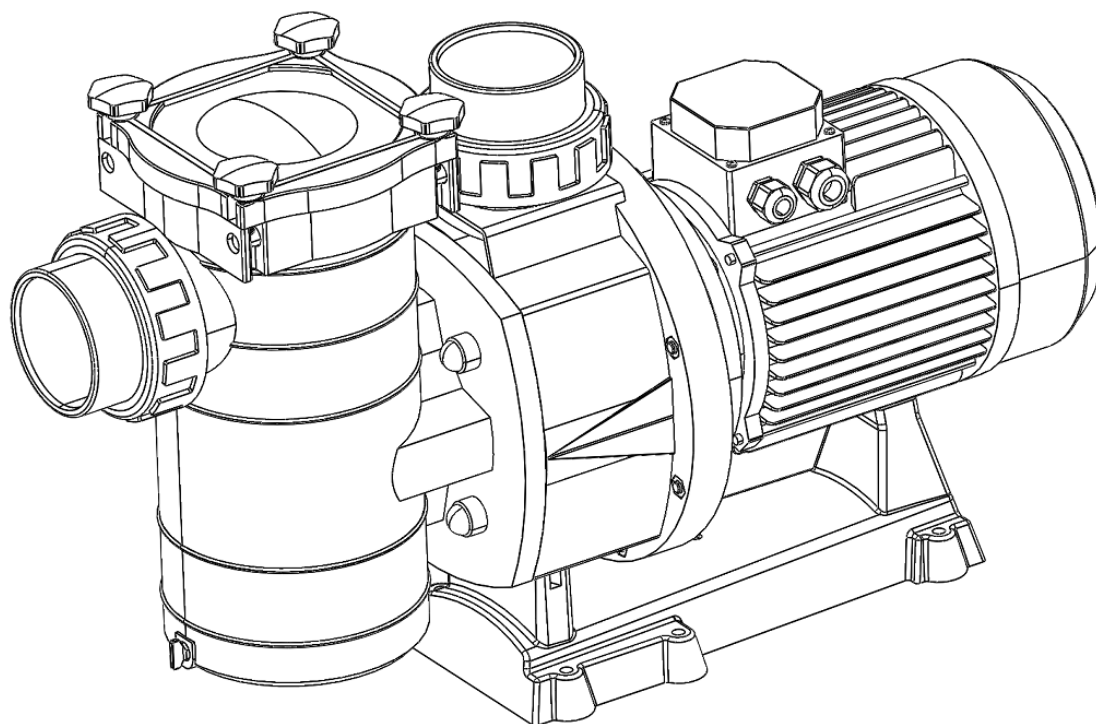




HAYWARD®

COMMERCIAL AQUATICS



NEOPUMP SERIES



HAYWARD COMMERCIAL AQUATICS CENTRIFUGAL PUMPS

User's guide

KEEP THIS MANUAL FOR FUTURE REFERENCE

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1. IMPORTANT SAFETY INSTRUCTIONS

WARNING – READ AND FOLLOW ALL INSTRUCTIONS in this owner’s manual and on the equipment. Failure to follow instructions can cause severe injury and / or death.

Ensure safety labels are kept in good condition and replace them in the event of loss or damage.

1.1. MANUAL SAFETY SYMBOLS

All instructions that refer to risks to personal safety are indicated with the following symbols:



This symbol indicates a danger. Whenever you see this symbol on the unit or in the manual, look for one of the following messages to find out about the potential risk to personal safety.



This symbol warns of risks that will cause a fatal or serious personal injury or serious material damage if ignored.



This symbol warns of risks that may cause fatal or serious personal injury or serious material damage if ignored.



This symbol warns of risks that will or may cause a minor personal injury and/or material damage if ignored.



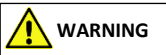
Other instructions regarding the operation of the unit which could cause physical harm if not carried out.



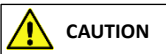
ELECTRICAL DISCHARGE HAZARD.

1.2. IMPORTANT SAFETY INSTRUCTIONS

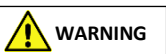
The following basic safety instructions must always be observed when operating this unit:



To reduce the risk of injury, the unit must be installed and commissioned by qualified personnel or installers.



This pump is intended for use in permanent swimming pools, spas and water features. Do not use in collapsible swimming pools.



Dangerous pressure levels. Incorrect installation of this unit can cause serious injury or damage to the installation. Carefully read and follow the user’s guide during installation and operation of the unit.

- The unit must be commissioned by qualified personnel or installers.
- Do not connect the installation to the mains water supply or to a high-pressure water network.
- This unit is intended for use **only** in swimming pool or spa installations. **HAYWARD is not responsible of the dangers or different performance than expected caused from other usages.**
- Air inside the installation may cause explosions. You must ensure that all air has been removed from the installation before starting up the unit.

1.3. RATING PLATES

The information provided on the rating plate or any other instructions provided by the manufacturer on the unit must be strictly adhered to. The contents of plates and instructions are reflected in this manual under point **2.1 TECHNICAL CHARACTERISTICS**.

1.4. RESPONSIBILITY

Failure to comply with the instructions provided by the manufacturer in this manual for the selection, handling, installation, commissioning and maintenance of the unit will release the manufacturer or distributor of any liability for possible personal accidents or damage caused to the rest of the installation, and will render the guarantee null and void.

