



"Pool Technology"

GEMAS COUNTER CURRENT SYSTEM USER MANUAL



"Pool Technology"

PUMPEX MODEL PUMP



Please read carefully the instruction manual before starting the installation process. The installation should be in accordance to the local standards.

1. APPLICATIONS

The swimming pool pump model Pumpex has a horizontal centrifugal construction. Its main application is to circulate the swimming pool pump water and normally it is installed before the filtration equipment. The pump is desinged to move about incoming and the outcoming water from the chlorine disinfected swimming pool. The PUMPEX pumps have a removable basket for filtering of small solids.

2. TECHNICAL INFORMATION

2.1 Maximum enviroment temperature:

+50°C.

2.2 Water Temperature: From 0°C to 50°C

2.3 Maximum working pressure permitted: 2 Bar.

Note: The ram crash to be lower that 3kgs

2.4 Maximum inlet pressure: When the pump Works with a closed valve the inlet pressure should be lower than the maximum working pressure permitted always.

2.5 Minimum suction pressure:

Type	Maximum Suction	Maximum Autosuction
Pumpex	5m	4 m

2.6 Self Priming: The PUMPEX pumps are self priming up to 4 m height.

2.7 Electrical Details:

TYPE	Voltage
PUMPEX-80M PUMPEX-100M PUMPEX-150M PUMPEX-200M	1 x 220 / 230 V 50 Hz
PUMPEX-80T PUMPEX-100T PUMPEX-150T PUMPEX-200T PUMPEX-300T	3 x 230 / 400 V 3 x 220 / 380 V 50 Hz

See also the charachteristics plate.

Water proof type: IP55

Isolation Class: F

2.8 Dimensions: See the drawing on the final of this manual

2.9 Sound level: The sound pressure level of the pump is lower than 70db.

2.10 Weights:

Pumpex Series	Weight (kg)
PUMPEX-80M	16,10
PUMPEX-100M	17,30
PUMPEX-150M	18,10
PUMPEX-200M	22,10
PUMPEX-80T	-
PUMPEX-100T	16,10
PUMPEX-150T	17,20
PUMPEX-200T	20,10
PUMPEX-300T	23,10

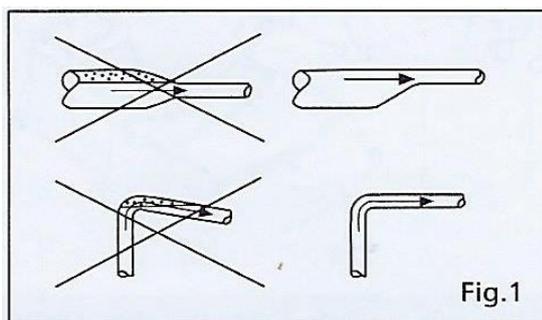
3. INSTALLATION

Normally the PUMPEX swimming pool pumps are installed between the skimmer/balance tank and the swimming pool filter.

The pump should be placed on a flat, solid foundation with the shaft in horizontal position and the prefilter cover uppermost. It must be possible to remove the transparent cover so that the prefilter basket can be removed for cleaning.

The suction pipe must have as minimum the same diameter as the pump suction line with continuous slope in order to avoid long priming times. If the suction line exceeds 10 meters, the extra pressure loss should be considered.

The pipes should be installed to avoid any air leaks in its interior. The following drawing shows a correctly fitted piping.



The pipes should be fitted in such a way that any pressure variation caused by temperature changes do not effect the pump. If the piping is very long and/or high support the pump in front and behind. It is

reccomendable to put a retention or check valve at the outlet.



The plastic pipes and connections should be screwed carefully.

In case of using a suction hose, it must be non-compressible (with a reinforcement spiral).

The suction pipe/hose should be the shortest possible in order to assure optimum working conditions.

It's recommendable to install shutting valves the both sides in order to isolate the pump.

Note: The pump does not allow to work with closed discharge valve as it may cause an increase of the temperature and steam formation which can damage the pump.

If there is any possibility of operating the pump with discharge valve closed, it's necessary to connect one bypass/mud valve on the discharge pipe in order to assure a minimum liquid flow through the pump.

Pumpex Series	Suction Pipe Size
PUMPEX-80	2" (Ø63 mm)
PUMPEX-100	2" (Ø63 mm)
PUMPEX-150	2½" (Ø75 mm)
PUMPEX-200	3" (Ø90 mm)
PUMPEX-300	3" (Ø90 mm)



Please make sure that the electrical supply is interrupted before removing the connection case cover or before any moving or disassembling of the pump.

