INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTIONS

HORIZONTAL BLENDER

MH

02.001.32.0001

Original Instructions

02.001.30.01EN

(0) 2022/02

EC Declaration of Conformity

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

hereby declare under our sole responsibility that the

Machine:	**HORIZONTAL BLENDER**
Model:	**MH**
Type:	**MH-20, MH-26**
Serial number:	**IXXXXXXXXX** to **IXXXXXXXXX** **XXXXXXXXXIINXXX** to **XXXXXXXXXIINXXX**

fulfills all the relevant provisions of the following directive:

Machinery Directive 2006/42/EC
Regulation (EC) nº 1935/2004
Regulation (EC) nº 2023/2006

and with the following harmonized standards and/or regulations:

EN ISO 12100:2010
EN 809:1998+A1:2009/AC:2010
EN 60204-1:2018

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

David Reyero Brunet
Technical Office Manager
20th January 2021

Document: 02.001.30.02EN
Revision: (0) 2022/01

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fulfils all the relevant provisions of these regulations:

Supply of Machinery (Safety) Regulations 2008

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1. Table of Contents

2. Generalities

2.1. INSTRUCTIONS MANUAL

This manual contains information about the reception, installation, operation, assembly and maintenance of the MH blenders.

Carefully read the instruction before starting the blender, familiarize yourself with the installation, operation and correct use of the blender 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 cause the loss of the right to claim damages.

This non-compliance may cause the following risks:

- failure of important machine/plant functions,
- failure of specific maintenance and repair procedures,
- possible electrical, mechanical and chemical hazards.

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 the equipment

Electric hazard

ATTENTION Important instruction to prevent damage to the equipment and/or its function

3.2. GENERAL SAFETY INSTRUCTIONS

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

3.2.1. During installation

Always take into account the Technical Specifications of chapter 9.
Never start the blender before connecting it to the lines.
Do not start up the blender if the cover has been removed and the impeller is fixed to the blender.

During the installation, all the electric work should be carried out by authorized personnel.
Check for proper specifications of the motors, especially if working conditions create an explosions hazard.

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.
NEVER touch the blender or the pipework during operation if the blender is being used for transferring hot liquids or during cleaning.
The blender contains moving parts. Never place your fingers inside the blender during operation.
NEVER operate with the suction and discharge valves closed.
NEVER spray water directly on the electrical motor. The standard motor protection is IP55: protection against dust and water spray.

The blenders and their installation may cause noise levels that exceed 85 db(A) in some unfavourable operating environments. In such cases, operators should wear hearing protection.

3.2.3. During maintenance

The Technical Specifications of chapter 9 shall always be observed.
NEVER disassemble the blender until the pipes have been emptied. Remember that liquid will remain inside the housing (if does not have a purge). Bear in mind that the product 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 blender 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

The MH blender is a compact unit. It consists of a centrifugal pump with a venturi system and a hopper above which there is a hopper with a butterfly valve. The solids are added through the hopper to the pumper liquid.

The pump is in the Hyginox SE range. This pump is a close-coupled centrifugal pump with a hygienic and horizontal design and a single-stage. It is has a circular casing with axial suction and a tangential discharge. The main pump components are pump casing, impeller, cover, lantern and a shaft that is rigidly coupled to the motor shaft. The standard IEC motor of type is protected by a stainless steel shroud.

4.2. OPERATING PRINCIPLE

The aspiration of the pump creates a suction that aspirated the solids of the hopper in a way that the solids are incorporated into the liquid. Continuedly, the flow passes through the centrifugal pump where the premix of the solid is created.

The inlet of solids is regulated by a butterfly valve on the basis hopper. The tube in which the inlet of the pump is produced remains dry during the blender operation. If the inlet tube is plugged, check that the pump direction of rotation is correct and check the flow is sufficient.

The reasons why the powder may become damp or wet are:

- **incorrect liquid-intake flow rate:** with a little flow, normally created by back pressure on the discharge of the blender too high, is possible that the flow is not being able to drag the solids which enter from the hopper and, even they rise through the tube to the hopper.
- **incorrect pressure:** the differential pressure of the blender must be low (6-9 m), and the pressure at the blender intake must be negative but without causing cavitation because it is counterproductive.
- **high viscosity**: due to its nature, a viscous product will cause counterpressure. This can cause the blender to move an inadequate flow to its correct functioning. A centrifugal pump dramatically reduces its flow if the product viscosity increase.
- **high discharge pressure**: if the discharge pipe is too long or its diameter is too small a very high counterpressure will be caused.

To avoid these problems the piping must be of correct dimensions. It is important to maintain negative pressure at the blender intake.

The amount of powder that can be added is very difficult to define, as a great number of variables are involved like dampness, fatty material content, microscopic texture (smooth, rough), density, fluidity, powder type (granular, flaky, fine), etc.

4.3. PRODUCTS TO BE AVOIDED

The products to be avoided in order to have a blender optimum operation are:

- **abrasives:** these products deteriorate the mechanical seals and impellers.
- **effervescent:** the gas that emits these products prevents the vacuum from forming and the powder from falling from the hopper.
- **high temperatures**: it is not advised to work at temperatures above 65ºC. Also, if the temperature approaches the boiling point can cause cavitation in the blender.
- **very high viscosities**: the blenders cannot pump products with a viscosity above 250 cPs.
- **incompatible products:** products incompatible with the various mechanical seals and elastomers.

4.4. APPLICATION

The MH blenders are suitable for his use in food processing. They can be used in any process which needs to mix solids and liquids suchs as powdered milk, whey, chocolates, sauces, brines, fertilisers, lactose, stabilisers, etc.

ATTENTION

The range of application for each type of blender is limited. The blender was selected for a given set of conditions when the order was placed. Misuse or its use beyond the operating limits may be dangerous or cause permanent damage to the equipment. 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

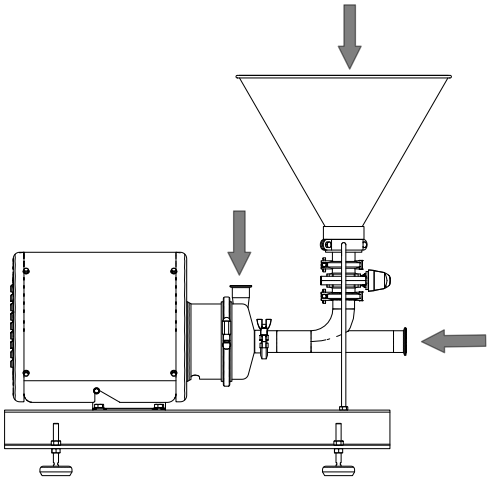
5.1. RECEPTION OF THE BLENDER

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 blender package includes the following documents:
- shipping documents,
- installation, service and maintenance instructions manual,
- instructions and service manual of the motor[1]

1) if the blender has been supplie with a motor from INOXPA

Unpack the blender and check the following:
- the suction and discharge connections of the blender and the blender hopper are not damaged and remove any rest of the packaging material,

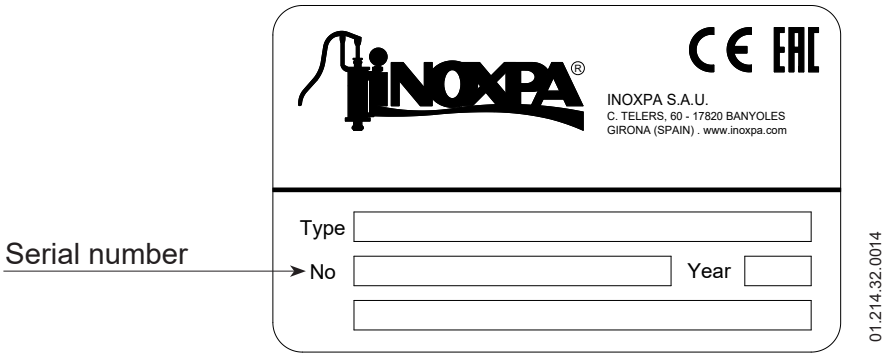


- the blender is not damaged,

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 BLENDER

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



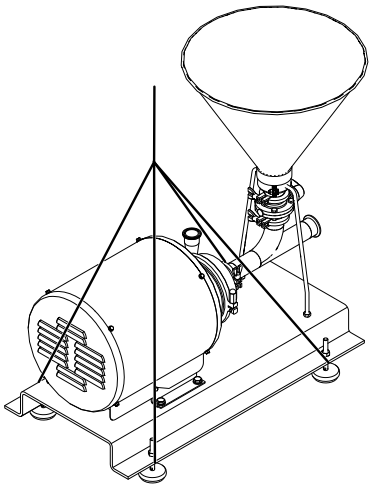
5.3. TRANSPORT AND STORAGE

ATTENTION

The MH blenders are often too heavy to be stored manually.
Use an appropriate means of transport.
Use the points which are indicated in the drawing for lifting the blender.
Only authorized personnel should transport the blender.
Do not work or walk under the heavy loads.

