SEABIN V5 HYBRID

Technical Notice

PORALU MARINE
OFFICIAL SUPPLIER

Edition 1 – 02/20/2018

PORALU MARINE / ROTAX is the official supplier of SEABIN V5 HYBRID

The fabrication and sale of SEABIN V5 HYBRID is performed by SAS ROTAX: 428 652 531 R.C.S. BOURG-EN-BRESSE (FRANCE) – Subsidiary of SAS NOVA NAUTIC: 511 219 370 R.C.S. BOURG-EN-BRESSE (FRANCE) – known under "PORALU MARINE" trademark. Geographic location: RUE DES BOULEAUX ZONE INDUSTRIELLE - 01460 PORT, (FRANCE).

Websites : http://www.ROTAXmarine.com/accueil_13.en.html
and http://www.poralumarine.fr/accueil_54.en.html.

PORALU MARINE
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Further information at: http://seabinproject.com/

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1 INTRODUCTION

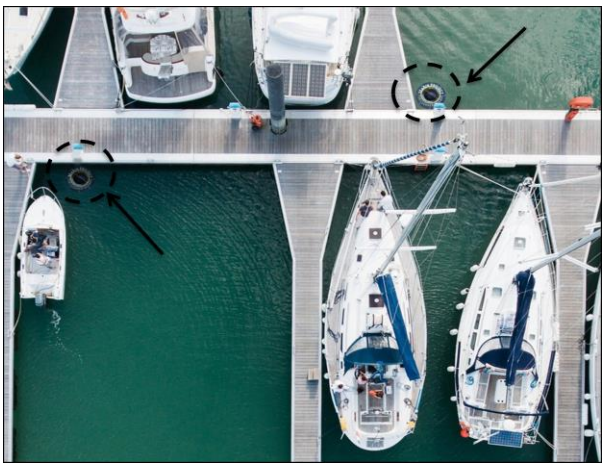
1.1 ELIGIBILITY CONDITIONS

SEABIN VY HYBRID units must only be installed in marinas, ports or any body of water with a calm environment and services available where:

- Maximum water current speed range equal or below **1,5 knots**
- Maximum wave height in the marina equal or below **0,3 meters**
- There is a minimum **1.2 meters** of draught on the lowest astronomical tide
- SEABIN units will be positioned on **floating docks** or pontoons
- Freeboard range between **320mm minimum and 820mm** maximum
- **Maximum distance** to an electric energy supply point is 6 meters.
- Voltage provided is **110V** or **220V**
- There is **staff to maintain SEABIN regularly**

1.2 LOCATION

Each SEABIN must be installed in a specific “Debris Problem” area. This strategic positioning enables the wind and the currents to push the debris directly to the SEABIN.



1.3 NECESSARY TOOLS FOR INSTALLATION

Please, prepare:

- 3 Polygonal keys 17-19-24

- Fixation screws adapted to your pontoon type

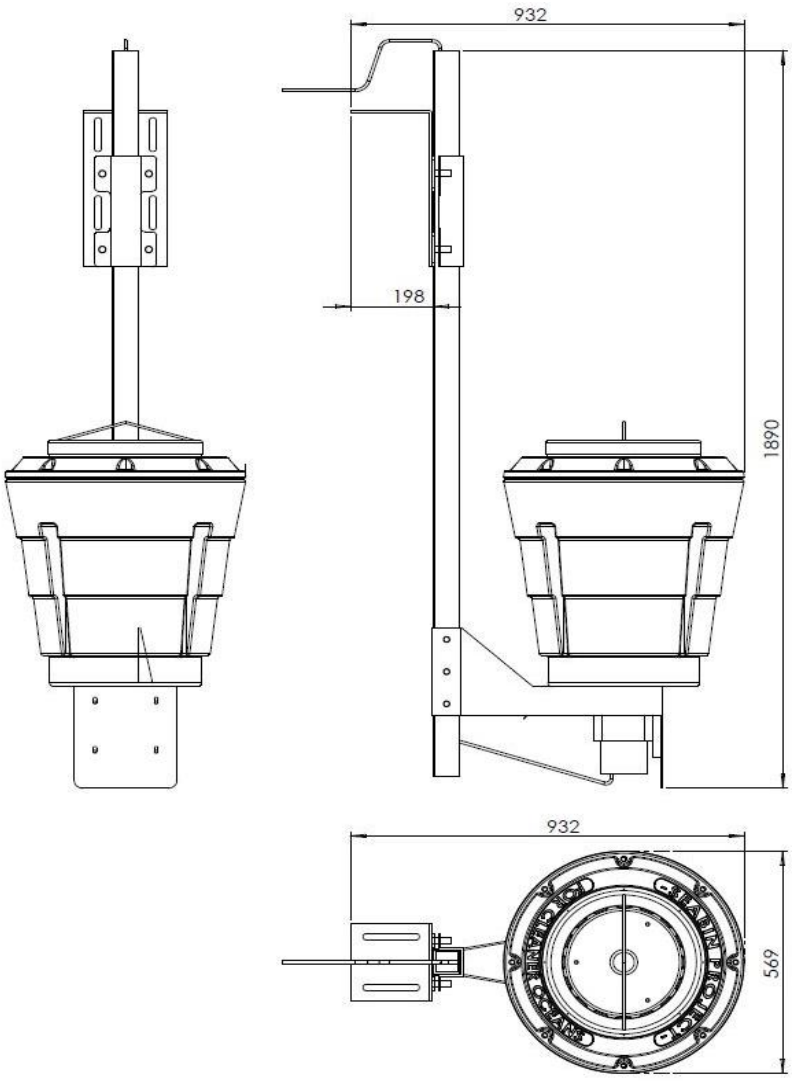
  Fixation srews are not supplied and must imperatively be stainless steel A4 – AISI 316L

- A male electrical plug, suited for your electrical network.

