

FIM

INLINE MIXER

USER'S MANUAL



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1. GENERAL INFORMATION

a.IDENTIFICATION

The mixer is identified by means of plate stating its characteristics attached on the mixer. See Figure 1.1

FLUSSMANN		CE					
Year	<input type="text"/>						
Model	<input type="text"/>		N°	<input type="text"/>			
kW	<input type="text"/>	min ⁻¹	<input type="text"/>	V	<input type="text"/>	Hz	<input type="text"/>
Qm ³ /h	<input type="text"/>	Hm	<input type="text"/>	Ø IMPELLER	<input type="text"/>		

Figure 1.1 Plate of Mixer

Example _____ :

Head assembly

FIM 30-011

→ **Flussmann In-line Mixer**
→ **Size.**

30-011
30-040
30-075
30-185
15-220

b.DESRIPTION

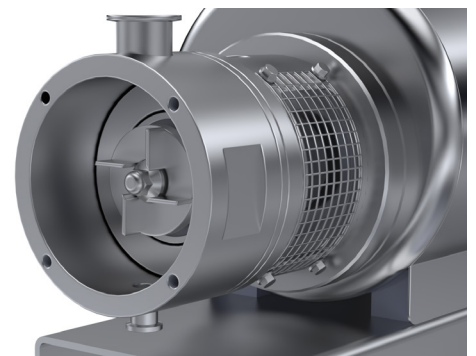
FIM In-line Mixers are compactly built, axially exhausting and radially impelling, while the connections are of the sanitary type. The mixer casing, the rotor and the stator are all mechanised. All of the parts that come into contact with the product are made of stainless steel.

c.OPERATING PRINCIPLE

Head suction is produced by the intake mouth. The impeller pushes the product towards the stator, where it is sheared. The product is radially discharged through the stator holes at great speed. Strong circulation is provoked under the surface.

d.APPLICATION

Flussmann In-line mixers are ideal for processes that require particle reduction, dissolution, dispersion and emulsion. Given its sanitary design, these Mixers are ideal for such demanding industries as the cosmetic, food and pharmaceutical sectors. They can also be used in other ones such as the adhesive, chemical, paints, and plastics industries.



2. MAINTENANCE

a. GENERAL MAINTENANCE

This mixer, as with any other machine, needs to be maintained. The instructions contained in this manual deal with the identification and replacement of the spare parts. These instructions have been drawn up by maintenance staff and are destined for those people who are responsible for supplying spare parts.



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



ALWAYS disconnect the mixer before starting on any maintenance.

b. RECOMMENDED SEAL MAINTENANCE

Visually inspect mechanical seal daily for leakage. Replace mechanical seal annually under normal duty. Replace mechanical seal as often as required under heavy duty.

c. RECOMMENDED ELASTOMER MAINTENANCE

Inspect all elastomers when performing pump maintenance. We recommend replacing elastomers (O-rings and gaskets) during seal, pump shaft and/or motor replacement.

d. RECOMMENDED SHAFT MAINTENANCE

Inspect the pump shaft and collar annually for wear. Inspect the shaft collar bolt(s) annually or more often in corrosive environments.

e. CLEANING

Flussmann In-line mixer is designed for CIP (clean-in place) cleaning. It is not necessary to disassemble the blender for cleaning in most applications. For sticky products the blender should be rinsed after the process is complete to prevent the blender components from sticking together and causing damage.



Control the concentration of the cleaning solutions to avoid deterioration of the mixer seals.

3. ASSEMBLY AND DISASSEMBLY

a. MIXER, CASING AND STATOR

Disassembly

Remove the mixer from its location.

Clean and dry the Mixer.

Loosen the nuts, which will enable you to take off the cover, as well as remove the mixer casing and the seal. By loosening the screws it will be possible to take the stator from the cover and take out the seals.

