



FR **POMPE MULTICELLULAIRE**
& POMPE SURPRESSEUR MULTI-CELLULAIRE
Manuel d'instructions et d'utilisation

IT **POMPA MULTICELLULARE**
& COMPRESSORE CON POMPA MULTICELLULARE
Manuale di istruzioni e di manutenzione

EN **MULTISTAGE PUMP**
& MULTISTAGE WATER PUMP WITH TANK
User and maintenance manual



PRMCA3P / 516256



PRMCA5 / 516146



PRMCA5GD / 516176



PRMCA5PRO / 516246



PRMCA5/T / 516276



PRMCA10/V / 516266



PRS60MCA5 / 516281



PRS100MCA5 / 516301



PRS100MCA5GD / 516311



WARNING:

Carefully read this instruction manual before operating this appliance.
 Incorrect operation may cause injury and/or damages.
 Please keep this manual for future reference.



Warning: This pump is not intended for swimming pools.
 Under no circumstances should it be used for the cleaning or maintenance of swimming pools.
 This pump is not intended for pumping drinking water.

I. PARTS LIST

II. CHARACTERISTICS

III. SAFETY INSTRUCTIONS

*Before using this product, read and understand all safety instructions.
 Always follow the safety instructions to minimize risk of damage to property, and to minimize any risk of damages and injuries to persons and animals.*

Symbols

	Caution! Risk of injury and/or damage and/or deterioration of product in case of non-compliance to safety requirements.
	Read the instructions manual.
	Keep persons (esp. children) and animals away from product and working area.
	Disconnect product from its power source before maintenance, cleaning or any intervention on product; or when you do not use product. Disconnect product from its main power source, if product, power cable, or extension cord is damaged or cut during operation. Unplug product by pulling the plug. Do not pull the cable.
	Do not dispose of this product with household rubbish. Dispose of this product in the nearest recycle centre. Please contact your local authority or local recycle centre for further information for its safe disposal.

3.1- READ ALL THE INFORMATION BEFORE OPERATING THE PRODUCT.

1. Keep work area clean

Cluttered areas and benches invite accidents and injuries.

2. Consider work area environment

Keep work area well lit (natural light or sufficient artificial lighting).

Keep work area well ventilated.

Do not use product where there is risk to cause fire or explosion (in the presence of flammable liquids, solids or gas).

3. Guard against electric shock

Avoid body contact with earthed or grounded surfaces (e.g. pipes, radiators, ranges, refrigerators).

4. Keep children away

Do not let bystanders touch the product or its power cable or extension cord.

All bystanders (esp. children) should be kept away from product and work area.

Keep the product away from children or from their environment. Never allow children to operate the appliance.

Children should be supervised to ensure that they do not play with the appliance.

5. Store idle products

When not in use, product should be stored in a dry, high or locked up place, out of reach of children.

6. Do not force the product

It will do the job better and safer at the rate speed for which it is intended.

Do not use the product for purposes other than those for which it is intended. The product will do a better and safer job if it is used only for the purposes it was designed for.

7. Use the right product

Do not force small products or attachments to do the job of a heavy-duty product.

8. Dress properly

When installing, do not wear loose clothing or jewellery; they can be caught in moving parts.

Wear protecting hair covering to contain long hair.

9. Use protective equipment

When installing, wear protective equipment appropriate to working conditions and work environment.

Wear protective helmet, safety goggles, ear muffers, face or dust mask, rubber gloves and non-skid footwear to reduce the risk of personal injury during products use or manipulation.

10. Do not abuse the power cable

Never carry the product by the cable or yank it to disconnect it from the socket.

Keep the cable away from heat, oil and sharp edges.

Inspect product cable periodically and if damaged have it repaired by an authorized service facility.

Inspect extension cords periodically and replace, if damaged.

11. Do not overreach

Keep proper footing and balance at all times.

12. Maintain product with care

Keep product clean for better and safer performance.

13. Disconnect product

When not in use, before servicing and when changing accessories.

14. Avoid unintentional starting

Ensure switch is off when plugging in.

15. Use of extension leads

When product is used with extension cord, ensure that extension cord withstands product ratings.

