



Peristaltic Pumps EF100 Series

TECHNICAL MANUAL

CE

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Certified Company, according to UNI EN ISO 9001 standards

WARNINGS



This manual is dedicated to the technical personnel responsible of the installation, management and maintenance of the plants. The manufacturer assumes no responsibility for damages or malfunctions occurring after intervention by non-authorized personnel, or not compliant with the prescribed instructions.



Before performing any maintenance or repair action, ensure that the system is electrically and hydraulically insulated.



Dispose of waste material and consumables accordingly with local regulations.

How to ship the instrument

To send back the device for repairing or calibration purposes, proceed as follows:

- Fill the module “REPAIR REQUEST AND DECONTAMINATION DECLARATION” supplied with this manual, and include it in the transport documentation.
- Clean the device properly, to eliminate any hazardous residuals.

The manufacturer can modify the instrument or the technical manual without advanced notice.

Warranty

All STEIEL products are warranted for a period of 12 months from the delivery date.

Warranty is not valid if all instructions of installation, maintenance and use, are not strictly followed by the user.

Local regulations and applicable standards have also to be followed.

In particular, the warranty will be recognized only if the following conditions are fulfilled:

- The installation, wiring, adjustment, maintenance and repairs performed only by qualified personnel
- The dosing pump was used according to instructions provided in this manual
- Only original spare parts have been used for repairs

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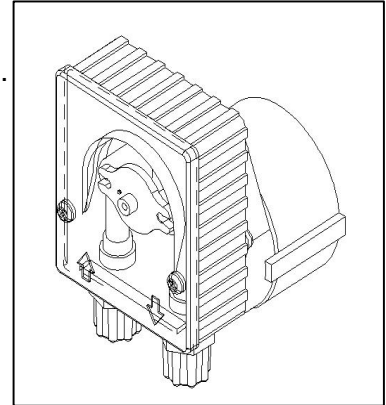
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PACKING LIST

The **EF100** series pumps are supplied complete with technical manual.

An optional kit is available (code 9600.0100), including:

- Suction tube, PVC Crystal (2 m)
- Injection tube, PE (2 m)
- Foot filter
- Injection valve with ½" connection



GENERAL SAFETY TIPS



WARNING! Before performing any operation on the pump, unplug the pump and discharge the liquid from the pump head and tubes. **Never operate on working pump.**



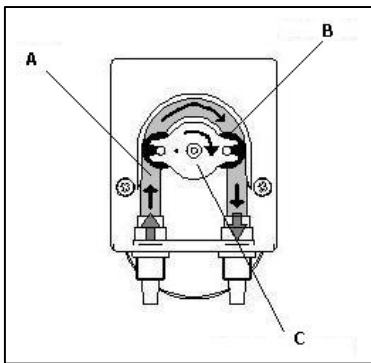
During maintenance and repair of parts that normally become in contact with chemicals, always wear all prescribed personal protections (gloves, clothes, glasses, etc.). The pump has to be handled by qualified personnel only. Always use original spare parts for maintenance.

Failure to follow instructions can cause damage to the equipment and, in extreme cases, to people.

INTRODUCTION AND OPERATING PRINCIPLE

The EF100 are a series of peristaltic pumps with fixed flow rate, of small size and easy installation and maintenance, designed with open case for panel-mounting.

These pumps are suitable for many applications, such as the chemical industry, food processing, disinfection systems and pools.

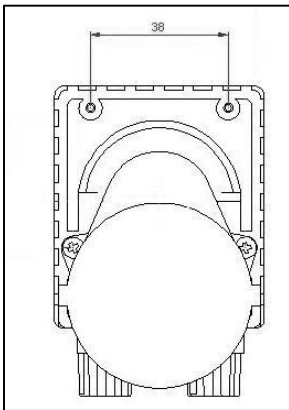


The principle of operation of the peristaltic pumps is based on pressure and subsequent release of the inner tube (A) by the roller (B) mounted on the roller-holder (C), which is driven by the motor.

The dual action of pressure and release of the tube generates a suction force along the tube itself, which primes the liquid and drives it to the injection line.

