



AMBRA

Circulation water pump

Read carefully



CPA SRL

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FEATURES

Pump for swimming pool water circulation.

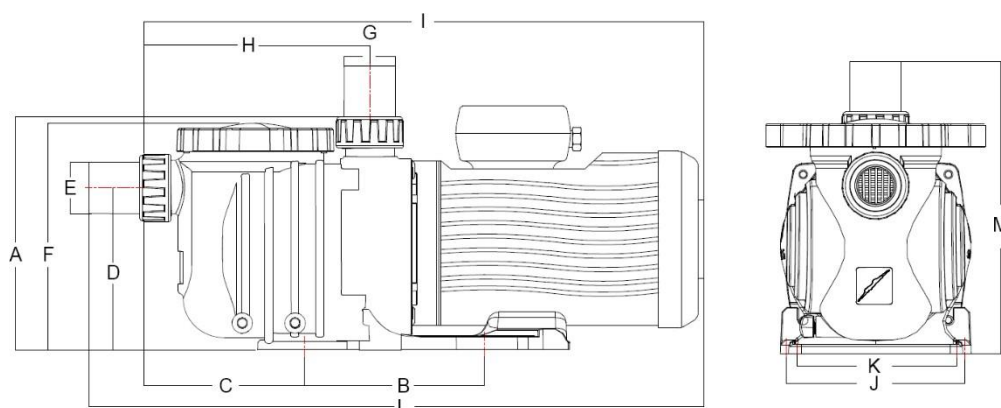
ENGINE

- Asynchronous, two poles, 2850 revolutions
- Protection IP 55
- Class F insulation
- Low noise emission
- Continuous operation
- Single-phase and three-phase version
- Maximum pressure allowed in the pump body: 2.5 bar

BODY

- Pump body, cover and diffuser made of high quality plastic material
- Motor shaft in AISI 316 stainless steel
- Excellent and long-lasting mechanical seal
- Seal support made of glass and polyamide
- Windings impregnated with epoxy resin
- Connections to be glued with union

