

Operating Instructions

**coolant pump „JEXI STAR“
for eromobil er 230s and er 400t**



CHAP.1 MANUFACTURER AND ELECTRIC PUMP IDENTIFICATION DATA

1.1 Name and address of the manufacturer:

SEA LAND S.R.L.
VIA E. MATTEI, 25
I-35038 TORREGLIA (PD)
ITALY

1.2 Machine identification data

A) Description:

Peripheral electric pumps

B) Model:

"STAR GREEN" and "JEXI STAR"

C) Number of series and year of construction:

See plate on the electric pump.

CHAP.2 DESCRIPTION OF THE MACHINE

2.1 General description

The self-priming centrifugal electric pumps are very similar from the functional and constructive point of view, the only differences are the following:

-Voltage = V.

-Power = HP. or Kw

-Flow rate= $Q1/1'$

-Head = Hm

-Weight&dimensions= Kg; C D F (Chap.14.1).

2.2 Technical and constructive characteristics

The electric pumps of the Series STAR GREEN and JEXI STAR are designed according to the following construction standards:

A) Risks of mechanical nature (EN 292-1 and EN 292-2).

B) Risks of electric nature (EN 292-1 and EN 292-2, CEI 61-69).

C) Risks of various nature (CEE 89-392).

The electric components and their circuits installed on the electric pumps comply with CEI 44-5 standards.

CHAP.3 GENERAL SAFETY WARNINGS

ATTENTION. SEA LAND S.R.L. declines all responsibilities in case of accidents to persons, animals and in case of any damage caused to things or to the electric pump for any tampering with the electric pump. This will render the guarantee invalid.

3.1 Preventive measures to be taken by the user

A) The user must absolutely comply with all accident-prevention regulations in force in the country in which the pump is being used, and he must follow scrupulously all indications given in the following chapters.

B) Remember to remove the plug from the socket and/or switch off the switch (if provided), thus interrupting the supply of electric power to the pump, during electric pumps repairs or maintenance.

C) Avoid moving or shifting the electric pump when it is working.

D) Before using the electric pump, always check that the cable and the electric devices are efficient.

E) Never start the electric pump with wet hands, bare feet or worse with your feet in the water.

F) The electric pumps made by SEA LAND S.R.L. are

built in order to protect all moving parts with covers. When the electric pump is working, do not remove these parts.

G) The main switch in which the electric pump is connected must absolutely be far from water jets, rain, other liquids and all atmospherical agents.

CHAP.4 CONTEMPLATED AND NOT CONTEMPLATED USE

4.1 Contemplated use

The electric pumps of the Series STAR GREEN and JEXI STAR have been designed to pump clear waters up to a depth of 8-9 meters at the maximum temperature of 40°C. They also operate in the presence of water mixed with gas. They may be used to irrigate and water gardens, to increase the water pressure of aqueducts, to empty tanks and reservoirs, and for water jets washing.

4.2 Not contemplated use

All uses not mentioned in 4.1 are forbidden, anyway it is advisable not to use the electric pump for the following uses:

A) Pumping sea-water, dirty water or water with suspended bodies, sand, water containing acids and corrosive liquids in general.

B) Pumping water or other liquids with temperatures higher than those contemplated.

C) Pumping alimentary liquids.

D) Pumping inflammable and dangerous liquids.

CHAP.5 HANDLING AND TRANSPORT

5.1 Unpacking

Check that there are no breakages in the package, otherwise remove the electric pump from the package and verify that it has not suffered any damage during the transport. In case of damage, inform the dealer within and not after 8 days from delivery.

ATTENTION: before installing and using the electric pump, check that the characteristics stated on the plate correspond to those that you required in your order.

5.2 Handling, disinstalling and transport

The reduced dimensions and the weight of the electric pump will not give any particular problems. To handle or disinstall the electric pump you must absolutely:

A) Remove the plug from the main switch.

B) Remove the delivery and suction hoses.

C) Unscrew the screws that anchor the electric pump.