1.5. REGULATIONS

This unit has been manufactured in accordance with the essential health and safety requirements stipulated in the European Community Directives 2006/42/EC (Machinery), 2004/108/EC (Electromagnetic compatibility) and 2006/95/EC (Low voltage).

1.6. GENERAL SAFETY INSTRUCTIONS REGARDING USER SAFETY.



The safety of the unit supplied can only be guaranteed if used as indicated in the diagrams contained on point **5.3 ELECTRICAL CONNECTION**.



Under no circumstances must the operating conditions and limits indicated in this manual in point **2.1 TECHNICAL CHARACTERISTICS** or those indicated on the electrical rating plate located on the unit be exceeded. Compliance with the provisions of the Safety Regulations in force in each country is mandatory.



Ensure that you have selected the correct unit for the purpose for which it is intended and that the condition, installation, commissioning and subsequent use of the equipment is correct. See chapter **2.1 TECHNICAL CHARACTERISTICS**.



Installation, repair and maintenance operations must always be carried out while the unit is disconnected from the power supply.



Safety elements or electrical connection/disconnection elements must not be activated in the presence of humidity and particular care must be taken to ensure that the operator's hands, footwear or contact surfaces are dry.



The unit must not be moved or have its position corrected during operation. Such tasks should always be carried out when the unit is stopped.



Parts of the equipment that move during operation or that may reach high temperatures must be protected with grills or housings to prevent accidental contact with them.



Electrical conductors or live parts must be equipped with suitable insulation. Other metal parts of the unit must be connected to earth.



All necessary spares must be the manufacturer's original spare parts or those recommended by the manufacturer. The use of other spare parts or originals rectified by third parties, is not permitted and **will release** the manufacturer or distributor from all liability.

This apparatus is not designed to be used by people (including children) with reduced physical, sensorial or mental capabilities, or those lacking experience of knowledge, unless they have received appropriate supervision or instruction non the correct use of the apparatus from a person responsible for its safety.

This apparatus is not a toy. Ensure that children do not play with it.

2. GENERAL INFORMATION

To prevent unnecessary calls to service technicians, to prevent possible accidents and to obtain the very best performance from your pump, **PLEASE READ THIS MANUAL CAREFULLY.** In case you have followed these instructions and you find a failure or an unexpected performance, please, contact with our after-sales department.

This unit has been designed to recirculate lightly treated water in private and public swimming pools, spas and water features.

2.1. TECHNICAL SPECIFICATIONS

Motor:	Pump:
Power: <i>See nameplate</i>	Water temp.: <i>Maximum 35°C</i>
Insulation: <i>Class F</i>	Pressure: <i>Maximum 3 bar</i>
Service: <i>Continuous</i>	Mechanical seal: <i>Carbon resin – ceramic</i>
Protection: <i>IP55</i>	Impeller: <i>Closed design, Noryl®</i>
Voltage: <i>See nameplate</i>	Diffuser: <i>Noryl®</i>
Consumption: <i>See nameplate</i>	Pump body: <i>Polypropylene + Fiberglass</i>
Frequency: <i>See nameplate</i>	Pre-filter lid: <i>Transparent PC</i>
Nominal rpm: <i>See nameplate</i>	Pre-filter basket: <i>Polypropylene</i>
Shaft material: <i>Stainless steel</i>	Intake: <i>See table below</i>
Bearings: <i>Shielded ball bearings</i>	Discharge: <i>See table below</i>
Ambient temp.: <i>Maximum 40°C</i>	

NEOPUMP			
Motor features:			
Nominal Power (P2)	5,5 hp	7,5 hp	10 hp
Nominal Voltage	230/400 V	400/700 V	
Phase	Three-phase		
Frequency	50 Hz (60 Hz on request)		
Nominal speed	1500 rpm		
Pump:			
Intake	Ø110 mm (*)		
Discharge	Ø110 mm (*)		
Weight (kg)	55	74	85

(*) Additional coupling kits 4" ANSI will be provided along with the pumps at 60 Hz.

3. PACKAGING, TRANSPORTATION AND STORAGE

ATTENTION

The manufacturer supplies the equipment protected with the original appropriate packaging, to prevent any damage during transport or storage that may prevent its correct installation and/or operation. It must remain in this packing until it's going to be installed.

ATTENTION

On receiving the unit, check the following points:

- The condition of the outer packaging. If it shows significant signs of damage, formally report it to the person making the delivery.
- Check the condition of the contents. If the contents present imperfections that will presumably prevent the correct operation of the unit, formally report the situation to the supplier.

