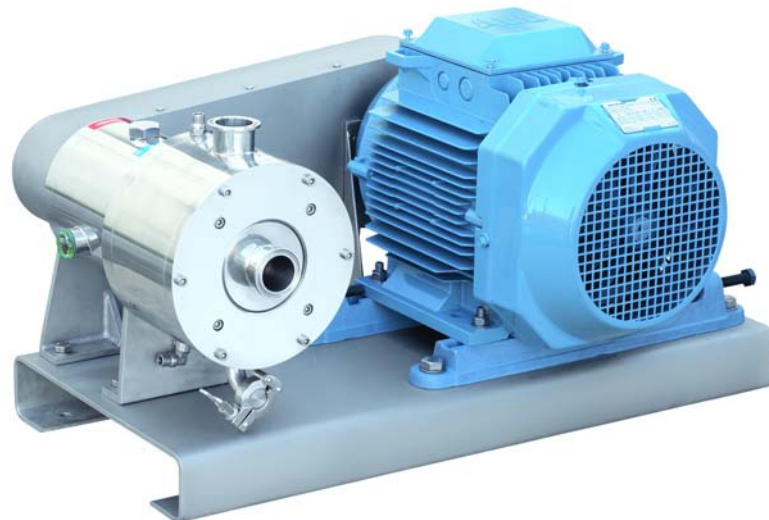




INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTIONS

MULTITOOTH MIXER 875X-892X SERIES



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Original Manual

MIME800X_EN
ED. 2011/05



EC DECLARATION OF CONFORMITY

(In accordance with Directive 2006/42/EC, annex II, part A)

We, the manufacturer: **INOXPA, S.A.**
c/ Telers, 54
17820 Banyoles (Girona) - Spain

Hereby declare that the products

<u>MULTI-TOOTH MIXER</u>	<u>ME-875X / ME-895X</u>
Name	Type

are in conformity with the provisions of the Council Directives:

Machine Directive 2006/42/EC, and comply with the essential requirements of said Directive and the harmonised standards:

UNE-EN ISO 12100-1/2:2004
UNE-EN ISO 13857:2008
UNE-EN 953:1997
UNE-EN ISO 13732:2007

Low-Voltage Directive 2006/95/EC (what repeal 73/23/EEC Directive), and conform to UNE-EN 60204-1:2006 and UNE-EN 60034-1:2004.

Electromagnetic Compatibility Directive 2004/108/EC (what repeal 89/336/EEC Directive), and conform to UNE-EN 60034-1/A11:2004

In conformity with **Regulation (CE) No. 1935/2004** on materials and objects intended to come into contact with foodstuffs (repealing 89/109/EEC), in accordance with which the materials in contact with the product do not transfer its constituents to the foodstuffs in quantities large enough to put human health at risk.

Banyoles, 2012

Josep Mª Benet
Technical manager

1. Safety

1.1. INSTRUCTIONS MANUAL

This manual contains information on the receipt, installation, operation, assembly, disassembly, and maintenance of the Inline Mixer ME-875 and ME-892X series.

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

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

1.2. START-UP INSTRUCTIONS

This instructions manual contains vital and useful information to appropriately handle and maintain your mixer.

Read these instructions carefully before starting up the mixer; become familiar with the operation and use of your mixer and follow the instructions closely. These instructions should be kept in a safe place near the installation.

1.3. SAFETY

1.3.1 WARNING SYMBOLS



Danger in general



Danger of injury caused by rotating equipment parts.



Electrical danger



Danger! Caustic or corrosive agents.



Danger! Suspended loads



Danger to the correct operation of the equipment.



Commitment to safety at the workplace.



Protective goggles requirement.

1.4. GENERAL SAFETY INSTRUCTIONS



Read this instructions manual carefully before installing and starting the mixer. Contact INOXPA in case of doubt.

1.4.1 During installation



The *Technical Specifications* of Chapter 8 should always be observed.

Never start up the mixer before it connecting it to the piping.

Do not start up the mixer if the mixer cover is not mounted.

Do not start up the mixer if the belt protection is not present.

Check that the motor specifications meet the requirements, especially when working under conditions that involve the risk of explosion.



During the installation, all the electric work should be carried out by authorised personnel.

1.4.2 During operation



The *Technical Specifications* of Chapter 8 should always be observed. Under no circumstances can the limit values specified be exceeded.

NEVER touch the mixer or the pipes during operation when the mixer is being used to transfer hot fluids or when it is being cleaned.



The mixer contains moving parts. Never place your fingers inside the mixer while it is in operation.



NEVER operate the pump with the suction and delivery valves closed.

NEVER spray the electrical motor with water. The standard protection of the motor is IP-55: Protection against dust and sprayed water.

1.4.3 During maintenance



The *Technical Specifications* of Chapter 8 should always be observed.

NEVER disassemble the mixer until the pipes have been emptied. Remember that some of the fluid will always remain in the mixer housing (when no drainage is provided). Note that the fluid may be dangerous or very hot. Consult the regulations in effect in each country for these cases.

Do not leave parts loose on the floor.



ALWAYS disconnect the mixer from the power supply before starting maintenance work. Remove the fuses and disconnect the cables from the motor terminals.

All electrical work should be carried out by authorised personnel.

1.4.4 Compliance with the instructions

Any non-fulfilment of the instructions may result in a risk for the operators, the environment and the machine, and may result in the loss of your right to claim damages.

This non-fulfilment may result in the following risks:

- Failure of important functions of the machines/plant.
- Failure of specific maintenance and repair procedures.
- Possibility of electric, mechanical and chemical risks.
- Will place the environment in danger due to the release of substances.

1.4.5 Guarantee

Any warranty provided shall immediately be cancelled and void *ipso jure*, and INOXPA shall be compensated for any product liability claim from third parties, if:

- the service and maintenance work was not carried out in accordance with the service instructions, or the repair work has not been carried out by our personnel or it has been conducted without our written authorization;
- our equipment has been changed without prior written authorization;
- the parts or lubricants used are not original INOXPA parts and products;
- the materials were used incorrectly or negligently, or not in accordance with these instructions and their intended use;

The General Delivery Terms already provided also apply.



No change can be made to the equipment without prior discussion with the manufacturer. For your safety, please use original spare parts and accessories.

The use of other parts will exempt the manufacturer from any liability.

The service terms can only be changed with prior written authorisation from INOXPA.

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

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3. General information

3.1 DESCRIPTION

ME-875X and ME-892X series multitooth mixers present a shaft-driven type with axial suction and radial discharge, and with hygienic type connections. The housing, cover, rotor, and stator are machined. All the parts that come into contact with the product are manufactured from stainless steel.

