, the operators must use devices for protection against noise.

3.2.3. DURING MAINTENANCE



The [Technical Specifications](#) of [chapter 9](#) shall always be observed.

The mixer cannot operate without fluid. Standard mixers are not designed to work during the filling or emptying of tanks.

The maximum operating conditions of the mixer should not be exceeded. Nor should the operating parameters for which the mixer was initially designed be modified without written authorisations from INOXPA.



Do not leave loose parts on the floor.

Do not disassemble the mixer until the switchboard has been disconnected. Remove the fuses and disconnect the power cable supplying the motor.

All the electric work should be carried out by specialised personnel.

4. General Information

4.1. DESCRIPTION

The ME-6100 series mixers are high-shearing tank-bottom mixers.

These mixers have been designed so that the mechanical seal is accessible from inside the tank. So, it is not necessary to separate the mixer from the tank to change the mechanical seal.

This series of mixers can be used in both open and closed tanks at atmospheric pressure or operating under pressure or in a vacuum. They are especially suitable for work in conjunction with anchor-type agitators.

4.2. OPERATING PRINCIPLE

The impeller sucks the fluid through the holes of the upper part of the mixer and arrives at the impeller blades. The impeller reaches the fluid towards the stator, where the product is shearing. In the stator, the fluid is expelled radially through the stator slots at high speed.

4.3. APPLICATION

Bottom mixers are suitable for particle-reduction processes, dissolution, dispersion and emulsion. Because of their hygienic design, these mixers are suitable for industries as demanding as cosmetics, foodstuffs and pharmaceuticals. They can also be used in other types of industries such as adhesives, chemicals, paints and plastics.



The range of applications for each type of mixer is limited. The mixer was selected for a given set of mixing 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 MIXER



INOXPA is not liable for any deterioration of the material caused by its transport or unpacking. Visually, check that the packaging has not been damaged.



If the mixer is supplied without a drive or other element, the purchaser shall be responsible for its assembly, installation, start-up and operation.

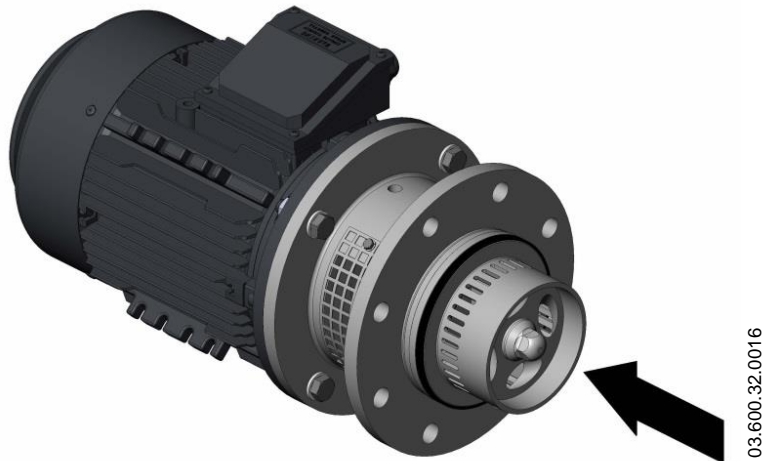
When receiving the mixer, check the packaging and its content to ensure that it matches the delivery note. INOXPA packs the mixer in their fully assembled form or disassembled on a case-by-case basis. Ensure that the mixer has not been damaged in any way. If it is not in good condition and/or any parts are missing, the carrier must submit a report as soon as possible.

The following documentation is included with the mixer:

- shipping documents,
- instructions and servicing manual for the mixer,
- instructions and servicing manual for the motor when the mixer is supplied with a motor by INOXPA.

Unpack the mixer and check the following:

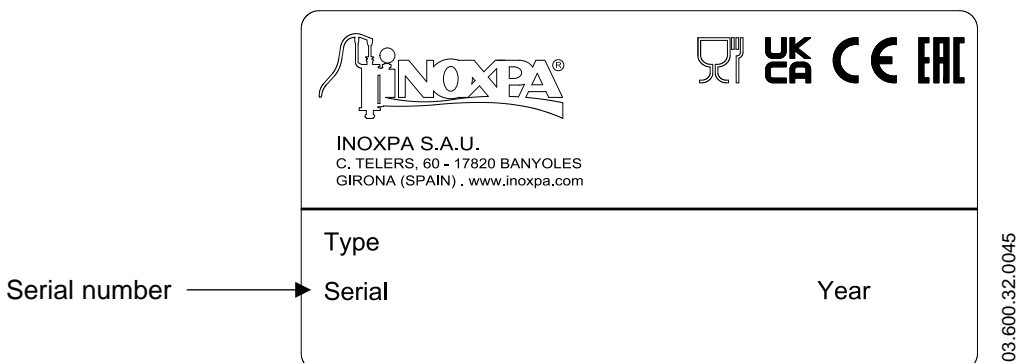
- the mixer stator and rotor, removing any remaining packaging material,
- check that the mixer and motor have not suffered any damage.



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 MIXER

The mixer is identified using a rating plate fixed onto the motor. The type of mixer and the serial number appear on the nameplate.



5.3. TRANSPORT AND STORAGE

**ATTENTION**

The mixers are too heavy to be stored or installed manually. Use an appropriate mode of transport. Do not handle the mixer by the shaft as this may become deformed.

**ATTENTION**

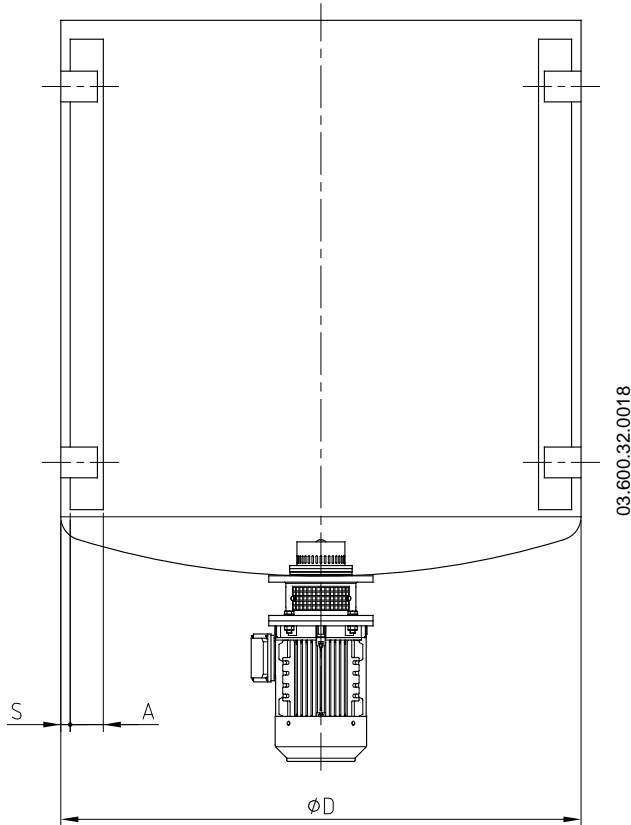
Take all possible precautions when lifting the mixer. Always use properly attached slings when moving the mixer with a crane or other lifting device.

If the mixer is not to be installed immediately, it must be stored in an appropriate place. The shaft must be stored in a horizontal position and placed on wooden supports or for similar material. In this position, the shaft will not become deformed since it not be subject to any type of load.

5.4. LOCATION

Place the mixer in such a way as to facilitate inspections and checks. Leave enough room around the mixer for service, disassembly and maintenance operations. It is very important to be able to access the electric connection device of the mixer, even when in operation.

For a good mixing process, it may be necessary to place a deflector in the tank. Ask our Technical Department for information on any particular application. If required, the approximate dimensions for the deflector for different tank diameter are shown in the next figures and the next table:



If the mixer operates in an open bank, the safe distances of the moving parts should be in accordance with EN ISO 13857:2019.

Ø D	300	400	500	600	800	1000	1200	1600	2000	2500	3000	3500	4000
A	20	30	35	40	50	70	80	115	130	180	200	240	280
S	5	5	10	10	10	15	20	20	30	30	50	50	50

5.5. ELECTRICAL INSTALLATION

To do the electrical installation, connect the motor in accordance with the instructions supplied by the motor manufacturer following the current national legislation and in compliance with EN 60204-1.



- Take the connection of the electrical motors must be performed by qualified personnel.
- Take the appropriate measures to prevent any fault.
- The motor must be provided with devices for protection against power overload and short-circuits.
- The mixer cannot be used in areas where there is a risk of fire or explosion when this has not been specified in the order.

5.6. ASSEMBLY

- Place and assemble the mixer at the bottom of the tank ensuring that the O-ring is fitted.
- Once placed on the tank flange, place the screws and washers in their corresponding bore holes and fasten them tightly.
- Make sure that the order components of the installation are prepared and ready for start-up of the mixer.