ATTENTION

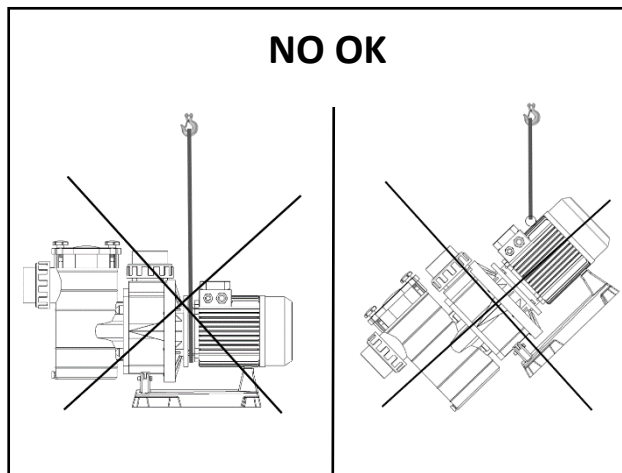
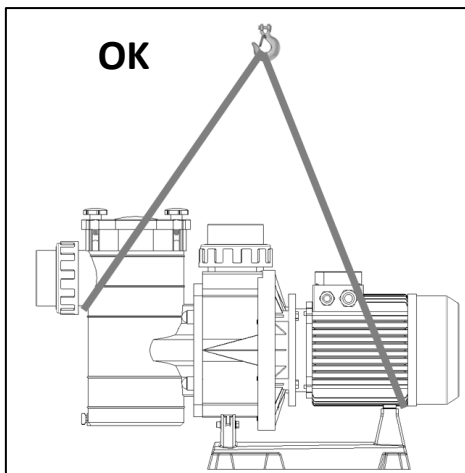
Storage conditions must be such that they will guarantee the good state of repair of the unit. It is especially important to avoid storing the unit in markedly humid environments or in conditions where brusque temperature changes may occur (resulting in condensation).

3.1. HANDLING

ATTENTION

When the pump is moved outside its original packaging, we recommend follow the recommendations below:

- Check que weight of the pump indicated in the table **2.1 TECHNICAL SPECIFICATIONS**.
- Choose the appropriate means according to the weight.
- For the heaviest models, the pumps can be lifted using nylon straps attached to a hook as shown below, ensuring the horizontal position of the pump and the stability through two load points.
- Even if the motors are supplied with eyebolts or a thread on top, don't use them to lift the entire pump assembly.



4. INSTALLATION

4.1. SITE

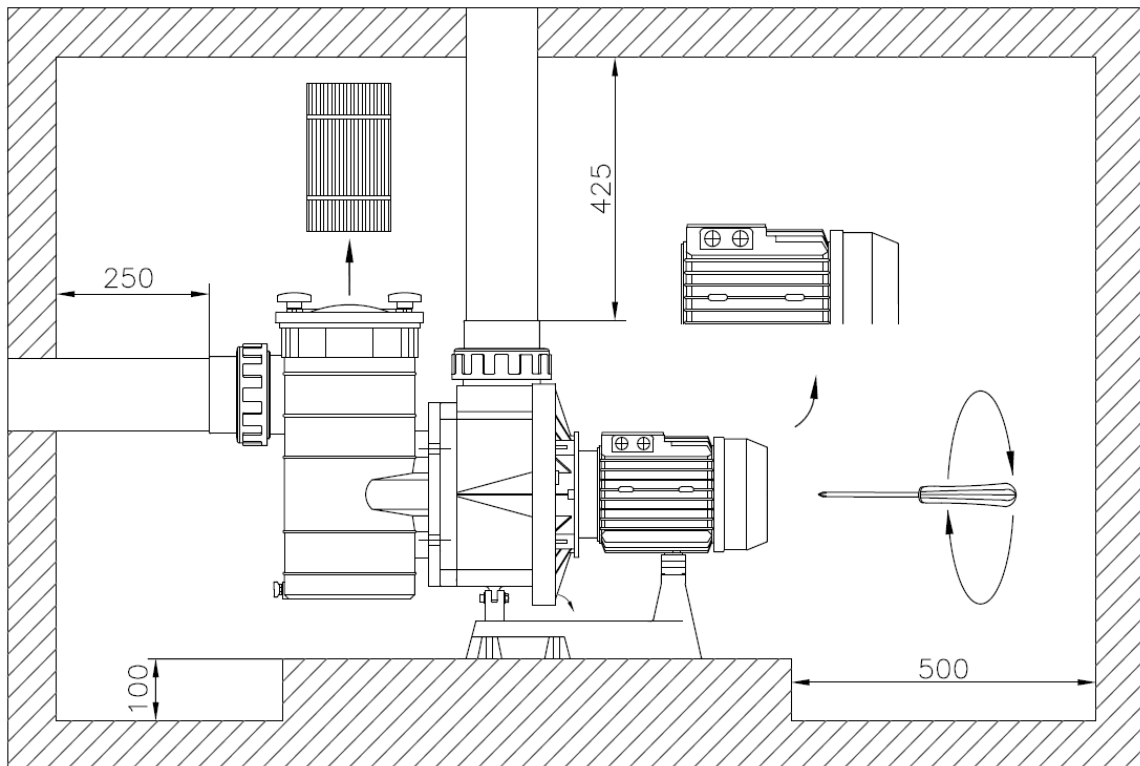
Only qualified personnel should install and connect the unit.

The unit must never be installed outdoor. It must be installed in a dry site on an elevated foundation and equipped with a drainage point on the floor to protect against flooding.

If the unit is installed in a humid site, a ventilation system must be installed to prevent the formation for condensation. In cases where the unit is installed in confined areas, a forced ventilation system may be required to ensure that the ambient temperature of 40°C (104°F) is not exceeded.

