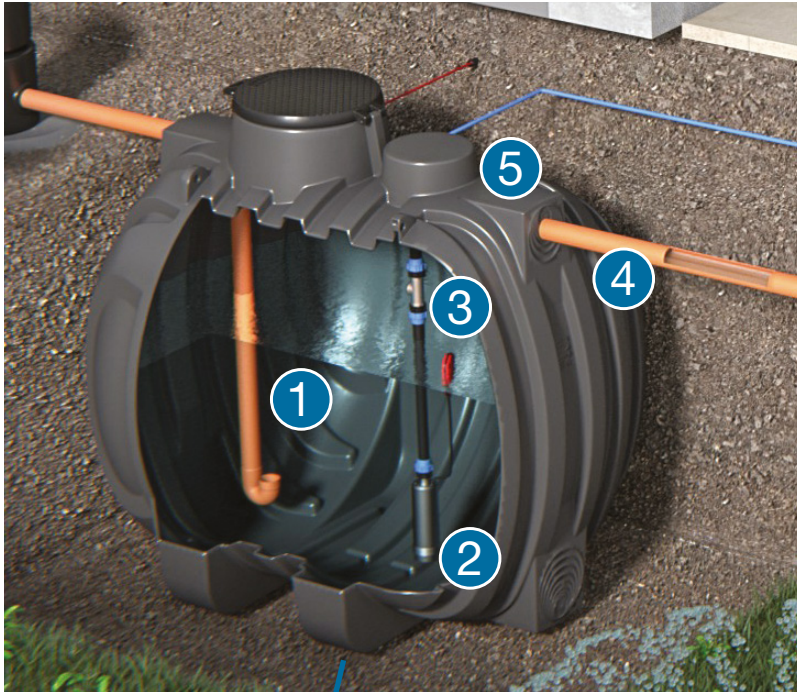


SIR IRRIGATION STATIONS



- ① PVC INLET STILLING PIPE
- ② SUBMERSIBLE PUMP
- ③ CLAPET VALVE
- ④ PVC OVERFLOW PIPE
- ⑤ PP PUMP OUTLET



SPECIFICATIONS

TECHNICAL CHARACTERISTICS

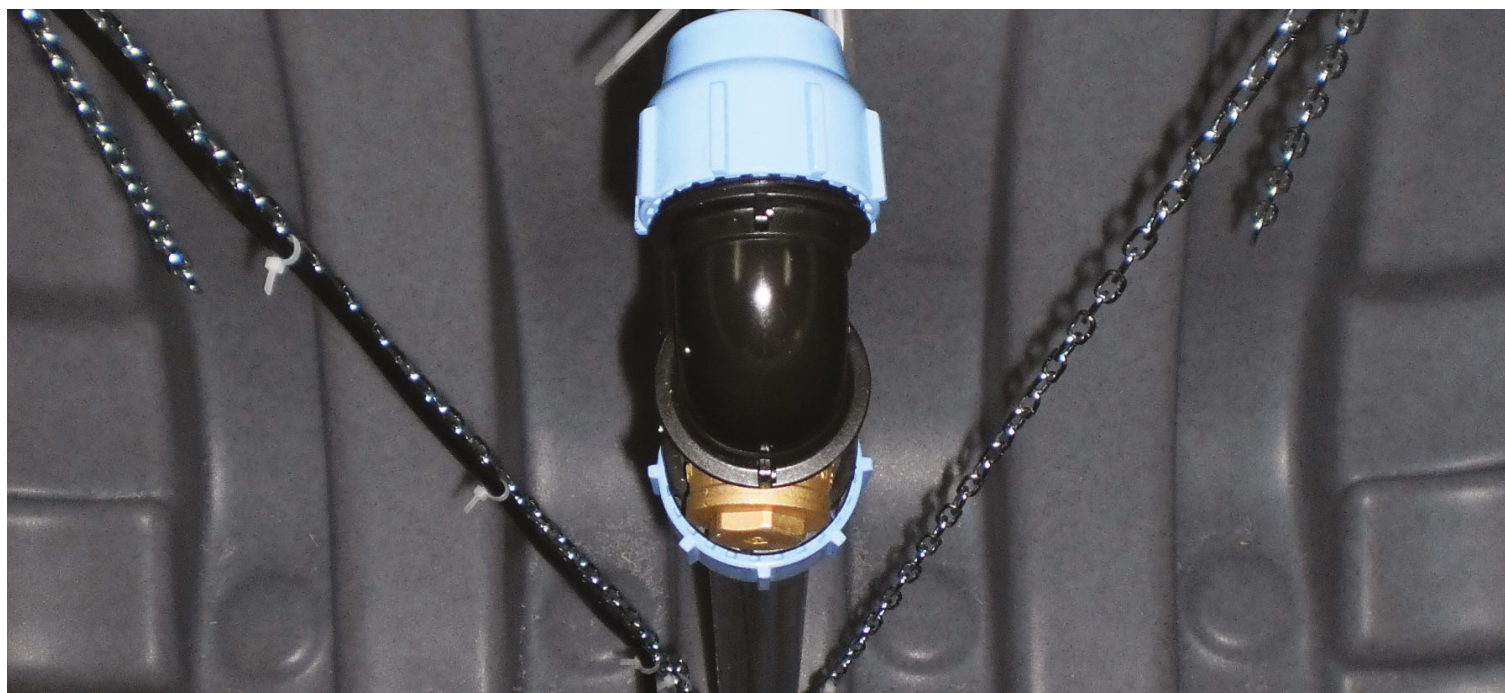
SIR irrigation stations consist of both smooth and corrugated underground tanks. They are fitted with a PVC inlet stilling pipe and overflow pipe, PP (polypropylene) outlet pipe and connectors, submersible electric pump, polyethylene (PE) delivery pipe, clapet type check valve, pump lift chain and electronic control pressure switch.