Electrical connections must be done by a Professional and according to the local standards.

The pump must be connected to an external switch.

The voltage and frequency are marked on the characteristics plate. Please make sure that the motor is suitable to electrical supply in the network.



According to IEC N°364 publication, the pump must be installed at minimum 2 meters from the swimming pool edge.

3.1 Ventilation: The pump's motor is cooled by fan, placed in the back side. You should install the pump in a well ventilated place (free from possible freezing), preferably in a room.

a) If the pump is installed outdoors, it must be protected with suitable cover.

b) If the pump is installed in a buried or semiburied "case", it is necessary to assure a sufficient air entrance in order the motor ventilation not to be damaged (the inside temperature should not exceed the 50°C).

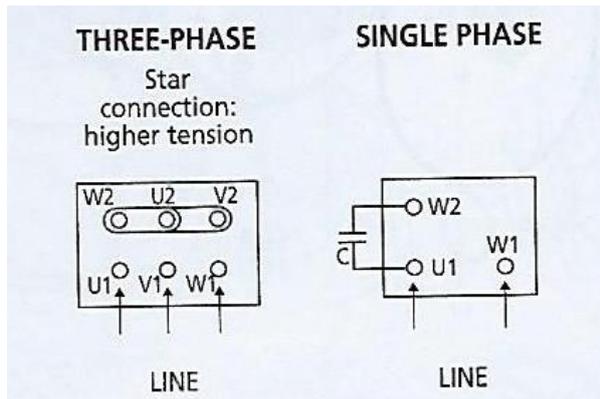
The motor should be connected to the electrical supply as shown in the drawing, using a suitable cable (watertight approved) and in accordance to the local standards.

4.1 Motor Protection: All version must be connected to an external motor protector.

The pump must be connected to the outlet mass and electrical installation must have a differential circuit.

4. ELECTRICAL CONNECTIONS





necessary. **Before opening the prefilter cover, please close the suction and discharge valves.**



After the filter basket cleaning, clean also the filter cover gasket and put it in its place. Then check if the pump housing is full of water and if so, put the filter cover and fix the cover nuts similarly. Open the charge and discharge valves and start the pump.

5. STARTING

Note: Do not start the pumps during its priming or purging.

The pump is correctly primed when the water is situated under the transparent lid.

The arrows on the pump housing indicate the correct rotation.

In order to create a maximum suction capacity during the starting, close the discharge valve, start the pump and open slowly the discharge valve. If the pump does not work correctly 5 minutes later, stop the pump check the water level in both the suction pipe and in the pump prefilter.

6. PREFILTER BASKET CLEANING



Please make sure that the electrical supply is interrupted and it is not possible to be connected accidentally before to start working with the pump. The filter basket must be checked daily and cleaned if

9. TROUBLE SHOOTING

TROUBLE	CAUSE
The pump works, but does not prime.	<ol style="list-style-type: none"> 1. No water in the strainer pot. 2. Pump not purged. 3. Filtration in the piping / suction hose. 4. Incorrect closing of the transparent lid. <ul style="list-style-type: none"> - Check the prefilter basket - Tight well the lid screws 5. Too high suction head <ul style="list-style-type: none"> - Maximum suction head permitted is 3 meters. 6. The suction line sucks air through connections. 7. Mechanical seal leaking.

Note: High pressure cleaning is not allowed.