Assembly

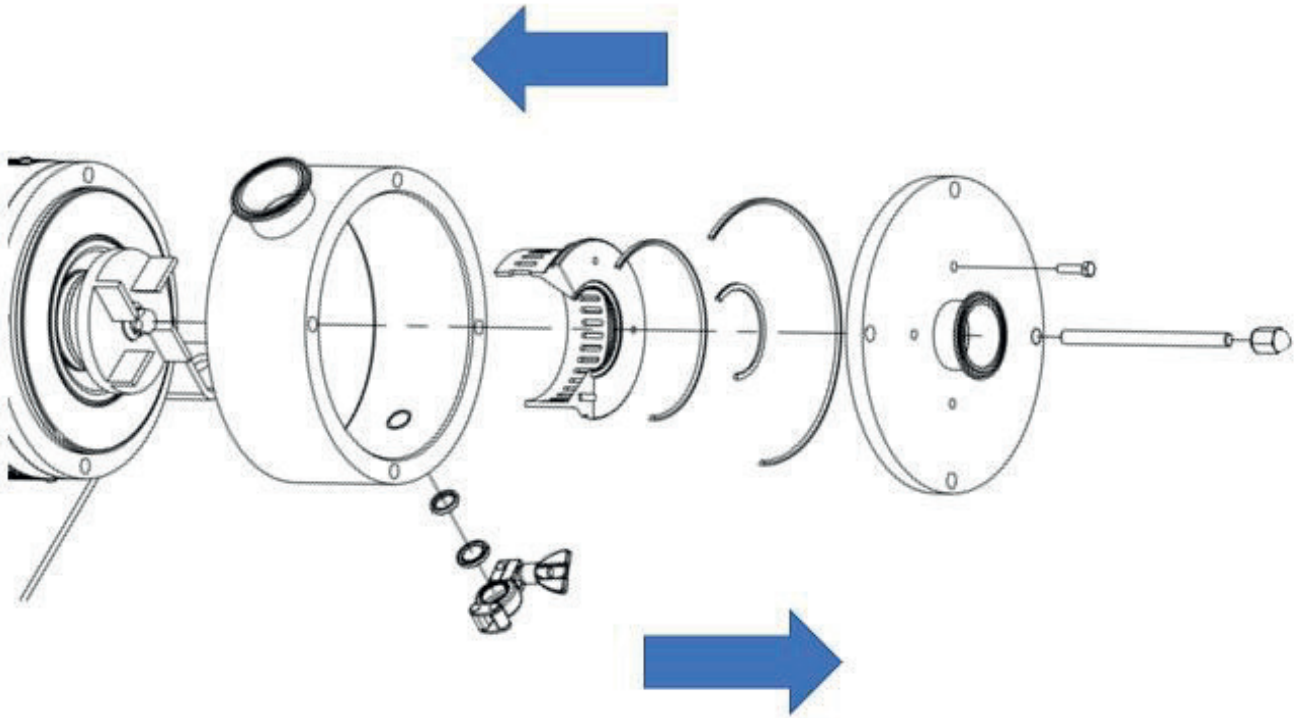
Position seals in their positions on the stator.

Fit the stator onto the cover and secure by means of the corresponding screws.

Position the seals in the covers and fit the latter into the mixer casing onto the tie rods, after having screwed same to the lantern.

Secure the parts with nuts.

Fit the mixer in position.