USE

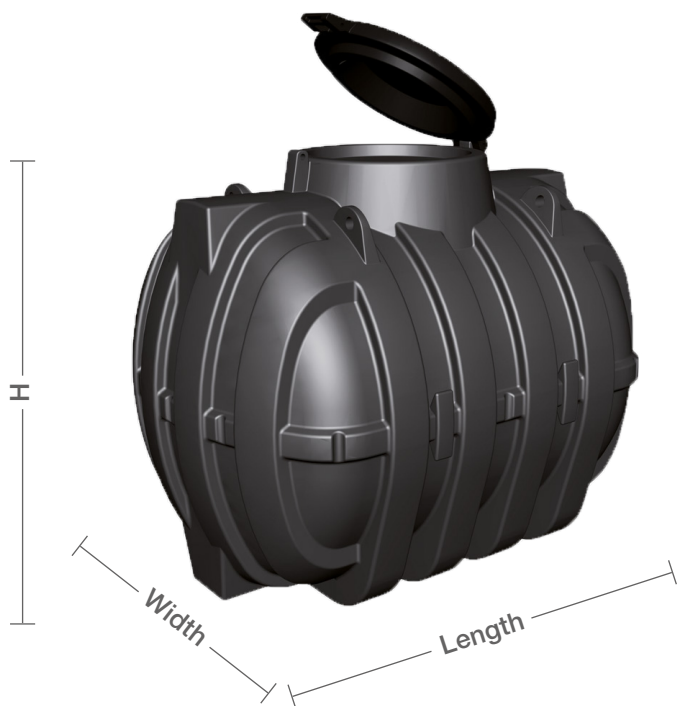
rainwater harvesting and re-use for irrigation purposes, feeding automatic (telescopic irrigators, sprinklers, sprays, etc...) or manual systems (taps, fountains,...).

OPERATION

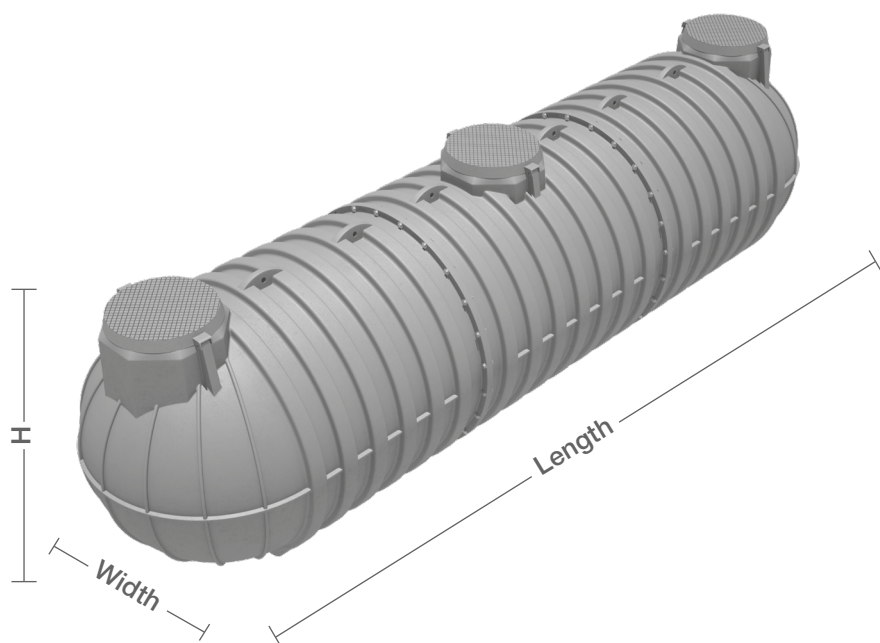
the system allows storage and delivery of between 1000 and 10000 litres of water. Rainwater runoff from roofs (or other exposed surfaces) enters the storage tank through the inlet pipe, after flowing through a filtering system (recommended). When the tank is full, any excess water is sent to the main drainage system through the overflow pipe. A submersible electric pump is installed in the tank. An electronic control pressure switch controls the pump, allowing the stored water to be used.