7. WINTERIZING

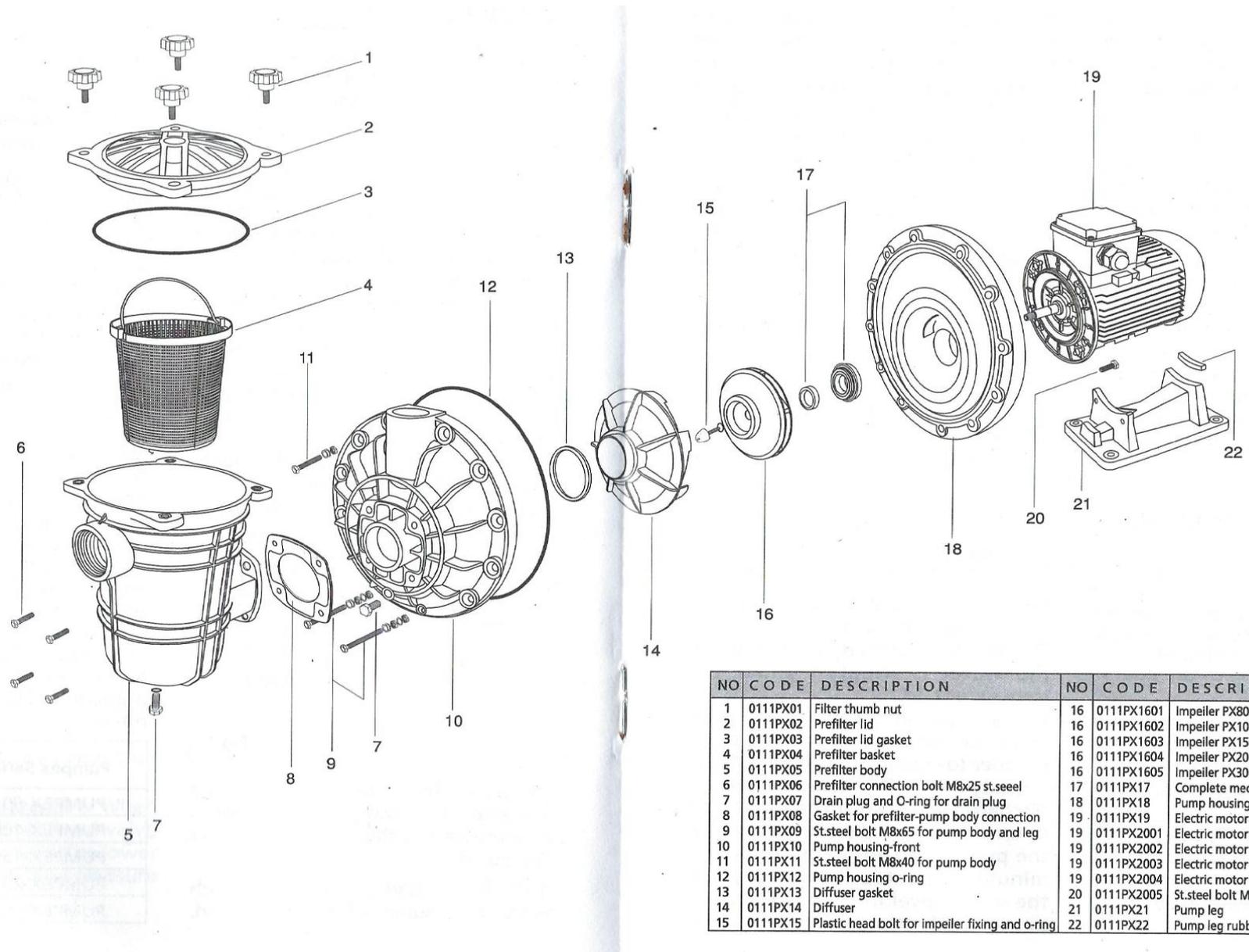
If the Pump will not be used during the winter, remove all plugs and drain the pump and all piping. To drain the pump, please take off the drain plugs (5) from the pump housing. Do not

put the drainage plugs up till the pump will be used again.

8. MAINTENANCE

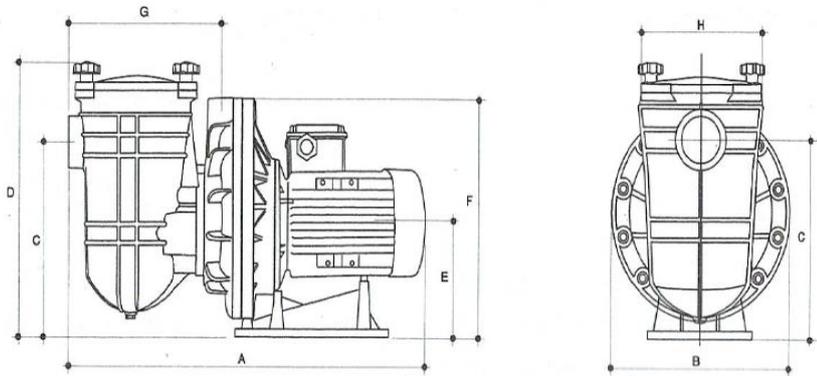
Please make sure that the electrical supply is interrupted and it is not possible to be accidentally connected before the pump to start working. The pump is designed to operate maintenance under normal working conditions. The motor bearings are permanently lubricated.