5.7. PRESSURE VESSEL

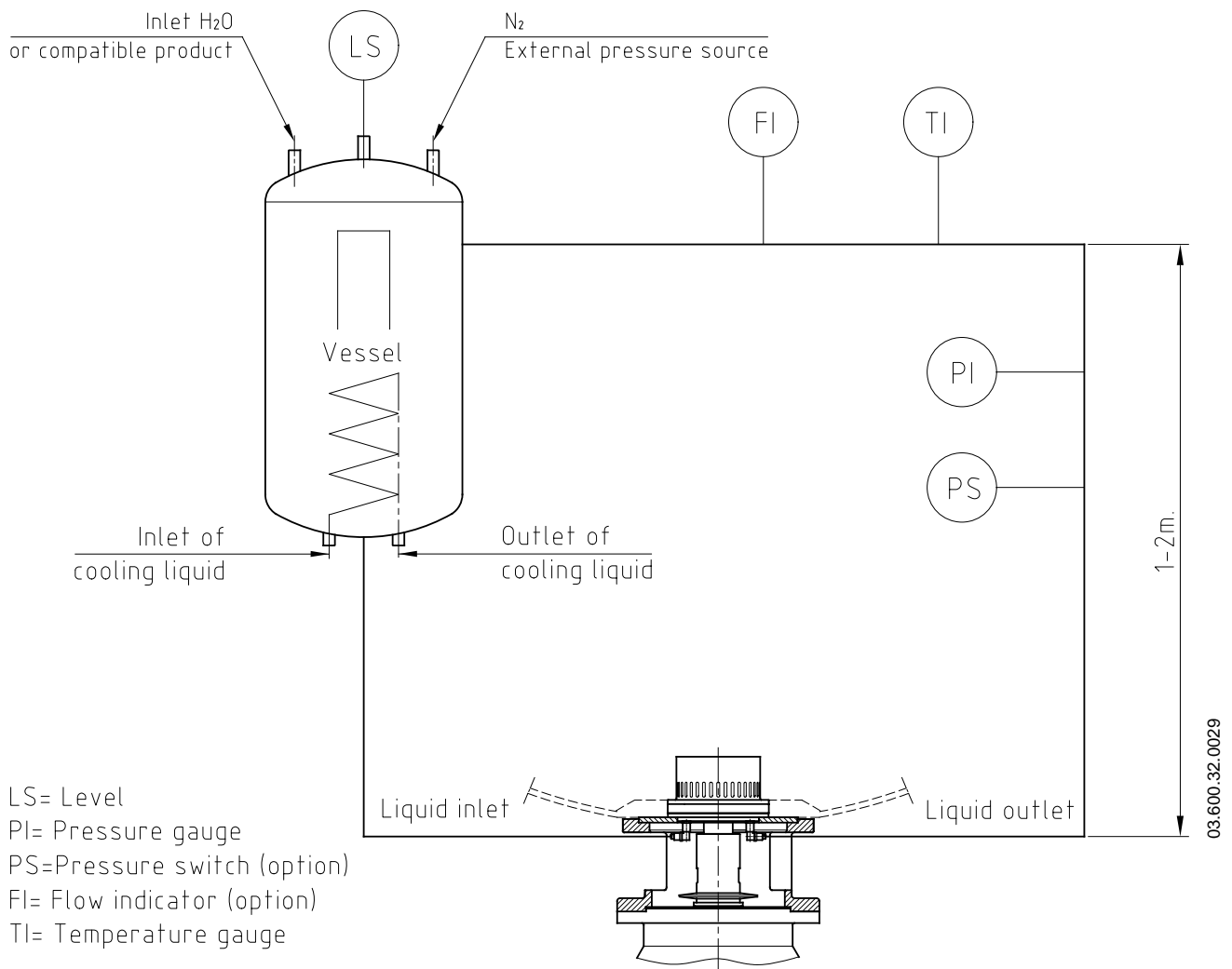
For the mixer models with double mechanical seals, it is necessary to install a pressure vessel.

ATTENTION



ALWAYS install the pressure vessel at a height from 1 to 2 meters above the inlet and outlet of the seal.

ALWAYS supply the flushing liquid through the lower connection of the seal chamber. Thus, the flushing liquid will be discharged through the upper connection.



6. Start-up



The start-up of the mixer can be carried out provide the instructions indicated in the chapter [5. Installation](#) have been followed.

Never touch pipes or the mixer when hot fluids are circulating.

Do not operate the mixer when the rotating parts are not equipped with their guards or are not properly assembled.

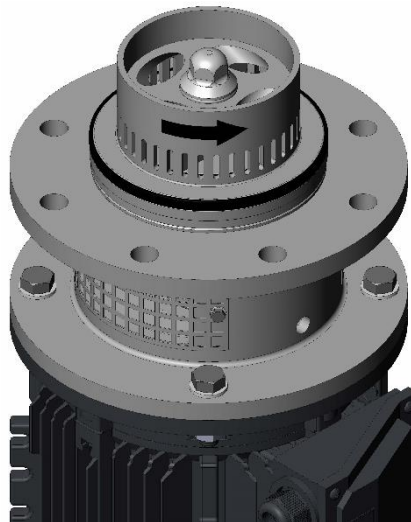
- Check that the power supply matches the rating indicated on the motor plate.
- Check the level of fluid in the tank. When not specified in the order, the mixer cannot be operated during the filling or emptying of the tank.
- Check that the mechanical seal is in the condition required to operate properly.



ATTENTION

The mixer can NEVER operate without fluid.

- All the guards must be in place.
- The performance of the mixer depends on the viscosity of the fluid being mixed. To properly operate the equipment, follow this loading procedure:
 1. pour all the low-viscosity components inside the vessel,
 2. start up the mixer,
 3. check that the direction of rotation of the propellers is correct (it must rotate clockwise when see from the drive side). See the figure 03.600.30.0020,
 4. add the remaining fluid or soluble components,
 5. add any solids that require to be cut or a predetermined time for reaction,
 6. add the remaining components, including solids to stabilize the preparation or to increase viscosity.



Follow the direction of rotation of the mixer as indicated by the arrow attached to the engine. An incorrect direction of rotations results in a loss of mixing performance.

- Check the electrical consumption of the motor.

ATTENTION

Do not modify the operating parameters for which the mixer was initially designed without written authorisation from INOXPA (risk of damage and user hazard).

Follow the instructions for use and the safety requirements described in the instructions manual for the tank in which the mixer is mounted.

Mechanical risk (e.g., drag, shear, cutting, impact, flattening and pinching). If the mixer is accessible from the top or the tank inspections hatch, then the user will be exposed to the above-mentioned risks.

The tank must be fitted with protective devices and safety equipment. Consult the manufacturer's instructions manual.

ATTENTION

Introducing an object or solid raw material may cause the mixer and other mechanical parts to break and compromise its safety or guarantee.



Do not open the tank while the mixer is in operation.

8. Maintenance

8.1. GENERAL CONSIDERATIONS

This mixer, 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 carrying out this work.

Before beginning maintenance work, ensure that the electric motor is disconnected and that the tank is empty.

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



Before beginning maintenance work, ensure that the mixer is disconnected.

8.2. MAINTENANCE

- Inspect the mixer regularly.
- Do not fail to keep the mixer clean.
- Check the state of the motor.
- Check the state of the bearings.
- Check the sealing: mechanical seal.

The time interval between each preventive maintenance may vary in accordance with the work conditions.

Motor maintenance shall be carried out in accordance with the manufacturer's instructions, see the instructions manual.

8.3. LUBRICATION

The lubrication of the bearings of the motor or the gear motor will be carried out according to the manufacturer's instructions.

8.4. SPARE PARTS

To order spare parts it is necessary to indicate the type and serial number included on the mixer's characteristics plate, as well as the position and description of the part as found in chapter 9. [Technical Specifications](#).

8.5. CONSERVATION

If the mixer is out of service for a considerable period of time, clean and treat the parts with VG46 mineral oil. The mixer must be stored in the horizontal position and on wooden supports or on supports of a similar material. These supports will be situated on the mixer head.

8.6. DISASSEMBLY AND ASSEMBLY OF THE MIXER



The disassembly and assembly of the mixers should only be carried out by qualified personnel using only appropriate tools. Ensure that staff read these instructions manual attentively, particularly the instructions that relate to their work.



Stop the motor from starting up when carrying out assembly and disassembly work on the mixer.

Place the mixer switch in the "off" position.

Lock out the electrical switchboard or place a warning sign.

Remove the fuses and take them to the workplace.

8.7. DISASSEMBLY OF THE ME-6103, ME-6105 AND ME-6110 MIXER WITH SIMPLE MECHANICAL SEAL

Once the motor is disconnected, disassembly work may begin.

1. Empty the tank.
2. Disconnect the cables of the electric motor terminals.
3. Remove the lantern protectors (47) unscrewing the screws (50).
4. If the mixer has a cooling circuit, disconnect it.
5. Disassemble the stator (22) in one of the following ways:
 - a. if you can access to the internal part of the tank, loose the allen screws (51A) and remove the stator from inside the tank,
 - b. if you cannot access the internal part of the tank, disassemble the mixer in its place loosening the screws and the washers that join the mixer to the tank. Use the hand pallet truck to hold and move the mixer. Once the mixer is on the hand pallet truck, loose the allen screws (51) and remove the stator.
6. Remove the O-ring (80A) from the stator (22).
7. Place a spanner between the flat sides of the shaft to immobilize it.
8. Disassemble the blind nut (45) from the rotor (21) with a pipe wrench and remove the O-ring (80B) hosted in the rotor.
9. Disassemble the rotor (21). If necessary, bat the rotor (21) with a rubber mallet to unlock it.
10. Remove the rotary part of the mechanical seal (08) from the backside of the rotor (21).
11. Remove the key (61) from the shaft (05).
12. Disassemble the mechanical seal cover (03) removing the screws (51) that join it to the lantern (04).
13. Remove the O-ring (80) from the mechanical seal cover (03).
14. Remove the stationary part of the mechanical seal (08) from the mechanical seal cover (03).
15. Remove the spring of the mechanical seal (08) from the mechanical seal cover (03) by turning it manually.
16. Remove the O-ring from the stationary part of the mechanical seal (08).
17. Loose the studs (55) from the shaft (05) and separate them from the motor (93).
18. Separate the splash ring (82) and the V-ring (81) from the shaft (05).
19. Remove the motor (93) with the adequate procedure for each mixer model.