Lift the blender as indicated below:

- always use two support points placed as far apart as possible.



- secure the supports so that they will not move.

See chapter 9. Technical Specifications to consult the dimensions and weight of the blender.

ATTENTION

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

5.4. LOCATION

Place the blender as close as possible to the suction tank whenever possible below the liquid and leaving enough space around to can access the blender and the motor. If necessary, consult in chapter 9. Technical Specifications the dimensions of the blender.
Once a place is chosen, the blender should be mounted on a flat and level surface.

ATTENTION

Install the blender so as to allow proper ventilation.
If the blender 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 mixed, high temperatures can be reached inside and around the blender.

Over 68ºC the operator should take protective measures and place warning notices advising of the danger which exists if the blender is touched.
The type of protection selected should not isolate the blender entirely.

5.5. PIPES

About the installation pipes:

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

5.5.1. Shut-off valves

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

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

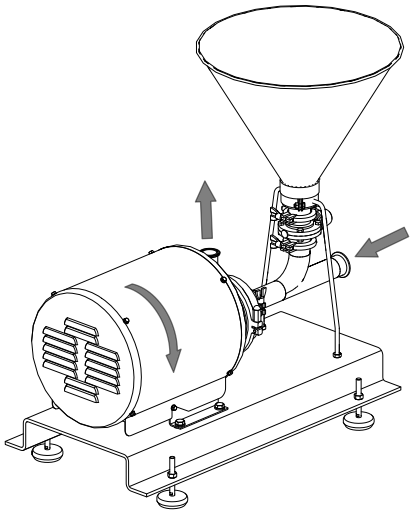
5.6. ELECTRICAL INSTALLATION

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 blender make sure that the motor is stopped.

To do the electrical installation:

- 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 blender),
- start and stop the blender motor momentarily. Make sure, looking at the blender by the hopper side, that the rotation direction of the motor fan is counterclockwise.



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ATTENTION

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

6. Start-up

Before starting the blender, carefully read the instructions in section 5. Installation. Carefully read section 9. Technical Specifications. INOXPA will not be liable for improper use of the equipment.

NEVER touch the blender or the lines of hot liquids that are being mixed.

6.1. CHECKS BEFORE STARTING THE BLENDER

Before starting the blender:
- completely open the shut-off valves on the suction and discharge lines,
- if the liquid does not flow towards the blender, fill it with the liquid to be mixed,

ATTENTION

The blender must never turn dry.

- check that the power supply matches the rating indicated on the motor plate.
- check that the motor rotation direction is correct.
- check that the impeller of the pump rotates without friction.

6.2. CHECKS WHEN STARTING THE BLENDER

When starting the blender check:
- that the blender is not making any strange noises,
- check the flow pressure,
- that there are no 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.

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

7. Troubleshooting

The following table provides solutions to problems that might arise during the operation of the blender. The blender is assumed to have been properly installed and be suitable for the relevant application. Please contact INOXPA if technical assistance is required.

The blender does not suction	Insufficient pressure on impulsion	Motor overload	Noise	Vibrations	Leaks	PROBABLE CAUSES	SOLUTIONS
•						Wrong motor rotation direction	Reverse the motor rotation direction
•						Very high powder percentage	See chapter 4. General Information
•						Very high temperature	Reduce temperature
•					•	Leaks in the supply pump suction	Check the suction pipe and all of its connections
•					•	Worn mechanical seal	Replace the blender mechanical seal and/or supply pump mechanical seal
•						Differential pressure is too high	Reduce pressure. See chapter 4. General Information
•						The suction pressure is too high	Reduce suction pressure. See chapter 4. General Information
	•					Insufficient liquid	Check the supply pump
	•					Viscosity product or delivery height is too high	Install a suction pump
		•				Pump working at the end of the curve	Close partially the valve between the pump and the mixer
			•			Worn motor bearings	Replace bearings as indicated on the manufacturer instruction manual
			•	•		Foreign bodies inside the blender	Disassemble the blender and remove the foreign bodies. Verify the housing, the impeller and the mechanical seal
				•		The blender is not at the right level	Correct the level and the alignment of the blender
				•		The impeller is damaged	Replace the impeller
				•		Blender cavitation	Reduce the pressure drop on the suction or use a suction pump
					•	O-rings inadequate for the fluid	Mount the correct O-rings consulting previously with the supplier
					•	Spring mechanical seal tension is too low	Adjust according to the Instruction Manual
					•	Clamp is loose	Tighten the clamp
•						The blender suction little dust	Check tha the zone of the valve and the bottom of the hopper are not dry Increase the flow of the hopper
					•	Fluid loss by the hopper	Decrease the liquid heigh of the suction tank In pressurized tanks, reduce the internal pressure of the tank
•	•		•			Presence of air in the pipe	Check that the air is not entered by the hopper avoiding having the valve opened when the solids entering the venturi is finished

8. Maintenance

8.1. GENERAL CONSIDERATIONS

This blender, 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 blender before beginning any maintenance work.

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 chapter 8.10. Disassembly of the Hyginox SE pump and 8.11. Assembly of the Hyginox SE pump.

8.3. MAINTENANCE OF THE SEALS

SEALS REPLACEMENT	
Preventive maintenance	Replace after twelve (12) months. We also recommend replacing the gaskets during mechanical seal replacement.
Maintenance after a leak	Replace at the end of the process
Scheduled maintenance	Regularly check that there are no leaks and that the blender is operating correctly. Keep a maintenance record of the blender. Use statistics to plan inspections.
Lubrication	During assembly, use soapy water or oil compatible for the food industry 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 blender: temperature, flow, number de cycles per day, cleaning solutions used, etc.

8.4. TIGHTENING TORQUE

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 blender must be completely emptied of liquids. Avoid, as far as possible, the exposure of the parts to excessively damp atmospheres.

8.6. CLEANING

The use of aggressive cleaning products such as caustic soda and nitric acid may give raise to skin burns.
Use rubber gloves during cleaning procedures.
Always use protective goggles.

8.6.1. Automatic CIP (clean-in-place)

If the blender is installed in a system with a CIP process, it is not necessary to disassemble the blender.
If the automatic cleaning process is not provided, proceed to disassemble the blender as indicated in the chapter 8.7. Disassembly and assembly of the blender.

Two types of solutions can be used for CIP processes:

a. **alkaline solution**: 1% by weight of caustic soda NaOH a 70ºC (150ºF). To make this solution:
   1 kg NaOH + 100 l H_2O[1] = cleaning solution
   2,2 l NaOH 33% + 100 l H_2O = cleaning solution

b. **acid solution**: 0,5% by weight of nitric acid HNO_3 a 70ºC (150ºF). To make this solution:
   0,7 l HNO_3 53% + 100 l H_2O = cleaning solution

1) only use chlorine-free water to mix with the cleaning agents

ATTENTION

Check the concentration of the cleaning solutions. Incorrect concentrations may lead to the deterioration of the blender seals.