TROUBLE	CAUSE
The pump does not work satisfactory.	<ol style="list-style-type: none">1. Incorrect direction of rotating (only in case of 3-phase pumps)<ul style="list-style-type: none">- Change the rotating direction2. The prefilter basket or the skimmer are dirty or blocked.<ul style="list-style-type: none">- Clean the prefilter basket3. The water level in the swimming pool is too low.<ul style="list-style-type: none">- Increase the water level up to the 1/2 of the pool capacity4. The piping / hose is partially blocked by impurities<ul style="list-style-type: none">- Clean the piping / suction hose.



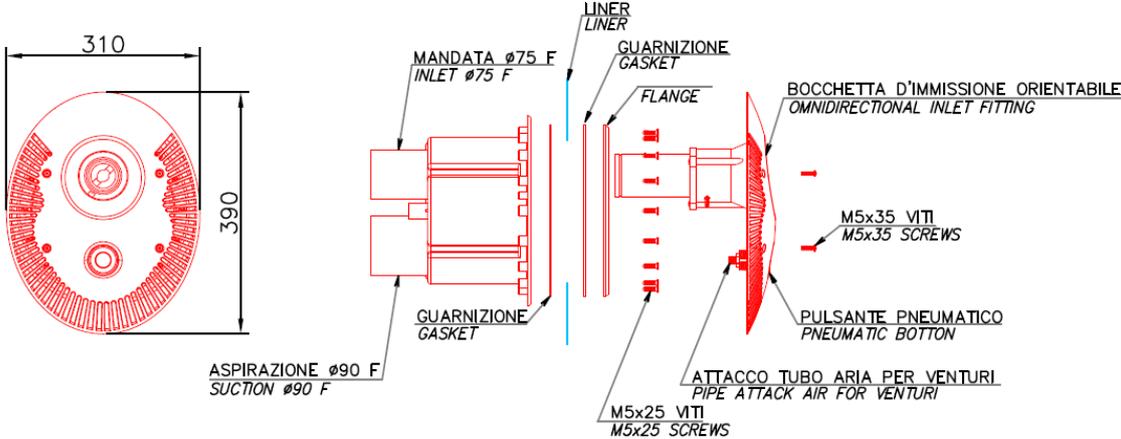
NO	CODE	DESCRIPTION	NO	CODE	DESCRIPTION
1	0111PX01	Filter thumb nut	16	0111PX1601	Impeller PX80 (3/4 HP)
2	0111PX02	Prefilter lid	16	0111PX1602	Impeller PX100 (1 HP)
3	0111PX03	Prefilter lid gasket	16	0111PX1603	Impeller PX150 (1,5 HP)
4	0111PX04	Prefilter basket	16	0111PX1604	Impeller PX200 (2 HP)
5	0111PX05	Prefilter body	16	0111PX1605	Impeller PX300 (3 HP)
6	0111PX06	Prefilter connection bolt M8x25 st.steel	17	0111PX17	Complete mechanical seal
7	0111PX07	Drain plug and O-ring for drain plug	18	0111PX18	Pump housing-rear
8	0111PX08	Gasket for prefilter-pump body connection	19	0111PX19	Electric motor PX80 (3/4 HP)
9	0111PX09	St.steel bolt M8x65 for pump body and leg	19	0111PX2001	Electric motor PX100 (1 HP)
10	0111PX10	Pump housing-front	19	0111PX2002	Electric motor PX150 (1,5 HP)
11	0111PX11	St.steel bolt M8x40 for pump body	19	0111PX2003	Electric motor PX200 (2 HP)
12	0111PX12	Pump housing o-ring	19	0111PX2004	Electric motor PX300 (3 HP)
13	0111PX13	Diffuser gasket	20	0111PX2005	St.steel bolt M10x20 for motor-leg conn.
14	0111PX14	Diffuser	21	0111PX21	Pump leg
15	0111PX15	Plastic head bolt for impeller fixing and o-ring	22	0111PX22	Pump leg rubber support