In the ME-6103 and ME-6105 models, remove the motor (93) from below the lantern (04) by removing the screws (52A), the washers (53A) and the nuts (54A).

In the ME-6110 model, remove the counter flange (23) from below the lantern (04) by removing the screws (52B) and the washers (53B) and, then, separate the counter flange (23) from the motor (93) by loosening the screws (52A) and the washers (53A).

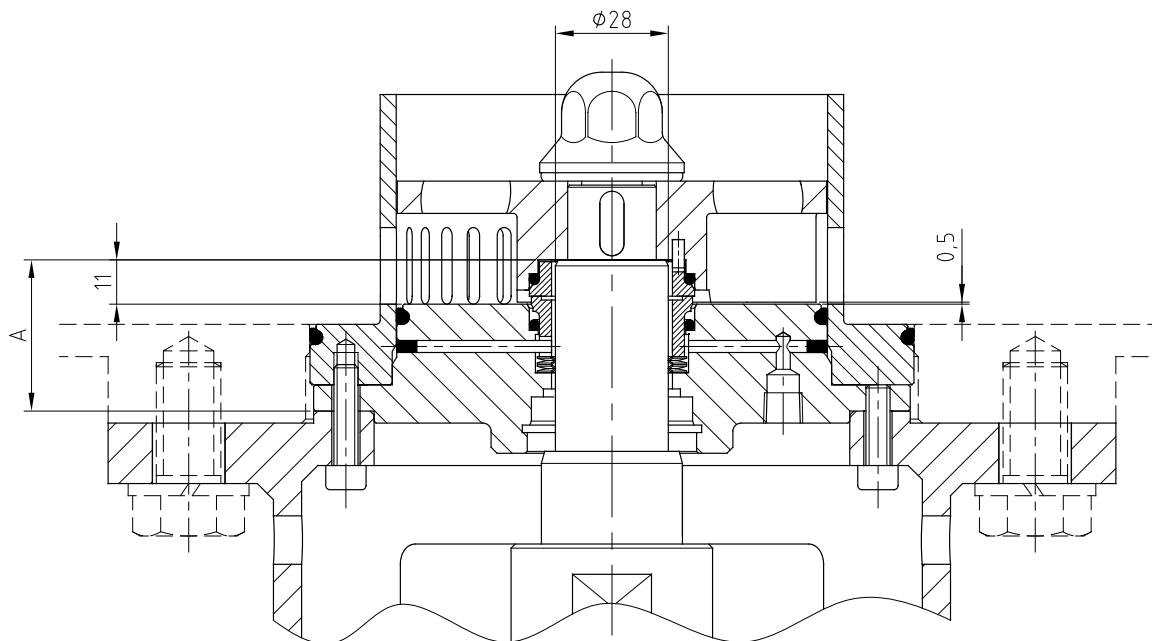
8.8. ASSEMBLY OF THE ME-6103, ME-6105 AND ME-6110 MIXER WITH SIMPLE MECHANICAL SEAL

1. Assemble the motor (93) with the adequate procedure for each mixer model.

In the ME-6103 and ME-6105 models, place the motor (93) in its correct position and fix it to the lantern (04) with the screws (52A), the washers (53A) and the nuts (54A).

In the ME-6110 model, mount the counter flange (23) on the bottom part of the lantern (04) by joining it with the screws (52B) and the washers (53B) and, then, place the motor (93) in its correct position and join to the counter flange (23) with the screws (52A) and the washers (53A).
2. Place the shaft (05) on the motor (93) shaft and fix it with the studs (55) respecting the mounting dimension shown in figure 8.1.
3. Place the V-ring (81) until it stops on the bottom part of the lantern (04).
4. Place the splash ring (82) on the shaft (05).
5. Mount the O-ring (80) on the mechanical seal cover (03).
6. Mount the spring of the mechanical seal (08) on the mechanical seal cover (03) by turning it manually.
7. Mount the O-ring of the stationary part of the mechanical seal (08).
8. Mount the stationary part of the mechanical seal (08) on the mechanical seal cover (03).
9. Fix the mechanical seal cover (03) to the lantern (04) by the screws (51).
10. Mount the key (61) on the shaft (05).
11. Place the rotary part of the mechanical seal (08) on the rotor (21) backside.
12. Place the rotor (21) on the shaft (05) and tighten it manually until it stops at the shaft shoulder.
13. Place the O-ring (80B) on the blind nut (45).
14. Place the blind nut (45) on the rotor (21).
15. Tighten the blind nut (45) with a pipe wrench while the shaft (05) is fixed with a wrench placed between its flat sides.
16. Check the mounting dimension between the rotor (21) and the mechanical seal cover (03) shown in figure 8.1. Also, check the others mounting dimensions shown in the same figure.
17. Mount the O-ring (80A) on the stator (22).
18. Place the stator (22) on the mechanical seal cover (03) and fix it with the screws (51A).
19. Mount the mixer to the tank and fix it with its screws and washers. Use a hand pallet truck to hold and move the mixer.
20. If the mixer has a cooling circuit, connect it.

21. Mount the lantern protections (47) to the lantern (04) with the screws (50).
22. Connect the cables to the electric motor terminals.



03.600.32.0003

Figure 8.1 Mounting dimensions for ME-6103, ME-6105 and ME-6110 models

Model	A (mm)
ME-6103	39
ME-6105	37,5
ME-6110	37,5

8.9. DISASSEMBLY OF THE ME-6125 AND ME-6130 MIXER WITH SIMPLE MECHANICAL SEAL

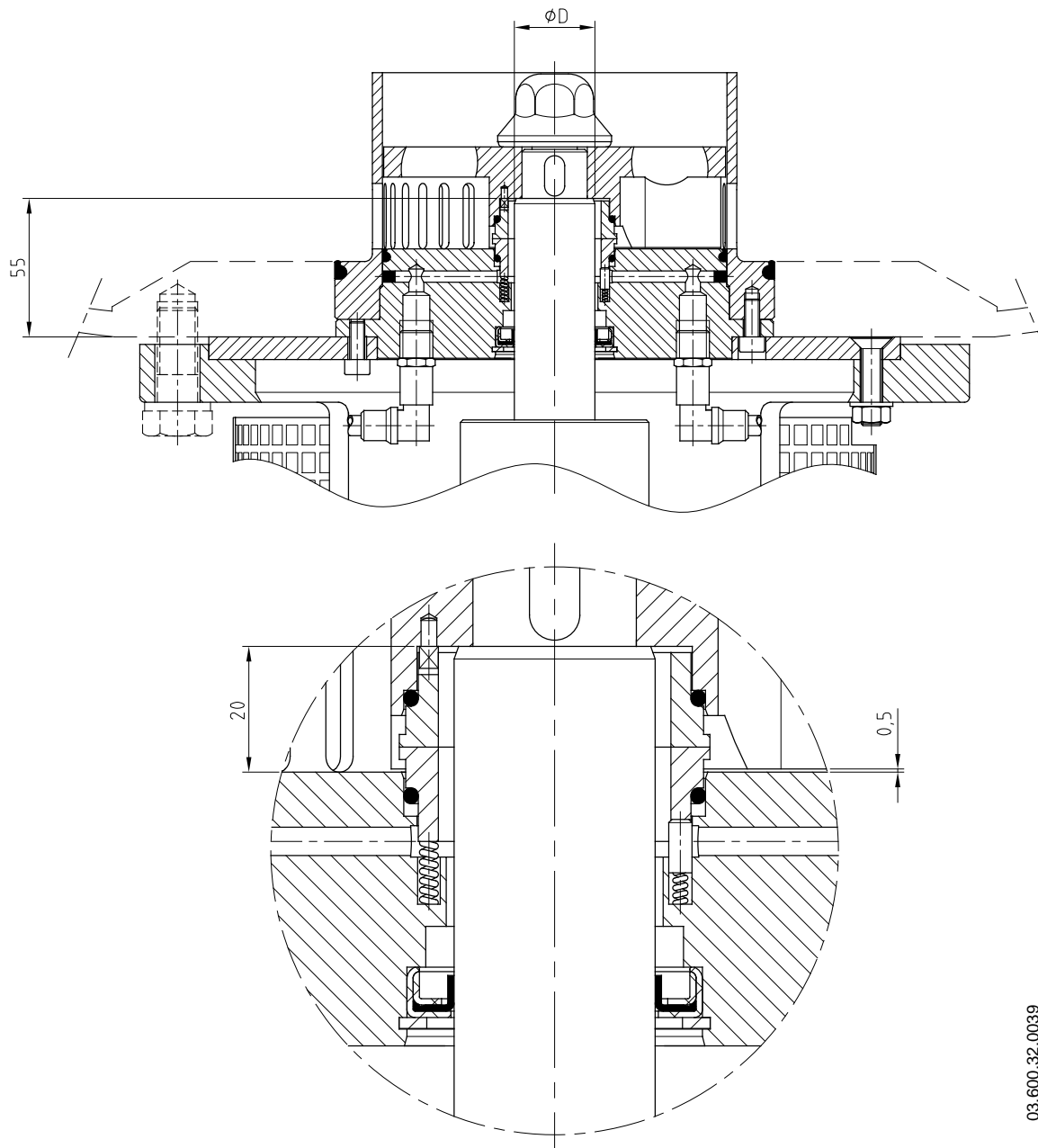
Once the motor is disconnected, disassembly work may begin.