D) Roll up the electric power cable and hold it in your hand.

E) Avoid to transport or drag the electric pump by the feeding cable.

CHAP.6 PREPARATION FOR USE

6.1 Scheme for the electric connection

A) If the electric pump is not furnished with cable and plug, make the connection to the board following the scheme (see fig. n. 1).

Very Important: for connection to the power mains, use a cable complying with IEC standards, with a suitable section, bearing in mind the installed power and the length. The plug must have an earth contact.

6.2 Electric connection

Before connecting the electric pump to the feeding panel, check that the power station is adapted to support the uses required by the motor (see the data on the plate). It is also very important that the power station has an earth connection and that it is provided with a high-intensity differential switch with a minimum protection of 30 mA DIN approved. The pumps are furnished with cable and plug and they must be connected to a main switch adapted to SHUKO plug, with a double connection to earth. You mustn't cut and/or substitute the plug, you can buy a suitable adaptor which can be easily found in commerce.

6.3 Checking of the use and start up

Before installing the electric pump you must check that the rotating parts turn freely. Then, paying attention that all electric connections are very well sealed, start the electric pump and watching the cooling fan set on the back of the motor, verify that the rotation sense is the one indicated by the arrow marked on the pump body (Fig. n. 2).

CHAP.7 INSTALLATION

Your electric pump is an electric machine and it must be set under cover from foul weather (sun, rain, snow, etc.), it must not be exposed to water jets, and it must be in an aired place.

7.1 Placement

The electric pump must be placed on a level surface. When positioning it, observe the minimum required distances from the walls, so as to allow functioning, use and maintenance operations in safe conditions. It is important that the electric pump is placed as near as possible to the source of water (max. distance 6 m) (Fig. n. 3).

7.2 Installation

- A) If you use suction flexible hoses or suction delivery hoses, avoid twisting them in order not to cause any counterslopes.
- B) Use pipes with a suitable diameter fitted with threaded couplings and fitted with the connections of the pump hoses.
- C) If you use a suction hose longer than 4 mt, it should have a greater diameter, and it is necessary to use a valve with a filter.

CHAP.8 USE AND START UP

8.1 Starting

- A) First of all check that the electric connections are well sealed, that the feeding cable has not been damaged during the installation, then close the delivery gate valve.
- B) Fill the pump with a funnel (remove the cork, fig. n. 4). When the pump body and the suction hose are

completely filled up, close the hole perfectly (fig. 4).

- C) Insert the plug in the main switch or switch the feeding switch on. Remember to pay attention at what is written on chap.3.1 before starting this operation.
- D) When the electric pump starts to work, gradually open the foot valve which is on the delivery hose.

8.2 Important warnings

- A) Avoid to start the pump without water inside the pump body.
- B) Prolonged operations of the electric pump with the gate valve on the delivery hose closed may cause damages.
- C) If there is an interruption of the power supply, it is advisable to switch off the pump.

8.3 Stopping

- A) First of all close the gate valve on delivery before switching off the pump to prevent overpressures in the pipes, and then switch off the pump.
- B) When the electric pump is to remain inactive for a long period, it is advisable to empty it completely and wash it out with clean water.

ATTENTION:

This operation must always be performed when there is a risk of frost.

CHAP.9 ASSEMBLY AND DISASSEMBLY

The electric pump has no separate accessories, so no assembly is required for installation. If the electric pump is to be disassembled, the user must apply to the dealer or to the assistance service (see chap.10.2).

CHAP.10 MAINTENANCE AND REPAIRS

10.1 ATTENTION:

before carrying out any maintenance operations, disconnect the plug and /or switch off. The inner part of the switch does not need any particular maintenance, so it is not necessary to dismantel the pump. It is very important that the suction and delivery parts are always kept clear.