DIMENSIONS

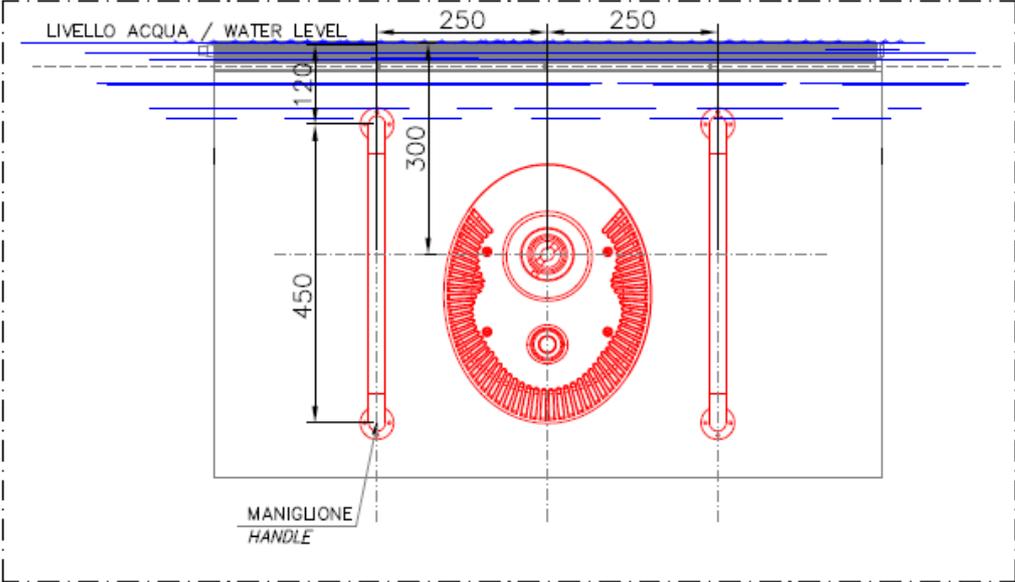


TYPE	DIMENSIONS (mm)										
	DNA	DNI	A	B	C	D	E	F	G	H	J
PX - 75T/M	2"	1 1/2"	625	315	399	410	175	370	290	205	130
PX - 100T/M	2"	1 1/2"	625	315	399	410	165	370	290	205	130
PX - 150T/M	2"	1 1/2"	625	315	399	410	170	370	290	205	130
PX - 200T/M	2"	1 1/2"	650	315	399	410	180	370	290	205	130
PX - 300T	2"	1 1/2"	650	315	399	410	180	370	290	205	130