1. Empty the tank.
2. Disconnect the cables of the electric motor terminals.
3. Remove the lantern protectors (47) unscrewing the screws (50).
4. If the mixer has a cooling circuit, disconnect it.
5. Disassemble the stator (22) in one of the following ways:
 - a. if you can access to the internal part of the tank, loose the allen screws (51A) and remove the stator from inside the tank.
 - b. if you cannot access the internal part of the tank, disassemble the mixer in its place loosening the screws and the washers that join the mixer to the tank. Use the hand pallet truck to hold and move the mixer. Once the mixer is on the hand pallet truck, loose the allen screws (51) and remove the stator (22).
6. Remove the O-ring (80A) from the stator (22).
7. Place a spanner between the flat sides of the shaft (05) to immobilize it.
8. Disassemble the blind nut (45) from the rotor (21) with a pipe wrench and remove the O-ring (80B) hosted in the rotor.
9. Disassemble the rotor (21). If necessary, bat the rotor (21) with a rubber mallet to unlock it.
10. Remove the rotary part of the mechanical seal (08) from the backside of the rotor (21).
11. Remove the key (61) from the shaft (05).
12. Disassemble the mechanical seal cover (03) removing the screws (51) that join it to the lantern (04).
13. Remove the O-ring (80) from the mechanical seal cover (03).
14. Remove the stationary part of the mechanical seal (08) from the mechanical seal cover (03).
15. Remove the spring and the positioners of the mechanical seal (08) of their housing of the mechanical seal cover (03).
16. Loose the studs (55) from the shaft (05) and separate them from the motor (93).
17. Separate the splash rings (82) and the V-ring (81) from the shaft (05).
18. Remove the motor (93) from below the lantern (04) by removing the screws (52A), the washers (53A) and the nuts (54A).
19. Remove the O-ring (18) and the protector (47A) from the bottom part of the lantern (04).
20. Disassemble the base plate (42) by unscrewing the screws (50A), the washers (53) and the nuts (54) from the upper part of the lantern (04).

8.10. ASSEMBLY OF THE ME-6125 AND ME-6130 MIXER WITH SIMPLE MECHANICAL SEAL

1. Fix the base plate (42) on the upper part of the lantern (04) with screws (50A), the washers (53) and the nuts (54).
2. Place the O-ring (18) and the protector (47A) on the bottom part of the lantern (04).
3. Place the motor (93) in its correct position and fix it to the lantern (04) with the screws (52A), the washers (53A) and the nuts (54A).
4. Place the shaft (05) on the motor (93) shaft and fix it with the studs (55) respecting the mounting dimension shown in figure 8.2.
5. Place the V-ring (81) until it stops on the bottom part of the lantern (04).
6. Place the splash ring (82) on the shaft (05).
7. Mount the O-ring (80) on the mechanical seal cover (03).
8. Place the springs and the positioners of the mechanical seal (08) on the housings of the mechanical seal cover (03).
9. Mount the O-ring of the stationary part of the mechanical seal (08).
10. Mount the stationary part of the mechanical seal (08) on the mechanical seal cover (03).
11. Fix the mechanical seal cover (03) on the base plate (42) with the screws (51).
12. Mount the key (61) of the shaft (05).
13. Place the rotary part of the mechanical seal (08) on the backside of the rotor (21).
14. Place the rotor (21) on the shaft (05) and tighten it manually until it stops at the shaft shoulder.
15. Place the O-ring (80B) on the blind nut (45).
16. Place the blind nut (45) on the rotor (21).
17. Tighten the blind nut (45) with a pipe wrench while the shaft (05) is fixed with a wrench placed between its flat sides.
18. Check the mounting dimension between the rotor (21) and the mechanical seal cover (03) shown in figure 8.2. Also, check the others mounting dimensions shown in the same figure.
19. Mount the O-ring (80A) on the stator (22).
20. Place the stator (22) on the mechanical seal cover (03) and fix it with the screws (51A).
21. Mount the mixer to the tank and fix it with its screws and washers. Use a hand pallet truck to hold and move the mixer.
22. If the mixer has a cooling circuit, connect it.
23. Mount the lantern protections (47) to the lantern (04) with the screws (50).

24. Connect the cables to the electric motor (93) terminals.



03.600.32.0039

Figure 8.2 Mounting dimensions for ME-6125 and ME-6130 models

Model	$\varnothing D$ (mm)
ME-6125	32
ME-6130	50

8.11. DISASSEMBLY AND ASSEMBLY OF FLUSHING

Disassembly:

The disassembly of the flushing starts when the simple mechanical seal disassembled is finished.

1. Dismount the fittings (92) from the mechanical seal cover (03).
2. Remove the elastic ring (66) from the mechanical seal cover (03) with pliers.
3. Remove the lip seal (88) from the mechanical seal cover (03) with the help of the rubber mallet.

Assembly:

The assembly of the flushing starts before the assembly of the simple mechanical seal.

1. Place the lip seal (88) on the mechanical seal cover (03) with the help of the rubber mallet.
2. Place the elastic ring (66) on the mechanical seal cover (03) with the help of pliers.
3. Mount the fittings (92) on the mechanical seal cover (03).

8.12. DISASSEMBLY OF THE ME-6103, ME-6105 AND ME-6110 MIXER WITH DOUBLE MECHANICAL SEAL

Once the motor is disconnected, disassembly work may begin.

1. Empty the tank.
2. Disconnect the cables of the electric motor terminals.
3. Remove the lantern protectors (47) unscrewing the screws (50).
4. If the mixer has a cooling circuit, disconnect it.
5. Disassemble the stator (22) in one of the following ways:
 - a. if you can access to the internal part of the tank, loose the allen screws (51A) and remove the stator (22) from the inside the tank.
 - b. if you cannot access the internal part of the tank, disassemble the mixer in its place loosening the screws and the washers that join the mixer to the tank. Use the hand pallet truck to hold and move the mixer. Once the mixer is on the hand pallet truck, loose the allen screws (51) and remove the stator (22).
6. Remove the O-ring (80A) from the stator (22).
7. Place a spanner between the flat sides of the shaft (05) to immobilize it.
8. Disassemble the blind nut (45) from the rotor (21) with a pipe wrench and remove the O-ring (80B) hosted in the rotor.
9. Disassemble the rotor (21). If necessary, bat the rotor (21) with a rubber mallet to unlock it.
10. Disassemble the fittings (92) from the double mechanical seal cover (03A).
11. Remove the first rotary part of the double mechanical seal (08A) from the backside of the rotor (21).
12. Remove the key (61) of the shaft (05).
13. Remove the double mechanical seal cover (03A) by removing the screws (51) that join it to the lantern (04).
14. Remove the first stationary part of the double mechanical seal (08A) of the double mechanical seal cover (03A).
15. Remove the O-ring (80) from the double mechanical seal cover (03A).
16. Loose the studs (55) of the shaft (05) and separate them from the motor (93).
17. Remove the rest of the double mechanical seal (08A) from the shaft (05).
18. Unscrew the studs (55A) and remove the sleeve of the double mechanical seal (13).
19. Remove the O-ring (80C) from the sleeve of the double mechanical seal (13).
20. Separate the splash ring (82) and the V-ring (81) from the shaft (05).
21. Remove the motor (93) with the adequate procedure for each mixer model:

In the ME-6103 and ME-6105 models, remove the motor (93) from below the lantern (04) by removing the screws (52A), the washers (53A) and the nuts (54A).

In the ME-6110 models, remove the counter flange (23) from below the lantern (04) by removing the screws (52B) and the washers (53B) and, then, separate the counter flange (23) from the motor (93) by loosening the screws (52A) and the washers (53A).