  Plug are not supplied. Format must be adapted to your electrical network

1.4 TECHNICAL SPECIFICATIONS AND DIMENSIONS

- Power 110V / 220V, 500 watts
- Pump: 25,000 LPH
- Sturdy HDPE construction
- Marine grade stainless bracket
- Capture micro plastics > 2mm
- Catch bag holds 20kg
- Weight with bracket: 57 kg
- Electrical cable: 6 meters



1.5 HANDLING

SEABIN is delivered as follows:

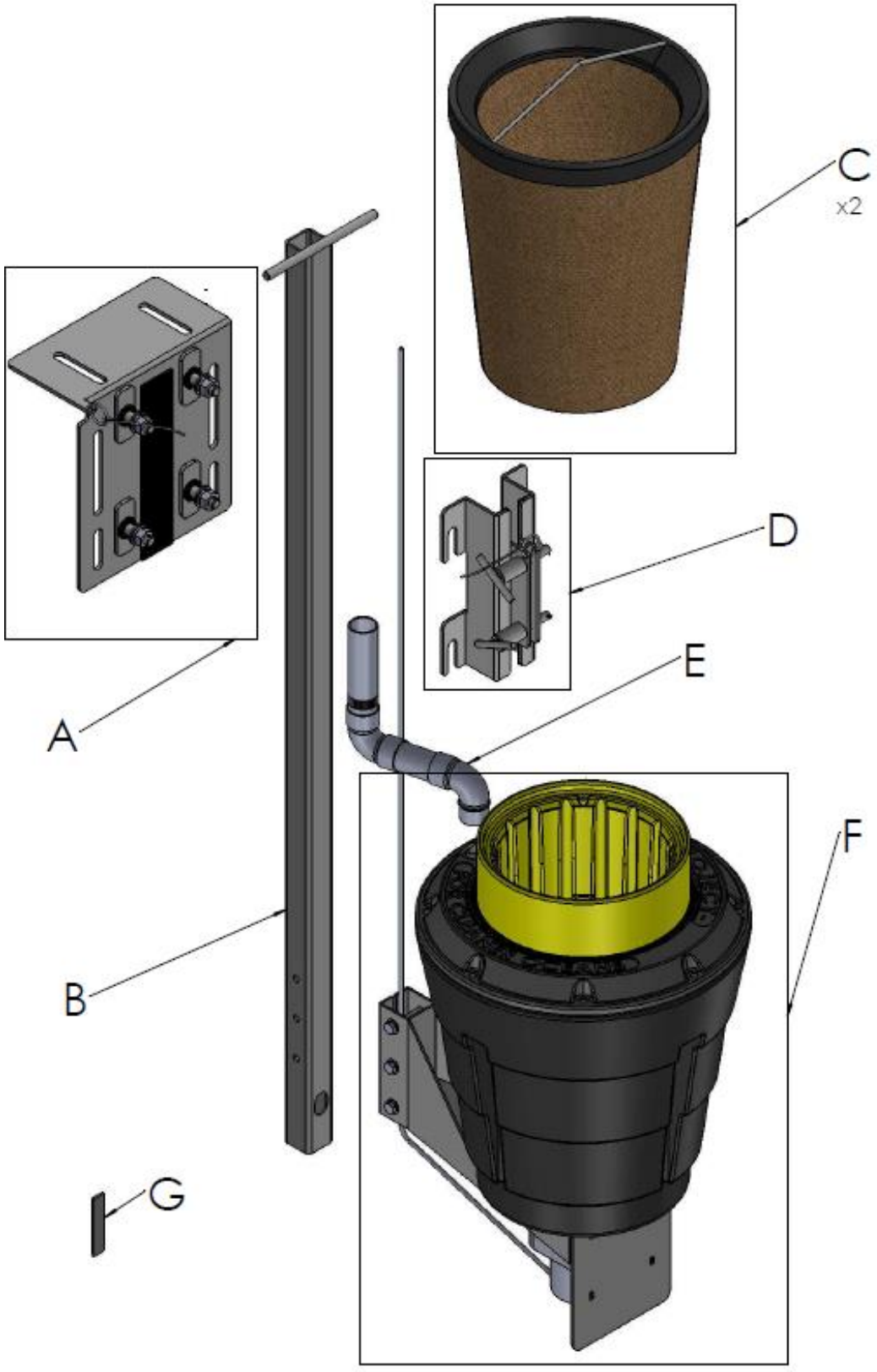
- Parcel: l100XL80XH63 – Weight : 49kg
- Parcel: l200XL15XH15- Weight : 8kg

Once delivered, parcels must be only handled with heavy freight equipment

1.6 NOISE AND INDIVIDUAL PROTECTIVE EQUIPEMENT

- SEABIN sound level remains under 70DB and does not require the use of anti-noise equipment
- To limit the risks, when installing and handling SEABIN, we advise you to wear personal protective equipment against drowning.