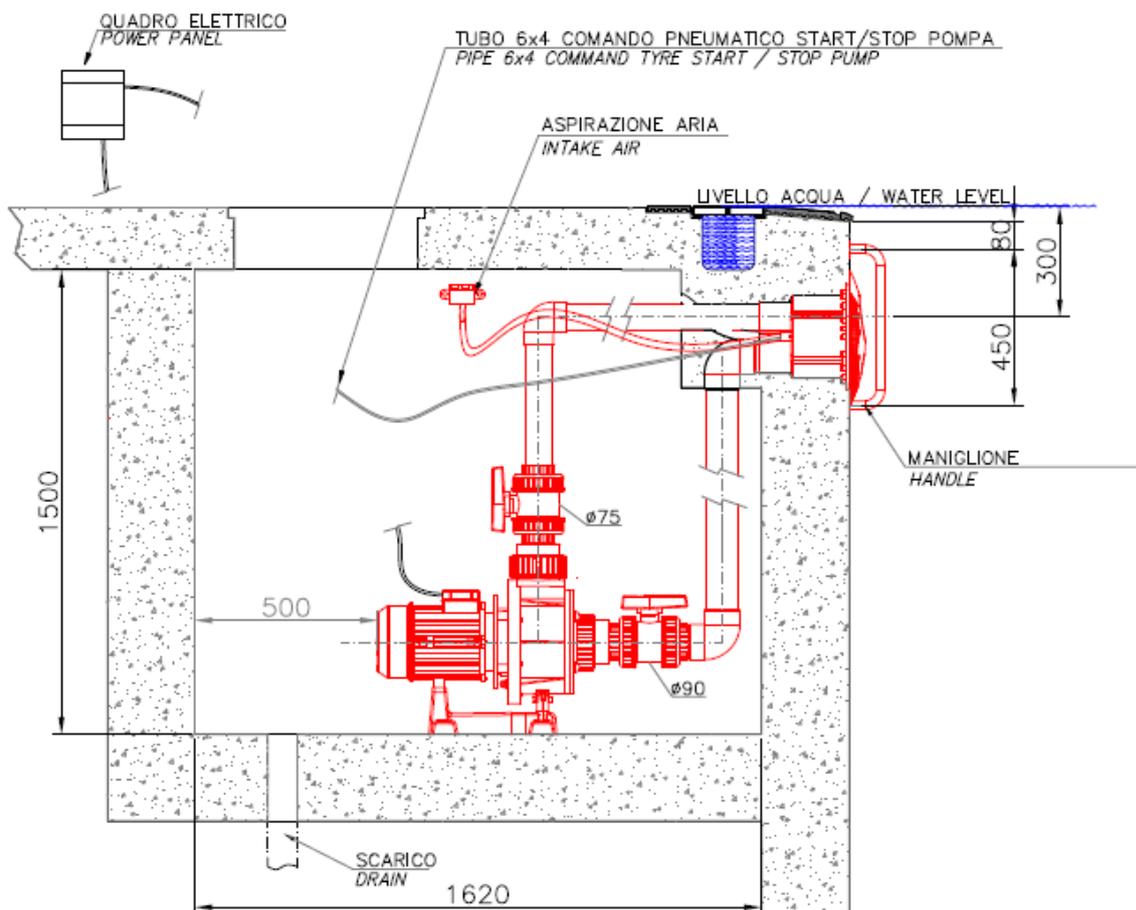
INSTALLATION MUST BE DONE ACCORDING TO BELOW INSTRUCTION



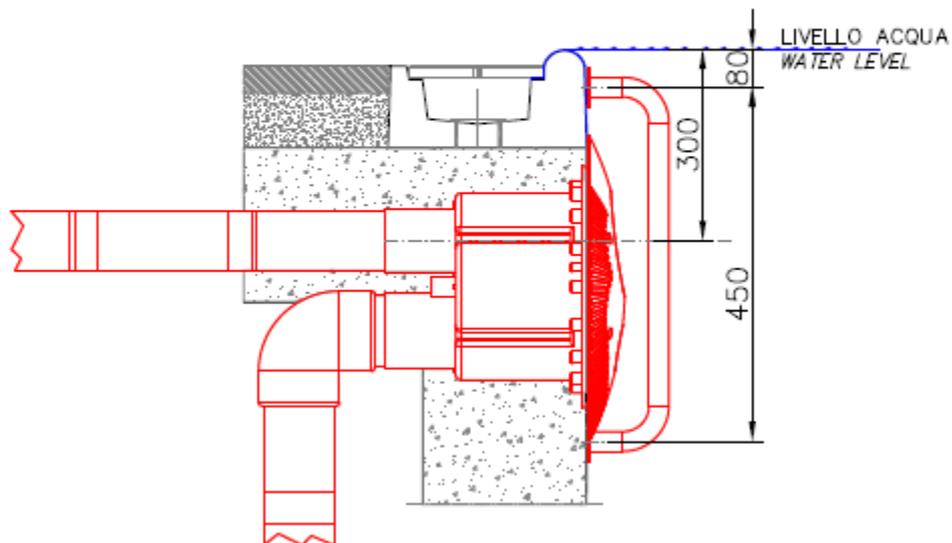
POSIZIONAMENTO MANIGLIONI E NUOTO CONTROCORRENTE IN PISCINE CON BORDO SFIORATORE
 POSITIONING HANDLES AND CONTERCURRENT SWIM FOR OVERFLOW SWIMMING POOL