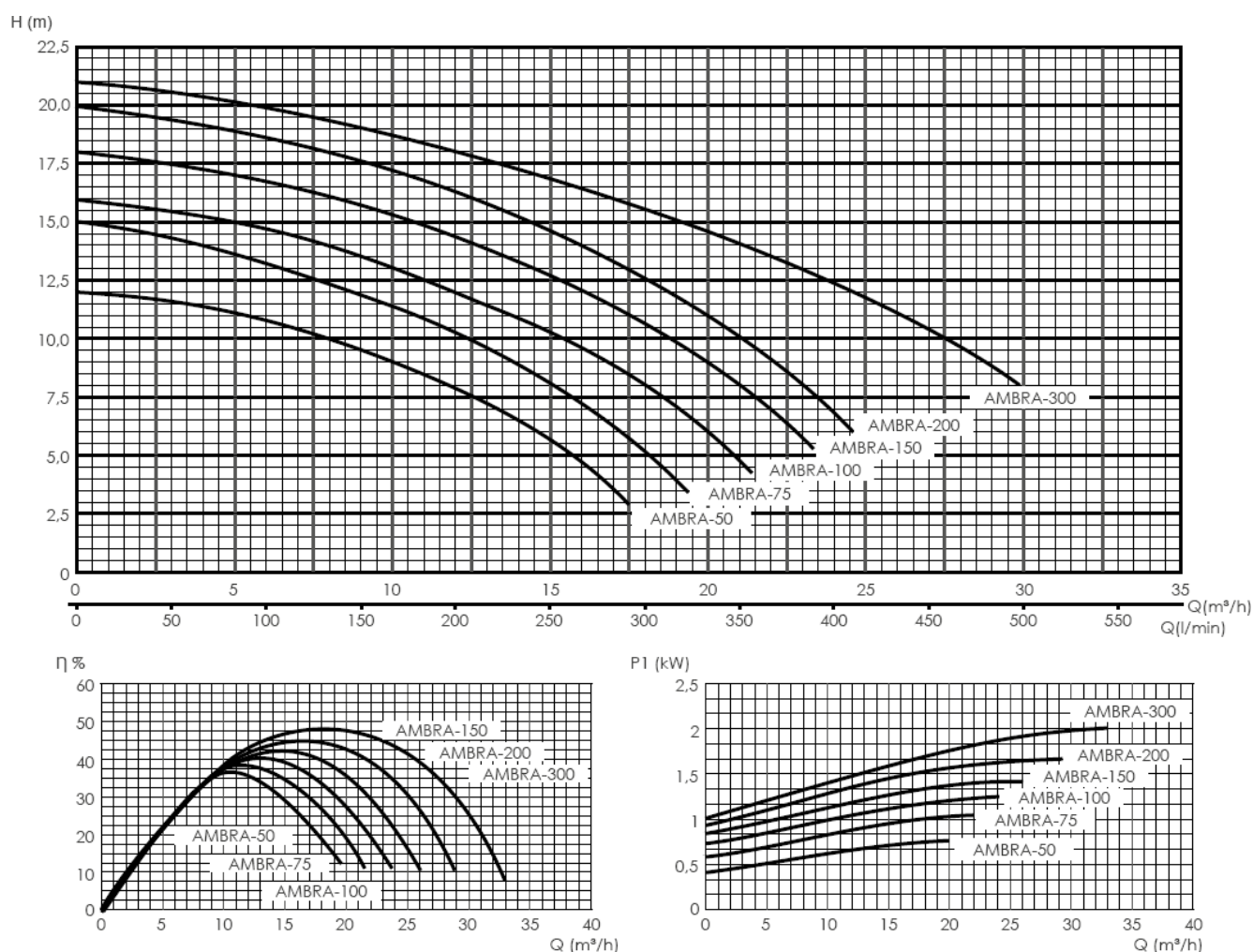
TECHNICAL DATA



Model	Dimension s													Weight
	A	B	C	D	E	F	G	H	I	J	K	L	M	
Ambra 50	266	134	229	198	Ø63	273	Ø63	280	600	190	154	626	292	11,20 kg
Ambra 75	266	134	229	198	Ø63	273	Ø63	280	600	190	154	626	292	12,35 kg
Ambra 100	266	134	229	198	Ø63	273	Ø63	280	600	190	154	626	292	12,80 kg
Ambra 150	266	134	229	198	Ø63	273	Ø63	280	620	190	154	646	292	14,75 kg
Ambra 200	266	134	229	198	Ø63	273	Ø63	280	620	190	154	646	292	15,95 kg
Ambra 300	266	134	229	198	Ø63	273	Ø63	280	620	190	154	646	292	17,85 kg

model	V	Hz	I _{max} [A]	ph	HP	Kw	rpm	Q [m ³ /h]	H [m]	Q _{max} [m ³ /h]	H _{max} [m]	uF
AMBRA 50M	230	50	3,4	1	0,5	0,37	2850	12	8	19	12	14
AMBRA 50T	400	50	1,4	3	0,5	0,37	2850	12	8	19	12	--
AMBRA 75M	230	50	4,8	1	0,75	0,55	2860	15	8	21	15	16
AMBRA 75T	400	50	1,8	3	0,75	0,55	2850	15	8	21	15	--
AMBRA 100M	230	50	5	1	1	0,75	2870	17	8	23	16	20
AMBRA 100T	400	50	2,2	3	1	0,75	2870	17	8	23	16	--
AMBRA 150M	230	50	6	1	1,5	1,1	2880	20	8	25	18	25
AMBRA 150T	400	50	2,7	3	1,5	1,1	2880	20	8	25	18	--
AMBRA 200M	230	50	7	1	2	1,5	2880	22	10	28	20	30
AMBRA 200T	400	50	3,1	3	2	1,5	2880	22	10	28	20	--
AMBRA 300M	230	50	10	1	3	2,2	2880	27	10	32	21	40
AMBRA 200T	400	50	4,3	3	3	2,2	2890	27	10	32	21	--