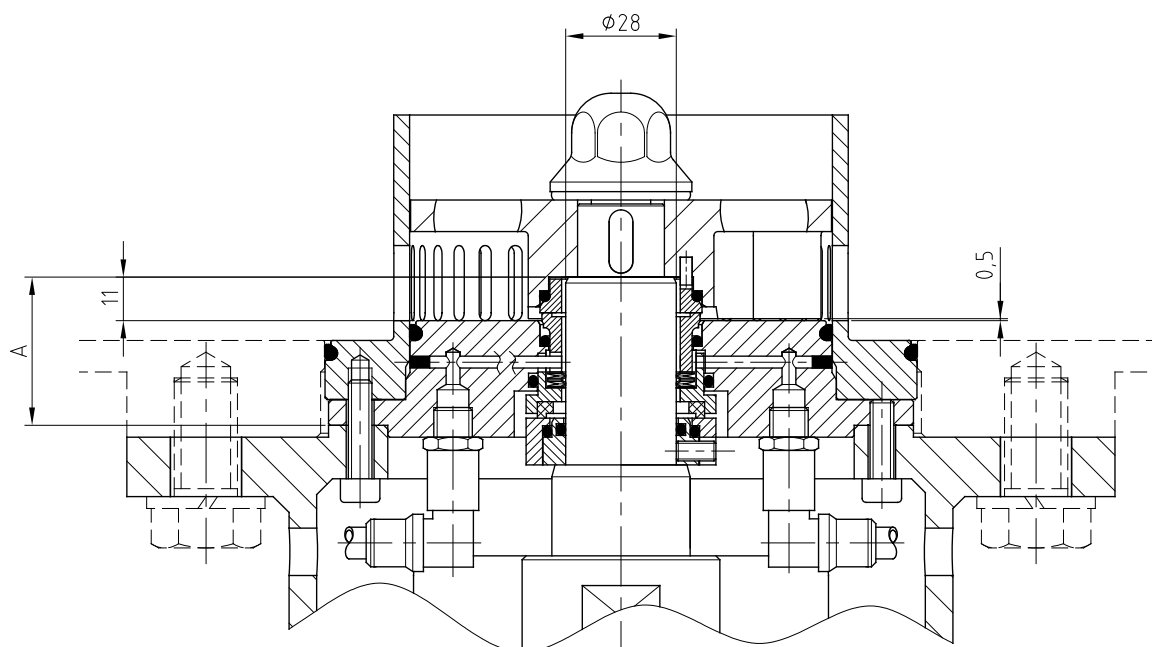
8.13. ASSEMBLY OF THE ME-6103, ME-6105 AND ME-6110 MIXER WITH DOUBLE MECHANICAL SEAL

1. Assemble the motor (93) with the adequate procedure for each mixer model.

In the ME-6103 and ME-6105 models, place the motor (93) in its correct position and fix it to the lantern (04) with the screws (52A), the washers (53A) and the nuts (54A).

In the ME-6110 model, mount the counter flange (23) on the bottom part of the lantern (04) by joining it with the screws (52B) and the washers (53B) and, then, place the motor (93) in its correct position and join to the counter flange (23) with the screws (52A) and the washers (53A).
2. Place the shaft (05) on the motor (93) shaft and fix it with the studs (55) respecting the mounting dimension shown in figure 8.3.
3. Place the V-ring (81) until it stops on the bottom part of the lantern (04).
4. Place the splash ring (82) on the shaft (05).
5. Mount the O-ring (80C) on the sleeve of the double mechanical seal (13).
6. Mount the sleeve of the double mechanical seal (13) on the shaft (05) by holding it with the studs (55A).

7. Place the second rotary part of the double mechanical seal (08A) on the shaft (05) and align it correctly to the studs (55A) of the double mechanical seal sleeve (13).
8. Place the second stationary part of the double mechanical seal (08A) and its spring on the shaft (05).
9. Mount the O-ring (80) on the double mechanical seal cover (03A).
10. Mount the O-ring of the double mechanical seal (08A) on the double mechanical seal cover (03A).
11. Fix the double mechanical seal cover (03A) to the lantern (04) by the screws (51). In order to prevent the second stationary part of the double mechanical seal (08A) turn, its slots should be faced with the pins situated on the double mechanical seal cover (03A).
12. Place the stationary part of the double mechanical seal (08A) on the double mechanical seal cover (03A). To place it correctly, previously do a vertical mark with a marker on the any point on the lateral surface of the first stationary part and other horizontal mark in any point of the upper surface of the double mechanical seal cover (03A). By the time of place both parts, match up the two marks to assure that the first stationary part of the double mechanical seal (08A) is placed in a correct position.
13. Mount the key (61) on the shaft (05).
14. Place the first rotary part of the double mechanical seal (08A) on the backside of the rotor (21).
15. Place the rotor (21) on the shaft (05) and tight it manually until it stops at the shaft shoulder. Check the marks of the double mechanical seal cover (03A) and the first stationary part of the double mechanical seal (08A) continues to match up.
16. Place the O-ring (80B) on the blind nut (45).
17. Place the blind nut (45) on the rotor (21).
18. Tighten the blind nut (45) with a pipe wrench while the shaft (05) is fixed with a wrench placed between its flat sides.
19. Check the mounting dimension between the rotor (21) and the double mechanical seal cover (03A) shown in figure 8.3. Also, check the others mounting dimensions shown in the same figure.
20. Connect the fittings (92) to the double mechanical seal cover (03A).
21. Mount the O-ring (80A) on the stator (22).
22. Place the stator (22) on the mechanical double seal cover (03A) and fix it with the screws (51A).
23. Mount the mixer to the tank and fix it with its screws and washers. Use a hand pallet truck to hold and move the mixer.
24. If the mixer has a cooling circuit, connect it.
25. Mount the lantern protections (47) to the lantern (04) with the screws (50).
26. Connect the cables to the electric motor terminals.



03.600.32.0026

Figure 8.3 Mounting dimensions for ME-6103, ME-6105 and ME-6110 mixers

Model	A (mm)
ME-6103	39
ME-6105	37,5
ME-6110	37,5

8.14. DISASSEMBLY OF THE ME-6125 AND ME-6130 WITH DOUBLE MECHANICAL SEAL

Once the motor is disconnected, disassembly work may begin.

1. Empty the tank.
2. Disconnect the cables of the electric motor terminals.
3. Remove the lantern protectors (47) unscrewing the screws (50).
4. If the mixer has a cooling circuit, disconnect it.
5. Disassemble the stator (22) in one of the following ways:
 - a. if you can access to the internal part of the tank, loose the allen screws (51A) and remove the stator from inside the tank.
 - b. if you cannot access the internal part of the tank, disassemble the mixer in its place loosening the screws and the washers that join the mixer to the tank. Use the hand pallet truck to hold and move the mixer. Once the mixer is on the hand pallet truck, loose the allen screws (51) and remove the stator (22).
6. Remove the O-ring (80A) from the stator (22).
7. Place a spanner between the flat sides of the shaft to immobilize it.
8. Disassemble the blind nut (45) from the rotor (21) with a pipe wrench and remove the O-ring (80B) hosted in the rotor.
9. Disassemble the rotor (21). If necessary, bat the rotor (21) with a rubber mallet to unlock it.
10. Disassemble the fittings (92) from the double mechanical seal cover (03A).
11. Remove the first rotary part of the double mechanical seal (08A) from the backside of the rotor (21).
12. Remove the key (61) of the shaft (05).
13. Remove the double mechanical seal cover (03A) by removing the screws (51) that join it to the lantern (04).
14. Remove the first stationary part of the double mechanical seal (08A) of the double mechanical seal cover (03A) taking care when the springs of the seal and the positioners separate.
15. Remove the O-ring (80) from the double mechanical seal cover (03A).
16. Loose the studs (55) of the shaft (05) and separate them from the motor (93).
17. Remove the second stationary part of the double mechanical seal (08A) from the shaft (05).
18. Unscrew the studs (55A) and remove the sleeve of the double mechanical seal (13).
19. Remove the O-ring (80C) from the sleeve of the double mechanical seal (13).
20. Remove the second rotary part of the (08A) from the sleeve of the double mechanical seal (13).
21. Separate the splash ring (82) and the V-ring (81) from the shaft (05).
22. Remove the motor (93) from below the lantern (04) by removing the screws (52A), the washers (43A) and the nuts (54A).
23. Remove the O-ring (18) and the protector (47A) from the bottom part of the lantern (04).
24. Disassemble the base plate (42) by unscrewing the screws (50A), the washers (53) and the nuts (54) from the upper part of the lantern (04).

8.15. ASSEMBLY OF THE ME-6125 AND ME-6130 MIXER WITH DOUBLE MECHANICAL SEAL

1. Fix the base plate (42) on the upper part of the lantern (04) with the screws (50A), the washers (53) and the nuts (54).
2. Place the O-ring (18) and the protector (47A) on the bottom part of the lantern (04).
3. Place the motor (93) in its correct position and fix it to the lantern (04) with the screws (52A), the washers (53A) and the nuts (54A).
4. Place the shaft (05) on the motor (93) and fix it with the studs (55) respecting the mounting dimension shown in figure 8.4 and 8.5.
5. Place the V-ring (81) until it stops on the bottom part of the lantern (04).
6. Place the splash ring (82) on the shaft (05).
7. Mount the O-ring (80C) on the sleeve of the double mechanical seal (13).
8. Mount the sleeve of the double mechanical seal (13) on the shaft (05) by holding it with the studs (55A).
9. Place the second rotary part of the double mechanical seal (08A) on the shaft (05) and align it correctly to the positioner of the double mechanical seal sleeve (13).
10. Place the second stationary part of the double mechanical seal (08A) with its springs and its positioners on the double mechanical seal cover (03A).
11. Mount the O-ring (80) on the double mechanical seal cover (03A).
12. Mount the O-ring of the double mechanical seal (08A) on the double mechanical seal cover (03A).
13. Fix the double mechanical seal cover (08A) to the base plate (42) by the screws (51). In order to prevent the second stationary part of the double mechanical seal (08A) turn, its slots should be faced with the pins situated on the double mechanical seal cover (03A).
14. Place the stationary part of the double mechanical seal (08A) on the double mechanical seal cover (03A). To place it correctly, previously do a vertical mark with a marker on the any point on the lateral surface of the first stationary part and other horizontal mark in any point of the upper surface of the double mechanical

seal cover (03A). By the time of place both parts, match up the two marks to assure that the first stationary part of the double mechanical seal (08A) is placed in a correct position.