10.2 Troubleshooting

FAULTS	CAUSES	REMEDIES
The pump does not work	1) No mains voltage 2) Blocked Shaft	1) Check the voltage and/or the plug 2) Unplug the pump, disassemble and with a screwdriver rotate the shaft and clean the pump.
The pump works but does not deliver	1) Air in the pumps housing. 2) Air bubbles in the suction pipe.	1) Unscrew the cap when the pump is still working and get the air out completely from the pump body, then fix the tap again. 2) Verify that the suction pipe is tightly fixed and sealed to the pump, and that it is completely immersed in water. Pay attention at the max. height of suction.
Thermal overload protector switches off the pump.	1) The voltage does not correspond to the indications shown on the plate. 2) A solid object has blocked the impeller. 3) The pump has run dry or the discharge tap has been closed for more than 15'.	1) Check the tension. 2) Take the suction hose off, then remove the object. 3) Cool the pump and start it up again paying attention that the mechanical seal has not been damaged.

Before using the pump again if you have not used it for a long time, it is advisable to verify if the shaft rotates by inserting a screwdriver on the shaft (Fig. 2).

CHAP.11 MECHANICAL RISKS

11.1 Mechanical parts subject to wear and tear

- A) The mechanical seal (Fig. 17) can be worn out even after a short period, particularly if some abrasive liquids have been pumped. This part has to be substituted although it has been set up for an inspection.
- B) Bearings (Fig. 8)
- C) Impellers (Fig. 16)

ATTENTION: The above mentioned spare parts have to be substituted only by qualified technicians and only original spare parts have to be used.

11.2 Risks due to extreme temperatures

- A) Remember that at a low temperature (below 0°C) the liquid inside the electric pump may freeze. This is very dangerous for all the parts of the electric pump, and it can cause serious damages to the pump too.
- B) A temperature higher than 45° C may be dangerous for the pump if it is exposed to the sun and if it is not aired. In these cases it is advisable to check that there has not been any dilatation of the components which cover the motor (fan cover and fan board)