Do not store pool chemicals near the unit.

It is important to leave the enough clearance to allow the horizontal removal of the motor block and the vertical removal of the basket of the prefilter. See image below.



4.2. INSTALLATION

The unit must be installed **horizontal** and away from corrosive or flammable liquids.

The unit is intended to be installed in pools that are compliant with the safety requirements for design according to the international standards or to the applicable standards in each country.

It must be anchored to the floor using the necessary bolts to ensure a secure fixture.

The unit must be installed as close to the pool as possible and preferably below water level, to ensure the “charged” operation.

At permanent installations, where the pump is located above the water level (suction installation), the intake pipe must be equipped with a foot valve and every effort must be made to ensure that the majority of the pipe is located below the level of the pump intake shaft until reaching the point that vertically coincides with the shaft. The intake pipe must be a rigid pipe.

At permanent installations where the pump is located below the water level, a check valve should be installed at both the intake and the discharge.

It is important to have supports for the pipes so its weight when they are full of water is not all supported on the pump connections.

5. ELECTRICAL CONNECTION



The electrical installation must fully comply with the Regulations and Supplementary Technical Provisions in force in each country and must be carried out by an authorized installer.

Dangerous voltage may cause shock, burns or even death. Connect to ground before connecting the power. The power supply must be equipped with neutral and earth conductors.

Rigorously respect all circuit diagrams appearing inside the junction box and those appearing in this manual.



THE CURRENT MUST BE TURNED OFF before entering the junction box to start the pump.

5.1. VOLTAGE

The supply voltage to the motor must match the voltage indicated on the unit’s rating plate, with a permitted variation of $\pm 10\%$. If the supply voltage is less than 90% or greater than 110% of the voltage indicated on the rating plate, contact the power supply company.

Do not connect a three-phase motor to a single-phase power supply or vice-versa.

5.2. ELECTRICAL PROTECTION

The installation on the fixed wiring of an electrical connection/disconnection, protection and switching system which includes all necessary and recommended elements is compulsory. The system must be equipped with:

- A disconnecting circuit breaker that guarantees omni polar disconnection, directly connected to the power supply terminals and with contact separation on all its poles, providing total disconnection in overvoltage category III conditions.
- Short-circuit and overload protection devices on motors.
- Power supply via a residual current device (RCD) (Differential switch), which as an assigned operating current not exceeding 30 mA.
- The unit must not be operated without additional protection (i.e. motor protection relay).

- The characteristics and settings of such devices must be suitable for the equipment to be protected and the expected operating conditions. The manufacturer's instructions must always be followed (see rating plate). **See table of conductors below.**

MOTOR NOMINAL POWER (P2)	FREQUENCY	VOLTAGE	SINGLE PHASE / THREE-PHASE	CIRCUIT BREAKER	CABLE SECTION
5,5 hp	50/60 Hz	230/220V	3 ~	16 A	6 mm ² - AWG 9
		400/380V		10 A	4 mm ² - AWG 11
7,5 hp	50/60 Hz	230/220V	3 ~	25 A	6 mm ² - AWG 9
		400/380V		16 A	4 mm ² - AWG 11
10 hp	50/60 Hz	230/220V	3 ~	32 A	10 mm ² - AWG 9
		400/380V		16 A	4 mm ² - AWG 11

5.3. ELECTRICAL CONNECTION

GROUND CONNECTION

The earthed apparatus must be permanently connected to the fixed electrical installation. All exposed non-live metal parts of the unit that may accidentally become live must be electrically connected to the mains earthing conductor and to the earth connection of the pool structure, in accordance with the specification of the applicable National or Local Electrical Code.

POWER SUPPLY



This unit may be supplied with power cables used for factory testing connected to the terminals. These cables must be removed in order to connect the power supply.



Never connect the power supply using the factory testing cables.

The unit must be permanently connected to the fixed electrical installation.

Ensure that no other equipment is connected to the same circuit.

Check that the power mains frequency corresponds with those indicated in the motor plate.

The types and sections of power cables must comply with the specifications of the applicable Local or National Electrical Code. **See table of conductors in point 5.2.** You must select cables that are designed to withstand at least the current absorbed by the unit (see nameplate). Cables must be connected to the unit's terminals blocks using the appropriate terminals.

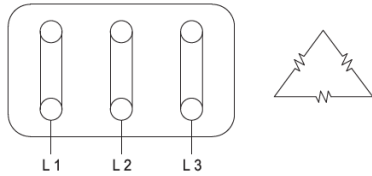
The conductors must enter and exit the unit's connection box through a cable gland, providing a watertight seal to prevent the ingress of water and dirt.

On the three phase units, care must be taken to correctly position the motor winding connections. It must be considered:

- The voltage of the power grid where the pump is going to be connected.
 - o Normally, 220/230 V or 380/400V.
- The voltage and the type of connection (Delta / Star) indicated in the nameplate of the motor.