PERFORMANCE CURVES

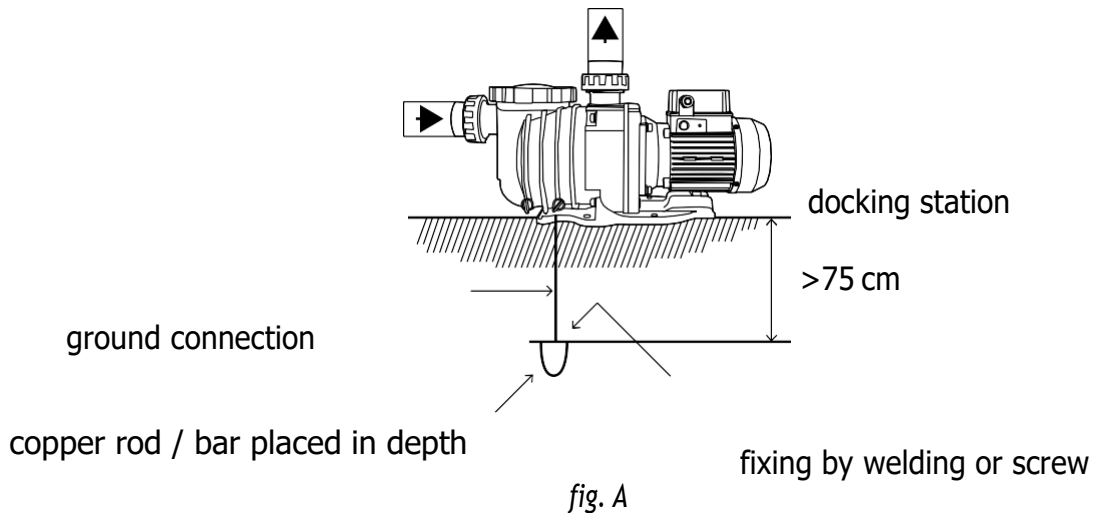


WORKING CONDITIONS

This pump is designed to handle a neutral liquid without suspended solids with a temperature below 50 °. During operation, the electrical parts of the pump are live. Any intervention on the machine or equipment can only be carried out after disconnecting them from the mains.

RECOMMENDATIONS AND WARNINGS

The electrical installation must be performed by a qualified professional, in compliance with the technical and safety regulations in force. This pump is not equipped with a thermal switch, so it must be installed under a thermal relay and differential protection in compliance with the technical and safety regulations in force. In order to prevent electric shocks in case of damage to the electrical wiring, always connect the pump to the system ground. (fig. A)



Do not connect the pump with damp or wet cables. This pump is not self-priming, so do not run the pump empty. If this happens by mistake, immediately disconnect the power supply, then wait for the engine to cool and then fill it with clean water. (fig. B)

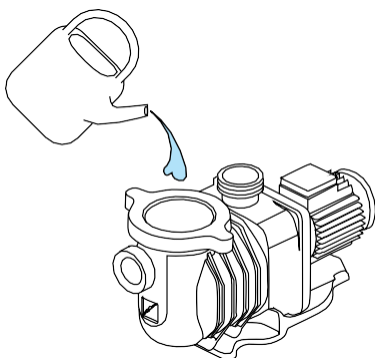


fig. C

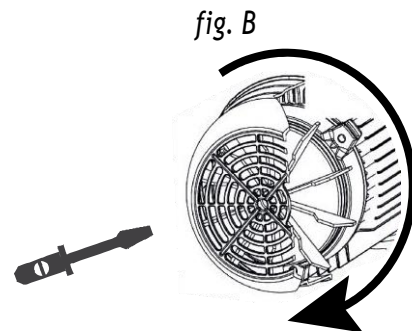


fig. B

Do not cover the motor body with rags or similar, this could cause a fire. Before proceeding with the installation, check that the moving parts rotate freely: insert a screwdriver into the recess of the motor shaft on the side of the fan protection grid and try to rotate the blades (fig. C). If the movement is difficult to strike gently with a hammer the screwdriver in order to unlock the rotation. Tampering or modification of the same determine the immediate end of the validity of the guarantee and can cause serious damage to the machine and to the user.