These series are designed for continuous operation. The most significant constructional features of the range are:

- Operation on baseplate with belt transmission.
- Rotor-stator multitooth design.
- Hygienic mechanical seal.
- Rotor-stator adjustment by means of gauges.

This equipment is suitable for use in the food-processing industry.

3.2 OPERATING PRINCIPLE

- The rotor/stator design of the ME-875X and ME-892X series applies an extraordinary shear strength. The fluid is suctioned by the impeller and is forced to pass through the teeth of the rotor and stator, and is sheared and reduced under great strength until leaving the discharge outlet. The particle measurement reductions (of about 0.5 microns) require the product to be passed through a minimum number of times to achieve homogeneous distribution of the particles in the end product.
- In many cases, it is recommended to operate with a frequency converter to ensure that it is possible to achieve a good end product by means of this and the various gauges.
- The number of times the product must pass through the rotor/stator depends on three factors: rotor speed, rotor-stator gap, product viscosity.
- Speed can be adjusted using a frequency converter; the rotor/stator gap can be adjusted using the gauges (supplied by Inoxpa), and the viscosity can be adjusted with the formula or temperature.

3.3 APPLICATION

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

3.4 HYGIENE

In the construction of the mixer, special attention has been given to hygiene and cleaning. The number of slots and unreachable spaces has been reduced to an absolute minimum.

The mixer can be cleaned easily and thoroughly by either of the two following methods:

- Without disassembly, e.g. with steam or water, i.e. the so-called CIP (Cleaning In Place).
- Easily disassembling the mixer.

See Section 7.2 "*Cleaning*" for information on how to properly clean the mixer and what cleaning methods and products should be used.

3.5 CONSTRUCTION MATERIALS

All the parts of the mixer in contact with the product are manufactured in stainless steel or tasteless and odourless materials. This makes the mixer resistant to corrosion, thereby the contamination of the mixed product is prevented.



During the manufacturing process, the materials (i.e. the parts in contact with the product) must be checked and verified in order to ensure that they are suitable for pumping food products.

Table 3.1: Parts in contact with the product

Part	Material
Housing	AISI 316L (1.4404)
Rotor	AISI 316L (1.4404)
Stator	AISI 316L (1.4404)
Mixer cover	AISI 316L (1.4404)
Motor shaft	AISI 316L (1.4404)
Impeller nut	AISI 316L (1.4404)

Table 3.2: Parts that may come in contact with the product.

Part	Material
Support	AISI 304 (1.4308)

4. Installation

4.1 RECEIPT OF THE MIXER

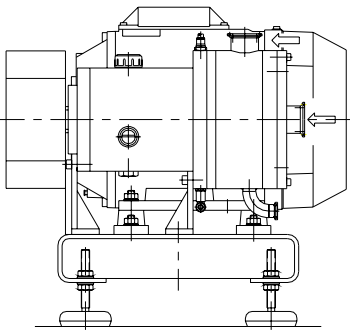


INOXPA cannot be held responsible for the damage to the equipment during transport or unpacking. Visually check that the packaging is not damaged.

The mixer will be accompanied by the following documents:

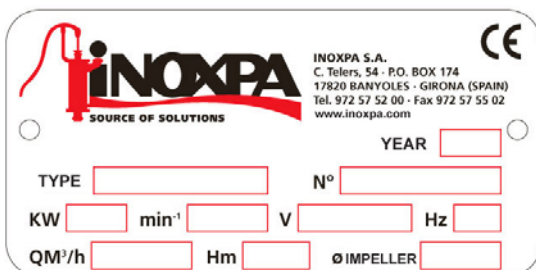
- Dispatch notes.
- Mixer Instructions and Service Manual.
- Motor Instructions and Service Manual.

Unpack the mixer and check:



- The inline mixer suction and delivery connections, removing the remains of any packaging materials.
- Check that the mixer and the motor have not suffered any damage.
- If the equipment is not in good condition and/or any part is missing, the carrier should draw up a report accordingly as soon as possible.

4.1.1 Mixer identification



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17820 BANYOLES · GIRONA (SPAIN)
Tel. 972 57 52 00 · Fax 972 57 55 02
www.inoxpa.com

CE

Serial number ←

YEAR

TYPE N°

KW min⁻¹ V Hz

QM³/h Hm Ø IMPELLER

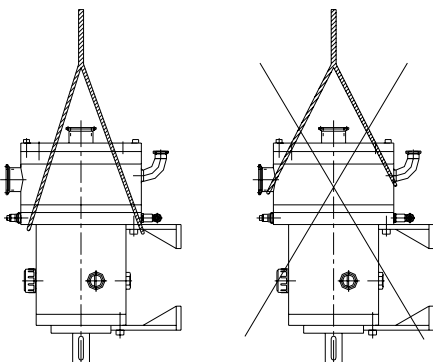
Mixer Plate

4.2 TRANSPORT AND STORAGE



ME-875X and ME-895X mixers are often too heavy to be stored manually.

Lift the mixer as shown below:



Never lift the whole unit by pulling the housing.

4.3 LOCATION

- Place the mixer as close as possible to the suction tank, and if possible below the product level.
- Place the mixer so as to allow sufficient space around it to access the mixer and the motor. (See Chapter 8 *Technical Specifications* for dimensions and weight).
- Set up the mixer on a flat, level surface.
- The base must be rigid, horizontal, flat and vibration-proof.



Install the mixer so as to allow sufficient ventilation.

If the mixer is installed outdoors, it should be protected by a roof.

Its location should enable easy access for any inspection or maintenance operations.

4.4 PIPES

- As a general rule, assemble the suction and discharge pipes in straight sections with as few elbows and accessories as possible. This will reduce any pressure drops resulting from friction.
- Ensure that the mixer openings are properly lined up with the piping and that the diameters between the two are similar.
- Place the mixer as close as possible to the suction tank, if possible below the fluid level, or even below the tank, to achieve the maximum static suction head.
- Place pipe supports as close as possible to the mixer's suction inlet and delivery outlet.

4.5 SHUT-OFF VALVE

The mixer can be isolated for maintenance purposes. To this end, shut-off valves should be fitted to the pump's suction and delivery connections.

4.6 COOLANT

In models with a single mechanical seal with quench, it is necessary to connect the quench with water to the inlet at ambient temperature (20°C) without pressure (~max. 0.5 bars) and outlet in the upper atmospheric section.



ALWAYS connect the cooling fluid inlet to the lower connection of the seal chamber. Therefore, the suction will be connected to the upper part. See mixer dimensions.