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

8.6.2. Automatic SIP (sterilization-in-place)

The steam sterilisation process is applied to all equipment including the blender.

ATTENTION

Do NOT operate the equipment during the steam sterilisation process.
The parts and the materials will not suffer damage provided the instructions set out in this manual are followed.
Cold liquid cannot be introduced until the blender temperature is below 60ºC (140ºF).
The blender generates a substantial pressure loss through the sterilisation process. We recommend the use of a bypass circuit provided with a discharge valve to ensure that the steam or overheated water sterilises the entire circuit.

Maximum conditions during the steam or overheated water SIP process:

a. maximum temperature: 140ºC / 284ºF
b. maximum time: 30 min
c. cooling: sterile air or inter gas
d. materials: EPDM (the materials HNBR y FPM are not recommended)

8.7. DISASSEMBLY AND ASSEMBLY OF THE BLENDER

The assembly and disassembly of the blenders 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 in the blender's operation and lead to high repair costs and a long period of downtime.
INOXPA is not responsible for accidents or damages cause 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 blender, clean it outside and inside.

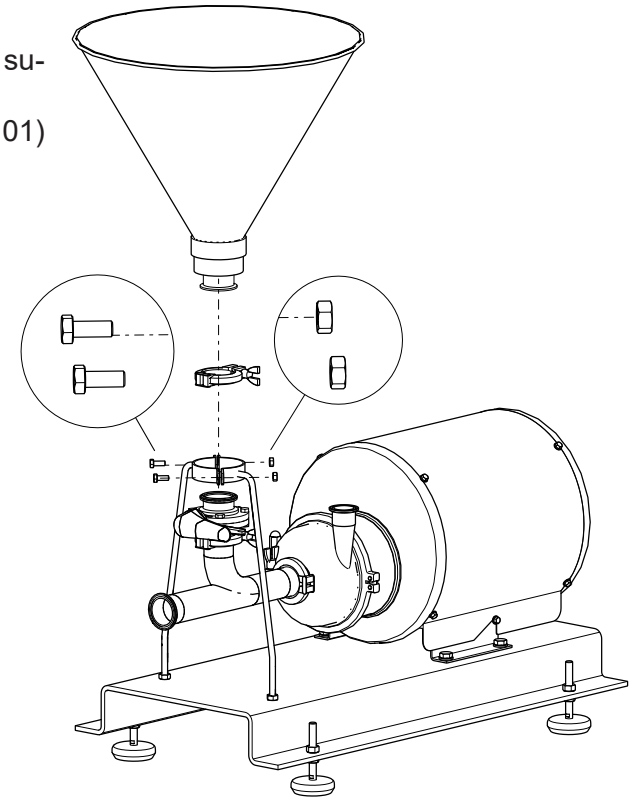
8.8. DISASSEMBLY OF THE MH-20 BLENDER

Before starting to perform the disassembly works of the blender:
- disconnect the motor of the suction pump
- close the suction and discharge valve of the pump
- place some trays for collection of liquids

Use gloves and safety goggles to empty the blender.

8.8.1. Disassembly of the hopper

1. Loosen and remove the screws and nuts of the support (29) of the hopper (101).
2. Remove the clamp (92) that joints the hopper (101) to the butterfly valve (96).
3. Remove the hopper (101).



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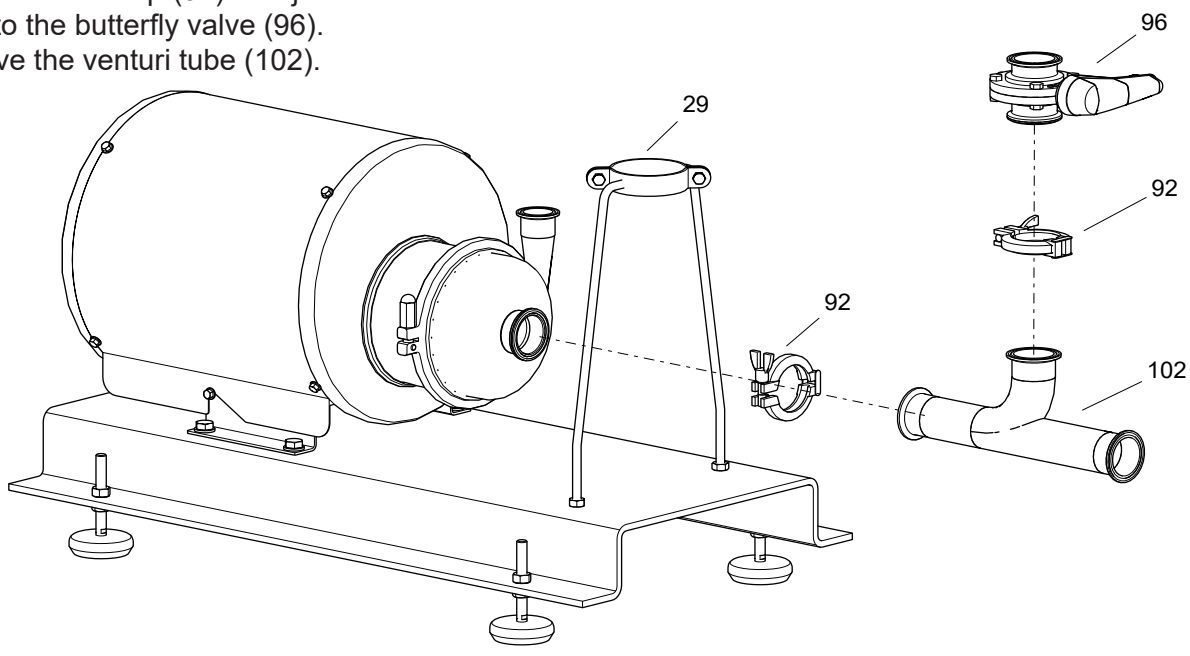
8.8.2. Disassembly of the venturi tube

1. Remove the clamp (92) that joins the pump to the venturi tube (102).
2. Remove the clamp (92) that joins the venturi tube (102) to the butterfly valve (96).
3. Remove the venturi tube (102).



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When the disassembly of the hopper and the venturi tube is finished proceed to disassembly the Hyginox SE pump following the instructions of chapter 8.10. Disassembly of the Hyginox SE pump.

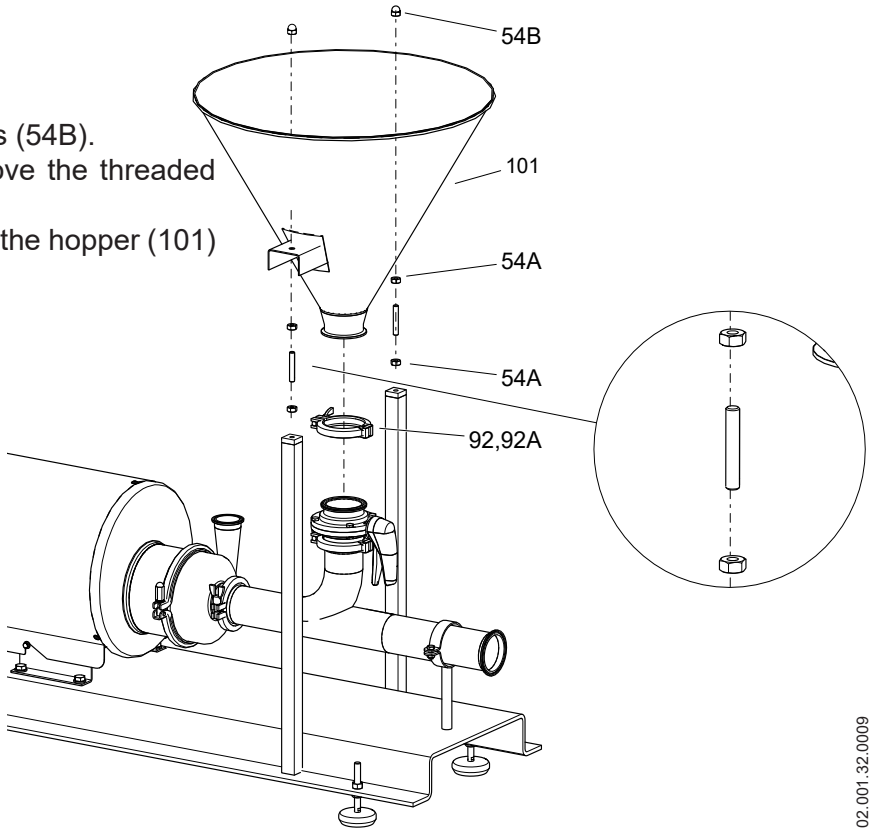
8.9. DISASSEMBLY OF THE MH-26 BLENDER

Before starting to perform the disassembly works of the blender:
- disconnect the motor of the suction pump
- close the suction and discharge valve of the pump
- place some trays for collection of liquids

Use gloves and safety goggles to empty the blender.