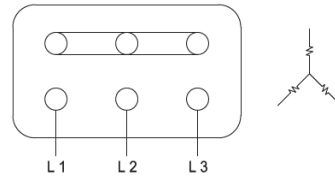
Delta connection when:

- Grid 220/230V with a motor 230/400V
- Grid 380/400V with a motor 400/700V

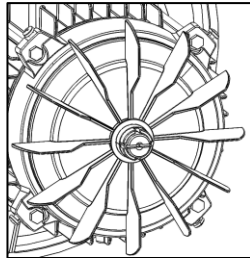


Star connection when:

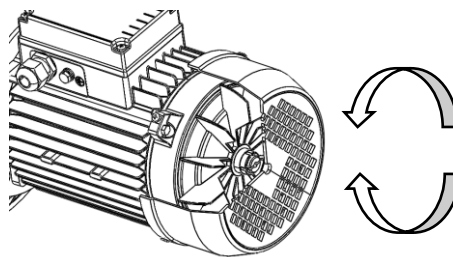
- Grid 380/400V with a motor 230/400V



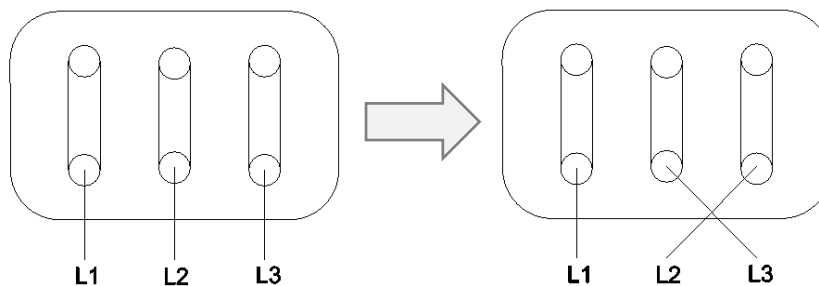
Ensure that the motor turns freely. Never start the pump if the pump is blocked. The motors have a groove at the end of the shaft in the fan area that allows users to manually check the motor rotation using a screwdriver. Remove the fan cover if necessary, ensuring to put it in its place again once finished.



Check the motor rotation direction. In order to do so, start the motor for a few seconds, no more than 3, and **check that the rotation direction matches the direction of the arrow shown on the fan cover.** It can be checked by observing the sense of rotation of the fan, removing the fan cover if necessary, and ensuring to put it in its place again once finished. If this is not the case, it must be changed.



To change the rotation direction on three-phase motors, swap the position of two of the motor's power supply cables, as shown below:



In the case of three-phase motors with Star Delta starters, you must ensure that the time of commutation between the Star and the Delta connections is as short as possible (< 3 sec).

6. COMMISSIONING

Before turning on the mains power to the pump unit, ensure that the electrical conditions are correct and manually check that the pump has not seized.

6.1. PUMP PRIMING

Ensure that there is no pressure in the filter, pump or pipe system.

Never run the pump when dry. The water acts as a coolant for the mechanical seal. If the pump is operated when dry, the mechanical seal may be damaged, causing leaks, flooding and rendering the guarantee null and void.

- If the water level is above the level of the pump, ensure the cover is hermetically sealed and fill the pump by slowly opening the stop valve on the intake whilst keeping the discharge valve open.
- If the water level is below the level of the pump, remove the prefilter cover and fill with water up to the intake point. Replace the cover, ensuring it is sealed correctly.
- Do not start the pump without the basket of the prefilter, since it could cause an obstruction thus blocking the pump.
- Check that there are no leaks on the pump or the filter. If there are signs of leaks, **DO NOT START THE PUMP.**
- The pump is self-priming when using pipes with the same diameter than the union sleeves provided. Start the pump and wait until the pump is primed. This operation can take up to 5 minutes. The priming time will depend on the vertical and horizontal length of the intake pipe. If the pump does not self-prime, stop the pump and investigate the cause. Ensure that the intake and the discharge valves are open when the pump is in operation.
- Ensure the pump is not blocked and it turns in the correct direction, as indicated in point **5.3 ELECTRICAL CONNECTION.**
- Check the motor is working within its defined work range of pressure and flow rate by the manufacturer. With a manometer in the discharge pipe of the pump check that the pressure value indicated is greater than those indicated in the following table, according to the model of the pump:

NEOPUMP	
Minimum Dynamic head	8 m.w.c. (0,8 kg/cm ²)

If the working pressure is inferior to those values, slowly close the valve located at the pump discharge pipe until the minimum working pressure is achieved. Working below this pressure could cause **cavitation** problems inside the pump.

- Check the motor does not exceed the consumption level indicated on the motor rating plate. If it does and the pump is operating within the established working limits, contact with an authorized service technician.

7. MAINTENANCE



DISCONNECT THE PUMP BEFORE PERFORMING ANY MAINTENANCE TASK ON THE PUMP.