4.7 ELECTRICAL INSTALLATION



The connection of the electrical motors must be performed by qualified personnel. Take all necessary measures to prevent damage to connections and cables.

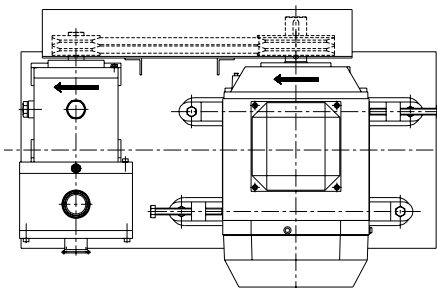


The electrical equipment, terminals and components of the control systems may still contain electric current when switched off. Contact with them may be dangerous for operators or cause irreversible damage to the equipment.

- Connect up the motor following the manufacturer's instructions.
- Check the direction of rotation (see the label on the mixer).

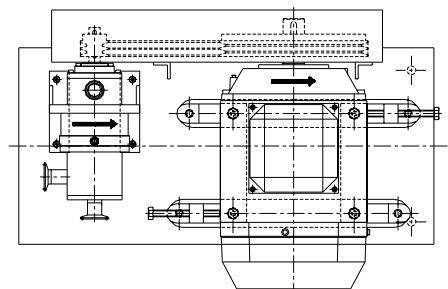


Never start up the mixer if the rotor is attached and the cover is not.



ME-892 (clockwise)

Start up the mixer briefly. Look at the mixer from the rear to ensure that the rotation direct is correct: Anti-clockwise for ME-875X and clockwise for the ME-892X model.



ME-875X (anti-clockwise)



ALWAYS check the direction of rotation of engine with product inside the mixer.

For models with a seal chamber, ALWAYS make sure that the chamber is full of product before checking the rotation direction.

5. Start-up



Before starting up the multitooth mixer, thoroughly read the instructions in Chapter 4. *Installation*.

5.1 START-UP



Read Chapter 8 *Technical Specification* thoroughly. INOXPA cannot be held responsible for the incorrect use of the equipment.



NEVER touch the mixer or the pipes when hot product is being pumped.
Do not start up the mixer if the belt protections are not in place.

5.1.1 Checks before starting up the mixer

- Fully open the shut-off valves on the suction and delivery pipes.
- If the product does not flow towards the mixer, use a feeding pump. The Inline mixer can overcome a limited discharge pressure. The same feeding pump can be used to overcome any high discharge pressure.
- In the case of highly viscous products, also use a positive-displacement feeding pump.



The mixer must **NEVER** be run dry.

- Check that the motor's direction of rotation is correct.

5.1.2 Checks when starting up the mixer

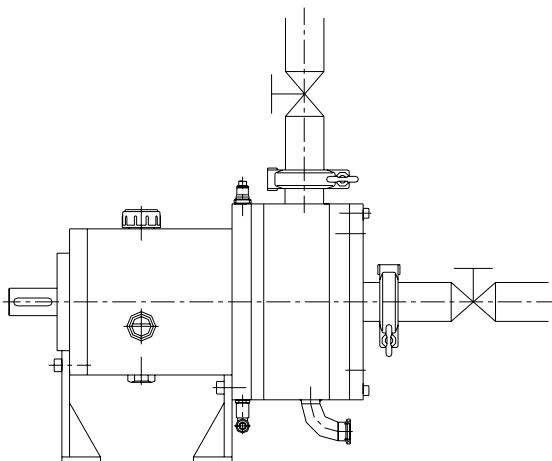
- Check that the mixer is not making any unusual noises.
- Check whether the absolute inlet pressure is enough to avoid cavitation in the mixer.
- Check the flow pressure.
- Check that there are no leaks through the sealed areas.



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



Check the motor's power consumption to avoid electric overload.



Reduce the flow and the power consumed by the motor:

- Regulating the flow to the pump delivery.
- Decreasing motor speed.

6. Operating Problems

The following table provides solutions to problems that might arise during mixer operation. The mixer is assumed to have been properly installed and correctly selected for the application. Please contact INOXPA if technical assistance is required.

Operating Problems	Probable causes
Motor overload	8, 12.
The mixer does not provide enough flow or pressure	1, 2, 3, 4, 6, 8, 9, 14.
No pressure on the delivery side	2, 5, 15.
Uneven delivery flow / pressure	1, 3, 4, 5, 8.
Noise and vibration	3, 4, 5, 6, 8, 9, 12, 13, 17.
The mixer becomes jammed.	8, 9, 12.
Mixer becomes overheated.	8, 9, 12
Abnormal wear	3, 4, 9, 16, 17.
The mechanical seal is leaking.	10, 11, 16.
Insufficient mixture	1, 2, 3, 4, 5, 6, 7, 8, 14.

Probable causes	Solutions
1 Wrong direction of rotation	Change the direction of rotation, exchanging 2 phases.
2 The fluid does not flow towards the mixer	Use a feeding pump
3 Cavitation	Increase the suction pressure or use a feeding pump.
4 The mixer is sucking air.	Check the suction pipe and all its connections
5 Clogged suction tube	Check the suction pipe and all its filters
6 Delivery pressure too high	If necessary, reduce pressure drops, e.g. by increasing the diameter of the pipe
7 Insufficient recirculation of the product by the mixer	Increase shearing by means of the gauges by reducing the number of passes between the rotor-stator or increase speed (see technical characteristics)
8 Product viscosity too high	Reduce viscosity by injecting liquid, increasing temperature, or using a feeding pump.
9 Fluid temperature too high	Reduce the temperature by cooling the product.
10 Mechanical seal damaged or worn.	Replace the seal
11 O-rings unsuitable for the product.	Fit suitable O-rings after consulting the supplier.
12 The impeller scrapes.	- Reduce temperature - Reduce suction pressure
13 Tension in the pipes	Connect the piping to the mixer without tension.
14 Mixer speed too low.	Increase speed.
15 The cut-off valve on the suction side is closed	Check and open
16 Inappropriate materials	Check with the Technical Dep.
17 Foreign particles in the product	Fit a filter to the suction pipe



If the problems persists, stop using the mixer immediately. Contact the mixer manufacturer or its representative.

7. Maintenance

7.1 GENERAL INFORMATION

Like any other machine, this mixer requires maintenance. The instructions contained in this manual cover the identification and replacement of spare parts. The instructions have been prepared for maintenance personnel and for those responsible for the supply of spare parts.



Please thoroughly read Chapter 8 *Technical Specification*.

All replaced material should be duly eliminated/recycled according to the directives in effect in the area.



ALWAYS disconnect the mixer from the power supply before undertaking maintenance work.