If used outdoors, use only extension cords intended for outdoor use.

16. Stay alert

Watch what you are doing. Use common sense.

Do not operate product when you are tired, under the influence of alcohol, prescription medicines or drugs.

17. Check damaged parts

Before further use or reuse of the product, it should be carefully checked to determine that it will operate properly and perform its intended function.

18. Defective switches or other part that is damaged should be properly repaired or

replaced by an authorized service centre. Do not use the product if the switch does not turn it on and off.

19. Warning

The use of any accessory or attachment, other than those recommended in this instruction manual, may present a risk of injury to persons or animals and may cause damages.

The user and/or operator are responsible for any damages or injury caused to properties and/or persons.

20. Have your product repaired by a qualified person

Unless otherwise indicated in this instruction manual, repairs or replacement of any damaged part in an authorized service centre is recommended.

This electric product is in accordance with the relevant safety requirements. Repairs should only be carried out by qualified persons using original spare parts, otherwise this may result in considerable danger to the user.

21. Remarks:

The safety precautions and instructions given in this manual are unable to cover in detail all the conditions and situations that may arise.

The operator and/or user must use common sense and caution when operating the product especially for any matters that are not referred in the above

3.2- Special warnings when using the pump

1. Become familiar with the controls and the proper use of the product.

2. The use of this product by children, without adult supervision, is forbidden.

3. Only well-instructed adults should operate the product.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

- children shall not play with the appliance.

- cleaning and user maintenance shall not be made by children without supervision from an adult.

4. If the power cable is damaged, it must be replaced by the manufacturer, its after sales service or a person with similar qualification in order to avoid any danger.

If the power cable or extension cord is damaged or cut during operation, immediately disconnect plug from its main power source. Do not touch the cable or extension cord before unplugging from main power.

5. Take care that electrical connection is made within dry area and protected from flooding.

6. Before connection, check that your power source voltage matches the data indicated on the product (see characteristics).

7. Do not subject the device to rain. Do not use the device in wet surroundings.

8. Do not aim the water jet directly toward the product or other electrical components!

Warning: electric shock hazard! Risk of death.

9. Lay the extension cord in such a way that it cannot get into contact with the liquid being conveyed.

10. Do not install or turn on the product if there are persons or animals in the conveying medium. (e. g. basin) or contacting the conveying medium.

11. Do not leave the device unsupervised. Unplug the mains plug during periods of extended absence.

12. As a rule, repairs are only to be carried out by an electrician. If repairs are performed improperly, there is danger of liquid getting into the electronic components of the device.

13. Symbols affixed to the tool may not be removed or covered. Information on the product that is no longer legible must be replaced immediately. Contact your dealer to get new labels.

3.3- Safety prescriptions

1. The supply voltage should correspond to that given on the description label (230V ~ 50Hz) or (400V³) according to the model. Do not use any other type of power supply.

2. The pump should be supplied by a circuit containing a residual current circuit breaker (RCCD) with a sensitivity not exceeding 30 mA.

Consult a qualified electrician.

3. The supply cable should be checked periodically and before each use to see if there are any signs of ageing or damage.

If the pump is not in good condition, do not use it. Have it repaired by an authorized centre.

4. If an extension is used, ensure that it is officially approved. Keep it well away from sharp edges, heat sources and combustibles.

5. The plug-in connector for the extension should be of the 2 pole + earth type of 10-16A/250V, in accordance with CEE standards. The wire section in the cable should be equal to or greater than 1mm². The cable should not be lighter than cables of H05 RN-F or H07 RN-F according to model, with a wire section equal to or greater (refer to specs table).
6. When disconnecting the power cable from the socket, always grip the plug itself and not the cable.
7. If the pump is used for emptying a pond, it should not be used when there are people in the pond.

IV. GETTING STARTED



Before any intervention on product, ensure that product is disconnected from its power source.

4.1- Unpacking

- Remove product from its packaging.
- Check that product and accessories are not damaged.