15. Fix the key (61) on the shaft (05).
16. Place the first rotary part of the double mechanical seal (08A) on the backside of the rotor (21).
17. Place the rotor (21) on the shaft (05) and tight it manually until it stops at the shaft shoulder. Check the marks of the double mechanical seal cover (03A) and the first stationary part of the double mechanical seal (08A) continues to match up.
18. Place the O-ring (80B) on the blind nut (45).
19. Place the blind nut (45) on the rotor (21).
20. Tighten the blind nut (45) with a pipe wrench while the shaft (05) is fixed with a wrench placed between its flat sides.
21. Check the mounting dimension between the rotor (21) and the double mechanical seal cover (03A) shown in figure 8.4 and 8.5. Also, check the others mounting dimensions shown in the same figure.
22. Connect the fittings (92) to the double mechanical seal cover (03A).
23. Mount the O-ring (80A) on the stator (22).
24. Place the stator (22) on the double mechanical seal cover (03A) and fix it with the screws (51A).
25. Mount the mixer to the tank and fix it with its screws and washers. Use a hand pallet truck to hold and move the mixer.
26. If the mixer has a cooling circuit, connect it.
27. Mount the lantern protections (47) to the lantern (04) with the screws (50).
28. Connect the cables to the electric motor (93) terminals.

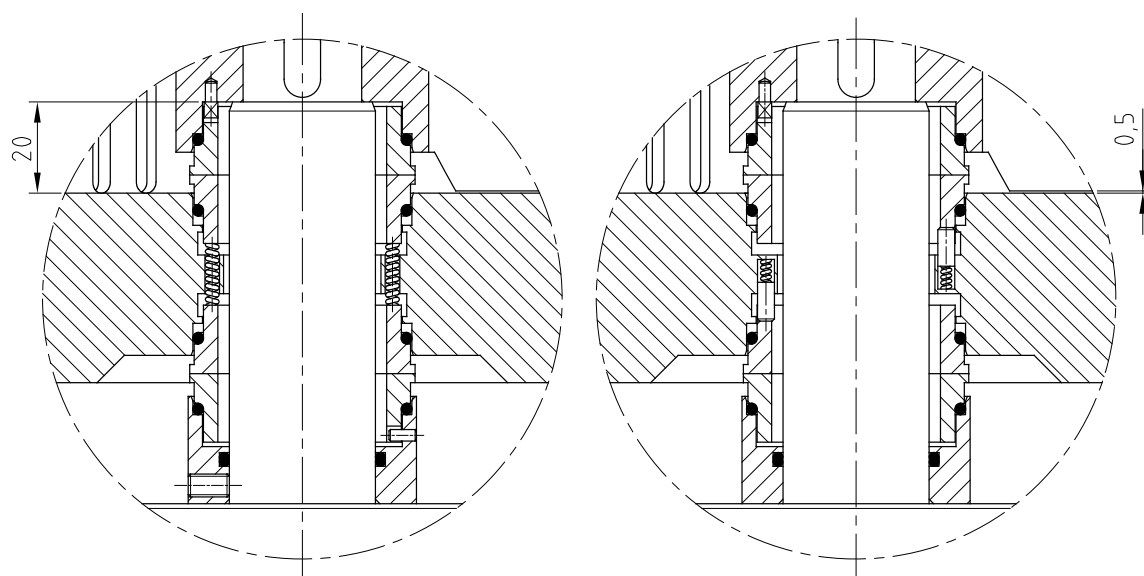
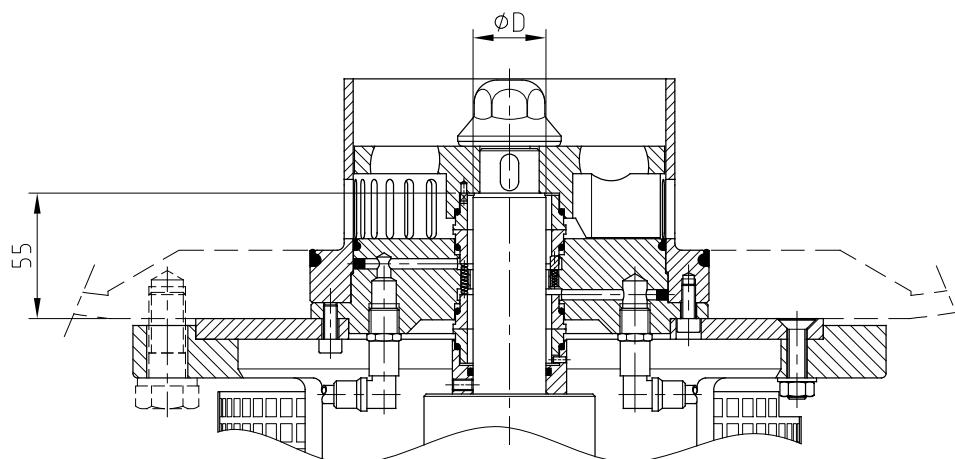


Figure 8.4 Spring detail
to ME-6125 and ME-6130 mixers

Figura 8.5 Positioners detail
to ME-6125 and ME-6130 mixers

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Model	ØD (mm)
ME-6125	32
ME-6130	50

9. Technical Specifications

9.1. MATERIALS

Parts in contact with the product	1.4404 (AISI 316L)
Other steel parts	1.4307 (AISI 304L)
Seals in contact with the product	EPDM
Other materials for optional gaskets	Check with the supplier
Surface finish	Ra ≤ 0,8 μm

9.2. SIMPLE MECHANICAL SEAL

Material stationary part	Graphite
Material Rotary part	Silicon
Material	EPDM

9.3. DOUBLE MECHANICAL SEAL

Material first stationary part	Silicon
Material first rotary part	Silicon
Material second stationary part	Silicon
Material second rotary part	Graphite
Seal coolant flow rate	Between 2-4 l/min
Material	EPDM
Maximum pressure of work	1,5 -2 bar (22-29 PSI) above the mixer operating pressure

9.4. MECHANICAL SEAL WITH FLUSHING

Maximum pressure	0,5 bar (7,2 PSI)
Maximum pressure of work	2,5 – 5 l/min

9.5. MOTOR

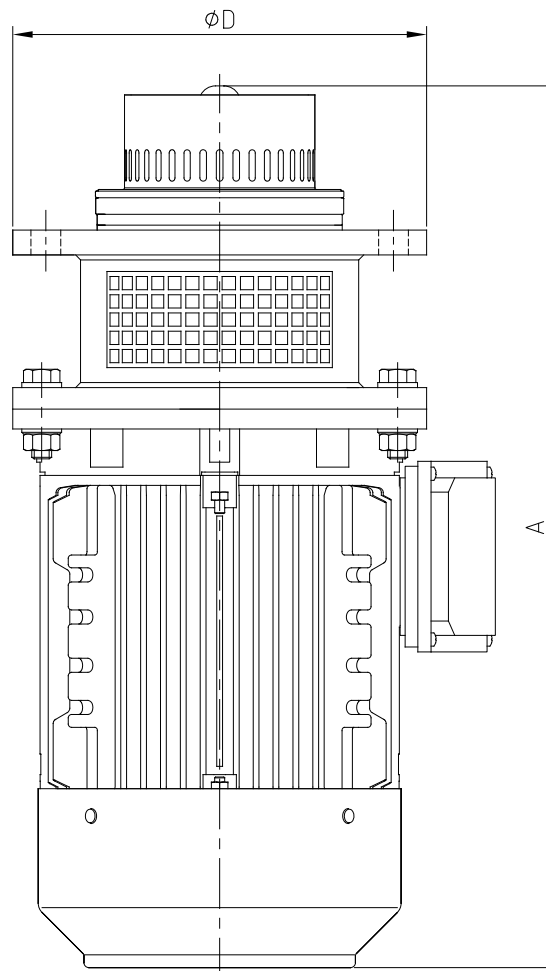
Motor	IE3 B5
Speed (rpm)	2 poles = 2900 rpm a 50Hz 4 poles = 1450 rpm a 50Hz
Protection	IP55
Connection	3 ~, 50Hz, 220-240VΔ/380-420VY 3 ~, 50Hz, 380-420VΔ/660-690VY