8.9.1. Disassembly of the hopper

1. Loosen and remove the blind nuts (54B).
2. Loosen the nuts (54A) and remove the threaded rods (55).
3. Remove the clamp (92) that joins the hopper (101) to the butterfly valve (96).
4. Remove the hopper (101).



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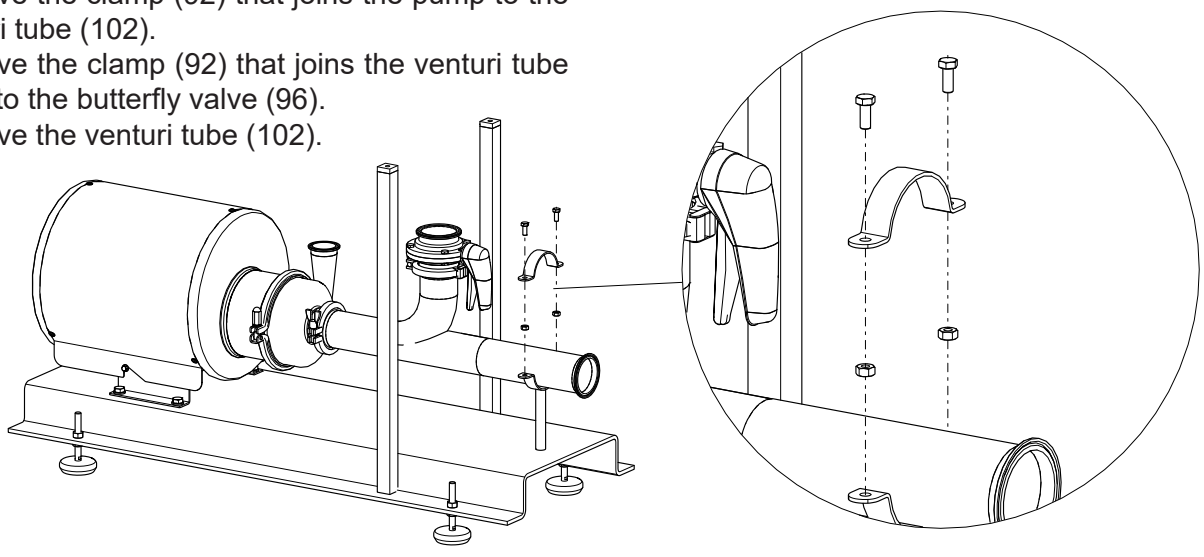
8.9.2. Disassembly of the venturi tube

1. Remove the clamp (92B) of the venturi tube support of the base plate (38).
2. Remove the clamp (92) that joins the pump to the venturi tube (102).
3. Remove the clamp (92) that joins the venturi tube (102) to the butterfly valve (96).
4. Remove the venturi tube (102).



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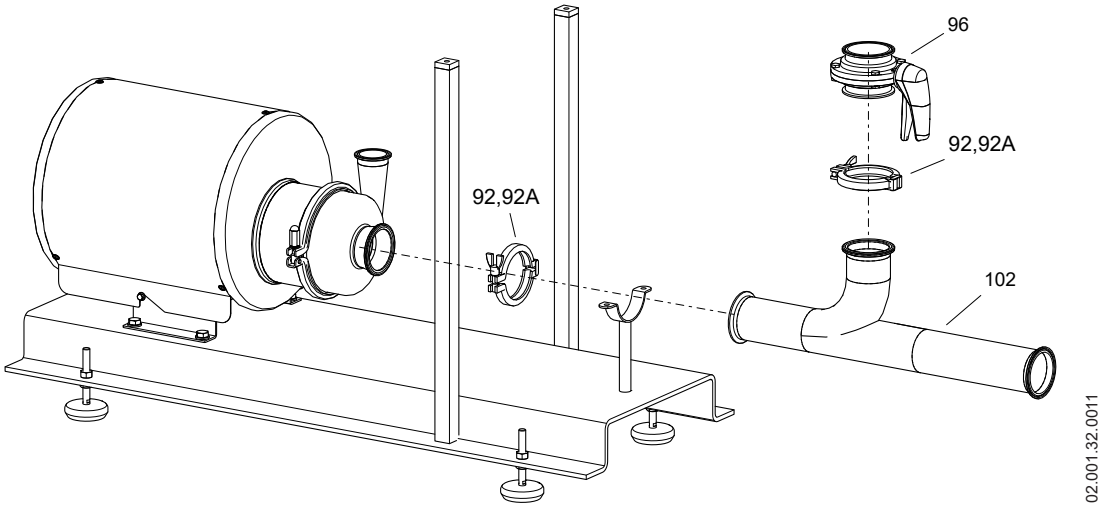
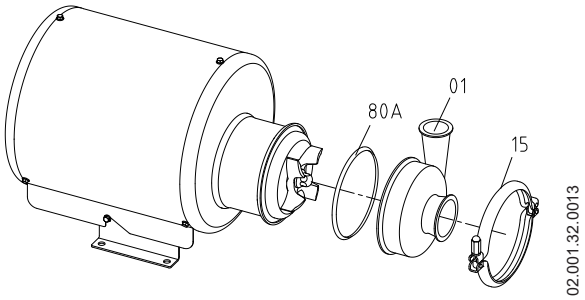


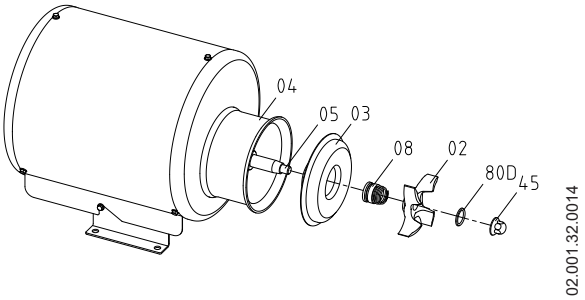
When the disassembly of the hopper and the venturi tube is finished proceed to disassembly the Hyginox SE pump following the instructions of chapter 8.10. Disassembly of the Hyginox SE pump.

8.10. DISASSEMBLY OF THE HYGINOX SE PUMP

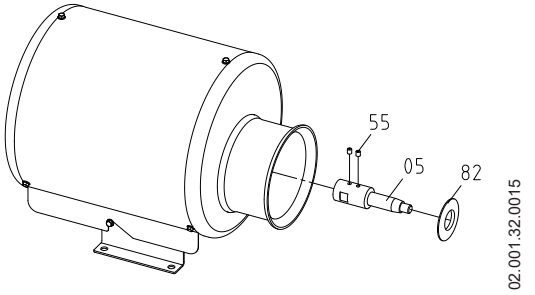
1. Remove the clamping ring (15) and disassemble the pump casing (01).
2. Check the condition of the O-ring (80A) on the pump casing and replace it if damaged.