4.2- Important recommendations:

Before connecting to the electrical network, you must:

- Fasten the pump securely to the ground or a suitable support.
- The foot base is perforated to allow fastening bolts (not supplied) to go through.
- Ensure that the network (mains) voltage is the same as that stated on the pump specification label.

ATTENTION!

- The warranty does not cover accidents due to improper installation. This pump must be installed in accordance with local standards and by a qualified person (we recommend you to contact an electrician).
- The fixed pipeline that will connect the pump must include a separation device having contacts with the opening distance of at least 3 mm in all poles.
- It is recommended that the device be connected with a residual current of not more than 30 mA by means of a residual-current-operated protective device
- The total head must not exceed the value stated on the Specifications Table.
- The cable must be at least cable [see specs table].
- To prevent vibrations, the device should be placed on an elastic support (e. g. a rubber mat).
- The installation site must be well ventilated and protected from the effects of weather.
- When being used near garden ponds and swimming pools, the device must be set up to guard against overflowing and protected against falling in.
- Additional legal requirements must be observed
- When operating indoors you must ensure that there is a drain in the floor or a leak prevention mechanism.
- Before starting up, check the suction hose to ensure that it is sealed. Bubbles of air in the suction hose are an indication that there may be leaks and may lead to failure of the device.

4.3- Electrical connection:

IMPORTANT: If the supply cord is damaged, it must be replaced by the manufacturer, its after-sales service or a similarly qualified technician in order to avoid any hazard.

4.3.1- For single phase models 230V

- a) Check that your mains power supply is the same as that stated on the pump rating plate.
- b) Check that the supply cord is not damaged.
- c) Connect the cable plug to a 10/16A wall socket fitted with an earth pin.
- d) Turn power on for 1 or 2 seconds to carry out a no-load test of the pump.
Do not operate the pump for more than 2 seconds to avoid excessive over-heating. Such an occurrence would cause permanent damage.
- e) Turn power supply off and then proceed with pipes connection as set out in the following paragraphs.
- f) Ensure that the electrical connection is protected against water splashing.

- g) When operating outdoors, the electrical connections must be splash-proof; they must not lie in water.
- h) Extension cords must have sufficient wire cross section; cable drums must be complete unwound.

4.3.2- For three-phase model 400V³ (see Fig.2)

Product is supplied with H07 RN-F cable and with no plug.

Please seek help from a qualified electrician to perform the electrical connection.

Then proceed with same as above, except for point c).

4.4- Connection of the suction pipe (not included)

The suction pipe (not included) must have a minimum diameter of 25mm or 32 mm according to model [refer to specs table] and be rigid enough to prevent crushing.

The assembly of the pipe must be carried out using Teflon to ensure complete air-tightness.

In the case of fittings with gaskets or O-rings, it is not necessary to use Teflon.

Ensure that the gaskets hold firm over time.

We recommend fitting a strainer (mounting with Teflon). Use clamping rings if necessary.

In all cases, the suction pipe must not be oriented upwards.

In the case of a pumping chamber with sand or gravel, position the strainer 50cm from the bottom or in a bucket at the bottom of the chamber.

The suction line should be as short as possible, since the suction capacity decreases as the length of the line increases.

The suction line should ascend steadily towards the pump to prevent air pockets.

Sufficient water supply must be assured; the end of the suction line must always be in water.

The suction line must be installed so that it does not exert any mechanical force or tension on the pump.

If the conveying medium is contaminated, a suction filter must be used to protect the pump from sand and dirt.

IMPORTANT! It is highly recommended to install a non-return valve in the suction line.

4.5- Connection of the discharge pipe (not included)

The discharge pipe (not included) must have a minimum diameter of 25mm and be rigid to prevent crushing.

In order to avoid leaks and obtain optimum performance, it is important to mount the fittings using Teflon.

Remarks:

- All components of the pressure line must be compression-proof.
- All components of the pressure line must be professionally installed
- If the components are not compression-proof or if they are improperly installed, the pressure line could burst during operation. Risk of injury from liquid spurting out!

4.6- Start-up

Warning! The pump should be filled with water after each new connection or in the event of water loss or air intake. Extended operation without a water refill (unsupervised dry run) will destroy the pump.