9.6. ANOTHER SPECIFICATIONS

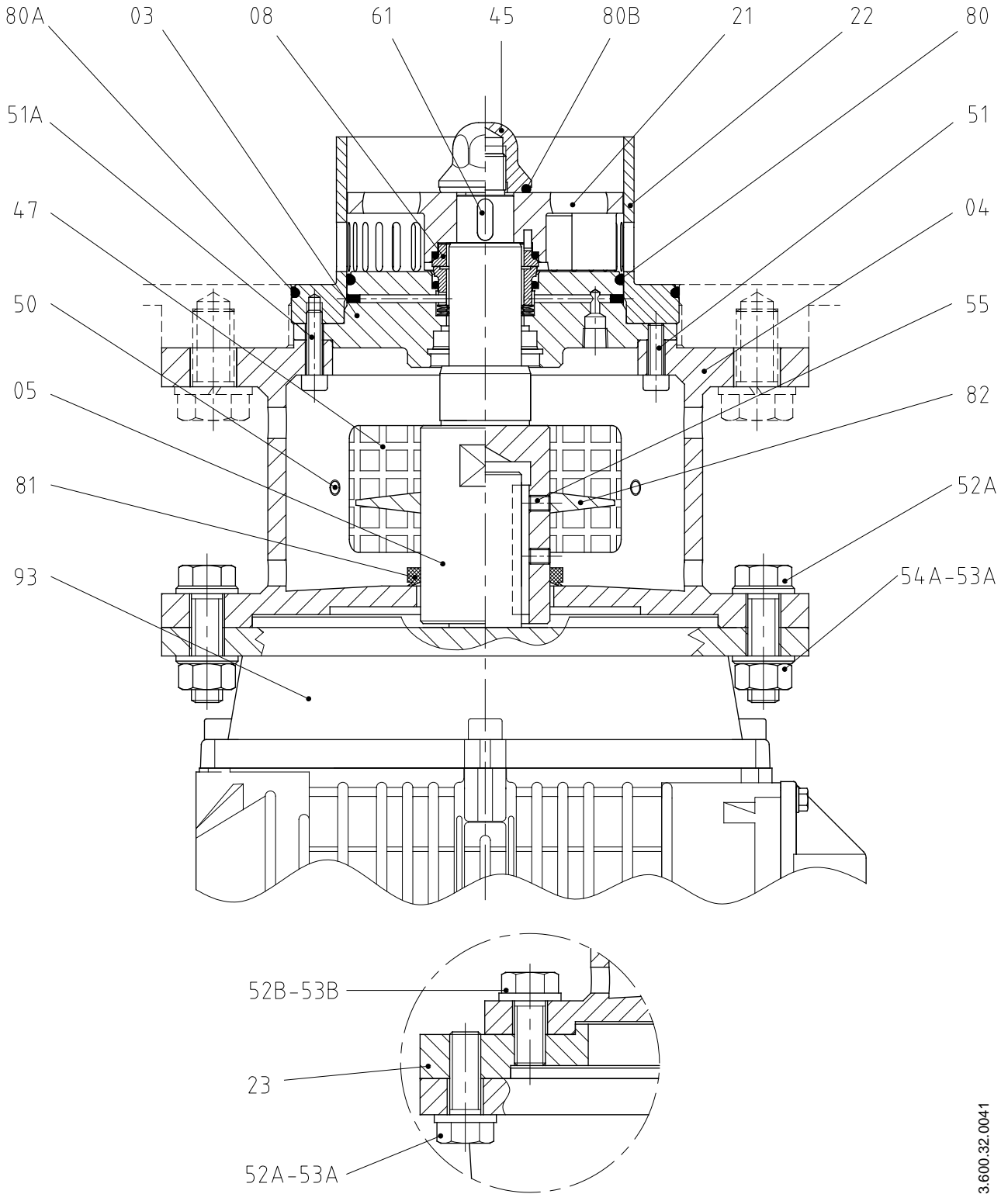
Mixer	Power (kW)	Speed (rpm)	Weight (kg)
ME-6103	2,2	3000	35
ME-6105	4	3000	55
ME-6110	7,5	3000	100
ME-6125	18,5	3000	145
ME-6125	22	3000	235
ME-6130	22	1500	255

9.7. DIMENSIONS

Mixer	Power (kW)	Dimensions (mm)	
		A	ØD
ME-6103	2,2	455	200
ME-6105	4	535	250
ME-6110	7,5	595	250
ME-6125	18,5	810	330
ME-6125	22	885	330
ME-6130	22	925	330



9.8. EXPLODED DRAWING AND PARTS LIST OF ME-6103, ME-6105 AND ME-6110 MIXER



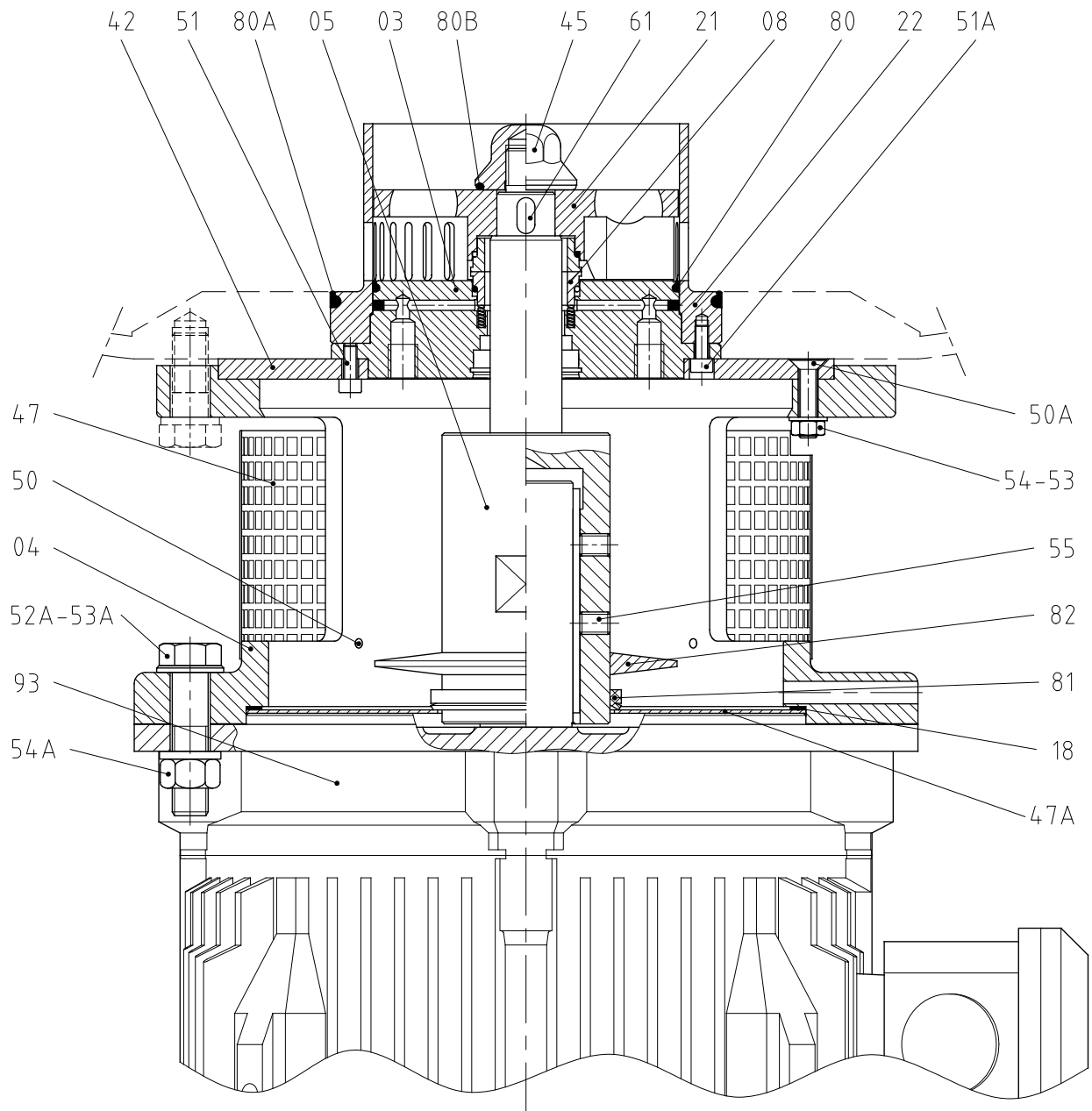
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Detail base plate ME-6110

Position	Description	Quantity	Material
03	Cover seal	1	1.4404 (AISI 316L)
04	Lantern	1	1.4307 (AISI 304L)
05	Shaft	1	1.4404 (AISI 316L)
08	Mechanical seal ¹	1	-
21	Rotor	1	1.4404 (AISI 316L)
22	Stator	1	1.4404 (AISI 316L)
23	Counter flange	1	F1110
45	Blind nut	1	1.4404 (AISI 316L)
47	Lantern protection	2	1.4307 (AISI 304L)
50	Screw	4	A2
51	Screw	4	A2
51A	Screw	2	A2
52A	Screw	4	A2
52B	Screw	4	A2
53A	Flat washer	8	A2
53B	Flat washer	4	A2
54A	Nut	4	A2
55	Stud	2	A2
61	Key	1	1.4404 (AISI 316L)
80	O-ring ¹	1	EPDM
80A	O-ring ¹	1	EPDM
80B	O-ring ¹	1	EPDM
81	V-ring ¹	1	NBR
82	Splash ring	1	EPDM
93	Motor	1	-