1.7 SUBSETS PLAN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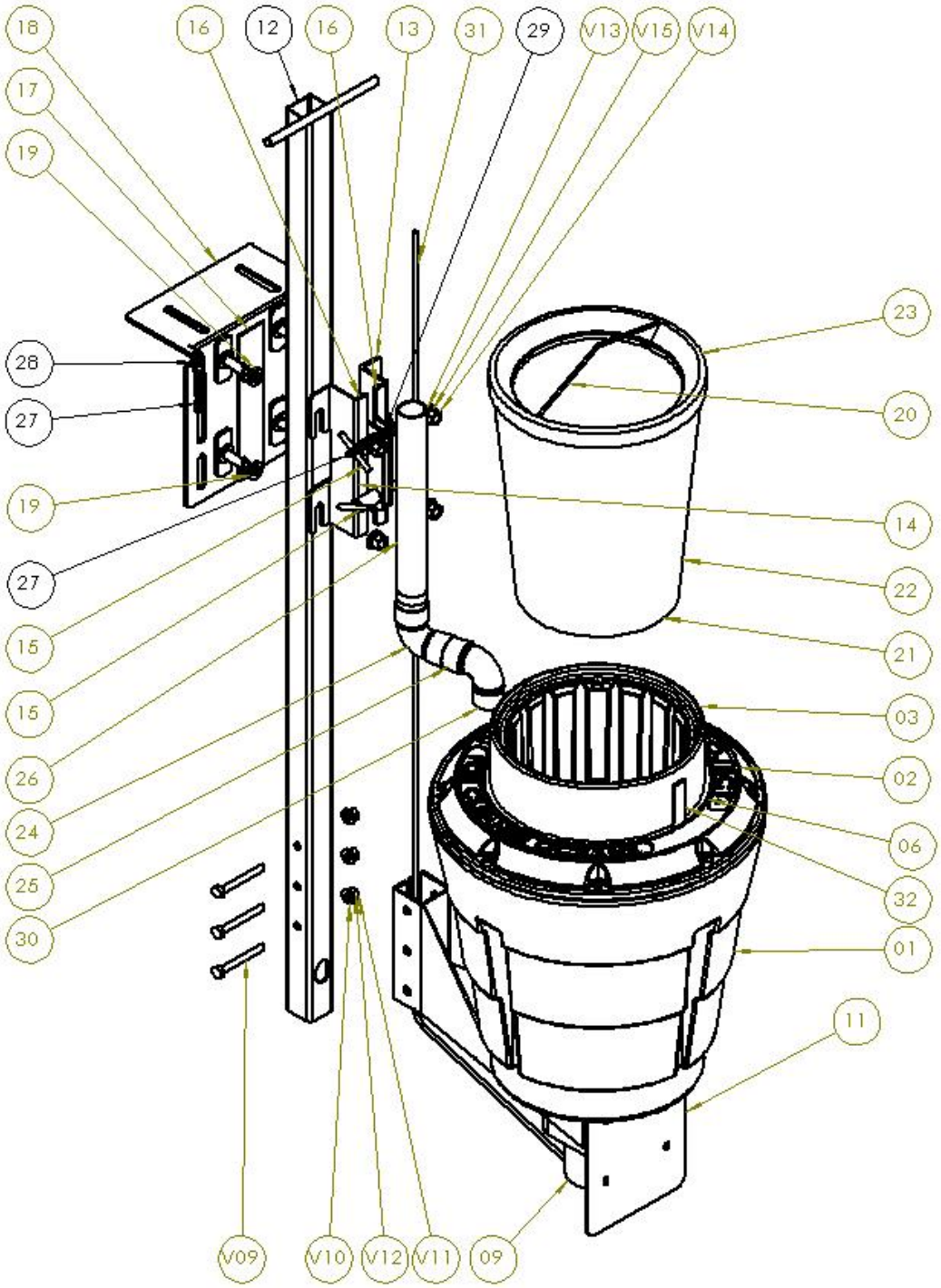
1.8 DETAILED PLAN



PARTS				
N°	**DESCRIPTION (English)**	**DESCRIPTION (French)**	**QTY**	
18	DOCK BRACKET	EQUERRE BRACKET	1	**A**
19	RUBBER WASHER	RONDELLE CAOUTCHOUC	4	
17	REAR RUBBER PAD	PLAQUE ARRIERE CAOUTCHOUC	1	
28	CHAIN FASTENER D5	ATTACHE RAPIDE CHAINE D5	1	
V13	STAINLESS WASHER M16	RONDELLE M16	4	
V14	STAINLESS NUTS M16	ECROU M16	4	
V15	STAINLESS SPRING WASHER M16	RONDELLE ELASTIQUE M16	4	
12	BRACKET POST	TUBE BRACKET	1	**B**
13	LEFT COVER PLATE	PIECE DE BLOCAGE GAUCHE	1	**D**
14	RIGHT COVER PLATE	PIECE DE BLOCAGE DROITE	1	
15	CLAMPING PART	PIECE DE SERRAGE	2	
16	FRONT RUBBER PAD	PLAQUE AVANT CAOUTCHOUC	2	
27	CHAIN D3 L500	CHAINE D3 L500	1	
29	CHAIN FASTENER D3,5	ATTACHE RAPIDE CHAINE D3	1	
01	OUTER CASE	CUVE	1	**F**
02	LID	COUVERCLE	1	
03	INNER FLOAT	FLOTTEUR	1	
06	BRUSH	BROSSE	1	
09	POWER PUMP 220 V.	POMPE 220 V.	1	
11	BRACKET BASE	BASE BRACKET	1	
31	ELECTRIC TUB LENGTH 3m	GAINE ELECTRIQUE LONG. 3m	1	
V09	STAINLESS SCREW TH M12x100	VIS TH M12x100	3	
V10	STAINLESS WASHER M12	RONDELLE M12	3	
V11	STAINLESS NUTS M12	ECROU M12	3	
V12	STAINLESS SPRING WASHER M12	RONDELLE ELASTIQUE M12	3	
20	TOP CATCH BAG FRAME	STRUCTURE SAC SUPERIEURE	2	**C**
21	BOTTOM CATCH BAG FRAME	STRUCTURE SAC INFERIEURE	2	
22	CATCH BAG	SAC	2	
23	CATCH BAG COVER	COUVERCLE SAC	2	
24	BREATHER TUB PIPE BEND F/F	COUDE TUBE EVENT F/F	1	**E**
25	BREATHER TUB PIPE 1 L62	TUBE EVENT 1	1	
26	BREATHER TUB PIPE 2 L430	TUBE EVENT 1	1	
30	BREATHER TUB PIPE BEND M/F	COUDE TUBE EVENT M/F	1	
32	BLOCKING WEDGE	CALE DE BLOCAGE INNER FLOAT	1	**G**

2 INSTALLATION GUIDE

Installation must be performed by a qualified staff member,
aware of electrical risks and safety procedures

To install your SEABIN:

1. Assemble the Bracket Post (B) and the Main Body (F) and fasten only one of the 3 screws to allow for space
2. Put the electric cable (31) inside the Bracket Post (B) and pull it up
3. Fasten the 2 remaining screws
4. On the intended pontoon, place the Dock Bracket (A) and fasten the screws.

Screws used for fixing SEABIN on its floating pontoon are not supplied. They are specific and vary depending on your pontoon manufacturer and pontoon type. They must imperatively be stainless steel A4 (AISI 316L)