CHAP.12 TECHNICAL DOCUMENTS OF THE ELECTRIC PUMP

- A) Motor Technical Data
Closed autoventilated motor; two poles; protection

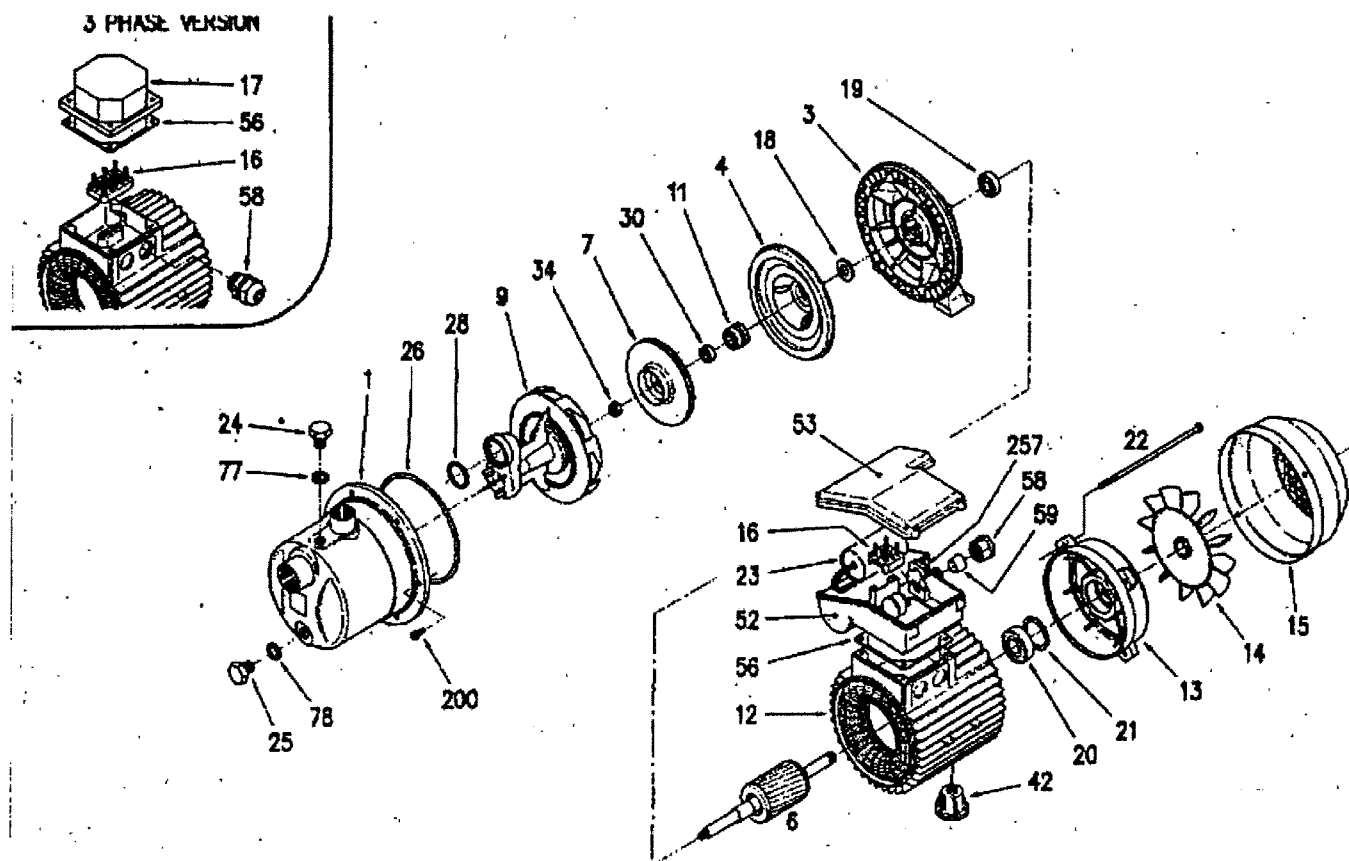
IP 54; Insulation class F. Single-phase Version with incorporated motor protector, capacitor permanently connected. Three-phase Version: protection to care of the user. CONTINUOUS OPERATION.

- B) Pump Technical Data, STAR GREEN Series.
Pump body : CAST IRON G 25
Motor Bracket: CAST IRON G 25
(aluminium with mechanical seal back flange made of noryl for the JA Version).
Impeller : NORYL (or brass).
Shaft: STAINLESS STEEL.
Mechanical seal: CARBON CERAMICS.
Pump Technical Data, JEXI STAR Series
Pump body : STAINLESS STEEL AISI 304
Mechanical seal back plate: STAINLESS STEEL AISI 304
Impeller: STAINLESS STEEL AISI 304
Shaft: STAINLESS STEEL AISI 304
Mechanical seal: CARBON CERAMIC

Attention: for the data regarding the characteristics of the pump and the motor, see chap. 14 at the end of the handbook.

CHAP.13 INFORMATION ON AIR NOISE

The weighted sound pressure level A produced by the electric pump does not exceed the value of 70 dB (A) if the pump is working with liquids inside the pump body.



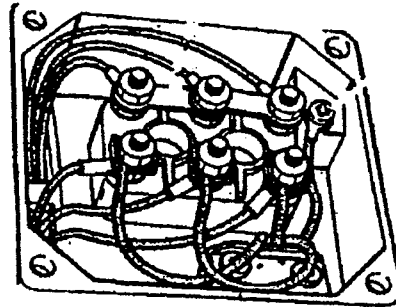
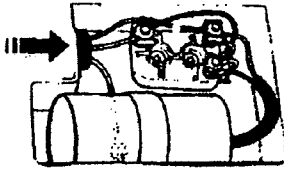
No.	description	art.-no.
1	- pump housing	
3	- pump skirt	
4	- pressure plate	9504338
6	- rotor	
7	- impeller with nut (Nr. 34)	9503417
9	- injector with diffusor and seal (Nr. 28)	9503415
11	- mechanical seal	9503418
12	- stator	
13	- bearing bracket	
14	- fan vane	9504515
15	- fan cover	
16	- connection	
17	- cover vox 400V	
18	- ring	9504337
19	- ball bearing	
20	- ball bearing	
21	- compensating disc	
22	- tension bolt	