1) Recommended spare parts

9.9. EXPLODED DRAWING AND PARTS LIST ME-6125 AND ME-6130 MIXER

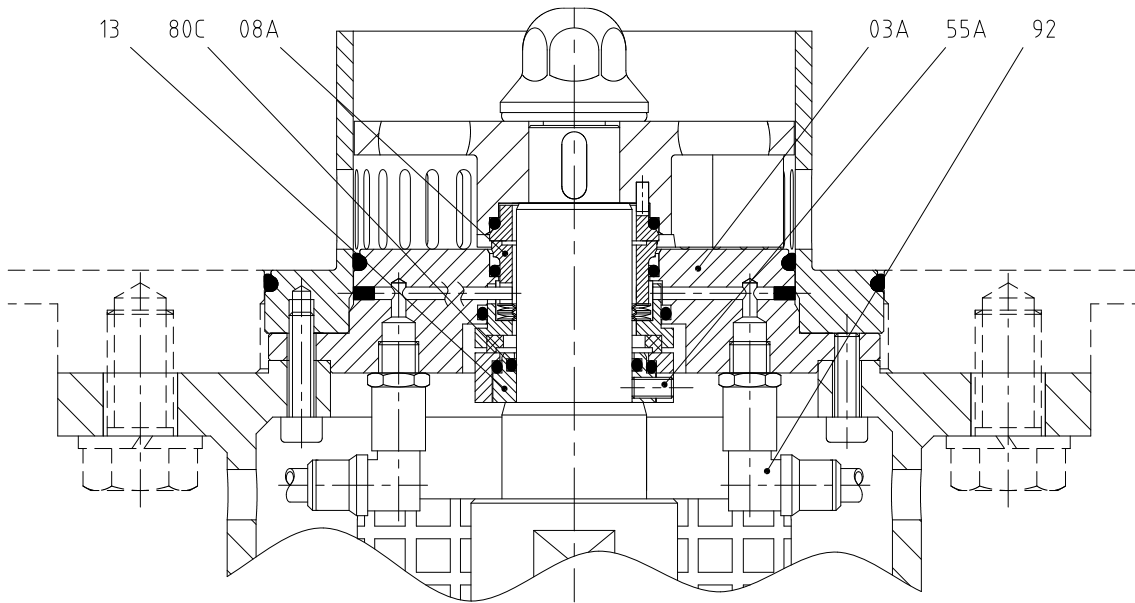


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Position	Description	Quantity	Material
03	Cover seal	1	1.4404 (AISI 316L)
04	Lantern	1	1.4307 (AISI 304L)
05	Shaft	1	1.4404 (AISI 316L)
08	Mechanical seal ¹	1	-
18	Special gasket	1	PTFE
21	Rotor	1	1.4404 (AISI 316L)
22	Stator	1	1.4404 (AISI 316L)
42	Base plate	1	1.4307 (AISI 304L)
45	Blind nut	1	1.4404 (AISI 316L)
47	Lantern protection	2	1.4301 (AISI 304)
47A	Protector	1	1.4307 (AISI 304L)
50	Screw	8	A2
50A	Screw	2	A2
51	Screw	4	A2
51A	Screw	2	A2
52A	Screw	4	A2
53	Flat washer	2	A2
53A	Flat washer	8	A2
54	Nut	2	A2
54A	Nut	4	A2
55	Stud	2	A2
61	Key	1	1.4404 (AISI 316L)
80	O-ring ¹	1	EPDM
80A	O-ring ¹	1	EPDM
80B	O-ring ¹	1	EPDM
81	V-ring ¹	1	NBR
82	Splash ring	1	EPDM
93	Motor	1	-

1) Recommended spare parts

9.10. EXPLODED DRAWING AND PARTS LIST OF DOUBLE MECHANICAL SEAL ME-6103, ME-6105 AND ME-6110 MIXER

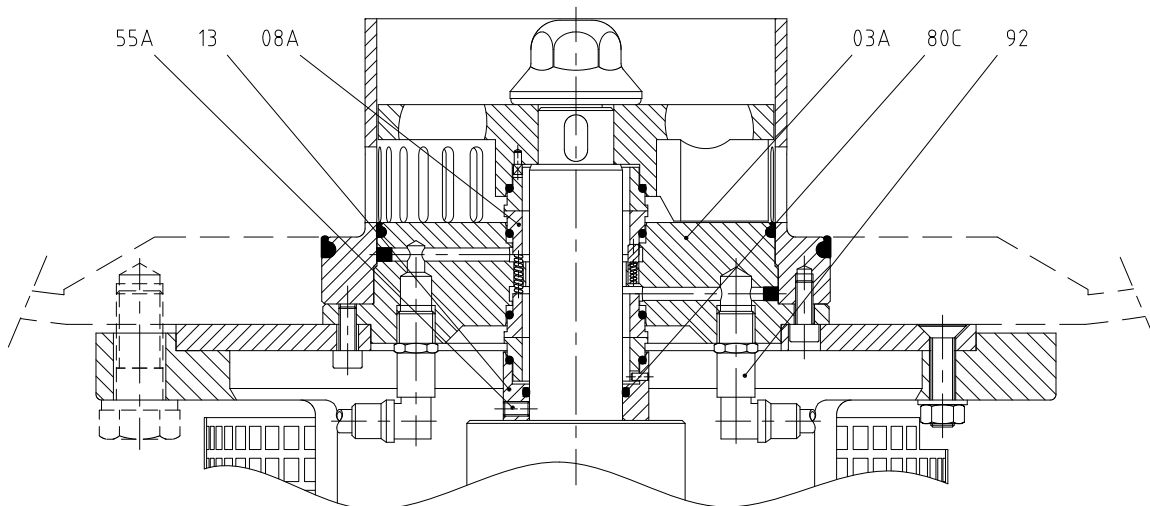


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Position	Description	Quantity	Material
03A	Double mechanical seal cover	1	1.4404 (AISI 316L)
08A	Double mechanical seal ¹	1	-
13	Double mechanical seal sleeve	1	1.4404 (AISI 316L)
55A	Stud	3	A2
80C	O-ring ¹	1	EPDM
92	Fittings	2	-

1) Recommended spare parts

9.11. EXPLODED DRAWING AND PARTS LIST OF DOUBLE MECHANICAL SEAL ME-6125 AND ME-6130 MIXER

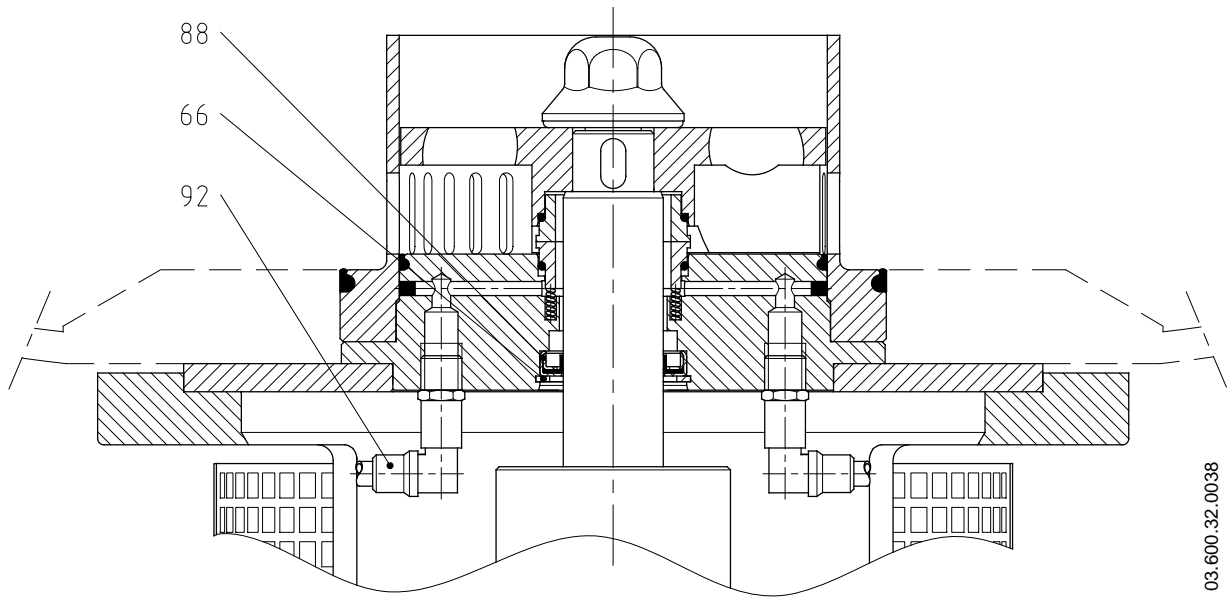


03.600.32.0043

Position	Description	Quantity	Material
03A	Double mechanical seal cover	1	1.4404 (AISI 316L)
08A	Double mechanical seal	1	-
13	Double mechanical seal sleeve	1	1.4404 (AISI 316L)
55A	Stud	3	A2
80C	O-ring	1	EPDM
92	Fittings	2	-

1) Recommended spare parts

9.12. EXPLODED DRAWING AND PART LIST MECHANICAL SEAL WITH FLUSHING ME-6103, ME-6105 AND ME-6110 MIXER



03.600.32.0038

Position	Description	Quantity	Material
66	Elastic ring	1	-
88	Leap seal ¹	1	-
92	Fittings	2	-

1) Recommended spare parts

How to contact INOXPA S.A.U.:

Contact details for all countries are continually updated on our website.

Please visit www.inoxpa.com to access the information.



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