3. Place an open-end wrench on the flat sides of the shaft (05) to prevent it from rotating.
4. Remove the impeller nut (45) and the O-ring (80A).
5. Pull out the impeller (02). If necessary, hit it with a dead blow using a plastic mallet in order to disengage the cone.
6. Remove the rotating part of the seal (08) from the rear side of the impeller (02).
7. Remove the pump cover (03) from the lantern (04).
8. Manually remove the stationary part of the seal (08) which is located in the pump cover (03)..

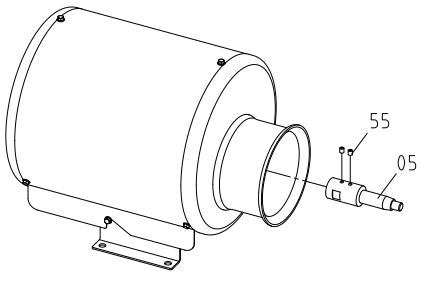


9. Remove the splash ring (82) from the shaft (05).
10. Loosen the studs (55) from the shaft (05) and take them off from the motor (93).



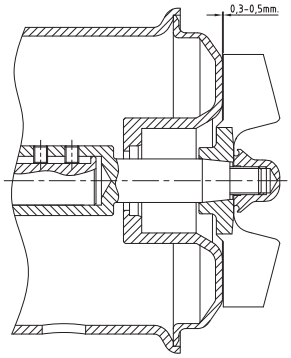
8.11. ASSEMBLY OF THE HYGINOX SE PUMP

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).



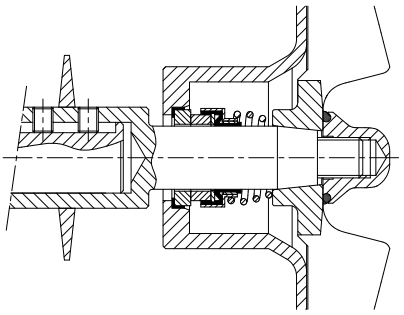
02.001.32.0016

3. Enter the pump cover (03) on the centring lantern (04)
4. Put the impeller (02) on the shaft, tighten the cap nut (45) and gauge according to the picture 01.011.32.0010.
5. Tighten the studs (55) strongly that fix the shaft (05) to the motor (93).
6. Untighten the cap nut (45) and quit the impeller (02) and the pump cover (03).



01.011.32.0010

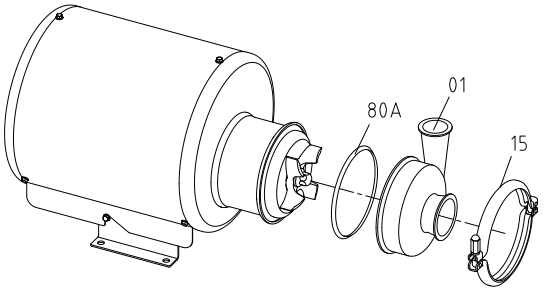
7. Place the splash ring (82) in the shaft (05).
8. Fit the stationary part of the seal (08) on the pump cover (03).
9. Put the pump cover (03) on the lantern (04).
10. Fit the rotating part of the mechanical seal (08) in the shaft (05) and place the impeller (02).
11. Place the O-ring (80D) in the impeller nut (45) and insert the impeller (02) on the pump shaft (05) and secure it with the nut (45).


01.011.32.0011

ATTENTION

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

12. Mount the O-ring (80A) on the pump cover (03) taking care that it is not twisted.
13. Put the pump casing (01) and secure it on the lantern (04) by the casing clamp (15) and tighten the clamp nut tightly.



02.001.32.0013

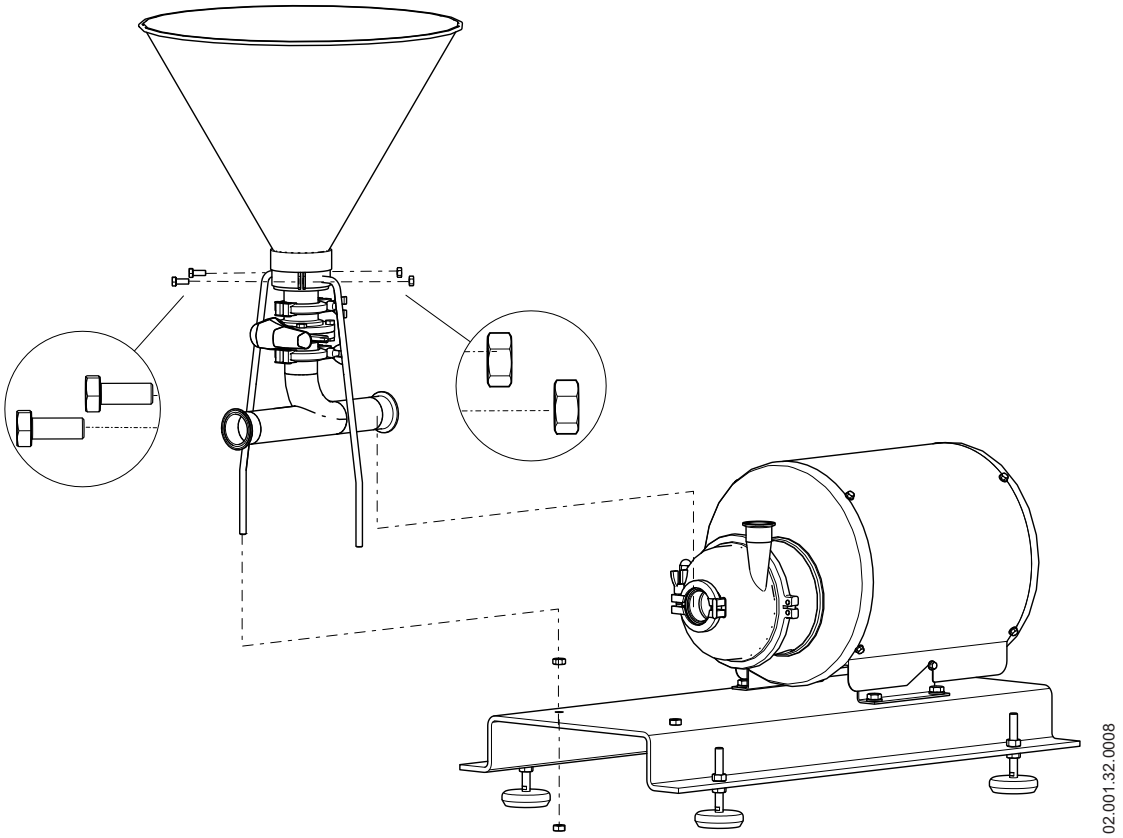
8.12. ASSEMBLY OF THE MH-20 BLENDER

8.12.1. Assembly of the tube venturi

1. Place the venturi tube (102).
2. Mount the clamp (92) that join the pump to the venturi tube (102).
3. Place the butterfly valve (96).
4. Mount the clamp (92) that joins the venturi tube (102) to the butterfly valve (96).

8.12.2. Assembly of the hopper

1. Place the hopper (101).
2. Place and tighten the clamp (92) that joins the venturi tube (102) to the hopper (101).
3. Place and tighten the screws with their nuts on the support (29) of the hopper (101).
4. Place the support (29) of the hopper to the base plate (38) and fix it with the nuts (54A).