5. Assemble the Breather Tube (E) and the Lid (02, F)

6. Gently put your SEABIN into the water

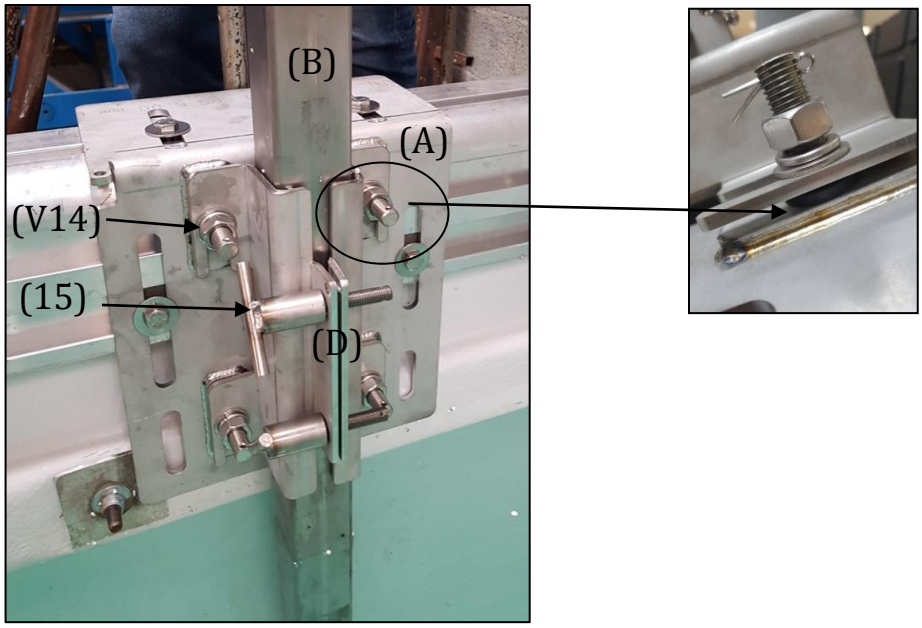
We highly recommend that SEABIN be manoeuvred by 2 people.

7. Position SEABIN at the center of the Dock Bracket (A) and let water gradually fill up.

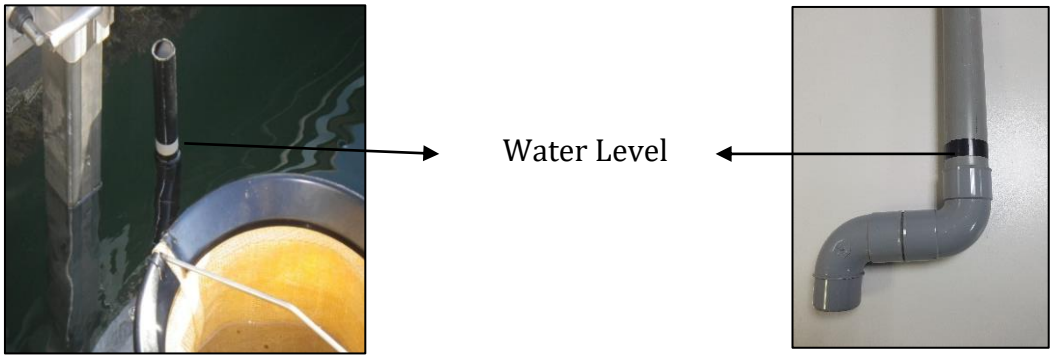
8. Place the Cover Plate (D) onto the Dock Bracket (A).

9. Make sure that only the rubber washer remains positioned under the Cover Plate (D) onto the Dock Bracket (A)

10. Fasten the nuts (V14) of the Dock Bracket (A) first and fasten the fixation clamps (15) of the Cover Plate (D)

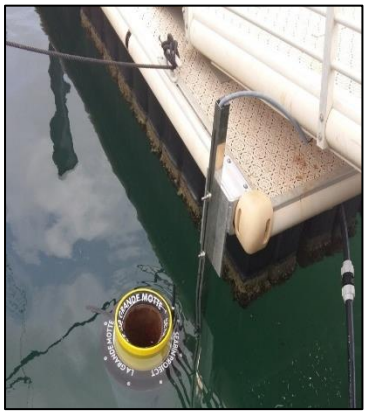


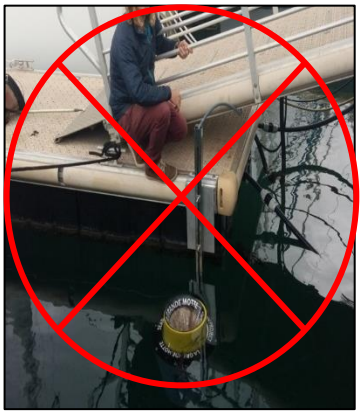
11. Adjust the height of your SEABIN: the mark on the Breather Tube (E) must correspond to the water level.



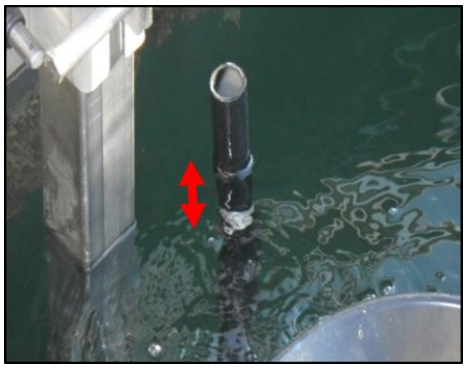
12. Free the intended pontoon of all weight, in order to check if the water level remains on the Breather Tube's mark.

    The mark on the Breather Tube must correspond to the water level, when the pontoon is free of all weight





13. If the Breather Tube's mark does not correspond to the water level, assess the gap



Then readjust the height of your SEABIN:

14. Slightly unfasten the Cover Plate's fixation clamps (15)

15. Slide the bracket post up to the desired height, in order to allow for the Breather Tube's mark to match the water level when the pontoon is free of all weight.

16. Fasten the fixation clamps (15)

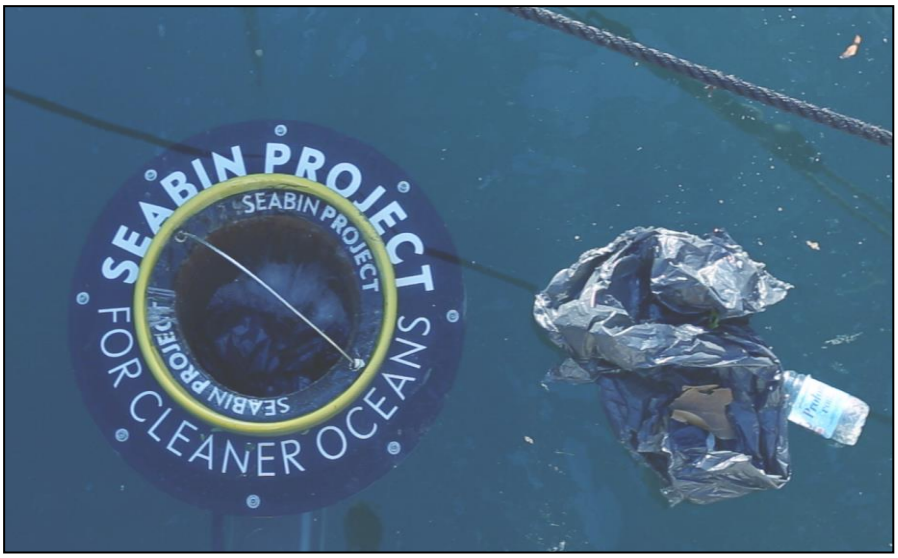
17. Position the bag (C)

DO NOT turn on your SEABIN before you have diligently placed the bag in its position. Failure to comply may result in damages on the pump.