INSTALLATION

The pump must be installed in a well-ventilated and dry place, protected from bad weather and exposure to temperatures above 40 ° C. The pump must be installed in compliance with the EN 60335-2-41 electrical safety standard: any electrical appliance powered at 230 V must be installed at a minimum distance of 3.5 m from the edge of the pool. The base of the pump is equipped with holes to be anchored to the ground: fix the pump on a flat and solid surface by adopting suitable bolts for use to avoid vibrations. The pump must be installed in a horizontal position in order to allow the correct operation of the bearings. The pipes for transporting water to and from the pump must be fastened without burdening the connection points with the pump:

recommends anchoring them to third-party structures using suitable supports. (fig. D) The connection pipes must not have a diameter smaller than that of the pump outlets and must be installed perpendicularly and well centered with respect to the pump connection, to prevent the pump and the pipe from being subjected to improper stress. In case of direct suction via basin piping, check that the suction piping is perfectly hermetic and completely immersed, at least for half a meter, in order to avoid the formation of vortices. The use of foot valves with strainer at the head of the suction pipe is recommended. The diameter of the delivery pipe must be sized in order to comply with the design flow rate and pressure at the outlet point. The suction pipe must be installed with a slight inclination of 2% towards the pump, in order to avoid the formation of air pockets. It is recommended to use a non-return valve between the delivery port and the flow control valve in order to avoid dangerous water hammer in the event of a sudden stop of the pump. This recommendation becomes mandatory in the event that the water delivery column is longer than twenty meters. (fig. E)

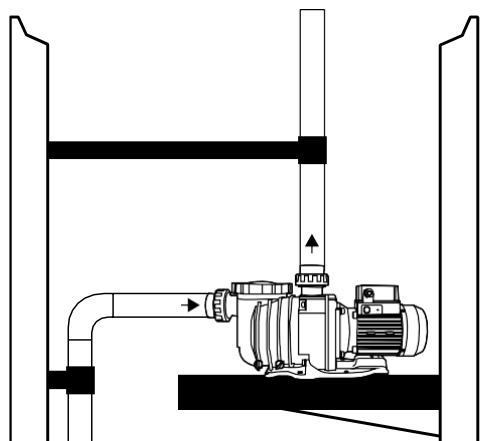


fig. D

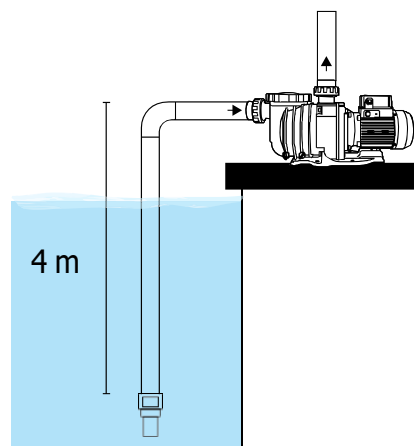


fig. E

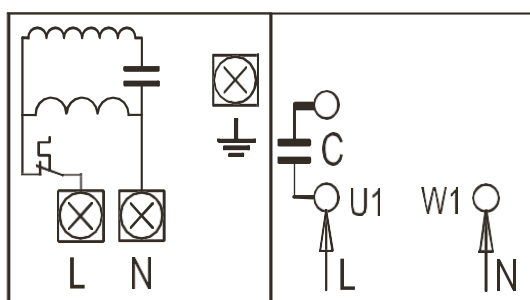
ELECTRICAL WIRING

WARNING

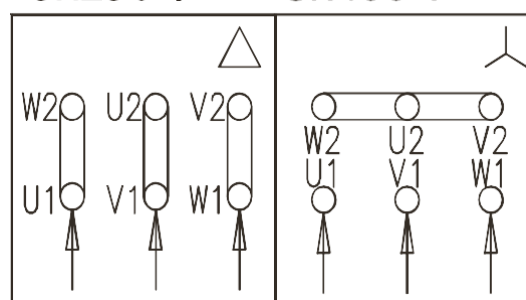
The electrical installation must be performed by a qualified professional in compliance with the technical and safety regulations in force. It is recommended to use an H07 RN-F type connection cable with a section suitable for the electric consumption of the pump motor and the number of conductors required for the number of motor phases, plus the grounding cable. The single-phase motors are equipped with thermo-amperometric protection: they are connected directly to the power supply network. The three-phase motors must be protected with an automatic switch (eg. Magnetothermic) calibrated to the plate data of the electric pump. Install a high sensitivity differential switch (0.03A) as additional protection.