No.	description	art.-no.
23	- condenser	
24	- lock screw	9504669
25	- lock screw	9504669
26	- O-ring housing seal	9503414
28	- seal for injector with diffusor	cont. in 9503415
30	- spacer ring	9503419
34	- nut for impeller	cont. in 9503795
42	- steel outrigger	
52	- terminal box	
53	- cover for terminal box	
56	- blinding for terminal box	
58	- cable connection	
59	- rubber ring for cable connection	
77	- blinding for lock screw	cont. in 9504669
78	- blinding for lock screw	cont. in 9504669
200	- clamp bolt V2A	
257	- cable clamping	

ABB. / FIG. / ILL. / AFB. / ELK.

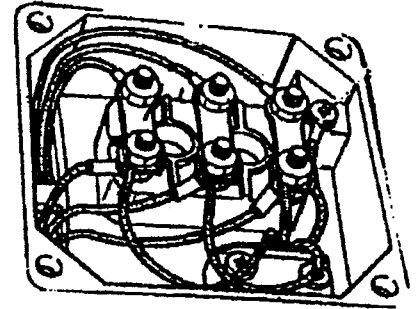
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1 Phase
220 + 240 V
1/50 Hz



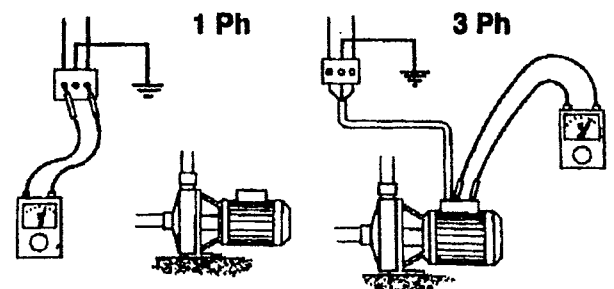
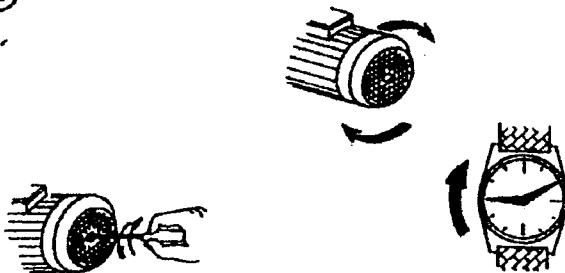
$\Delta = 380 + 415$

3 Phase
220 + 240 / 380 + 415 V
50 Hz

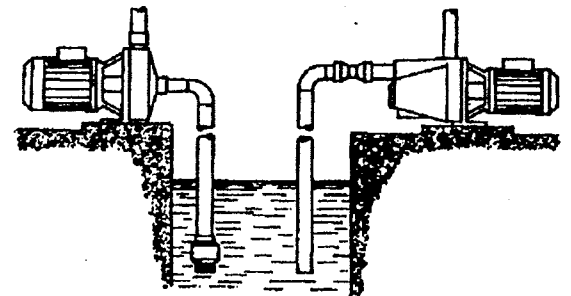
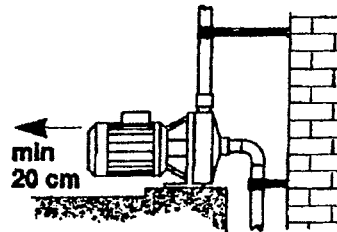
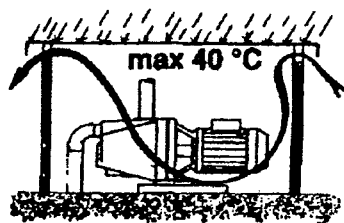


$\Delta = 220 + 240$

②



③



④