b.SINGLE MECHANICAL SEAL

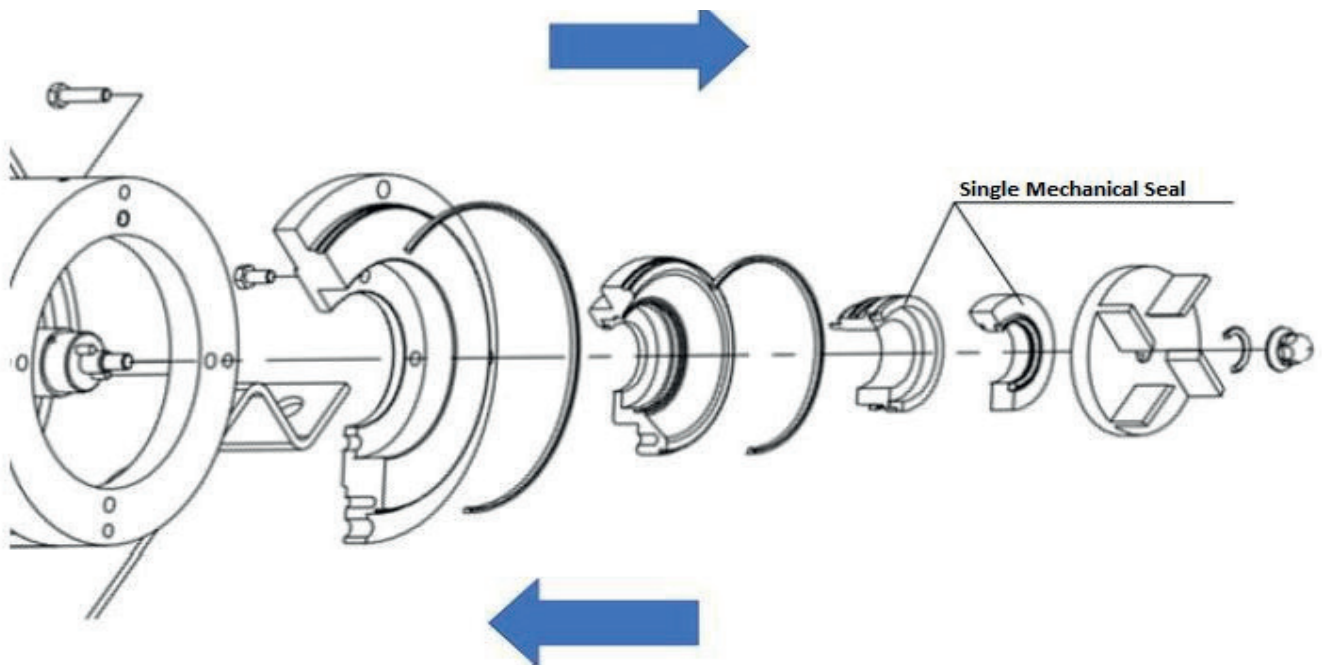
Disassembly

Remove the nut and take it out along with the seal , which will enable it to take out the impeller and the mechanical seal.

Take out the protectors removing the screws.

Take out the screws and washers then remove the cover along with the box.

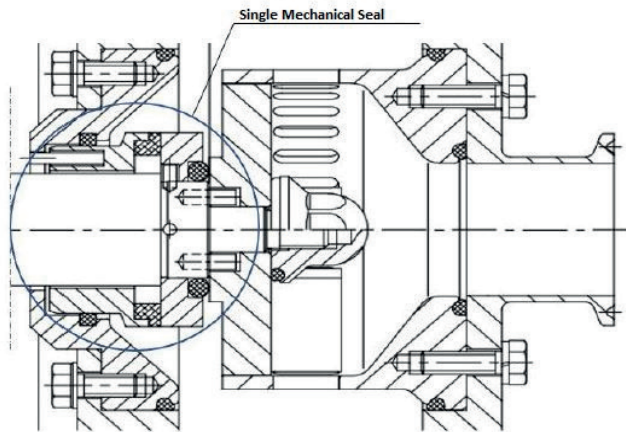
Take out the screws and the washers , which will enable the removal of the box from the cover and the seal.



Assembly

Fit the box onto the cover and the seals, securing both parts by means of the screws. Secure the cover-box assembly in the lantern by means of the corresponding screws. Fit the fixed part of the seal in the box lantern, taking the spindle into account.

Make sure that the assembly or fitting measurement is the one that is given below:



Slide the rotating part of the mechanical seal along the shaft facing the slot to the spindle until coming to the end of same.

Then position the impeller on the shaft. Position the Seal and strongly tighten the nut by means of a spanner.

c.SHAFT, LANTERN AND MOTOR

Disassembly

Take off the shroud by removing the screws that hold it in place.

Take out the screws and washers, which secure the lantern to the motor. This it will be possible to take the shield from the shroud. Remove the splash ring.

