



EXCELSIOR - SUPERLARIO SEMI-ROTATIVE HAND-PUMPS.

Use and maintenance manual

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1 INTRODUCTION.

This document contains important information about the safety, use and maintenance of Excelsior and Superlario pumps, this booklet has to be read before put into service the pumps and make available to all others future operators. Conserve this booklet carefully.

The pumps are built according with EEC 98/37 directives and following updates, so they don't have any risks if used according with the following instructions.

Gianneschi Pumps and Blowers declines all responsibility for an improper use of these pumps. Excelsior and Superlario pumps can not be modified or tampered. Improper use or actions carried out not in accordance with this manual can cause injuries to safety and health of people or damages on the machinery.

In case of anomalies, please contact Gianneschi Pumps and Blowers and report the following information:

- Your address and the place where the pump is placed
- Pump serial number
- Description of the anomalies
- Pump type and application
- Handled liquid

1.1. CONDITION OF USE.

These pumps is a hand operated, the delivery is made by the number of cycles of the operator pour minute, on these performances may be considered the type of liquid, its temperatures. the manometric head.

These pumps must be used with clean liquids in accordance with the following.

- Maximum static pressure in the pump casing: 4 bar
- Liquid temperature: from 4°C to +50°C
- Maximum suction depth: 7 Mt

1.2. PRELIMINARY INSPECTION.

After received the pump verify the package integrities and possible damage. Open the box an check the products integrity. Verify the correspondence between the transport document and the delivered products, in case of discordance contact the supplier.

1.3. HANDLING AND STORAGE.

When the pump will be not installed immediately, it has to be "re-packed" and placed in a suitable storage location. Points to be followed are:

- Place the pump in a covered, dry location which is free from vibrations
- If the pump is placed in a dusty atmosphere, a moisture repellent cover is necessary until the pump is installed.
- Keep away from extreme temperature.
- Move the handle periodically

2 INSTALLATION.

During the installation all regulations for safety and good practice must be followed.

The following points on installing and operating the pumps will ensure the best performance from the pumps:

- Make sure the pump is installed in a position where it is accessible for working and maintenance.
- When used on water, these pumps should always be drained in winter to avoid frost damage. Again, on water the standard¹ iron bodied pumps should be operated every day to prevent the build up of rust in the pump body.
- Fit suitable hose. We recommend spiral reinforced hose for both suction and delivery, when flexible hoses are required. Non reinforced tube on the suction side can collapse or kink in operation badly affecting the pump's performance. On the suction port, a steel suction tube is ideal.
- To obtain a good air tight connection, with PVC hoses, between the hose and pump, soften the hose ends in boiling water before fitting.
- Use good quality hose clips
- If possible mount the pump so that the discharge port is below the hose discharge point by at least 30 cm. This will ensure positive valve operation.
- Make sure that there is space for a full handle movement.
- The flow through the pump is in the direction of the arrow on the pump cover.
- Move the handle the full stroke- Short quick strokes will result in loss of output.
- A few strokes to start with so that the liquid is drawn up the suction hose will be necessary before any output is obtained.
- Routine maintenance is not required. However operating the pump periodically will help ensure that the valves operate freely, that there are not leakages and that the pump operates when required.
- When spare parts are required consult factory and quote correct description (part number, pump model, pump serial number, quantity required)
- On re-assembly of the pump make sure that the valve seats and faces are clean and valves move freely.
- To re-assemble the parts follow steps in reverse order of disassembly.
- When storage is necessary for a long time, to preserve packages from humidity or rain.
- The pump should be kept away from extreme of temperature.

2.1 SAFETY.

Caution, if there is any doubt about safety of the pump, do not use it. Failure to comply with the following instructions can result in personal injury or damage to the pump, experienced personnel is required for the following phases:

- Before installation, check that the hydraulic plant is in good condition for the good functioning of the pump
- Always observe the technical information
- Never put the fingers inside the port connections
- Always ensure that the pump has been isolated from the pump piping system and that there is no pressure contained within the pump before any maintenance is commenced.

3 MAINTENANCE.

Gianneschi Pumps and Blowers hand operated pumps and are designed to require minimum of maintenance.

The pump must be repaired only by competent or qualified personnel, using manufacturer's spares. If this procedure is not followed manufacturer declines any responsibility and warranty is invalid.

- If there is a risk of freezing, it is necessary to empty the pump casing, then fill the pump up before gets working again.
- If a filter and a foot valve are installed, check periodically their integrity and cleanliness
- Periodically move the handle.
- Disassembling the pump is a fairly complex operation and should only be undertaken by qualified personnel.

4. STARTING.

These pumps are operated by a left and right reciprocating motion achieved by a handle.

Internally there is a "wing" fitted with two valves, and at the lower half of the body is a suction divider that has a further two valves. The left and right motion of the handle causes the "wing" to wobble, causing alternate suction and discharge on the two sides of the pump. The resulting flow of liquid is nearly constant with a slight drop at the end of each stroke.

Pumps of this type can give up to 7 meters of lift if a foot-valve is fitted; this device is unnecessary when the lift is less than 2 meters.

Discharge pressure is up to 2.5 bar depending on the size of the pump.

During all operation of pumping move the handle completely covering all the size available

At the first will be necessary to make some pump without any result just to have fill the pump.

The flux of liquid is indicated by the arrow.

SPARE PARTS EXCELSIOR			
1	Pump Casing	15	Washer
2	Cover	16	Lock washer
3	Seal ring	17	Counter flanges
4	Shaft	18	Flange packing
5	Wing piston	19	Screw
6	Flaps	20	Nut
7	Suction divider		
8	Raps		
9	VE packing		
10	Parallel Pin		
11	Handle		
12	Screw		
13	Handle		
14	Screw		

The technical drawing illustrates the Excelsior pump assembly. It consists of two main views: a front view on the left and a cross-sectional view on the right. The front view shows the pump casing (1) with a handle (11) and various screws (12, 13, 14). The cross-sectional view shows the internal components including the shaft (4), wing piston (5), flaps (6), seal ring (3), and counter flanges (17). The drawing is annotated with numbered circles (1-20) corresponding to the spare parts list.

SPARE PARTS SUPER LARIO			
1	Pump casing	15	O ring
2	Plate valve	16	Pin
3	Packing	17	Piston
4	Valve	18	Cover piston
5	Spring	19	Washer for piston
6	Washer	20	Seeger
7	Cotter pin	21	Handle
8	Packing	22	Screw
9	Cover	23	Washer
10	Screw	24	Counter flange
11	Cover	25	Packing
12	Packing	26	Screw
13	Screw	27	Nut
14	Seal MIM	28	Plug



Declaration of conformity **CE** marking.

Machinery Directive 98/37/EC (Safety, Annex II under A)

Manufacturer

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Products.

Hand pump.

- **EXCELSIOR**
- **SUPERLARIO**

Description/Application field.

Excelsior is double acting semi-rotary hand wing pump.

Superlario is self priming double acting pistons pump, with a suction lift is up to 8 m.

It is recommended for installations needing high suction lift

Both pumps are suitable for fresh and sea water pumping, emptying bilge, emergency and oil transfer.

Applicable directives and regulations.

- Machinery Directive 98/37/EEC and relatives updating

Declaration.

We herewith declare, on our and exclusive responsibility, that the pump in its various configuration listed above are constructed in accordance with all the **Applicable Directives and Regulations** set out above and with all the essential health and safety requirements applying to it.

The machine must not be put into service until the machinery into which it is incorporated has been declared in conformity with the provisions of the Machinery Directive or applicable laws.

Gianneschi pumps and Blowers Srl
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