18. Connect your SEABIN to your electrical network

The electrical installation has to comply with the standards EN 60204 to avoid any risk

19. Your SEABIN can start !



3 MAINTENANCE GUIDE

Maintenance has to be performed by a qualified staff member, aware of electrical risks and safety procedures.

3.1 CATCH BAG CHANGE

Your SEABIN must imperatively be turned off prior to any bag change or any other bag maneuver. Failure to comply may result in damages on the pump.

- Turn off your SEABIN and keep the cable near you.
- Empty and replace catch bags as often as necessary, using a hook.

3.2 REGULAR CLEANING

Every SEABIN must be cleaned at least once per month. Under specific site conditions (temperature, salty waters, etc) your SEABIN might require this frequency to be adjusted.

- Do NOT turn off your SEABIN
- Do NOT retrieve the catch bag

- Partially untighten the fixation clamps (15) to allow the bracket post (B) to slide up.
- Gradually slide your SEABIN upwards to allow water to evacuate the main tank.
- Pull your SEABIN up to its highest position.

- Turn off your SEABIN and tighten the Cover Plate's fixation clamps (15) of the Cover Plate (D)
- Remove the catch bag
- Lift manually the float (03) and position the stopper (G)

- Water pressure wash with water to eliminate all biogrowth (algae, shells, etc)

  Do not use any aggressive or corrosive products and tools

3.3 TANK DECLUTTERING

There is no need for specific maintenance on the pump. But in case debris accidentally come to obstruct it by accident, follow the below procedure:

- Take your SEABIN out of the water onto the pontoon following the installation procedure detailed in this technical notice in reverse order

When SEABIN is turned off and out of the water:

- Unscrew the nuts from the lid (02)
- Remove the lid (02) and the inner float (03)
- Clean the obstructing debris
- If the problem remains, please refer to the "Maintenance of the Pump" section on this guide

3.4 PUMP MAINTENANCE

- In the unfortunate event of waste obstructing the pump, proceed first to declutter the tank following the steps detailed in this notice
- If needed, clean the pump: unscrew the pump (09) from the Bracket Base (11). Follow the cleaning procedure as detailed in the pump notices

3.5 PUMP TECHNICAL NOTICES

Cf. Appendices : 110 V, 220 V pump technical notices

4 HELP / FAQ

I need to replace a wearing part (catch bag, pump, brush, anode…)

Poralu Marine provides a complete range of SEABIN's parts. Please, note that all spare parts must strictly be supplied by Poralu Marine. Any component, which does not pertain to Poralu's wearing parts/spare parts list cannot be installed on your SEABINS. If installed, this is done at your own cost and risk.

My bag is clogged

Depending on the quality of the water (e.g.: mudd), your catch bag may clog. It is imperative to regularly pressure wash your catch bags.

SEABIN is sucking air instead of water (white bubbles or foam at the surface of water)

SEABIN's water level mark is above the water and needs to be readjusted to be at the water height.

SEABIN's water flow seems slow / the inner float remains in its upper position

1. The pump may be obstructed and your SEABIN needs to be removed from the water to clear the water intake. Refer to 'Decluttering & Maintenance of the Pump' sections of this guide

2. The Catch Bag filter may be clogged with debris and needs pressure cleaning.

3. The SEABIN may have a build up of marine growth and needs cleaning. Follow SEABIN cleaning instructions.

4. There may be some debris caught in between the Inner Float and the SEABIN Lid. Turn off the SEABIN and push down firmly multiple times to clear the debris.

If the obstruction remains, Please contact your distributor.

5 WARRANTY

5.1 GENERAL CONTRACTUAL WARRANTY CONDITIONS

5.1.1 SCOPE

ROTAX provides a contractual warranty for all products manufactured.

ROTAX guarantees the customer against all defects in materials, manufacture, execution and installation of goods it has supplied, whether these defects are hidden or apparent. Should the defect be apparent, the Customer must notify ROTAX as soon as possible after receipt or admission of products, by registered letter.

This warranty terminates two year (2 YEARS) after the earliest of the following dates: the putting into service of the installation, signature of the statement of receipt or admission, or failing these after the invoicing date.

Interventions under the warranty cannot have the effect of extending the period of this warranty, the completion date for the warranty remains the initial due date.

Under this warranty the only obligation incumbent on ROTAX will be its choice of the free replacement or repair of the product or the article recognized to be defective by its services, unless this method of compensation proves to be impossible or disproportionate. In all cases the responsibility within the framework of this warranty is limited to the price of the product in question and does not extend to consequential losses.

To benefit from the warranty any product must first be submitted to the After-Sales Service of ROTAX or one of its accredited partner, the agreement of which is essential for any replacement, after verification in particular of the conditions of eligibility, the conditions of installation, the site conditions, the conditions for use and the maintenance conditions. It is the responsibility of the final client to provide ROTAX with a statement of maintenance operations performed on the guaranteed installation. Any absence of these detailed statements or any modification/maintenance operation not validated by ROTAX, would in fact cancel the warranty for the installation, without the customer being able to require any compensation whatsoever.

For the execution of its warranty ROTAX makes the necessary products available "ex-works".

5.1.2 EXCLUSIONS

ROTAX does not guarantee wearing parts, a list of which may be provided to the customer on request. Goods not manufactured by ROTAX will be subject to the warranties of their manufacturers (list provided on request).

The warranty does not apply for obvious defects at reception or admission not notified to ROTAX.

Any damage caused by normal wear or misuse by the Customer and/or contrary to the recommendations of ROTAX is excluded.

Defects or deterioration caused by natural wear or by an external accident, or even by a product modification not scheduled or specified and/or not authorized by ROTAX, are excluded.