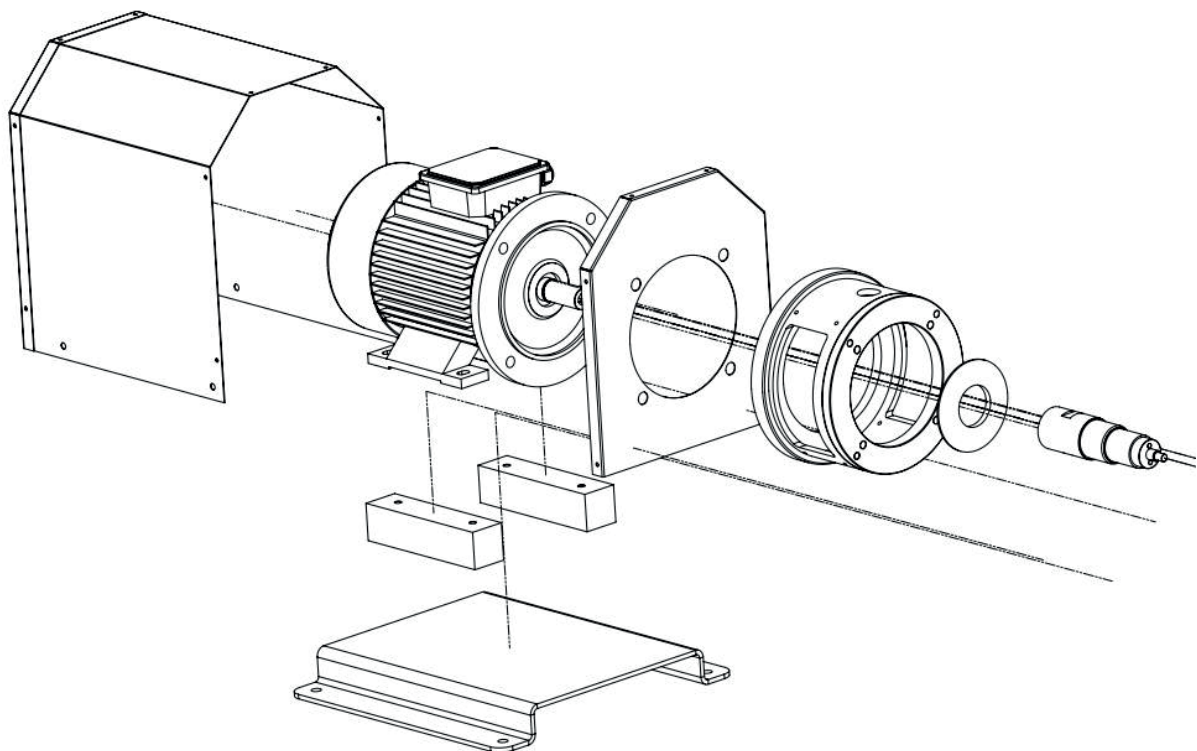
Loosen the setscrews in order to take out the shaft and remove the motor from the base plate taking out the screws.

Assembly

Place the motor onto the base plate and secure it by means of the screws.

Put the mixer shaft in until it meets the motor shaft and secure them by means of the allen setscrews. Then fit the splash ring onto the shaft.

Place the shroud shield in the motor ridge. Secure the parts by means of the screws and washers. Fit the shroud over the shield and secure with corresponding screws.



4. TECHNICAL SPECIFICATION

a. TECHNICAL SPECIFICATION

Max Flow Rate	65 m ³ /h
Max Suction Pressure	4 bar
Max Differential Pressure	1 bar
Max Viscosity	1000 mPa.s.
Max Speed	3000 rpm (50Hz) / 3600 rpm (60Hz)
Noise Level	60-80 db(A)
Suction/Discharge Connection	Clamp-ISO 2852

b. MATERIALS

Parts in contact with the product	AISI 316L
Other parts in stainless steel	AISI 304
Standard Seal	EPDM
Other Optional Seal Materials	Consult your supplier
Surface finish	Standard finish

