



Take the time to read the instructions carefully before using this appliance.

Thank you!



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Warnings for the safety of individuals and objects.

Carefully follow the instructions marked with the following symbols.



DANGER

Keep the technical equipment out of the reach of children!



DANGER
Electric shock
risk

Warns that the failure to follow the directions given may cause electric shock.



DANGER

Warns that the failure to follow the directions given could cause serious risk to individuals or objects.



WARNING

This sign warns the operator that the failure to follow an instruction may damage the pump and/or the system.

Ch. 1 Features

WARNING: Read this manual carefully before installing this pump.

This sign warns the operator that the failure to follow an instruction may damage the pump and/or the system.

Carefully store this manual. If problems arise, contact the Customer Assistance Service. Please verify that the pump has been used correctly and that the cause of the problem is not imputable to its operation.

Every electropump is carefully tested and packed during its assembly.

On receiving the pump, check that the pump has not been damaged during transportation. If the pump is damaged, immediately inform the dealer within 8 days from the date of purchase.

Ch. 2 Limitations

BOOSTER SETS NOCCHI are suitable for domestic use, to pump clean water at constant pressure; to supply water for domestic use from wells and cisterns; to supply water for toilets, washing machines and dish washers and to water gardens. They can also be used for pressurisation systems to increase hydrostatic pressure.



WARNING The pump cannot be used for sea water and inflammable, corrosive, explosive or dangerous liquids.



WARNING Verify that the electropump never runs without liquids.

Technical Data

Mains voltage / frequency	230 V ~ 50 Hz
Type of protection / Insulation class	IP 44 / F
Maximum suction height including load losses	7 m
Power cable	1,5 m H07 RNF
Maximum admitted working pressure	6 bar (7 bar WP 120/60)
Minimum ambient temperature	5° C
Maximum ambient temperature	40° C
Maximum temperature of the pumped fluid	40° C
Maximum number of starts per hour, uniformly distributed	30

Ch. 3 Installation (see Fig. 1)



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When installing, please ensure electropump is disconnected from electrical supply.



WARNING Protect the electropump and all pipes from bad weather or freezing conditions



DANGER

To prevent possible injuries to people, avoid inserting hands into the mouth of the pump if this is connected to the mains.

Use a suction pump (2) with a diameter equivalent to that of the suction mouth of the electropump (1).

If the height (HA) is over 4 meters use a tube with a larger diameter. The suction line should be perfectly airtight. No elbows and/or slopes should be present to prevent the formation of air locks that could affect the electropump efficiency. A foot valve (3) with filter (4) should be fitted at about half a metre below the fluid that has to be pumped (HI) on one end of the line. Load losses can be reduced using delivery piping with a diameter equivalent or greater than the electropump mouth (5). It is advisable to install a check valve (6) directly on the delivery line to prevent the electropump being damaged by "water hammer".

A cut-off valve (7) should also be installed downstream from the check valve, to facilitate servicing operations. Piping should be fitted so that vibrations, when existing, tension and weight do not affect the pump. Piping should be routed along the shortest and straighter track, avoiding an excessive number of bends. Verify that the motor is properly ventilated. For permanent installations, it is advisable to fix the electropump to the supporting base, connect the system with a section of non flexible pipe and insert a layer of rubber (or another anti-vibration material) between the supporting base and the pump, in order to reduce vibrations.

The site of installation must be stable and dry to guarantee the stability of the pump.

Verify that the motor is properly ventilated.

When connecting fixed installations, the plug must be clearly visible and easily accessible.

ATTENTION!!!

Connection, suction and delivery pipes should be connected with the utmost care. Make sure that all connections fixed by means of screws are sealed. Avoid applying excessive stress to tighten the screws of connections or of other components. Use a Teflon tape to completely seal all joints.

To use the pump in continuous mode for swimming pools, garden ponds and in similar installations, it is necessary to fix the electropump to a stable support.

Mobile electropumps can be used for swimming pools, garden ponds or similar installations, only if no people is in contact with water or if the electric system has a safety cut-out switch.