The customer will be routinely responsible for delivery charges. ROTAX will not be responsible for the costs of dismantling, reassembly, transport and labour, which will remain the responsibility of the Customer.

The warranty does not apply when the client defaults on payment of the price of the order.

ROTAX is relieved of its present warranty obligations for any damage caused by any unforeseen circumstance or force majeure.

The customer cannot claim any compensation whatsoever in the event the goods are immobilized due to the application of the warranty.

The customer is solely responsible for the final choice of products.

This warranty is only attributable to equipment invoiced to the original purchaser and will not be transferrable, even for the benefit of any sub-purchaser of the equipment whatsoever.

In no circumstances can ROTAX be held responsible for damages or incidents, direct or indirect, consequent to a defect covered by the warranty.

In no circumstances can a claim be made under this warranty for any defect in engineering, design, installation, sizing or anchoring system, and its consequences on the products, when these services have not been provided under the responsibility of ROTAX

5.2 SPECIFIC WARRANTY CONDITIONS

The conditions for the execution of this warranty are compliant with the General Warranty Conditions defined above, apart from the following indications

5.2.1 SCOPE

ROTAX guarantees SEABIN V5 HYBRID against any structural damage impacting all relevant mechanicals properties, in conditions of normal use, for a period of 2 years. The date this warranty takes effect is determined in compliance with the General Warranty Conditions. The reference articles used are:

- The effective slide mechanism of the inner float inside the tank
- Suction of debris surrounding SEABIN V5 HYBRID
- Bracket fixation system's proper functioning

ROTAX guarantees its rotomoulded parts against fissuring or cracking and deterioration by UV, salt water, attacks by animal and plant species and hydrocarbons.

5.2.2 EXCLUSIONS

This warranty does not cover the products for which the conditions for storage, installation or use are not compliant with technical notice provided by ROTAX.

This warranty does not cover deteriorations which result from negligence, improper use, alteration to the PE shell of rotomoulded parts, effects of gales, storms or ice movements, or non-compliant installations or supports.

This warranty does not cover deteriorations which result from a failure to comply with maintenance & cleaning instructions. The improper use of any aggressive product to clean V5 HYBRID SEABINS is excluded from this warranty.

This warranty does not cover corrosion, when resulting from a failure to comply with maintenance instructions as provided by ROTAX. The improper use of any corrosive product to clean VY HYBRID SEABINS is excluded from this warranty.

ROTAX is not responsible for faulty pontoons fixation systems designed by V5 HYBRID SEABIN's clients

This warranty does not cover the use of wearing parts when not supplied by Poralu Marine. Nor does this warranty cover damages caused by the use of screws which are not strictly stainless steel A4 – AISI 316L

This warranty does not cover uniform decoloration, due to natural elements or improper use of V5 HYBRID SEABINS.

6 APPENDICES

6.1 TECHNICAL NOTICE 110V PUMP

Please read these Instructions completely before using your pond pump.

Model	Rated voltage	rated current input	Motor	Flow	Max. Total head	Max. operation depth
PXPWP15000	120V,60Hz	2. 55A	EM-15000	15000L/h	6.5m	2m
PXPWP20000	120V,60Hz	3. 55A	EM-20000	20000L/h	7.5m	2m
PXPWP25000	120V, 60Hz	3. 8A	EM-25000	25000L/h	8.5m	2m
PXPWP30000	120V, 60Hz	4. 5A	EM-30000	30000L/h	9.0m	2m

These pumps are used as submersible and non-submersible pumps provided with overload-protected devices in garden ponds, fountains, terraced fountains, indoors fountains to circulate and oxygenate clear water. You can use the suction cups or four screws to fix it. It is fixed to any appropriate bases. Make sure that the appliance is securely installed before operating it.

These pumps are not for use in swimming pools!

CAUTION: **These Pumps** should be installed according to your local electrical installation code. Please contact an electrician.

For all technical data, please refer to the content stated on the rating label of the pump.

Safety instructions

- Read and observe all the instructions supplied with the appliance and on the appliance.
- Make sure that you outlet voltage corresponds to the stated on the rating label of the pumps.
- Make sure the appliance is securely installed before operating it.
- The electrical connection should be located in a water-proof area and should be at least 2 meters (6 feet) away from the edge of the pond (see fig.1).
- Keep the electrical connections dry! Ensure that the electrical cord loops below the electrical outlet to form a “Drip Loop”. This will prevent water from running down the cord into the electrical outlet.
- Always unplug the appliance when not in use, before putting on or taking off parts, before cleaning the pumps and before doing any work for the fountain or pond.
- The pump must not be used when people are working in water. Please disconnect the pump first.
- Do not operate any appliance with a damaged cord or plug, or in abnormal state. The supply cord of the appliance cannot be replaced.
- **If the cord is damaged the appliance should be scrapped.**
- For safety reasons, any repair work should be done only by the manufacturer of the products or the authorized service facility or discard it.
- Never hang or transport the pump by means of pulling the power cord!
- Close supervision is necessary when the appliance is used by or near children.
- If you want to disconnect the pump, you can pull out the plug and the plug must be placed where

you can access it.

- Never use of accessories which are not recommended by the appliance manufacturer. It may result in fire, electric shock and/or personal injury.
- The pump is to be supplied through a residual current device (RCD) with a rated residual operating current not exceeding 30mA.
- Min. Length of power cord: 12m.
- To protect against the risk of electrical shock, do not immerse the plug in water or other liquid.

Used as submersible pumps (see fig.1)

IMPORTANT: Do not let the pump run dry – this could cause damage to the motor.

- Submerse the pumps completely in your pond so as to make the pump body fill with water.
- A water level of approx. 15 cm (6 in.) is required for submersible use in order to prevent the pump from taking in air. (See fig.1)
- To prevent the filter becoming prematurely clogged, place the fountain pump above the mud in the pond!
- Install the enclosed filter sponge to prevent the fountain inlet from becoming clogged.
- The pump is designed to accommodate 1" internal threads as well as 1" external threads through the socket (fountain jets, nozzles, water height regulators, standpipes, etc.).
- Running in conjunction with fountain jets, the pump should be stationed firmly and horizontally (on a brick).
- The pump can be switched on by simply plugging it in and switched off by plugging off.
- The water temperature should not exceed 35℃ (95℉) and do not let the pump freeze in the wintertime.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

Used as non-submersible pumps (see fig.2)

- Position the pump lower than the water surface on the side of the pond so that the water can be drained to the pump because it is not self-priming.
- Remove the filter cover **(see fig. 3)** and connect suction hose (A) and pressure hose (B) from the pump. The connection should be waterproof.
- Fill the suction hose and pump with water before turning it on.
- To prevent the pump from becoming clogged, provide the suction hose with an adequate suction filter.
- The pump is only suitable with a FI-switch 30 mA and has to be connected to a regular safety plug socket. Never let the pump run dry.