REGULAR INSPECTIONS

These actions can be performed by the facility maintenance staff. Regardless of whether there is predictive maintenance, it's very important to check periodically the state of the unit to prevent unexpected operating stops. The main points to check are:

- State of the prefilter: Control and clean the pump basket on a regular basis. The state of the basket can be seen through the transparent cover.
- Cleaning of the basket: In case the basket needs to be cleaned, close the intake and the discharge valves. Remove the prefilter cover and remove the basket. **Never hit the basket to clean it**, simply rinse it out under the tap. Replace the basket in its original position. Before replacing the seal on the prefilter cover, check it and lubricate it with neutral Vaseline. Replace the prefilter cover ensuring a hermetic sealing. Remember to open the intake and the discharge valves again before restarting the pump.
- Cleaning of the transparent prefilter cover: The transparent prefilter cover must be cleaned with water and a neutral detergent. **Never use solvents. Do not place chemical products inside the prefilter.**
- Bearings: The motor bearings are self-lubricating and therefore, do not require lubrication. However, it's recommendable to check if there are abnormal noises or vibrations coming from the motor that could indicate the bearings should be replaced in a short time before they lead to a pump failure.
- Mechanical seal: the mechanical seal is lubricated with water from the pump itself. It does not require lubrication. It needs to be replaced occasionally due to wear or damage. It's also recommendable to check if there is any leakage, however small it be, that could be detected between the motor and the pump housing. If a small leakage is detected, the mechanical seal should be replaced in a short time before it may lead to a pump failure.
- Motor overheating: In normal operation, motor heats up to certain temperature, according to the power of the motor and the operation point in the curve of the pump. However, it's highly recommended to periodically check, during normal operation, both the power consumption and the temperature of the motor. In case any of both (in case of malfunction, normally both) raises, contact with an authorized service technician to check it, to detect and to correct the origin of the problem.



Remember, all changes to the position of the selector valve or the valve manifold of the filter must be made when the pump is stopped.

MAINTENANCE

The maintenance operations must be performed by qualified personnel. The aim of these operations is to solve problems that have occurred during operation and to replace defective components that have caused, or that were about to cause, failure. The most common maintenance operations that can be performed *in situ* are:

- Replacement of seals.
- Replacement of mechanical seal.

- Replacement of the impeller
- Replacement of the diffuser

Check point **7.1 DISASSEMBLY / ASSEMBLY** to have further information about these replacements. Check the point **8. SPARE PARTS** to find the appropriate original spare part.

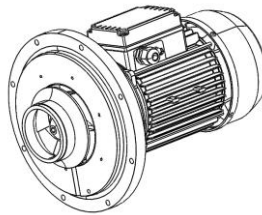
7.1. DISASSEMBLY / ASSEMBLY



CLOSE ALL VALVES BEFORE PERFORMING ANY OPERATION

REMOVING THE MOTOR ASSEMBLY

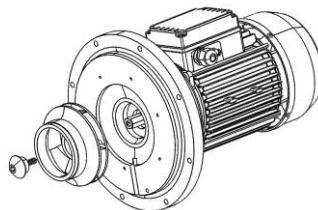
- Disconnect the electrical installation (this step must be carried out by an authorized installer).
- Disconnect and release all the cables in the connection box.
- Release the intake and the discharge pipes.
- Empty the pump by removing the drain plugs and their O-Rings.
- To disassemble and to assemble again the pump, see exploded view drawing in the **SPARE PARTS LIST diagram**.
- **Always use ONLY genuine HAYWARD REPLACEMENT PARTS.**
- To separate the motor from the body, remove the screws, then extract the motor unit together with the diffuser and the turbine.



Detail of the motor unit

REMOVING THE IMPELLER

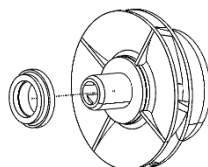
- In order to disassemble the impeller (item 13), remove the impeller nut (item 36) and its O-Ring (item 37) (threated) by using the appropriate wrench or socket. This way the impeller gets released.
- The rotating part of the mechanical seal (item 14), the one with the spring, will also be released when this operation is carried out.



Detail of the disassembly of the impeller

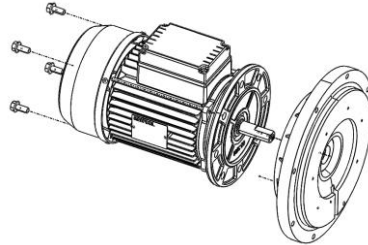
REMOVING THE MECHANICAL SEAL

- The rotating part of the mechanical seal can be released by pulling it along the shaft where it's installed.



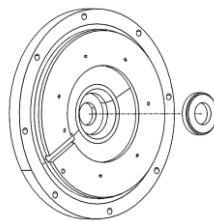
Detail of the impeller with the rotary part of the mechanical seal

- In order to remove the stationary part (item 15) of the mechanical seal (the white ceramic one with the rubber cap), the seal plate (item 17) must be removed firstly from the motor by removing the four head bolts that secure it, using the appropriate wrench or socket.



Detail of the seal plate disassembly

- Press the ceramic seat with rubber cup out of the seal plate. If tight, use a small screwdriver to tap seal out.



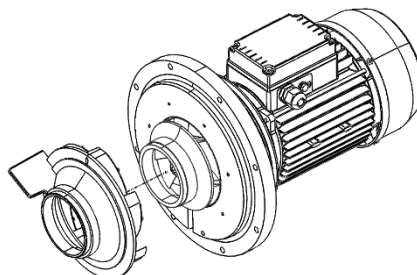
Detail of the stationary part of the mechanical seal

INSTALLING THE NEW MECHANICAL SEAL

- After doing so, it's very important to clean and lubricate, with a dilute solution of non-granulated liquid-type soap, all surfaces where the mechanical seal is going to be installed. Ensure that those surfaces are in good condition, free from scratches and grooves.
- Gently wipe the polished surface of the ceramic seal with a clean, soft, cotton cloth. Lubricate the rubber cup on the ceramic seat and press it firmly and evenly into the recess of the seal plate with the polished side of the ceramic facing out.
- Assemble the seal plate to the motor with the appropriate bolts.
- Gently wipe the black, polished surface of the spring seal assembly with a clean, soft, cotton cloth.
- Press the spring seal assembly onto the motor shaft – black polished surface facing towards the polished surface of the ceramic seat.