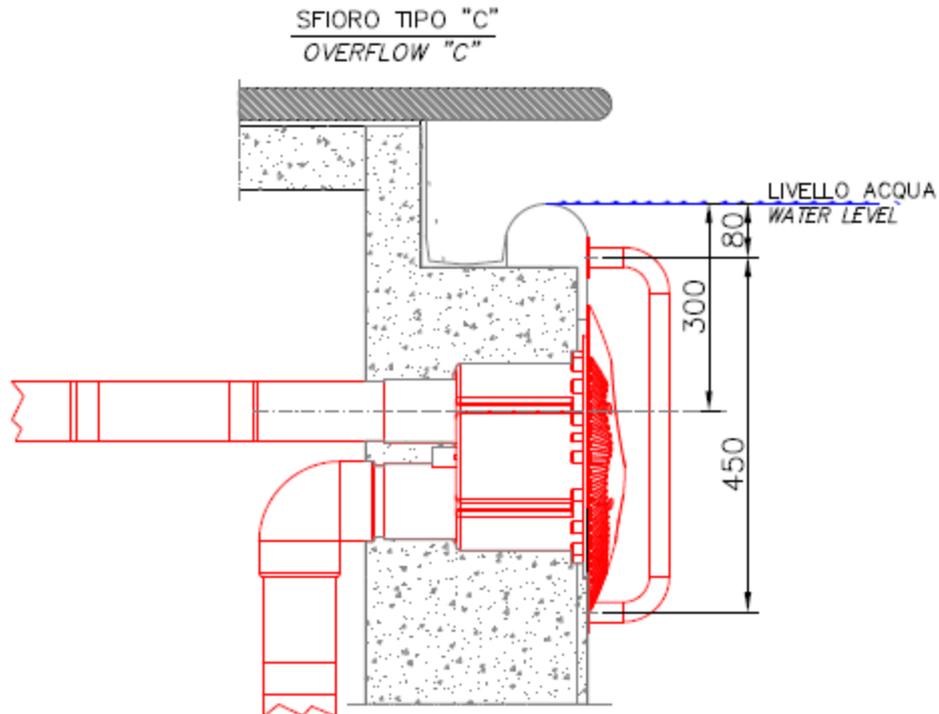


LOCALE ADIACENTE ALLA VASCA
LOCAL ADJACENT THE SWIMMING POOL



SFIORO TIPO "B"
OVERFLOW "B"





INSTRUCTION FOR PVC APPLICATION

Cutting and chamfering:

Pipe should be cut square. A simple method of cutting pipes square is to wrap newspaper or similar sheet paper around the pipe with no overlap of the edges. Mark line around pipe (felt pen is ideal). Cut to line with a fine toothed saw.

Pipe ends should be chamfered at an angle of approximately 15° to about 1/8 of the wall thickness with a coarse file, surform tool or chamfering tool.

Solvent Weld Joints

Pipes up to 75mm may be jointed easily with solvent adhesives. Larger sizes require special techniques

and require two men to make such joints.

1. Jointing Procedure. Mark depth of entry of the pipe into the socket and alignment mark.
2. Make small chamfer on the edge of the pipe end with medium file.
3. Roughen the outside of the pipe and the inside of the socket using sand paper or emery cloth up to the entry mark.
4. Clean both surfaces and remove all dust, grease and swarf using a dry clean cloth and cleaner.
5. Stir adhesive thoroughly.
6. Apply adhesive without delay after cleaning, using a flat clean brush. Apply an even unbroken layer brushing axially to the pipe end and socket mouth with a heavier layer on the pipe. Where loose fits are found, the pipe should be given a second coat.
7. Immediately insert the pipe into the socket up to the entry mark, align pipe and twist 90 degrees. Hold in position for a few seconds, then wipe off excess adhesive.

Solvent Weld jointing of large diameter pipes require special care and our Technical Service Department should be contacted in case of difficulty. Always replace the lid of the can after making a joint and follow the instructions on the can observing any warnings.

Joints should not be moved or disturbed for 10-15 minutes then the jointed pipe may be handled with

care. Allow 4 hours if the jointed pipe lengths are to be laid in a trench.

Allow 8 hours to elapse before applying working pressures or 24 hours for test pressures. With pipe sizes up to 50mm, it is possible to reduce this time. Allow 1 hour for each 3.5 atmospheres of pressure.

Brushes must be clean and dry before commencing solvent welding. Brushes must be thoroughly cleaned after use by washing in cleaning fluid. Do not dilute solvent adhesive with cleaning fluid. Use Solvent adhesive and cleaning fluid in a well-ventilated area. Keep away from naked flames and do not smoke.

Always replace lids of containers. In any event, attention is drawn to the instructions printed on the containers.

When laying continuous runs of pipe, joints may be made quicker than the setting times advised above.

The joint will not be disturbed with long lengths, providing that the pipe is not twisted or the previously made joint lifted out of place.

Rubber Ring Joints

Ensure that the spigot and socket are free from dust, grit, grease and as dry as possible. Insert pipe into the socket without seal ring in place and mark pipe when it is fully inserted. Place seal in groove of socket ensuring that seal is correct way round. Anger seal rings should be fitted with tapered section facing the outside of the socket.

Apply jointing lubricant to the chamfer and the end of the spigot of the pipe or fitting only. Push the pipe firmly into the socket up to the insertion mark previously made. If an expansion gap is required the pipe is then pulled back by the desired amount.