The flow rate depends on the speed of the motor and the section of the tube.

INSTALLATION



The pump should be installed on a vertical support, using the fixing points shown in the figure, in such a way that the pump always remains in a vertical position ($\pm 15^\circ$).

This pump is particularly suitable to be installed inside of watertight panels.

TECHNICAL DATA

Materials	Case: PP 30% reinforced with talc Front panel: Polycarbonate Roller-holder: PBT Rollers: Delrin (self-lubricant) Internal tube: Santoprene, Tygon or silicone Fittings: PP
External Tubes	4x6 mm
Power Supply	230 Vac (115 Vac or 24 Vdc upon request)
Ambient temperature	max 40°C / min depending on the dosed liquid
Dimensions	H 86 x L 58 x W 70.4 mm
Weight	approx. 350 g

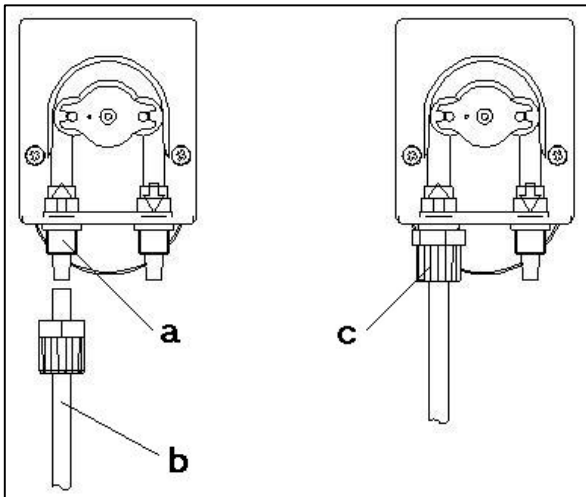
Model	Flow rate (l/h)	Pressure (bar)	Internal tube
EF100/A-02-S	0.2	1	Santoprene
EF100/A-06-S	0.6	1	Santoprene
EF100/A-12-S	1.2	1	Santoprene
EF100/A-18-S	1.8	1	Santoprene
EF100/A-24-S	2.4	1	Santoprene
EF100/A-60-S	6.0	1	Santoprene
EF100/A-02-T	0.2	1	Tygon
EF100/A-06-T	0.6	1	Tygon
EF100/A-12-T	1.2	1	Tygon
EF100/A-18-T	1.8	1	Tygon
EF100/A-24-T	2.4	1	Tygon
EF100/A-02-N	0.2	1	Silicone
EF100/A-06-N	0.6	1	Silicone
EF100/A-12-N	1.2	1	Silicone
EF100/A-18-N	1.8	1	Silicone
EF100/A-24-N	2.4	1	Silicone

(only 24 Vdc)

HYDRAULIC CONNECTIONS

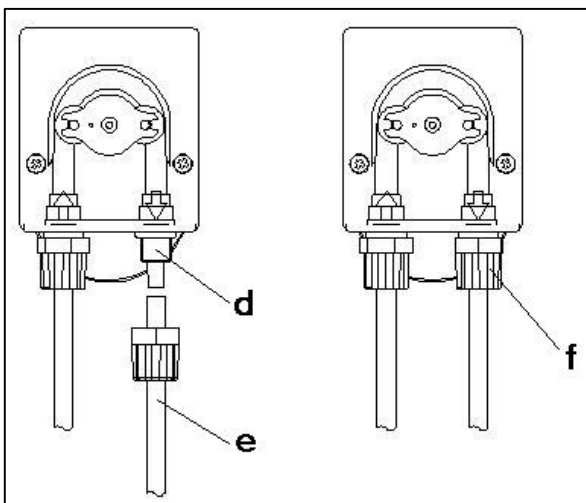


Warning! Avoid restricting or sharp bends in the suction and injection pipes, as they may affect the performance and durability of the pump itself.



Suction line:

Connect the suction tube (b) to the suction connection (a) and tighten the threaded nut (c).



Injection line:

Connect the injection tube (e) to the injection connection (d) and tighten the threaded nut (f).