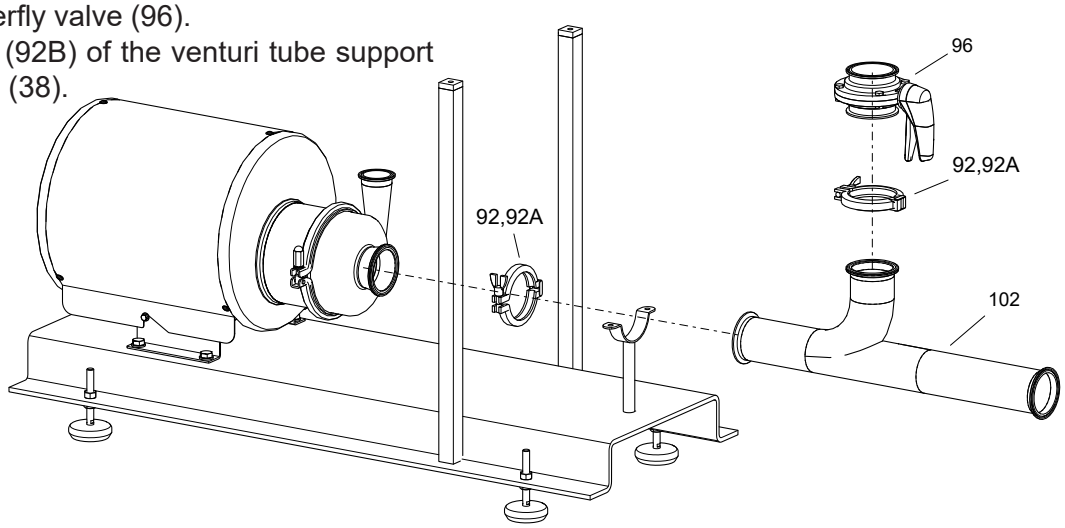


When the assembly of the hopper and the venturi tube is finished proceed to assembly the Hyginox SE pump following the instructions of chapter 8.11. Assembly of the Hyginox SE pump and fix it to the base plate.

8.13. ASSEMBLY OF THE MH-26 BLENDER

8.13.1. Assembly of the tube venturi

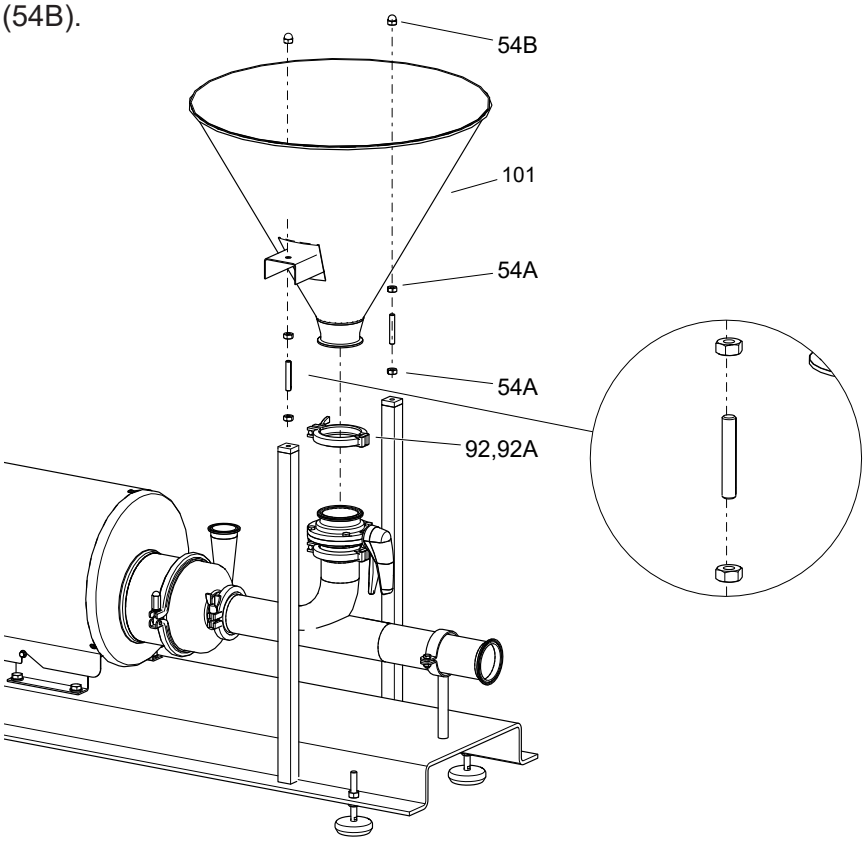
1. Place the venturi tube (102).
2. Mount the clamp (92) that join the pump to the venturi tube (102).
3. Place the butterfly valve (96).
4. Mount the clamp (92) that joins the venturi tube (102) to the butterfly valve (96).
5. Place the clamp (92B) of the venturi tube support to the base plate (38).



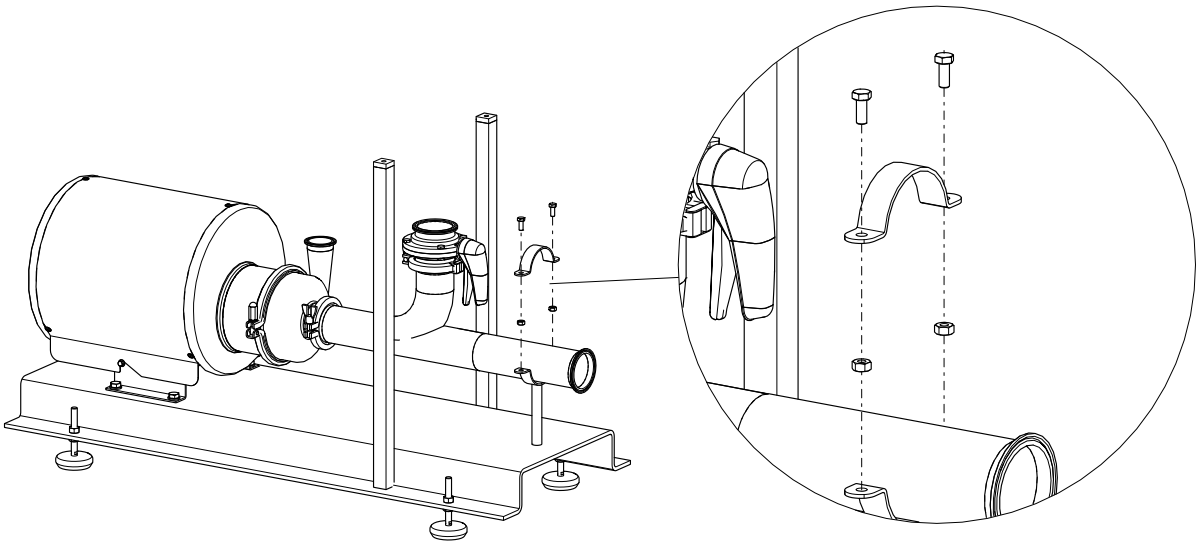
02.001.32.0011

8.13.2. Assembly of the hopper

1. Place the hopper (101).
2. Mount the clamp (92) that joins the hopper (101) to the butterfly valve (96).
3. Place the threaded rods (55) and tighten the nuts (54A).
4. Place and tighten the blind nuts (54B).



02.001.32.0009



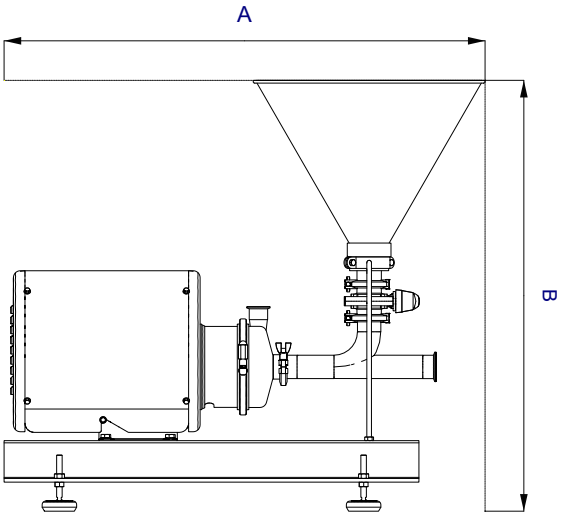
When the assembly of the hopper and the venturi tube is finished proceed to assembly the Hyginox SE pump following the instructions of chapter 8.11. Assembly of the Hyginox SE pump pump and fix it to the base plate.