7.1.1 Check the mechanical seal and the retainer

Regularly check that there are no leaks in the shaft area. If there are leaks through the mechanical seal or the retainer, replace it following the instructions given under the Disassembly and Reassembly section.



Verifying the tightness of the seal and the retainer is of the utmost importance. Since this would be an internal leak, it is difficult to detect.

7.2 CLEANING



The use of aggressive cleaning products such as caustic soda and nitric acid may cause burns to the skin.

Use rubber gloves during the cleaning process.



Always use protective goggles.

7.2.1 Automatic CIP (cleaning-in-place)

If the mixer is installed in a system with a CIP process, it is not necessary to dismantle the mixer. If there is no automatic cleaning process, dismantle the mixer as indicated in the *Assembly and Disassembly* section.

Cleaning solutions for CIP processes.

Only use clear water (chlorine-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 l. of water = cleaning solution

o

2.2 l. NaOH at 33% + 100 l. of water = cleaning solution

b) Acid solution: 0.5% by weight of nitric acid (HNO₃) at 70°C (150°F)

0.7 litres HNO₃ at 53% + 100 l. of water = cleaning



Check the concentration of cleaning solutions; it may cause the deterioration of the watertight seals of the mixer.

To remove any remains of cleaning products, ALWAYS perform a final rinse with clean water on completion of the cleaning process.

7.2.2 Automatic SIP (sterilization-in-place)

The process of sterilization with steam is applied to all the equipment including the pump.



Do NOT start the pump during the process of sterilization with steam.
The parts/materials suffer no damage if the indications specified in this manual are observed.

No cold liquid can enter the pump till the temperature of the pump is lower than 60°C (140°F).

A flow by-pass is recommended to be used in order to assure the flow of sterile product after the pump.

Maximum conditions during the SIP process with steam or overheated water

- | | | |
|----|--------------------------|--|
| a) | Max. temperature: | 140°C / 284°F |
| b) | Max. time: | 30 min |
| c) | Cooling: | Sterile air or inert gas |
| d) | Materials: | EPDM / PTFE (recommended)
FPM / NBR (not recommended) |

7.3 TIGHTENING TORQUE

Material	Torque value [N.m.]								
	M5	M6	M8	M10	M12	M14	M16	M18	M20
8.8	6	10	25	49	86	135	210	290	410
A2	5	9	21	42	74	112	160	210	300

7.4 LUBRICATION

The bearings are lubricated by means of an oil bath.

The mixer is supplied with oil.

- Check the oil level regularly, e.g. weekly or after every 150 hours of service.
- The first oil change should be conducted after 150 hours of service.
- Following this, the oil should be changed after every 2,500 hours of service or at least once a year under normal operating conditions.

When the oil is changed, the oil box should be filled up to the level in the centre of the sight-glass.



Do not overfill the support with oil.

Leave the mixer in the stop position for a while and then check the oil level; if necessary, add a little more oil.

Oil for ambient temperatures of 5 to 50°C: ISO VG 10.

TYPE MIXER	Support oil capacity [L.]
ME-875X	0.5
ME-892X	1.5

7.5 MIXER ASSEMBLY AND DISASSEMBLY

7.5.1 Mixer housing and stator 875X-892X

⇒ Disassembly

Close the suction and delivery valves.

Disconnect the cooling circuit from the mixer.

Remove the mixer from the place of installation.

Clean and dry the mixer.



Caution: liquid may spill out when removing the mixer housing.

Remove the Allen screws (51B in 875X or 51A in 892X) fastening the housing cover (02) to the housing (01).
 Remove the housing cover assembly (03), spacer washer (35), stator (22), and O-ring (80B), and to this end, place two of the Allen screws (51B in 875X or 51A in 892X) in the threaded openings of the housing cover (03).
 Once fitted, screw them in; these will tighten the housing and axially displace the entire assembly mentioned above.
 Remove the Allen screws (51C in 875X or 51A in 892X) fastening the housing cover (03), spacer washer (35), and stator (22).

Note: There are three different spacers (35) (thicknesses of 0.5, 1, 1.5 mm for the ME-892X model and thicknesses 0.3, 0.45, and 0.6 mm for the ME-875X model) suitable for different processes. These are marked by laser to indicate the distance of the gap between the rotor (21) and the stator (22).

Remove the O-ring (80B) from the stator (22).
 Remove the housing (02) by taking out the Allen screws (51 in 875X or 51C in 892X).

⇐ Assembly

Place the O-ring (80B) on the stator (22).
 Take the spacer washer (35) adapted to the process and insert it into the stator (22), then fasten the aforementioned parts to the housing cover (03) using the Allen screws (51C in 875X or 51A in 892X).
 Attach the housing (01) to the cooling flange (10) by fastening it with the Allen screws (51 in 875X or 51C in 892X).

CAUTION! Take care to assemble the parts and seals with soapy water to enable them to slide easily.

Attach the housing cover assembly (03), spacer washer (35), and stator (22) to the housing by fitting 4 distributed threaded rods and tighten the assembly using nuts until coming into contact with the housing (03).



CAUTION! Do not insert the aforementioned assembly using a plastic hammer, as this could damage the stator teeth (22).

7.5.2 Single mechanical seal

⇒ Disassembly 875X

Remove the nut (45) and seal (80C), and place a fixed wrench between the pulley protection (48) and the drive key-hole (93) (to prevent the pulleys from turning). And use the other wrench to unscrew the nut (45).
 Remove the rotor (21) and the rotary part of the seal (08) by loosening its setbolts.
 Remove the cover (09) and the fixed part of the seal (08).
 Remove the O-ring (80B).

⇒ Disassembly 892X

Remove the nut (45) and seal (80C), and place a fixed wrench between the pulley protection (48) and the drive key-hole (93) (to prevent the pulleys from turning). And use the other wrench to unscrew the nut (45).
 Remove the rotor (21) and the rotary part of the seal (08).
 Remove the cover (09) and the fixed part of the seal (08) remove the seal spring of the cover (09) by turning it with the knobs.
 Remove the O-ring (80B).

⇐ Assembly 875X

Insert the O-ring (80B) into the seal cover (09).
 Insert the rotary part of the seal (08) on the shaft (05).
 Then place the fixed part of the seal, ensuring that the knob of the seal cover (09) is lined up with the milling of the seal; to this end, manually press the rotary part of the seal using a plastic, PVC, PTFE buffer on the part that is in contact with the polished surface.

⇐ Assembly 892X

Insert the O-ring (80B) into the seal cover (09).
 Place the seal spring (08) on the seal cover (09) using its knobs.
 Then place the fixed part of the seal ensuring that the knob of the seal cover (09) is lined up with the milling of the seal.
 Insert the rotary part of the seal (08) into the rotor (21); to this end, manually press the rotary part of the seal using a plastic, PVC, PTFE buffer on the part that is in contact with the polished surface. See illustration. 7.1.