REPLACING THE IMPELLER AND DIFFUSER

- Slide the impeller along the motor shaft. Screw the impeller nut onto the shaft. Tighten snugly by holding motor shaft with wrench and preferably use an anaerobic resin to fix the threads.
- Place the diffuser (item 12) over the impeller onto the seal plate, aligning the protruding pins with the matching holes in the seal plate. The diffuser can only be mounted in one position.



Detail of the motor unit with the diffuser

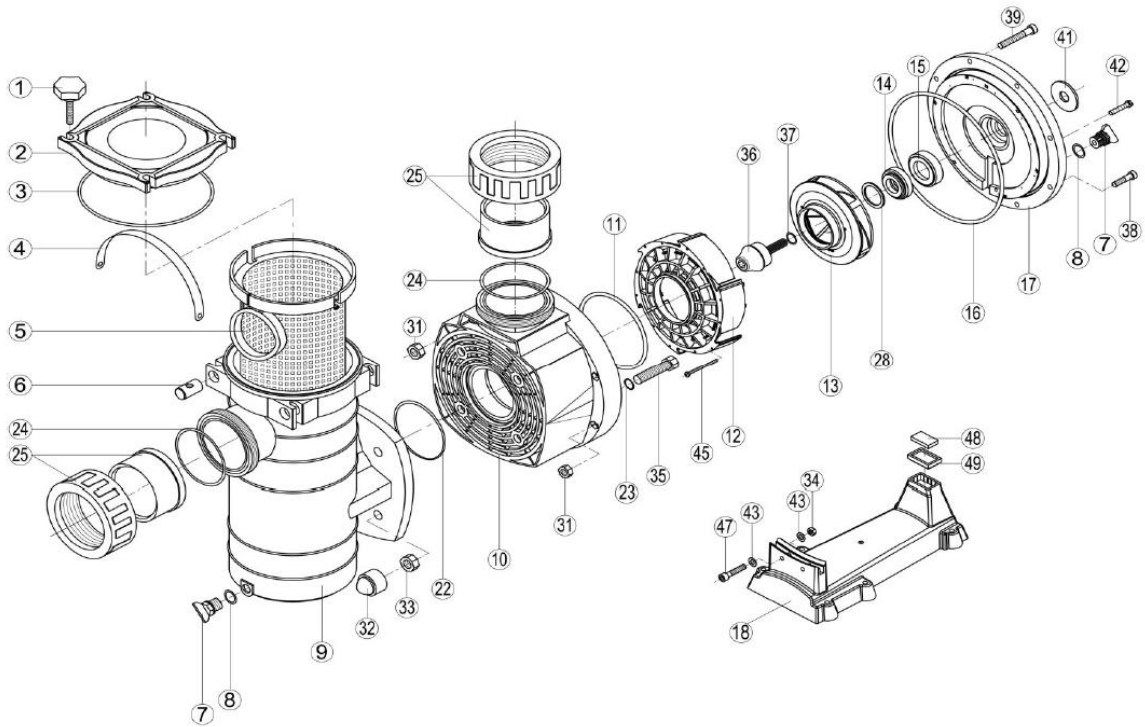
REPLACING THE MOTOR ASSEMBLY

- Re-attach motor end cover by using the screws, if it was removed. Slide the motor assembly with the diffuser in place, into pump housing, being careful not to disturb the diffuser O-ring.
- Re-attach assembly to pump housing using the appropriate bolts. Be sure housing O-ring is in place, and lubricated. Replace if damaged. Tighten alternately and evenly crosswise.