Observe the connection diagram below:

1x230 V



3x230 V



3x400 V

The pump can be properly grounded by checking that the electrical connections and clamps are tight. The pump is able to support a voltage variation equal to $\pm 10\%$ with respect to the nameplate data: failure to comply with this condition will result in a reduction in the useful life of the pump. Check the presence and correct positioning of the gasket in the wiring terminal box in order to avoid the accidental entry of water into the motor and into the live electrical parts.

START

Before starting the pump for the first time, check the calibration of the electrical protection devices of the motor and that the protective devices against electrical and mechanical contacts are correctly positioned and fixed. Do not use the pool at the time of the first check of the pump installation.

Perform the following procedure to properly prime the pump before starting the pump:

1. Open the prefilter cover;
2. Fill the pump with clean water through the prefilter until the water comes out through the intake duct;
3. If the basket moves during these operations, do not forget to place it again inside the prefilter to prevent coarse-grained particles from infiltrating the pump which could damage it;
4. Close the prefilter checking the correct coupling of the cover gasket with the pump body.

WARNING

Dry running causes irreparable damage to the mechanical seal: in the event of an accidental dry start, immediately disconnect the power supply, then wait for the engine to cool and then fill it with clean water. Start the pump and check, in the three-phase version, that the direction of rotation is correct: this should be done clockwise when looking at the pump from the fan side. If this is not the case, invert the phases in the connection terminal after disconnecting the power supply to the pump (fig. C). Avoid contact, even accidental, with the moving parts of the machine during its operation or before its complete stop.

RACCOMENDATIONS

The pump should not be started more than twenty times in an hour so that the motor is not subjected to excessive thermal stress. Before proceeding with any maintenance operation, check that the machine is disconnected from the power supply and that the start-up devices are blocked.

MAINTENANCE AND CLEANING

Under normal use conditions the pump does not require maintenance operations, however it could be useful to clean the hydraulic parts if you notice a loss of pump efficiency. The pump must not be disassembled by unqualified personnel or by unauthorized technicians.

In any case, all operations must be carried out only after having disconnected the pump from the electricity mains and after having turned off the ignition devices..

PERIODIC CHECKS

Check periodically:

- The correct fastening of the mechanical components and the condition of the machine support screws
- The correct position, fastening and condition of the power conductors and insulating components
- The temperature of the machine and the electric motor. In the event of an anomaly, stop the machine immediately

- The vibrations of the machine. In case of anomaly, stop the machine immediately
- The state of deterioration of the components, periodically replacing those worn by normal use (eg O-rings, gaskets, bearings)
- In models with pre-filter, regularly clean the basket from the impurities collected to avoid pressure drops and motor overheating in case of obstruction of the suction mouth.