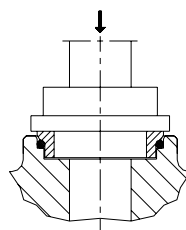


Fig. 7.1

CAUTION! When placing the new seal, take care to assemble the parts and seals using soapy water to ensure that these slide over each other, including the stationary part and the rotary part.

Insert the rotor (21) over the shaft (05) lining up the fittings of the rotor and shaft.
Place the seal (80C) on the nut (45) and screw the nut onto the shaft (05) while preventing the pulleys from turning.
Fasten the setbolts of the rotary part of the seal (08).

7.5.3 PTFE retainer for 875X-892X

⇒ Disassembly

Remove the cooled flange (10) from the support by taking out the Allen screws (51 in 875X and 51C in 892X) from the housing-side leg (07A).
Remove the O-ring (80^a) and PTFE retainer (88^a) from their housing using a plastic hammer.
Remove the connectors (92 and 92A).

CAUTION! Before fitting the retainer, check that the surface in the area of the mixer shaft (05) has a ground finish.

⇐ Assembly

Place the connectors (92 and 92A) and the O-ring (80B) on the cooled flange (10).
Place the lip retainer (88^a) on the cooled flange (10) ensuring that the lip is correctly positioned. See fig. 7.2

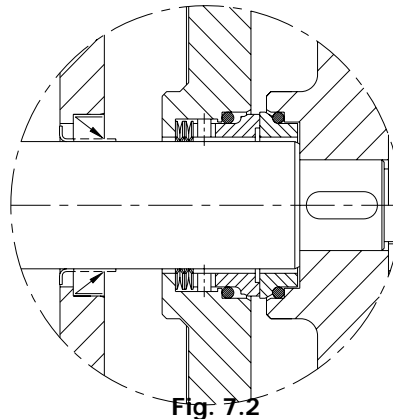


Fig. 7.2

Attach the cooled flange (10) to the support (06) using Allen screws (51 in 875X and 51C in 892X).

7.5.4 875X-892X belts

⇒ Disassembly

Unscrew the belt protection (48).
Loosen the screw from the slide rail (38A) to bring the drive (93) closer to the support and be able to remove the belts (105).
Remove the pulleys from the drive (104A) and the mixer (104).

⇐ Assembly

Place the pulley (104A) into the drive (93) and fasten tightly the Allen screws with the Taper lock (according to the torque stated by the manufacturer, then fit the pulley (104) to the mixer shaft (05), mount the belts onto the pulleys by reducing the distance between the motor shaft and the mixer - the drive shafts and mixer shafts must be parallel and the pulleys aligned by their faces (use a stiff steel ruler to check) - fasten tightly the taper lock of the pulley (104A), tighten the belts using the screws of the slide rail (38A) and check alignment.

CAUTION! It is essential that the pulleys be perfectly aligned; otherwise, the side faces of the belts will suffer from wear.

8. Technical Specifications

8.1 TECHNICAL SPECIFICATIONS

	ME-875X	ME-892X
Maximum output.....	3 m ³ /h *	8m ³ /h *
Maximum differential pressure.....	1 bar (14.5 PSI)	1 bar (14.5 PSI)
Maximum suction pressure	3 bar (43.5 PSI)	3 bar (43.5 PSI)
Operating temperature	-10°C to +100°C (EPDM) 57°F to 212°F (EPDM)	-10°C to +100°C (EPDM) 57°F to 212°F (EPDM)
Maximum speed.....	12,000 min ⁻¹ *	6000 min ⁻¹ *
Suction / delivery connections	Clamp (standard)	Clamp (standard)

* These values are presented as a guideline and will vary according to the product. Check with the Technical Dept.



Use special protection when the noise level in the operation area exceeds 85 dB(A).

Materials

Parts in contact with the product	AISI 316L
Other parts in stainless steel	AISI 304
Seals in contact with the product	EPDM (standard)
Other materials for optional gaskets	Check with the supplier
Surface finish	Standard polishing

Mechanical seal

Type of seal Single interior seal

Cooled mechanical seal

Maximum pressure..... 0.5 bar (7.2 PSI)
Consumption 2.5-5 l/min

Mechanical seal materials	Type of mechanical seal
	Single interior
Stationary part	Graphite
Rotary part	Silicon carbide

Motor

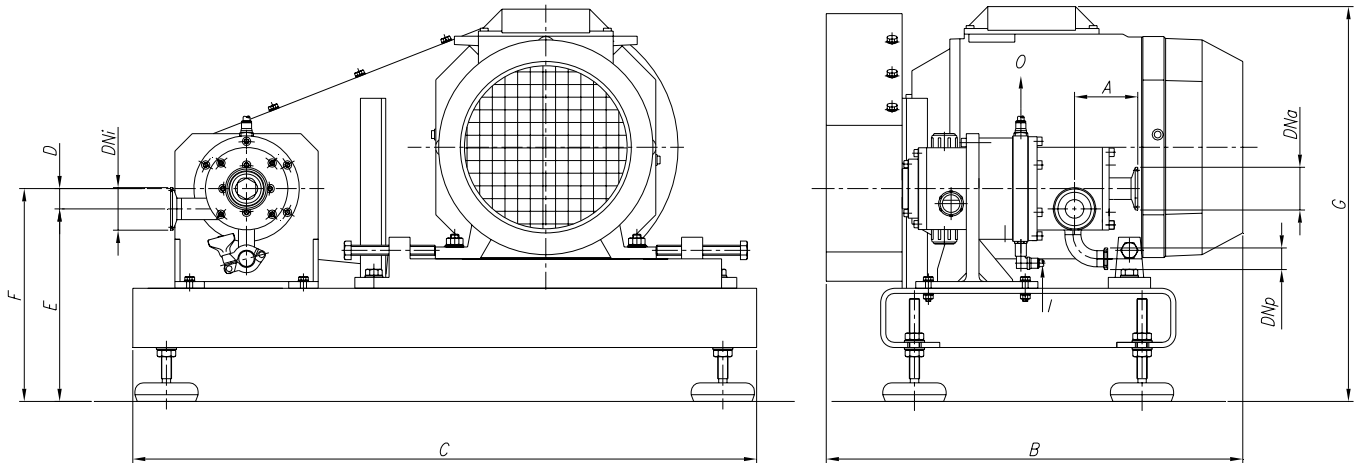
Motor according to IEC B3 standards (feet)
2 poles (2900/3500 min⁻¹ at 50/60 Hz)
Shield IP55
Connection 3~, 50Hz, 380-420VΔ/660-690VY