The pump should be fitted in a stable position in order to avoid falls and protect it from inundation.

Contact a specialised electrician.

Ch. 4 Electrical connections



WARNING

Verify that the voltage and frequency of the electropump shown on the nameplate correspond to those available on the mains.



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The installer must make sure that the electric system is grounded in accordance with the law in force.



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Electric shock
risk

Make sure that the electric system has a high-sensitivity circuit breaker $\dot{A} = 30$ mA (DIN VDE 0100T739).

Overload protection

BOOSTER SETS NOCCHI have a built-in thermal protection switch. The pump stops if an overload condition occurs. The motor restarts automatically after it has cooled down (see point 3 of the Troubleshooting section for information on causes and corrective actions).

Supply cables and extensions should have a section below that of H07 RN-F. The plug and connections should be protected by water splashes.

Ch. 5 Starting the unit (see Fig. 1)



WARNING

Use the electropump for the applications listed on the nameplate.



WARNING

Do not operate the pump dry, since lack of water could cause it to overheat. In this case, the water inside the system gets very hot, so there is a risk of scalding. Take off the plug and let the system cool down.



WARNING

Do not run the electropump with a completely closed delivery.

Instructions for a safe pump start

Avoid exposing the pump to humidity. Protect the pump from rain, making sure that there are no leaking fittings over the pump. Avoid using the pump in wet or damp environments.

Make sure that the pump and the electric connections are protected from possible inundation.

Before using the pump, always inspect it visually (especially power cables and plugs). Do not use the pump if it is damaged.

If the pump is damaged, have it inspected by the specialised assistance service only.

Do not transport the pump using the cable or use the cable to remove the plug from the socket. Protect the plug and the power cables from heat, oil or sharp edges.



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The power cable must be replaced by qualified personnel only.

Start-up

Before starting the electropump fill the suction pipe and the electropump body with water by using the filling cap, making sure that there are no leaks, close the cap and start the electropump. Check that it rotates clockwise when looking at the electropump from the side of the motor fan. On the three phase electropumps it is possible to invert the rotation by changing the order of two phases.

If the electropump is not used for long periods of time repeat the filling operations before starting it up.

Ch. 6 Adjustment of the pressure switch

The pressure switch of **BOOSTER SETS NOCCHI** is pre-set by the manufacturer at 2 bar for the start-up pressure and at 3 bar for the pressure required to stop the pump. According to the manufacturer's experience, these are the most suitable values for the vast majority of installations.

To modify these settings, please contact a qualified electrician.

Ch. 7 Operation of the electronic pump control - AQUA-TROL (Fig. 2, n.13)

Domestic water system fitted with the AQUA-TROL device enable to:

- Automatically start the pump every time it is connected to the electrical supply
- Check the start-up pressure
- Prevent the pump from running without fluids by measuring the temperature
- Time the disconnection of the pump. To change the settings, contact qualified personnel.



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The electronic pump AQUA-TROL (including the related safety cables) can be opened and replaced only by qualified personnel.

Operation

Pressure falls every time water is requested. When the start-up pressure is reached, AQUA-TROL enables to start the pump and to keep it running during the whole length of its operation. If only small amounts of water are required, the device times the operation of the pump (the adjustment of the timer is added to the time required to empty the tank). If small leaks occur and the water reserve in the tank is almost depleted, the device enables to run the pump for the interval of time set on the timer, enabling a number of suitable pump start-ups. Timing facilitates the adjustment of the system, prevents "water hammer" in the pipes and guarantees the availability of a greater spare in the tank (that corresponds to the maximum pressure of the pump). The pump is prevented from running without fluids by a probe that measures the temperature on the connection flange of the device. If the pump blocks, the failure is signalled by a LED on the control panel (see Fig. 2). The system can be restarted only when the temperature returns to its ordinary value (about 25° C), by pressing the Reset button on the same panel.

Ch. 8 Maintenance and troubleshooting



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Electric shock
risk

Make sure the machine is disconnected from electric power supply, before performing maintenance operation.