9. Technical Specifications

	MH-20	MH-26
Approximate flow (m^3/h)	20	40
Maximum differential height (mca)	7	15
Maximum solids intake (kg/h)	1300[1]	2000[1]
Pump	Hyginox SE20 with impeller ø130	Hyginox SE 26 with impeller ø145
Motor	3 kW - 3000 rpm	5,5 kW - 3000 rpm
Maximum temperature (ºC)	65	65
Connections	Clamp	Clamp
Hopper capacity (l)	25	48
Hopper valve	butterfly clamp	butterfly clamp
Materials		
Parts in contact with the product	1.4404 (AISI 316L)	
Other stainless steel parts	1.4301 (AISI 304)	
Seals in contact with the product	EPDM - standard	
Other materials of the seals	consult with the supplier	
Internal surface finish	bright polish Ra ≤ 0,8 µm	
External surface finish	matt	
Mechanical seal		
Type	single seal	
Stationary part material	silicon carbide (SiC)	
Rotary part material	silicon carbide (SiC)	
Seal material	EPDM	

1) intake of solids may vary depending on their properties

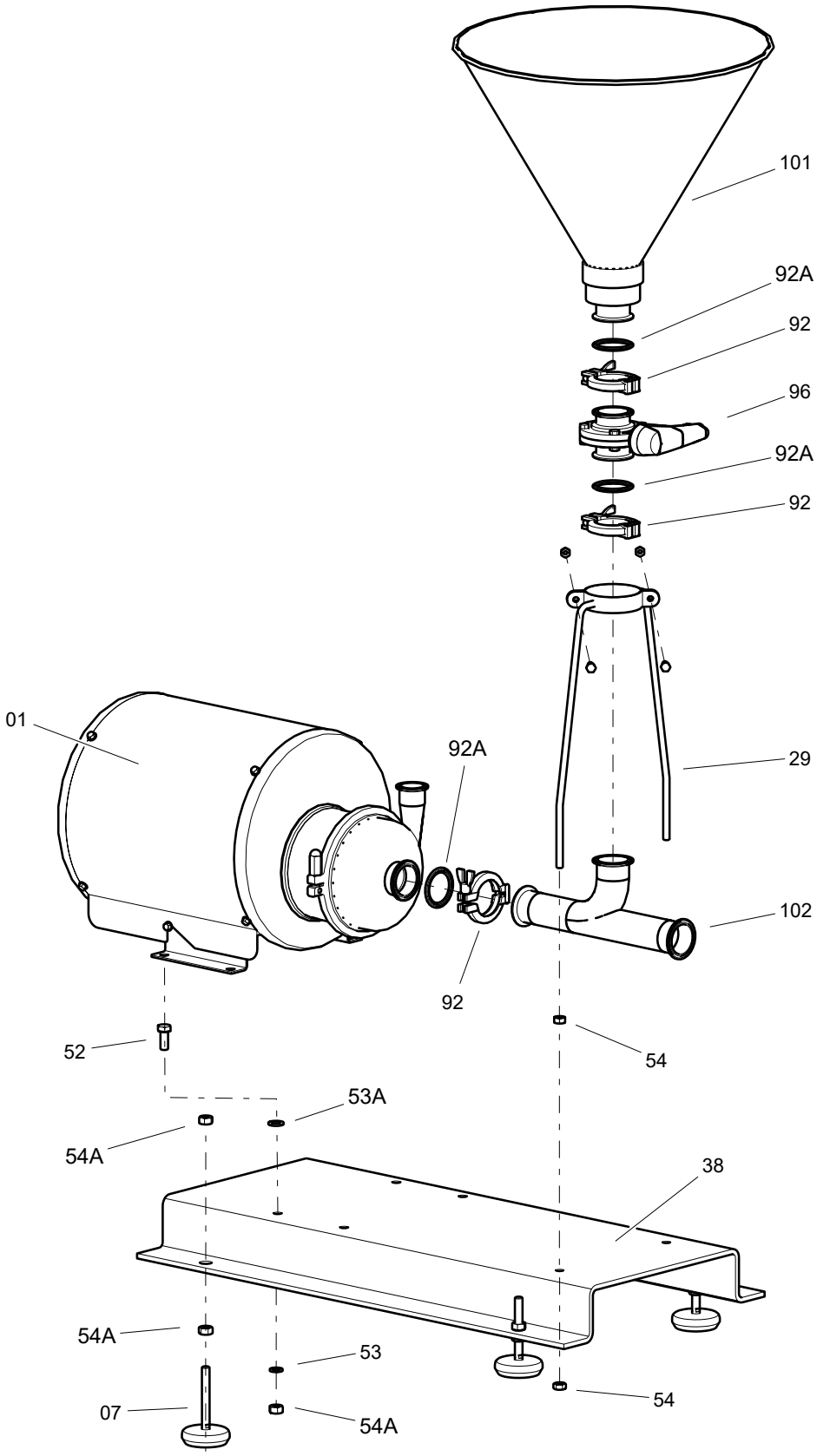
9.1. WEIGHTS AND DIMENSIONS



02.001.32.0019

Blender	Dimensions (mm)			Weight
	A	B	ØC	(kg)
MH-20	1045	933	505	88
MH-26	1185	1060	605	103