8.2 WEIGHTS

Mixer	Power [kW]	Speed [min ⁻¹]	Weight [Kg]
ME-875X	7.5	2900	134
ME-892X	9.2	2900	120

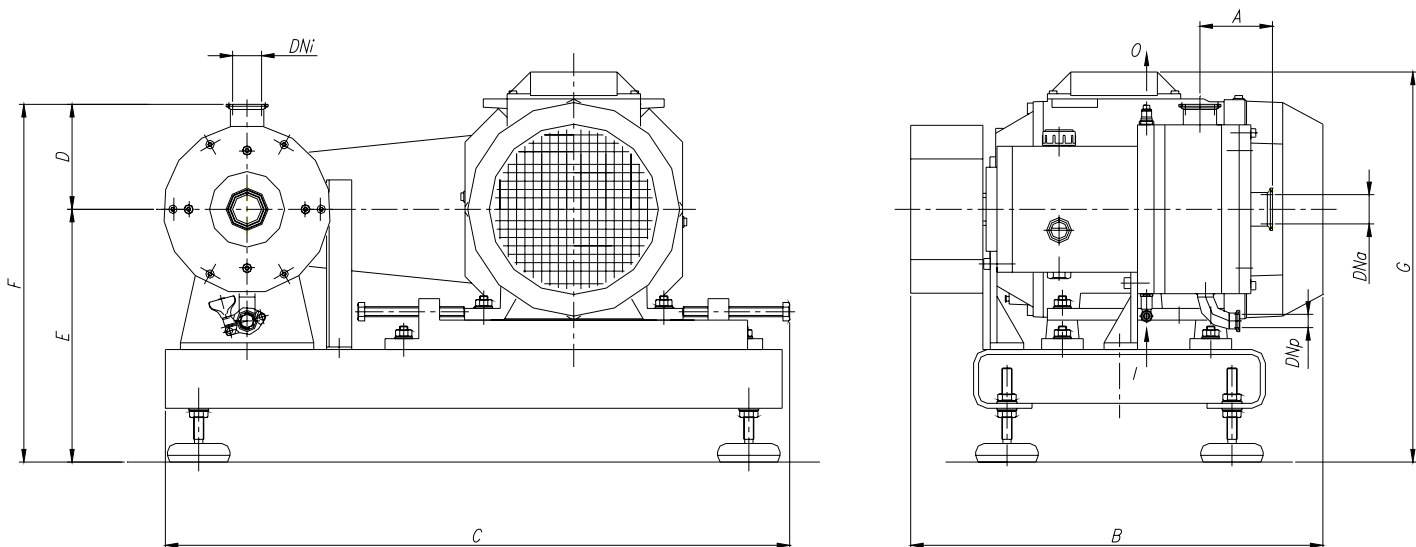
8.3 DIMENSIONS

8.3.1 ME-875X MIXER DIMENSIONS



TYPE	DNa	DNi	DNp	A	B	C	D	E	F	G
ME-875X	1"	1"	3/4"	75	494	740	24	228	252	467.5

8.3.2 ME-892X MIXER DIMENSIONS



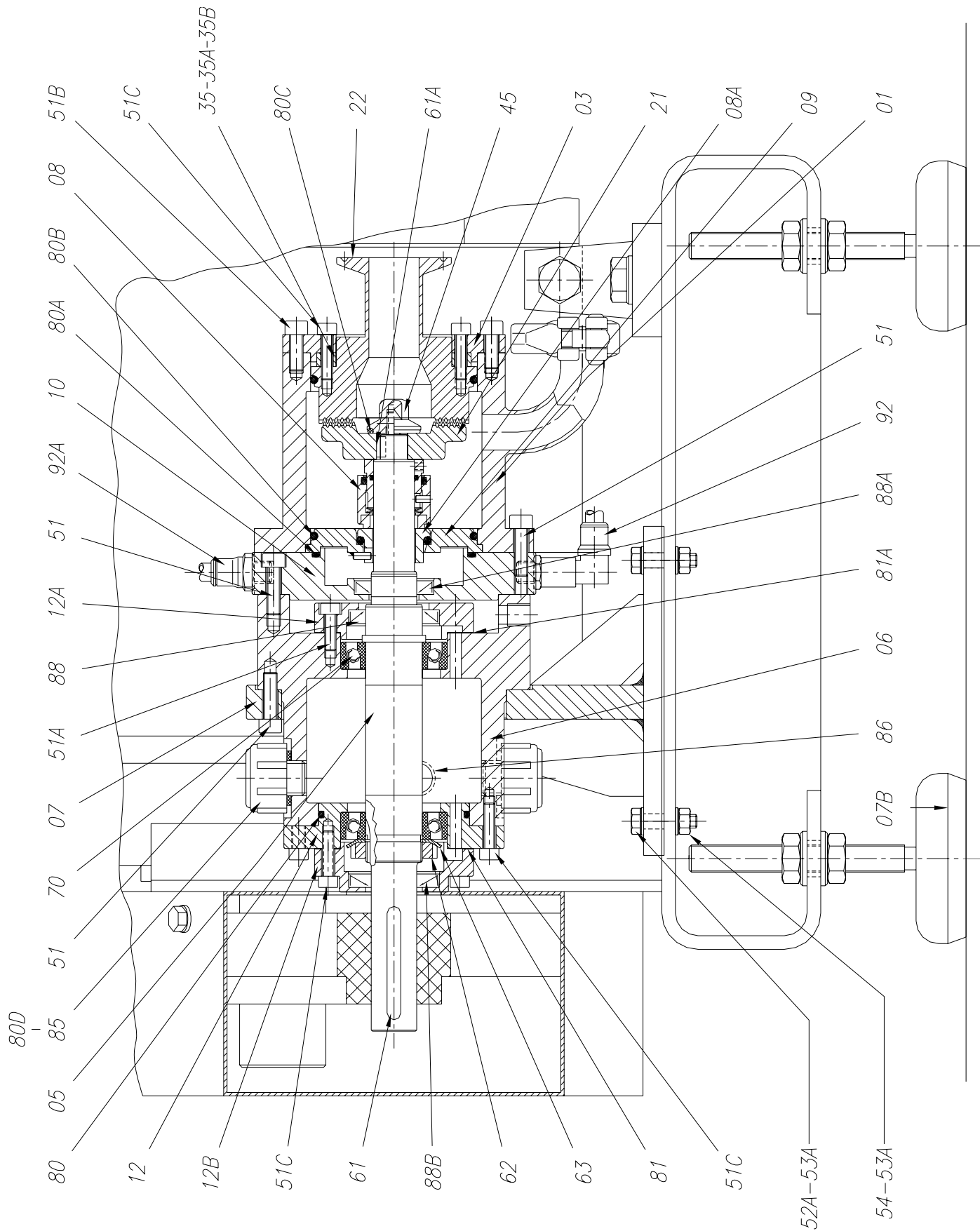
TYPE	DNa	DNi	DNp	A	B	C	D	E	F	G
ME-892X	1 1/2"	1 1/2"	3/4"	87	500	750	125	300	425	465