SIR IRRIGATION STATIONS



SIR IRRIGATION STATIONS MODULAR



MODEL

PANETTONE
SMOOTH



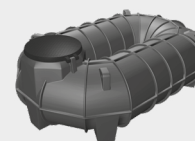
CORRUGATED



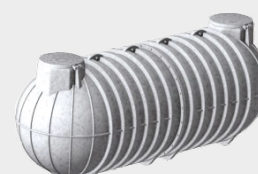
PANETTONE
CORRUGATED



CANOTTO



MODULAR



Item	Mod.	Capacity l	Length cm	Width cm	Ø cm	H cm	HI cm	HO cm	ØI mm	Ø overflow mm	Ø O mm	Ø cover cm	Cover	Extension	Pump
SIRPI1075		1000	-	-	120	105	95	76	110	110	50	30	CC300	PP35	PI40/08M
SIRPI2075		2000	-	-	150	133	117	98	110	110	50	40	CC400	PP45	PI40/08M
SIR3075		3000	209	150	-	172	160	139	125	125	50	63	TAP800	PP77	PI40/08M
SIR3015		3000	209	150	-	172	160	139	125	125	50	63	TAP800	PP77	PI80/15M
SIRPI3075		3000	-	-	171	165	147	138	125	125	50	63	TAP800	PP77	PI40/08M
SIRPI3015		3000	-	-	171	165	147	138	125	125	50	63	TAP800	PP77	PI80/15M
SIR3575		3000	249	241	-	123	96	94	125	125	50	63	TAP800	PP77	PI40/08M
SIR3515		3000	249	241	-	123	96	94	125	125	50	63	TAP800	PP77	PI80/15M
SIRPI4075		4000	-	-	171	215	197	188	125	125	50	63	TAP800	PP77	PI40/08M
SIRPI4015		4000	-	-	171	215	197	188	125	125	50	63	TAP800	PP77	PI80/15M
SIR5075		5000	242	192	-	210	194	173	125	125	50	63	TAP800	PP77	PI40/08M
SIR5015		5000	242	192	-	210	194	173	125	125	50	63	TAP800	PP77	PI80/15M
SIR5375		5000	365	241	-	123	96	94	125	125	50	63	TAP800	PP77	PI40/08M
SIR5315		5000	365	241	-	123	96	94	125	125	50	63	TAP800	PP77	PI80/15M
SIRPI8075		8000	-	-	227	275	254	246	125	125	50	63	TAP800	PP77	PI40/08M
SIRPI8015		8000	-	-	227	275	254	246	125	125	50	63	TAP800	PP77	PI80/15M
SIR10075		10000	278	243	-	266	247	223	125	125	50	63	TAP800	PP77	PI40/08M
SIR10015		10000	278	243	-	266	247	223	125	125	50	63	TAP800	PP77	PI80/15M
SIRPI10075		10000	-	-	227	300	280	271	125	125	50	63	TAP800	PP77	PI40/08M
SIRPI10015		10000	-	-	227	300	280	271	125	125	50	63	TAP800	PP77	PI80/15M
MTSIR12075		12000	718	155	-	171	151	148	125	125	50	63	TAP800	PP77	PI40/08M
MTSIR12015		12000	718	155	-	171	151	148	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR13075		13000	501	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR13015		13000	501	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR15075		15000	562	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/08M
ITSIR15015		15000	562	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR18075		18000	668	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR18015		18000	668	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
MTSIR18075		18000	1051	155	-	171	151	148	125	125	50	63	TAP800	PP77	PI40/08M
MTSIR18015		18000	1051	155	-	171	151	148	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR20075		20000	727	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR20015		20000	727	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR22075		22000	788	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/08M
ITSIR22015		22000	788	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR25075		25000	894	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR25015		25000	894	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR28075		28000	953	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR28015		28000	953	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR30075		30000	1014	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/08M
ITSIR30015		30000	1014	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR33075		33000	1120	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITSIR33015		33000	1120	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR36075		36000	1240	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/08M
ITSIR36015		36000	1240	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M
ITSIR40075		40000	1346	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI40/80M
ITISR40015		40000	1346	210	-	220	190	194	125	125	50	63	TAP800	PP77	PI80/15M