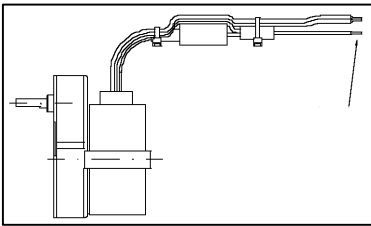
ELECTRICAL CONNECTIONS



Warning! Connection to the mains must be carried out in strict compliance with all the pertinent rules and regulations.

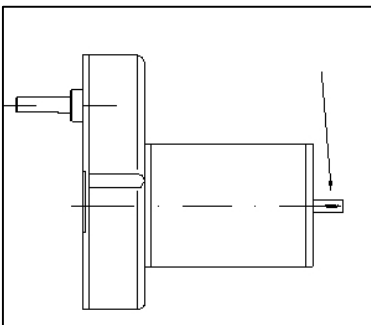
Warning! Before powering the pump verify that all electrical and plumbing connections have been properly made.

Power the pump following the values of voltage and power consumption indicated on the pump label.



Power supply 230 Vac, 50 Hz:

connect the power supply to the 2 blue wires, shown in the figure.



Vdc power supply:

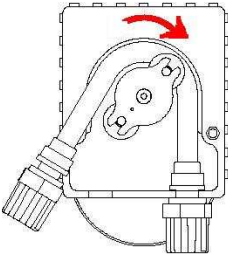
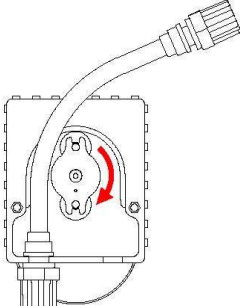
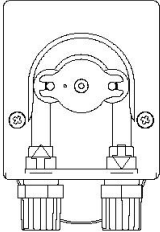
connect the power supply to the motor contacts (see figure).

MAINTENANCE AND STORAGE

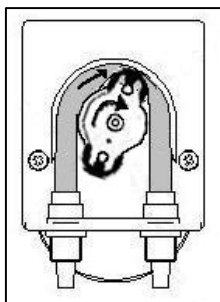
The periodic maintenance operations are essential for the proper functioning of the pump and its duration. These operations must be performed in a systematic and thorough way, following the information below:

- Periodically check the level of the liquid to be dosed, to prevent the pump from running empty
- Check that the suction and injection tubes do not contain impurities, as they may cause damage to the pipe and anomalies in the flow rate
- Schedule a general check of the pump functioning, especially when dosing aggressive liquids
- Regularly monitor the condition of the filter, where clogging can cause a decrease in the flow rate

Replacement of the peristaltic tube:

	<p>Remove the transparent protection cover. Remove the old tube first unlocking the fitting on the left and turning the roller-holder as indicated by the arrow in the figure, so as to free the tube to the fitting on the right.</p>
	<p>Insert the left fitting into the new pipe, in its place, ensuring that the rounded side is positioned inwards. Then turn the roller-holder clockwise, so that the tube is inserted in its seat.</p>
	<p>Insert the right fitting in its place and secure the transparent cover by tightening the two front screws.</p>

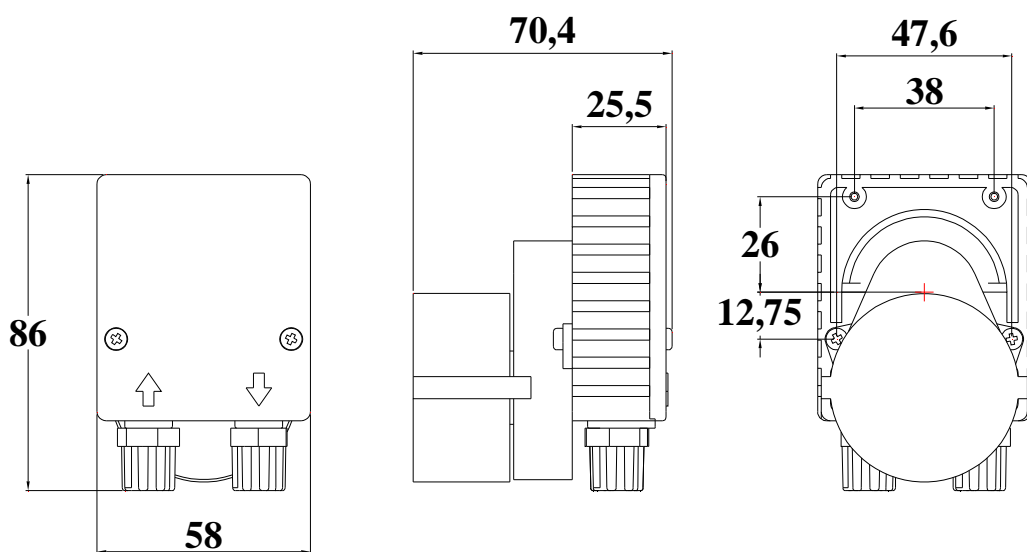
Storage of the pump after use:



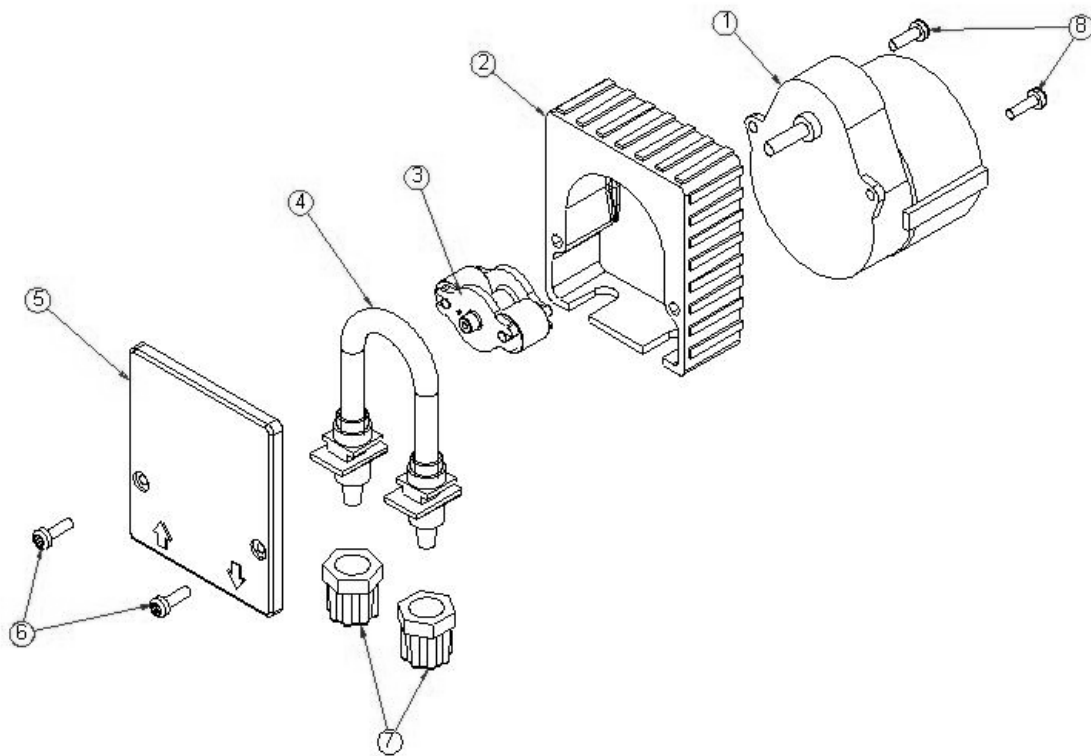
Before storing the pump, dose clean water to rinse the tube.
Place the roller-holder as shown in the figure, turning it clockwise.

MECHANICAL DIMENSIONS

All dimensions in the figure are in mm.



EXPLODED VIEW OF THE PUMP



Ref.	Description
1	Motor
2	Peristaltic head
3	Roller-holder
4	Peristaltic tube
5	Protection cover
6	Screw M3x8 (2 pc.)
7	Threaded nut (2 pc.)
8	Screw M3x16 (2 pc.)