Dimensions with CLAMP connections

I = coolant inlet (8x6 pipe)

O = coolant outlet (8x6 pipe)

8.5 ME-875X MIXER CROSS-SECTION

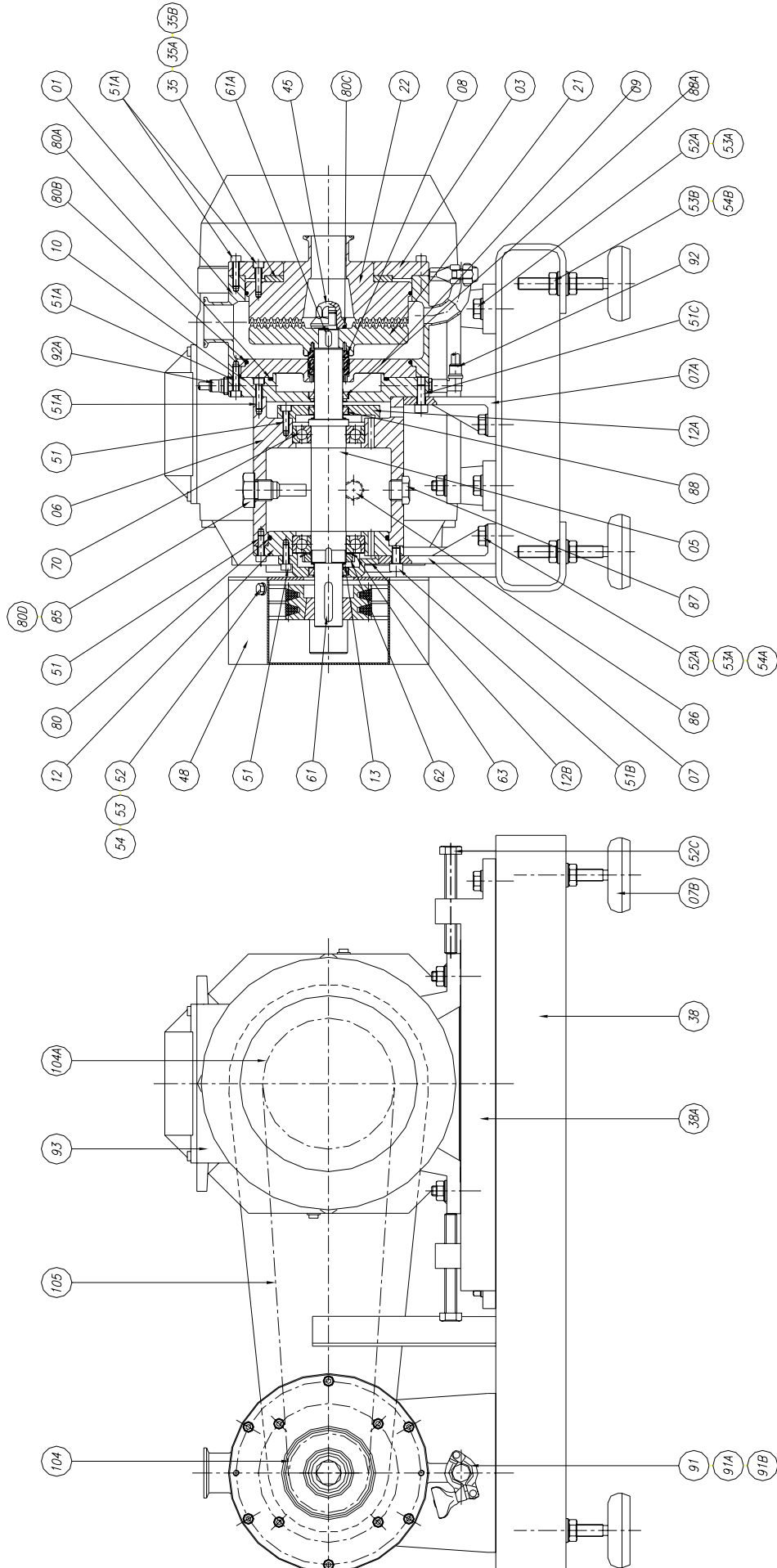


8.6 ME-875X MIXER PARTS LIST

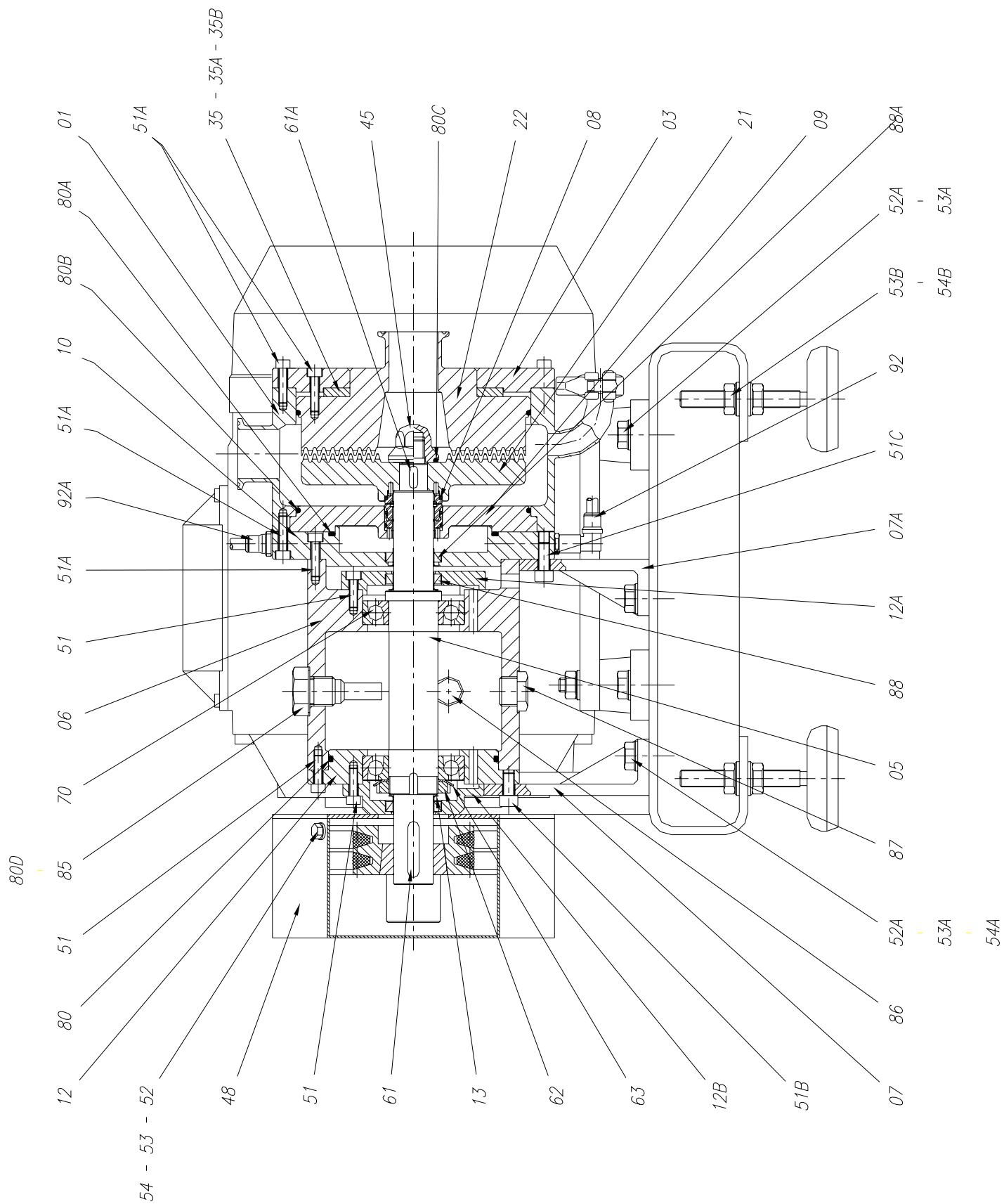
Position	Description	Quantity	Material
01	Housing	1	AISI 316L
03	Body cap	1	AISI 316L
05	Shaft	1	AISI 316L
06	Bearing support	1	AISI 304
07	Housing leg	1	AISI 304
07B	Non-vibratory foot	4	-
08	Mechanical seal	1	Graph/silicon/EPDM
09	Seal cover	1	AISI 316L
10	Seal cooling flange	1	AISI 316
12	Bearing casing	1	AISI 304
12A	Front bearing cover	1	AISI 304
12B	Rear bearing cover	1	AISI 304
21	Rotor	1	AISI 316L
22	Stator	1	AISI-316L
35	0.3 spacer washer	1	AISI -304
35A	0.45 spacer washer	1	AISI-304
35B	0.6 spacer washer	1	AISI -304
38	Baseplate	1	AISI -304
38A	Slide rail	2	GG-18
45	Cap nut	1	AISI -316
48	Pulley protection	1	AISI -316
51	Allen screw	14	A-2
51A	Allen screw	22	A-2
51B	Allen screw	3	A-2
51C	Allen screw	3	A-2
52	Hexagonal screw	6	A-2
52A	Hexagonal screw	4	A-2
53	Flat washer	6	A-2
53A	Flat washer	8	A-2
54	Nut	4	A-2
61	Key	1	AISI -304
61A	Key	1	AISI -304
62	Safety nut	1	Steel
63	Safety washer	1	Steel
70	Bearings	2	Steel
80	O-ring	1	Viton
80A	O-ring	1	Viton
80B	O-ring	2	EPDM
80C	O-ring	1	EPDM
81	Paper seal	1	Paper
81A	Paper seal	1	Paper
85	Oil stopper	1	AISI 303
86	Sight-glass	1	Plastic
87	Oil stopper	1	Plastic
88	Retainer	2	FPM

Position	Description	Quantity	Material
88A	Retainer	1	FPM
88B	Retainer	1	PTF
91	Clamp	1	AISI -316
91A	Clamp gasket	1	EPDM
91B	Clamp blind bushing	1	AISI 316
92	Elbow connector	1	AISI 316
92A	Connector	1	AISI 316