- Unscrew the priming screw on the pump casing.

- Using a receptacle, fill the pump body until overflowing occurs.

Do not splash water on the electrical parts.

- Put the priming screw back and screw it sufficiently tight to prevent air intake.

- If the water level drops in the pump body or the water does not discharge properly, it is likely due to air intake; therefore, switch off the pump and re-examine the suction pipe fittings and proceed again with priming by filling water in the pump body.

Ensure that there is no water on the electrical parts of the pump.

- Start the pump and check there is no leakage on the pump body, suction line and fittings.

When water runs out evenly, turn the pump off. The pump is ready for use.

- If the water does not flow and the pump does not suck water, make sure there are no leaks in the pump body, pipes and fittings

4.7- Fixed installation

In the case of permanent installation, the pump must be securely attached to its support surface. The best method is to connect the pump to the fixed piping system via a flexible hose to minimize vibration transmission. Clamp the pump by fixing its base with suitable supports. To minimize vibration put something under the pump base (e.g. a rubber plate). The assembly surface must be flat, dry and solid, in order to guarantee the stability of the installation.

It is recommended to install a non-return valve to stop the flow when the unit is switched off. Thus, the pump will not need priming, accumulate pressure and fill the hoses each time it is restarted. This type of assembly minimizes wear and tear and saves time and energy. In addition, it is recommended to use quick-release fasteners in the appropriate places so that the device can be quickly separated from the fixed piping for cleaning and / or maintenance (or storing before winter).

In the event of permanent installation, the plug must be visible and easily accessible at all times. Do not forget that water and equipment connected to the device add weight to it.

V. OPERATION

5.1- Intended use

- The water pump (whether alone or with booster tank) is designed to suck up treated water.
- The pump must be installed in a dry, ventilated location, not exposed to bad weather, heat and cold.
- The maximum suction height must not exceed [See table 1].
- When correctly installed, your pump will operate with maximum efficiency and entirely to your satisfaction.
- The water pump is designed for routine private household uses (in the house or in the garden) such as gardening, sprinkler systems, increasing water pressure of the non-feed water distribution network, pumping of tank water and jet washing.
- The pump must not be operated for uses not specified in this manual.

It should NOT be used in particular for:

- supplying systems and sprinkling equipment for public gardens, public parks ...
- continuous operation (for ex.: water circulation...)
- pumping corrosive liquids, easily flammable, aggressive, explosive or dangerous liquids.
- pumping seawater (salted water), waste water, water containing solids, sand or abrasive particles in suspension, water containing corrosive substances in general.
- pumping water intended for human consumption or any other food liquid.
- pumping water / liquid having a temperature above 35°C.

NOTE:

- This pump is not designed to be used in swimming pool cleaning or other pool maintenance tasks.
- The pump must not be used in outdoor fountains, garden ponds and similar areas.
- The pump is not intended for artisanal, industrial, professional and / or commercial applications (e.g. in construction sites, public parks, sports fields...).

5.2- Operation

Activate the power supply switch.

Additional information for BOOSTER PUMPS

- The booster pump optimizes the water supply by limiting frequent starts, and serves primarily to maintain a constant pressure in the system.
- The pump stops automatically when the pressure in the vessel is approximately 3.5 bar.
- Slowly open the discharge valve. The pump begins to discharge, without its engine running, through the water supply in the tank.
- When the pressure in the tank drops below about 1.5 bar, the pump starts and remains on until the pressure of the tank reach about 3.5 bar.

- To stop the pump cycles, slowly close the discharge valve.
- Always follow these instructions to avoid creating excess pressure in the system and avoid "water hammer" effect.

5.3- Advise for users

- Never operate the pump empty (without water).

Do not operate the pump without there being water in the pump body.

Prolonged operation of the pump while the discharge line valve is closed may seriously damage the pump.

- Where there is a power failure, it is preferable to disconnect the power plug or switch off the switch controlling the pump. Prime the pump before restarting it.


- If discharge stops although the pump continues to function, switch it off immediately.

Unplug the pump from the mains and check to see what is causing the problem.

Never attempt to remove the turbine when the pump is still connected to the power supply.