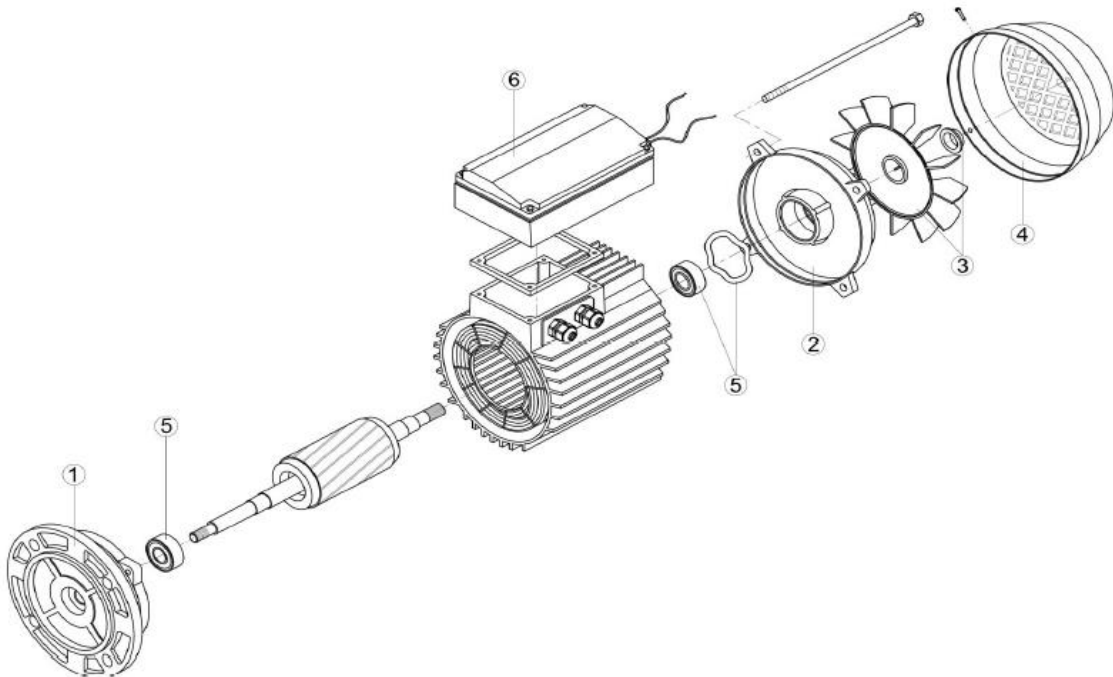
7.2. PRESERVATION

- If the pump is not used for a long period of time, or there is a danger of freezing, empty the body of the pump by releasing the drain plugs equipped with O-rings. First check that the installation, pump, filter and pipes are not pressurized. Before restarting the pump, replace the drain plugs and their respective O-rings and prime the pump as described in point **6.1 PUMP PRIMING**. Keep the motor covered and dry while in storage.
- To prevent issues of condensation or corrosion, do not cover or wrap the pump with plastic film or bags. Keep the pump in a dry place.
- Do not start the motor if it has been affected by flood water. Notify a qualified technician to disassemble the motor and dry it out if possible.

8. SPARE PARTS



COVER PUMP - COVER FAN - FAN



9. TROUBLESHOOTING

GENERAL PROBLEMS

Motor will NOT start:

- Make sure the terminal board connections agree with the wiring diagram on the pump data plate label.
- Be sure the pump is wired for the available field supply voltage.
- Check for and correct any improper or loose wiring connections; open switches or relays; tripped circuit breakers or blown fuses.
- Manually check rotation of the motor shaft for free movement and lack of obstruction. Correct if necessary.

Motor shuts OFF:

- Check for low voltage or power drop at the motor (frequently caused by undersized wiring). Contact a qualified professional to verify the electrical connection and that the voltage is within $\pm 10\%$ of the motor nameplate voltage rating.

Motor hums, but does NOT start:

- Check power supply voltage. Contact a qualified professional if the voltage is more than 10% lower than the motor nameplate voltage rating.
- Impeller jammed with debris. Have a qualified repair professional open the pump and remove the debris.

Pump won't Prime:

- Follow instructions indicated in point **6.1 PUMP PRIMING**.

Low Flow – Generally:

- Clogged or restricted prefilter or suction line. Clean skimmer prefilter and/or pump prefilter basket.
- Undersized pool piping. Correct the piping size.
- Plugged or restricted discharge line of filter, valve partially closed (high gauge reading). Sand filters – backwash as per manufacturer's instructions. Cartridge filters – clean or replace the cartridge(s).
- Air leak in suction (bubbles issuing from return fittings). Re-tighten the suction and discharge connections using PTFE tape. Inspect other plumbing connections and tighten as required.
- Plugged, restricted, or damaged impeller. Replace the impeller including a new seal assembly.

Noisy Pump:

- Air leak in suction piping, cavitation caused by restricted or undersized suction line or leak at any joint, low water level in pool, and unrestricted discharge return lines. Correct the suction condition or throttle return lines, if practical. Holding your hand over the return fitting will sometimes prove this, or by putting in a smaller eyeball fitting.

- Vibration due to improper mounting, etc. Ensure the pump is properly fixed on its foundation.
- Foreign matter in the pump housing. Loose stones/debris hitting the impeller could be the cause. Clean the pump housing.
- Motor bearings can become noisy from normal wear, rust, overheating or concentration of chemicals. If the motor bearing seal is damaged from leaks, chlorinated water can seep into bearing washing out the grease and could cause the motor bearing to whine. Replace the motor bearings and any seal leaks should be repaired at once by replacing the shaft seal.
- Place the pump closer to water level.

10. WARRANTY

HAYWARD IBERICA S.L.U. will not respond for the wrong operation of the pumps for any damage caused by undue handling or modifications and/or if they are used in unadvisable applications or fail to comply with the minimum requirements mentioned herein. Nor will they be held responsible for any imprecision in this manual due to errors in printing or transcription. All rights are reserved to introduce any alteration in the apparatuses that they might deem necessary or useful and which do not jeopardize the essential characteristics.

11. DECLARATION OF CONFORMITY

Declaration of conformity

We, **HAYWARD IBERICA, S.L.U.**, declare under our own responsibility that our products **NEOPUMP SERIES** comply with the Directive 2006/42, 20004/108, 2006/95 and following modifications.



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