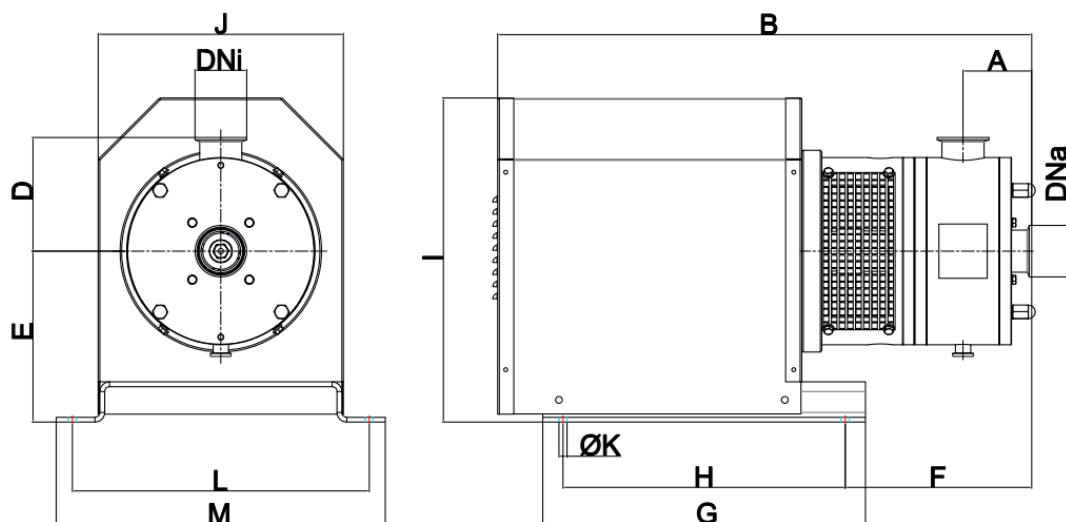
c. TYPE OF MECHANICAL SEAL

Mechanical Seal Type	Mechanical Seal Material
Stationary Part	Carbon
Rotary Part	Silicon Carbide
For other type of mechanical seal, please consult your supplier.	

d. WEIGHTS

Mixer	Power [kw]	Speed [rpm]	Weight [kg]
FIM-30-011	1.1	3000	51
FIM-30-040	4	3000	91
FIM-30-075	7.5	3000	121
FIM-30-185	18.5	3000	242
FIM-15-220	22	3000	316

e. FIM MIXER DIMENSION



TYPE	DNa	DNi	A	B	D	E	F	G	H	I	ØJ	ØK	L	M
FIM-30-011	1 1/2"	1 1/2"	70	595	114	175	190	230	325	355	290	15	245	285
FIM-30-040	2"	2"	86	700	140	232	256	300	400	445	350	19	355	410
FIM-30-075	2 1/2"	2 1/2"		850		252	253	350	450	490	400			
FIM-30-185	3"	2 1/2"	98	1080	175	310	227	600	700	615	500		465	520
FIM-15-220	4"	3"	109	1115	204	269								

f.PART LIST OF FIM MIXER

Position	Part Name	Material	QTY.
1	MOTOR	-	1
2	MOTOR FOOT	AISI-304	2
3	ENGINE CHASIS	AISI-304	1
4	WASHER	A-2	4
5	HEXAGON SOCKET HEAD BOLD	A-2	4
7	THARK SHAFT	AISI-316L	1
8	SETSKUR	A-2	1
9	ENGINE PROTECTION GASKET	EPDM	1
10	FRONT LANTEN	AISI-316L	1
12	HEXAGON SOCKET HEAD BOLD	A-2	4
13	HEXAGON SOCKET HEAD BOLD	A-2	4
14	INNER COVER	AISI-316L	1
16	ROTOR HOUSING	AISI-316L	1
18	MECHANICAL SEAL	-	1
19	ROTOR	AISI-316L	1
20	O-RING	EPDM	1
21	CRIMPING NUT	A-2	1
22	REAR LANTEN	AISI-316L	1
23	STUD	AISI-316L	4
24	FERULLE	AISI-316L	2
25	FERULLE	AISI-316L	1
26	STATOR	AISI-316L	1
27	O-RING	EPDM	2
28	REAR COVER	AISI-316L	1
30	HEX CORNER STUD NUT	A-2	4
31	WASHER	A-2	12
32	HEXAGON SOCKET HEAD BOLD	A-2	4
33	O-RING	EPDM	2
34	O-RING	EPDM	1
35	PERFORATED SHEET	AISI-304	2
36	HEXAGON SOCKET HEAD BOLD	AISI-304	8
37	PIN	AISI-316L	2
38	PIN	AISI-316L	1