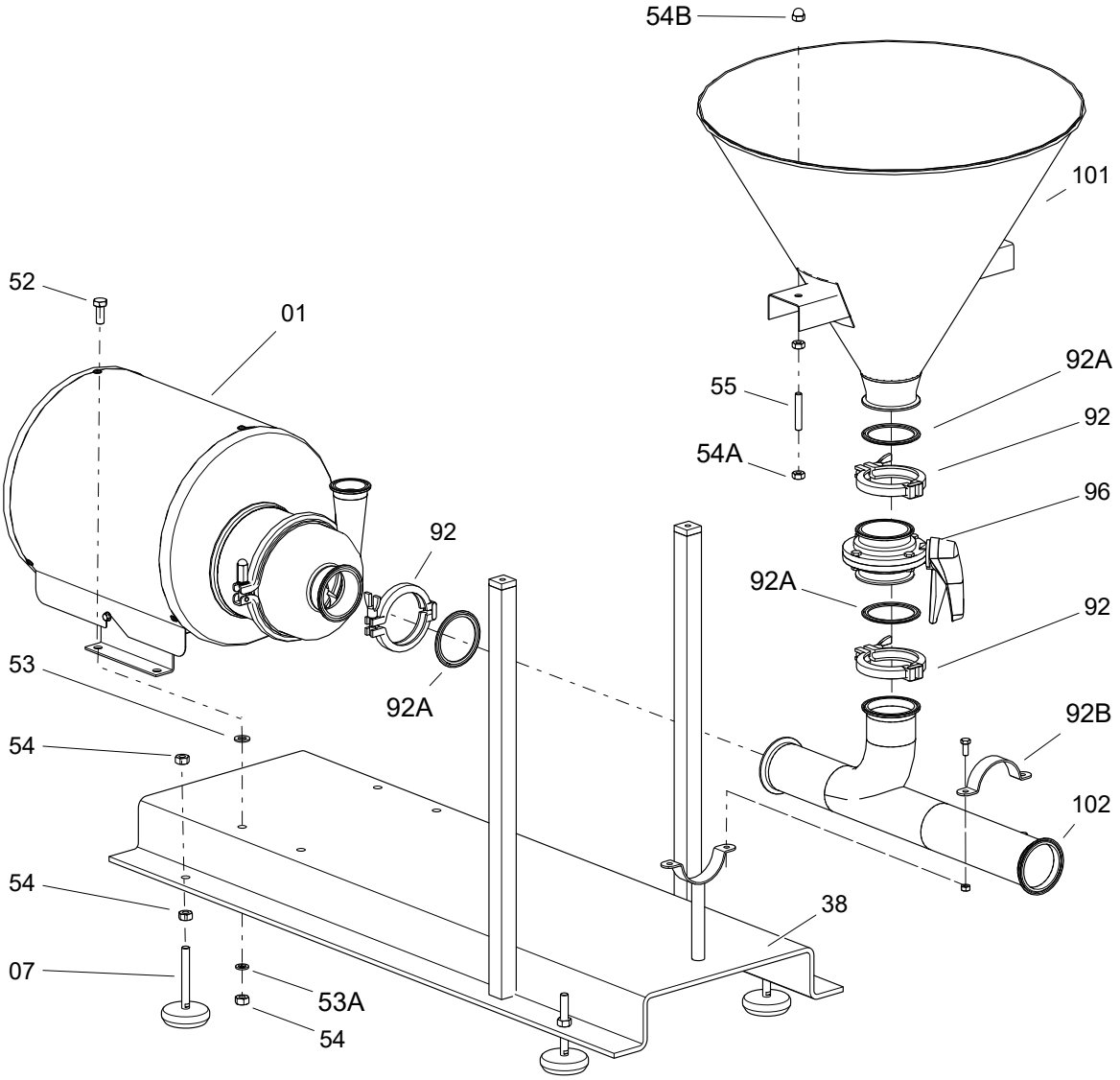
9.2. EXPLODED DRAWING OF MH-20 BLENDER



9.3. PARTS LIST OF MH-20 BLENDER

Position	Description	Quantity	Material
01	yginox SE pump	1	-
07	antivibrating support	4	1.4301 (AISI 304)
29	hopper support	1	1.4301 (AISI 304)
38	base plate	1	1.4301 (AISI 304)
52	hexagonal screw	4	A2
53	grower washer	4	A2
53A	washer	4	A2
54	nut	4	A2
54A	nut	12	A2
92	clamp	3	1.4301 (AISI 304)
92A	clamp seal	3	EPDM
96	butterfly valve with multiposition mini handle	1	1.4404 (AISI 316L) + plastic
101	hopper	1	1.4404 (AISI 316L)
102	venturi tube	1	1.4404 (AISI 316L)

9.4. EXPLODED DRAWING OF MH-26 BLENDER

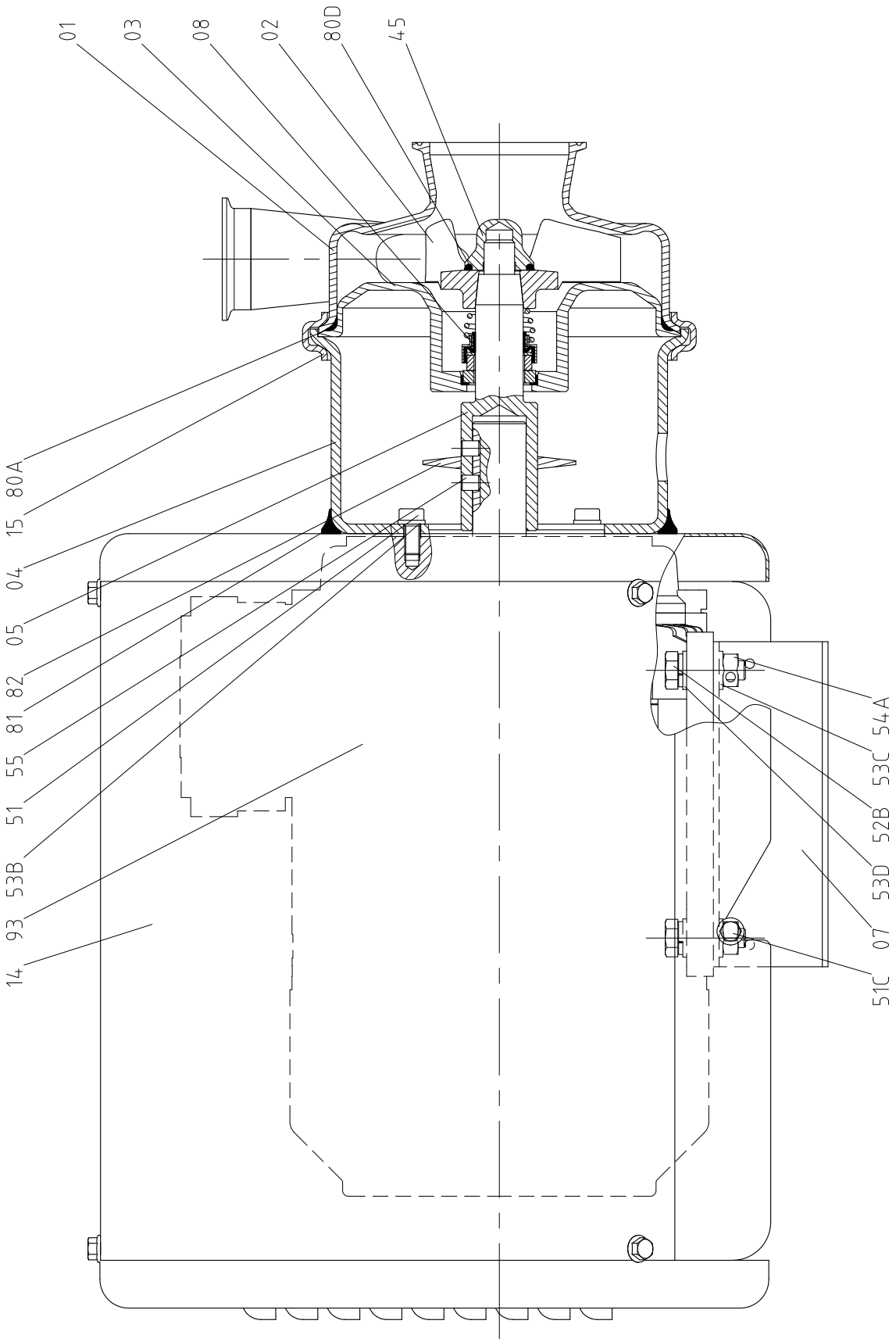


02.001.32.0012

9.5. PARTS LIST OF MH-26 BLENDER

Position	Description	Quantity	Material
01	Hyginox SE pump	1	-
07	antivibrating support	4	1.4301 (AISI 304)
38	base plate	1	1.4301 (AISI 304)
52	hexagonal screw	4	A2
53	washer	4	A2
53A	grower washer	4	A2
54	nut	12	A2
54A	nut	4	A2
54B	blind nut	2	A2
92	clamp	3	1.4301 (AISI 304)
92A	clamp seal	3	EPDM
92B	clamp of venturi tube support to the baseplate	1	1.4307 (AISI 304L)
96	butterfly valve with multiposition mini handle	1	1.4404 (AISI 316L) + plastic
101	hopper	1	1.4404 (AISI 316L)
102	venturi tube	1	1.4404 (AISI 316L)

9.6. TECHNICAL SECTION OF HYGINOX SE PUMP



9.7. PARTS LIST OF HYGINOX SE PUMP

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)
07	leg	2	1.4301 (AISI 304)
08	mechanical seal[1]	1	-
14	shroud	1	1.4301 (AISI 304)
15	casing clamp	1	1.4301 (AISI 304)
45	blind nut	1	1.4404 (AISI 316L)
51	allen screw	4	A2
51C	screw with flange	2	A2
52B	hexagonal screw	4	A2
53B	grower washer	4	A2
53C	flat washer	8	A2
53D	flat washer	4	A2
54A	hexagonal nut	4	A2
55	stud	2	A2
80A	O-ring[1]	1	EPDM
80D	O-ring[1]	1	EPDM
81	lantern seal	1	EPDM
82	splash ring	1	EPDM
93	motor	1	-

1) recommended spare parts

NOTES

How to contact INOXPA S.A.U.:
Contact details for all countries are continually updated on our website
Please visit www.inoxpa.com to acces the information.

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

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