In ordinary conditions, **BOOSTER SETS NOCCHI** do not require any maintenance. To prevent possible problems, it is advisable to periodically check the pressure supplied and current absorption. A reduction of the pressure may indicate that the electropump is worn. Sand and other corrosive materials present in the delivery fluid cause a rapid wear and a reduction of performance. In this case, it is advisable to use a filter and select an appropriate filter cartridge according to the application. An increase in current absorption indicates the presence of abnormal mechanical friction in the pump and/or the motor.

To avoid problems, it is advisable to regularly check the pre-load pressure in the tank. At this point, disconnect the pump from the mains and open the water supply to remove the pressure from the system. Then, measure the pre-load pressure using the valve on the rear side of the tank. Perform the measurement with an independent pressure gauge. Pressure should be equivalent to 1.5 bar. Correct the value if it is incorrect.

If the electropump is not going to be used for a long period of time (i.e. one year), it is advisable to empty it completely (by opening the drain cap, see Fig. 1 n. 10), rinse it with clean water and store it in a dry location, where it can be protected from frost.

PROBLEM	POSSIBLE CAUSE	REMEDY
1) THE ELECTROPUMP DOES NOT PUMP WATER, THE MOTOR DOES NOT RUN	1) No power. 2) Motor protection tripped. 3) Defective condenser. 4) Shaft blocked. 5) Pressure switch installed incorrectly or damaged.	1) Verify that voltage is present and that the plug has been correctly inserted. 2) Determine the cause of the problem and reset the switch. If the thermal switch has been enabled, wait for the system to cool down. 3) Contact the Customer Assistance Service. 4) Contact the Customer Assistance Service. 5) Contact the Customer Assistance Service.
2) THE MOTOR RUNS BUT THE ELECTROPUMP DOES NOT PUMP LIQUID	1) Empty pump body. 2) Air inlet from the suction pipe. 3) Suction height above the height recommended for the unit.	1) Stop the pump and fill the body with water using the filling cap (fig. 1, n. 9). 2) Verify that: a) the joints are sealed - b) the fluid level has not lowered below the foot valve - c) the foot valve is sealed and not blocked - d) there are no siphons, bends, counter-slopes or throats along the suction pipes. 3) Check and reduce the suction height or use a device with more suitable characteristics.
3) THE ELECTROPUMP STOPS AFTER RUNNING FOR A SHORT PERIOD OF TIME BECAUSE ONE OF THE THERMAL MOTOR CIRCUIT BREAKER TRIPS	1) The power supply does not comply with the data on the nameplate. 2) A solid object is blocking the impellers. 3) The liquid is too thick. 4) The liquid or the environment are too hot. 5) The pump is running without fluids or the gate valve in the suction pipe is closed.	1) Check the voltage on the power supply cable leads. 2) Contact the Customer Assistance Service. 3) Dilute the pumped fluid. 4-5) Remove the cause of the problem, wait for the pump to cool down and restart it.
4) THE PUMP STARTS AND STOPS TOO FREQUENTLY	1) The tank membrane is damaged. 2) No compressed air in the tank. 3) The foot valve on the suction pipe is blocked and not appropriately sealed.	1) Have the membrane or tank replaced by qualified personnel. 2) Fill the tank with air using the delivery valve and a maximum pressure of 1.5 bar. 3) Disassemble and clean the valve or replace it when necessary.
5) THE ELECTROPUMP DOES NOT REACH THE DESIRED PRESSURE	1) The pressure required to stop the pump pre-set on the pressure switch is too low. 2) Air inlet from the suction pipe .	1) Contact the Customer Assistance Service. 2) See point 2.2
6) THE ELECTROPUMP DOES NOT RUN IN CONTINUOUS MODE	1) The maximum adjustment of the pressure switch is too high. 2) Air inlet from the suction pipe.	1) Contact the Customer Assistance Service. 2) See point 2.2

If the problem persists despite the recommended corrective actions, contact the Customer Assistance Service.