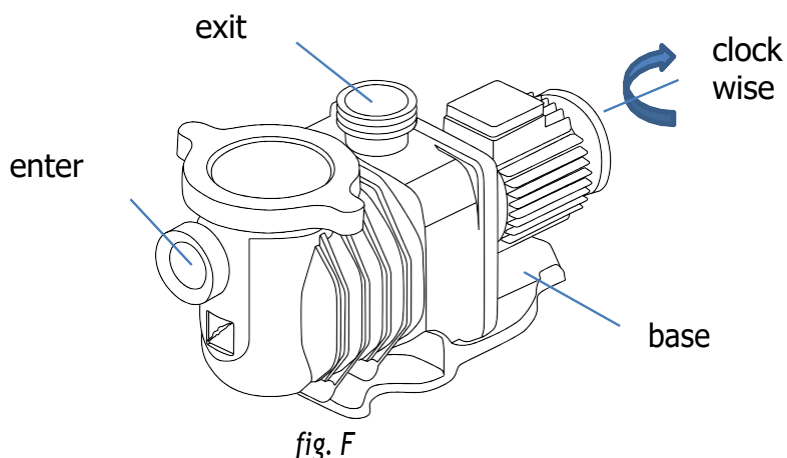


fig. F

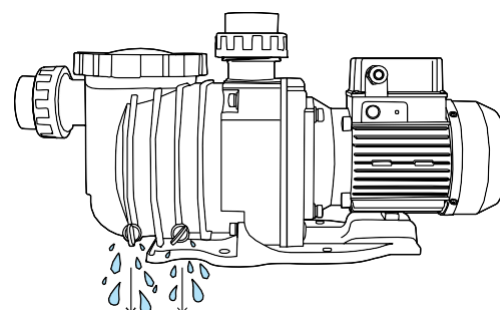


fig. G

WINTERING

Risk of freezing: if the pump remains at a temperature of less than or equal to 0 ° C for a long time, the pump body must be completely emptied through the special drain located below the pump body in order to prevent breakage and damage to the hydraulic components (fig. G). Then clean with clean water, dry, remove and store in a dry place. The aforementioned operations are also recommended for long periods of inactivity in normal temperature conditions. After a long period of inactivity, repeat all the operations described for the first start-up.

PROBLEMS AND SOLUTIONS

Problem	Cause	Solution
The engine does not start	Active thermal protection	If the engine is overheated, it will remain inactive. It waits for it to cool for about 20-30 minutes
	Damaged thermal protection	Replacement with a new one
	Wrong wiring	Check the connection making sure it is secure. Repeat the connection
	Engine failure	Contact a service center
	Impeller blocked	Wash the impeller
	Insufficient voltage	Check the voltage present on the line (qualified technical personnel)
The engine runs without pumping water	The water level in the suction basin is too low or lower than the suction point	Check the water level in the basin
	Filter or shut-off valve obstructed	Wash the elements
	Air bubbles in the suction pipe	Check the tightness of the pipe joints. Check that the level of the intake valve is less than 50 cm compared to the free surface of the water

Problem	Cause	Solution
	Air intake from the seal mechanical	Replace the mechanical seal
Excessive intervention of the thermal protection	Not correct voltage	Check the voltage present on the line (qualified technical personnel)
	The impeller is hindered in rotation	Check the integrity of the impeller. Clean the impeller
	Defective capacitor	Replace the capacitor
Lack of water leakage in the first minute after starting	Air infiltration in the suction pipe	Check and if necessary repair the pipe, checking its hermetic seal
The pump starts without water	Water leakage from the pipeline o from the pump	Repair the piping, pump or connecting points between parts
	Loss of water from the estate mechanics	Replace the mechanical seal
Insufficient flow of water	Reached the level limit suction	Check the water level in the suction basin
	Filter, pre-filter and / or valves clogged or blocked	Verify clean / repair the components associated with the piping and the pump
	Impeller blocked	Disassemble the pump and carefully clean the pump body and impeller (qualified personnel only)
Failure to prime	Presence of air	Check the mechanical joint
	Transparent perforated plastic cover	Clean the clear plastic cover and check the gasket
	Wrong motor direction	Electrical check
	High absorption	Adjust the absorption
	Wrong voltage	Check the voltage of the power line
	No water in the filter basket or in the pump body	Fill the filter basket or pump housing with water
	Absence of water for priming	Fill the suction tube with water
Little reach	Presence of air	Check that the lid is closed correctly
	Wrong motor direction	Check the electrical wiring
	High absorption	Adjust the absorption
	Wrong voltage	Voltage check
	Blockage in the filter basket	Clean the filter basket
	Dirt in the pump housing	Clean the pump body
The engine does not start and makes noise	Impeller block	Impeller washing
Water leaks in function	Damage to the mechanical seal or dirt absorbed by it	Clean the mechanical seal or change it



NOTE

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