- Where the pump is not used for an extended period, be sure to turn off the pump's power supply.

VI. MAINTENANCE AND STORAGE

	Before any intervention on product, ensure that product is disconnected from its power source.
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6.1- Maintenance

- In winter the pump must be thoroughly drained or kept in "frost free" conditions.
- Regularly rinse out the pump with clean water, including the suction circuit.
- Avoid pumping liquid containing abrasive materials such as sand.
- Before each re-use, ensure that all parts of the pump are in good working order.
- Clean plastic parts with a soft clean cloth.
- Do not use aggressive cleansers (solvents or abrasive cleansers), or an abrasive sponge.

6.2- Breakdown

Never attempt to dismantle the pump.

If necessary, have it checked and repaired by an authorized centre (consult your dealer).

Trouble	Main reasons	Solution
Difficult start	<ol style="list-style-type: none"> 1. Power voltage too low; 2. Impeller clogged 3. Big loss of cable voltage 4. Stator winding burnt 	<ol style="list-style-type: none"> 1. Adjust voltage to 0.9 to 1.1 times the rated range. 2. Adjust clogged part. 3. Select the proper cable 4. see below
Less water outlet	<ol style="list-style-type: none"> 1. Head too high 2. Strainer and inlet hole clogged 3 Impeller worn badly 4. Submersion too shallow and air sucked in. 5. Discharge hose disconnected, leaking or worn out 	<ol style="list-style-type: none"> 1. Use within the rated head range 2. Remove water weed or foreign matter 3. Replace impeller 4. Adjust the submersion depth to no less than 0.5m 5. Check hose connection, fix it or replace if required.
Sudden stop	<ol style="list-style-type: none"> 1. Switch disconnected or fuse burnt 2. Impeller clogged 3. Stator winding burnt 	<ol style="list-style-type: none"> 1. Check whether the head in use or power voltage comply with requirements and adjust accordingly. 2. Remove foreign matter 3. See below
Stator winding burnt	<ol style="list-style-type: none"> 1- Run too long 2. Winding turn-to-turn short circuit or short circuit between phases due to mechanical seal 	Seek assistance from vendor or authorised service centre

	leakage 3. Impeller clogged 4. Pump started too frequently 5. Pump overloaded	
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6.3- Storage

Product must be stored in a dry location. Always lock up product and keep out of reach of children.

6.4- Disposal

- Do not dispose the product with household garbage. Do not throw into the environment.
- Dispose of the product in a collection centre for waste of electrical and electronic equipment, or a waste drop-off centre; or seek advice from your local municipality.
- Disposal of the product, accessories and packaging should be carried out according to local regulations governing environment protection.

Figure 1



**Figure 2 : Schéma électrique pour pompe triphasée /
Schema elettrico per pompa trifase /
Electrical diagram for three-phase pump**

400V/50Hz

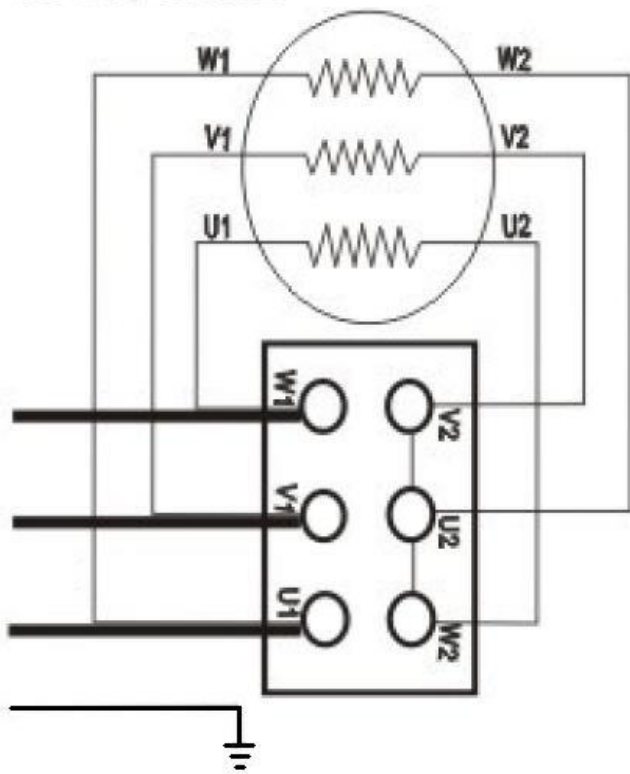


Tableau / Tabella / Table 1 : Données Techniques / Specifiche tecniche / Technical specifications