Overload protection

The pump has a built-in thermal overload trip which prevents the pump from overheating. The pump must be allowed to cool down before restarting.

If the pump will not start again automatically when cooling down, please check the following conditions:

- Is there a sufficient water supply? → *add water if necessary*
- Has the filter become clogged? → *Clean it if necessary*
- Has dirt entered the pump housing? → *follow the cleaning instructions below*

- Have hoses or jets become clogged? → *clean them if necessary*
- Has the pump sufficiently cooled down after overheating?
- As soon as you have completed this checklist, you can start the pump again by plugging it back in.

Maintenance and cleaning (see fig. 3 and 4)

1. Follow these safety instructions. Make sure that the pump is unplugged.
2. Press the filter cover (1) together laterally and take it from the pump housing (6).
3. Loosen the 4 outer screws (9).
4. Unclip the pump housing (6) from motor housing (4).
5. Remove the rotor (8) from motor housing (4).
6. Clean all parts using water and soft sponge.

Assembling the pump together:

- Place the rotor (8) in motor housing (4) with caution.
- Make sure the rotor is assembled correctly and will turn freely and check the position of the sealing ring (7) on the pump housing (6).
- Put the pump housing (6) in the motor housing (4) and tighten the 4 screws (9) uniformly.
- Place the filter cover (1) and filter sponge (2) on the pump housing (6). Make sure that the lateral lugs of the filter cover must lock the pump housing (6).

WARNING:

- Risk of electric shock - This pump is supplied with a grounding conductor and grounding type attachment plug. To reduce risk of electric shock, be certain that it is connected only to properly grounded, grounding-type receptacle.
- To reduce the risk of electrical shock, use only on portable self-contained fountains no larger than 5 feet in any dimension.
- Risk of Electric Shock, Do not remove cord and strain relief. Do not connect conduit to pump.
- This Pump Has Been Evaluated for Use With Water Only
- Reduce risk of electric shock during operation of this pump requires the provision of acceptable grounding.
- Risk of electric shock – This pump has not been investigated for use in swimming pool or marine areas
- Do not connect to any voltage other than that shown on the pump.
- Always disconnect from electrical outlet before handling the pump.
- Don't operate without water.
- Operate pump completely submerged for proper cooling.

  DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

Figure 1

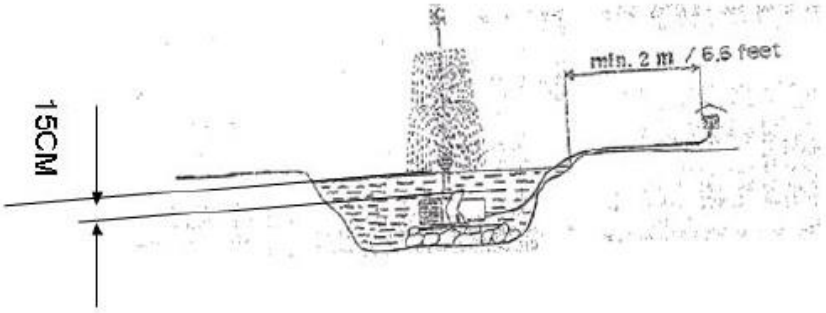


Figure 2

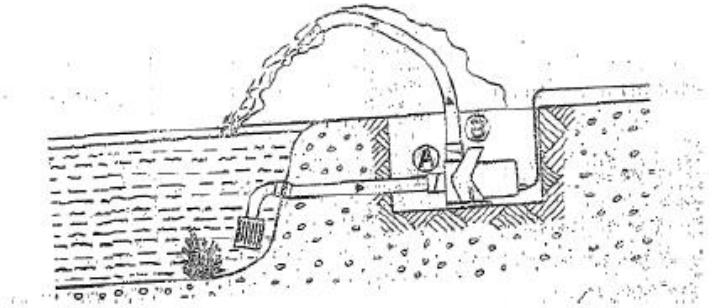


Figure 3

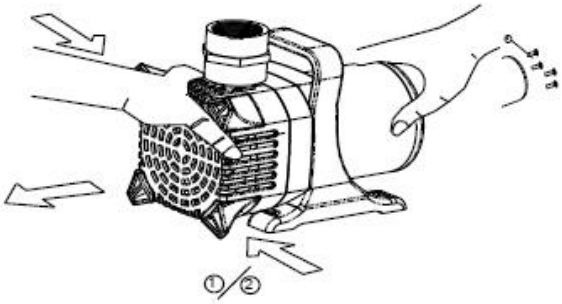
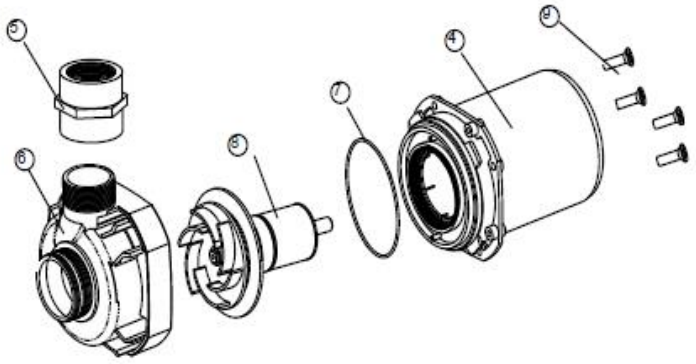


Figure 4



6.2 TECHNICAL NOTICE 220V PUMP

Solids Handling Filter Pond Pump

Model	Power Rating	Max Flow	Max. Head	Dimensions LWH	Outlet Size mm
PXPW20000	420w	20000 LPH	7.0m	422×192×198mm	25/32/40
PXPW25000	520w	25000 LPH	7.5m	422×192×198mm	25/32/40
PXPW30000	660w	30000 LPH	7.5m	422×192×198mm	25/32/40

All pumps can handle solids up to 9mm.
All pumps come complete with 10m electrical cable.
All pumps have a rated voltage of 220-240V, 50Hz.
Maximum operating depth 2m.