93	Motor	1	-
104	Driven pulley	1	GG-18
104A	Driven pulley	1	GG-18
105	Belts	1	-

8.7 CROSS-SECTION WITH ME-892X MIXER BASEPLATE



8.8 ME-892X MIXER CROSS-SECTION



8.9 ME-892X MIXER PARTS LIST

Position	Description	Quantity	Material
01	Housing	1	AISI 316L
03	Body cap	1	AISI 316L
05	Shaft	1	AISI 316L
06	Bearing support	1	AISI 304
07	Motor-side leg	1	AISI 304
07A	Housing-side leg	1	AISI 304
07B	Non-vibratory foot	4	-
08	Mechanical seal	1	Graph/silicon/EPDM
09	Seal cover	1	AISI 316L
10	Seal cooling flange	1	AISI 316
12	Bearing casing	1	AISI 304
12A	Front bearing cover	1	AISI 304
12B	Rear bearing cover	1	AISI 304
13	Speedi-Sleeve	3	AISI 304
21	Rotor	1	AISI 316L
22	Stator	1	AISI-316L
35	0.5 spacer washer	1	AISI -304
35A	1 spacer washer	1	AISI-304
35B	1.5 spacer washer	1	AISI -304
38	Baseplate	1	AISI -304
38A	Slide rail	2	GG-18
45	Cap nut	1	AISI -316
48	Pulley protection	1	AISI -316
51	Allen screw	14	A-2
51A	Allen screw	22	A-2
51B	Allen screw	3	A-2
51C	Allen screw	3	A-2
61	Key	1	AISI -304
61A	Key	1	AISI -304
62	Safety nut	1	Steel
63	Safety washer	1	Steel
70	Bearings	2	Steel
80	O-ring	1	Viton
80A	O-ring	1	Viton
80B	O-ring	2	EPDM
80C	O-ring	1	EPDM
80D	O-ring	1	EPDM
85	Oil stopper	1	AISI 303
86	Sight-glass	1	Plastic
87	Oil stopper	1	Plastic
88	Retainer	2	Viton
88A	Retainer	1	PTFE
91	Clamp	1	AISI -316
91A	Clamp gasket	1	EPDM
91B	Clamp blind bushing	1	AISI 316

Position	Description	Quantity	Material
92	Elbow connector	1	AISI 316
92A	Connector	1	AISI 316
93	Motor	1	-
104	Driven pulley	1	GG-18
104A	Driven pulley	1	GG-18
105	Belts	1	-

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