Référence Articolo Reference	PRMCA3P/ 516256	PRMCA5 / 516146 PRMCA5GD / 516176 PRMCA5PRO / 516246	PRMCA5/T / 516276	PRMCA10/V / 516266	PRS60MCA5/ 516281 PRS100MCA5 / 516301 PRS100MCA5GD / 516311
Modèle / Type Modello / tipo Model / Type	MHP90 3M	- MH1300 - MH2200-5M - MH1300	MH1300T	MH2500-10M- V = MVL90 10M	- MH1300+60L - MH1300+100L - MH2200-5M + 100L
Alimentation Tensione di alimentazione Tension	230V ~ 50Hz	230V ~ 50Hz	400V³ ~ 50Hz	230V ~ 50Hz	230V ~ 50Hz
Puissance Potenza Power	900W	- 1450W - 2300W - 1450W	2HP max1350W	2700W	- 1450W - 1450W - 2300W
Vitesse à vide Velocità a vuoto No load speed	2850min ⁻¹	2850min ⁻¹	2850min ⁻¹	2850min ⁻¹	2850min ⁻¹
Classe de protection Classe di protezione Protection class	IPX5	IPX5	IPX5	IPX5	IPX5
Capacité de refoulement Capacità di scarico Flow (Qmax)	5400 l/h	- 5400 l/h - 10200 l/h - 5400 l/h	5400 l/h	5400 l/h	- 5400 l/h - 5400 l/h - 10200 l/h
Pression maxi Pressione mass. Max pressure	3,2bar	- 5,5 bar - 5,8 bar - 5,5bar	5,50 bar	11 bar	- 3,50 bar - 3,50 bar - 3,50 bar
Hauteur de refoulement Altezza di scarico Discharge height (Hmax)	32m	- 55m - 58m - 55m	55m	110m	- 35m - 35m - 35m
Hauteur max d'aspiration Altezza mass di aspirazione Suction height	7m	- 7m - 7m - 7m	7m	7m	7m
Diamètre raccord Diametro raccordo Connector size	1"	- 1" - 1" ¼ - 1"	1"	1"	- 1" - 1" - 1" ¼
Poids (kg) env. Peso (kg) ca. Weight (kg) approx.	8,8 kg	- 13,70 kg - 19,1 kg - 14,20 kg	13,30 kg	- 23,3 kg - 24,80 kg	- 24,10 kg - 28,80 kg - 24,60 kg
Température maxi du liquide Temperatura mass del liquido Max liquid temperature	35°C	35°C	35°C	35°C	35°C
Contenance cuve Capacità serbatoio Tank capacity	-nil-	-nil-	-nil-	-nil-	- 60L - 100L - 100L
Câble d'alimentation Cavo elettrico Power cord	H05 RN-F 3x1.0mm ² 1,3m	H07 RN-F 3x1.5mm ² 1,3m	H07 RN-F 4x1.00mm ² 1,3m	H07 RN-F 3x1.5mm ² 1,3m	H07 RN-F 3x1.5mm ² 1,3m
Diam mini tuyau aspiration Dia. min tubo d'aspirazione Suction hose min dia.	25mm	- 25mm - 32mm - 25mm	25mm	25mm	- 25mm - 25mm - 32mm
Nombre de turbines Numero di girante Number of impellers	3 (PPO)	- 5 (PPO) - 5 (inox; stainless steel; acciaio inox - 5 (inox; stainless steel; acciaio inox)	5 (inox; stainless steel; acciaio inox)	10 (inox; stainless steel; acciaio inox)	- 5 (PPO) - 5 (PPO) - 5 (inox; stainless steel; acciaio inox)