Your pump must always be immersed in fresh water before it is switched on.

General safety Instructions
Read and observe all of the instructions clearly before installing, connecting and operating the pump.
Make sure the pump is securely and correctly installed before switching on.
Always disconnect the pump when not in use and when carrying out maintenance.
Always disconnect all equipment in the pond before starting to handle, maintain, repair or install any pond equipment.
The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.
For safety reasons, servicing or repair of this item should only be carried out by pondXpert.

Occasionally large solids make block the holes in the filter cage surrounding the pump – these should be carefully wiped away.
A clogged or dirty intake will put a strain on the motor and greatly reduce its performance. If the area where the pump is stood is very dirty, raising its position slightly will assist flow. To clean the pump, remove the impellor housing and impellor. Use clean water and a small brush to remove debris. Check that the hoses or the outflow are not blocked. A garden hose can be used to flush out any algae.

Overload protection
The pump has a built-in thermal overload trip which prevents the pump from overheating. The pump must be allowed to cool down before restarting.
If the pump will not start again automatically when cooling down, please check the following conditions:

- Is there a sufficient water supply? *Add water if necessary*
- Has the filter become clogged? *Clean it if necessary*
- Has dirt entered the pump housing? *Follow the cleaning instructions*
- Has the pump sufficiently cooled down after overheating?
- As soon as you have completed this checklist, you can start the pump again by plugging it back in.

Periods of operation
Protect your pump against frost damage. Take your pump from the water during winter.

Used as non-submersible pumps
This pump can be run 'dry' – ie, out for water (useful for gravity-fed filtration systems).

- Position the pump lower than the water surface on the side of the pond so that the water can be drained to the pump because it is not self-priming.
- Remove the filter cover (see fig. 1) and connect suction hose and pressure hose) from the pump. The connection should be watertight.
- Fill the suction hose and pump with water before turning it on.
- To prevent the pump from becoming clogged, provide the suction hose with an adequate suction filter.
- The pump is only suitable with a FI-switch 30 mA and has to be connected to a regular safety plug socket. Never let the pump run dry.

Directions for use

Installation

Once installed the pond water will flow through the pump as the pump's impellor draws in water. It is always best to position your pump at the opposite end to where the water returns to the pond to provide maximum circulation.

Your pond is supplied with a hosetail. This should be screwed into the threaded pump inlet. Pond hose size 25-40mm (1" to 1 3/4") can be attached to the inlet hosetail. Cut the inlet hose to the size appropriate to the size of hose you are using. Then connect the hose from your pump to your filter system or position it where you want the water to return. Ensure a watertight seal by the use of hoseclips.

Submerse the pumps completely in your pond so as to make the pump body fill with water. A water level of approx. 15 cm (6 in.) is required for submersible use in order to prevent the pump from taking in air.

Fig. 1

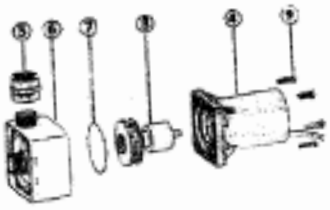


Fig. 2

Fig. 3

Maintenance and cleaning (see fig. 1 and 2)

1. Follow these safety instructions. Make sure that the pump is unplugged.
2. Press the filter cover (1) together laterally and take it from the pump housing (6).
3. Loosen the 4 outer screws (9).
4. Unclip the pump housing (6) from motor housing (4).
5. Remove the rotor (8) from motor housing (4).
6. Clean all parts using water and soft sponge.

Fountain Connector

Your pump may be supplied with a threaded plastic 'nut'. This is a connector to join to a fountain kit (sold separately)

Assembling the pump together:

- Place the rotor (8) in motor housing (4) with caution.
- Make sure the rotor is assembled correctly and will turn freely and check the position of the sealing ring (7) on the pump housing (6).
- Put the pump housing (6) in the motor housing (4) and tighten the 4 screws (9) uniformly.

Place the filter cover on the pump housing (6). Make sure that the lateral lugs of the filter cover must lock the pump housing (6).

Maintenance

Never hang or carry the pump by the power cord.
Do not operate the pump with a damaged cord or plug. The supply cord of the appliance cannot be replaced.
If the electrical cord is damaged the product should be scrapped.

Safety and Electrical Connections
This unit is designed for outdoor use only. It is waterproof and should be situated safely under the pond water. Ideally the pump should be situated at the bottom of the pond as this is where fish waste and debris collects. Take care to ensure that you can easily lift your pump out of the water for routine maintenance. If this is necessary do not pick your pump up by the electrical cable but by the main body/ cage of the pump.

Always disconnect all equipment in the pond before starting to handle, maintain, repair or install any pond equipment.

The pump is electrically operated so great care must be taken during installation and operation. The following electrical and safety guidelines must be carefully followed.

Each pump is supplied with a 10 metre length of 3 core electrical cable which is permanently connected to the pump.

The wires in the mains electrical lead are coloured in accordance with the following code:
BLUE – Neutral (marked with an "N" in most terminal connections)
BROWN – LIVE (marked with an "L" in most terminal connections)
GREEN/YELLOW – EARTH (marked "E" or ⏚ in most terminal connections)

1st January 2005 revised Building Regulations for England and Wales
Installing this product in the garden is classified as 'notifiable'. The Regulations now require you to tell your local authority building control department that you intend to install this product before installation. Your local authority will let you know how you can get your installation approved

The termination to the mains supply should be permanent, inside a dry weatherproof enclosure, through a double pole switched fused spur with a minimum contact gap of 3mm – (disconnected) to BS 3676 – and fitted with a 3 or 5 amp fuse.
Exposed cable runs should be sensibly positioned, and protected if necessary by armoured conduit.
A 10mA or 30mA Residual Current Circuit Breaker (RCD) MUST be fitted to the mains supply.
Permanent installations to the mains supply (hard wiring) must comply with the regulations of the local electricity authority which may stipulate the use of metal or plastic conduit to protect the cable.
If in any doubt about wiring to the mains supply contact a qualified electrician or your local electricity authority.
Protect from frost. In cold winter weather (when fish are inactive and algae growth ceases) the unit may be switched off. It should then be drained of water, removed (if possible) from its installation and stored in a dry, frost-protected area.