Ø = diameter; H = height; ØI/O = inlet/outlet pipe diameter.

SIR IRRIGATION STATIONS

SUBMERSIBLE PUMPS

SUBMERSIBLE PUMP FOR 5" WELLS

MATERIAL

Outer shell, motor cover, seal holder disk, filter and fastening ring in AISI 304; impeller, diffuser and spacer in PPE+PS reinforced with fibreglass; shaft in AISI 431; upper mechanical seal (motor side) in carbon/ceramic/NBR and lower seal (pump side) in SiC/carbon/NBR.

Electric pump with double mechanical seal surrounding an oil chamber. 2-pole self-ventilated asynchronous motor cooled by the fluid transported, insulation class F and protection level IP68.

FUNCTION

Movement of clean water from wells, cisterns and rainwater collection tanks; pressurisation of domestic systems; small-scale irrigation; carwashes; pressure increases in general.

USE AND MAINTENANCE

Under normal operating conditions, the electric pump does not require any maintenance operations. The only recommendation is that proper operation be checked periodically, in particular checking for any abnormal noise and vibration that may arise and checking any loss of mechanical seal.

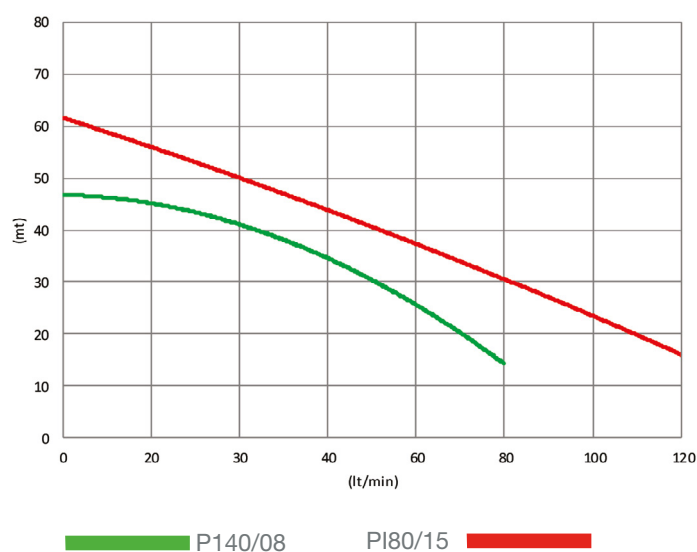
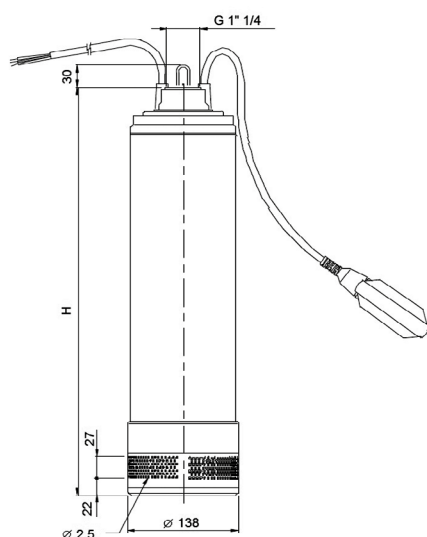
PUMP MODEL:

PI 40/08 M
PI 80/15 M



Pump model	Power		A1~A	μF	DNM inches	H mm	Weight Kg	Flow rate		Head m
	HP	Kw						l/min	m3/h	
PI 40/08M	0,8	0,6	4,3	16	1" ¼	513	14,6	20	1,2	43,3
								80	4,8	13,4
PI 80/15M	1,5	1,1	7,5	31,5	1" ¼	564	17,7	30	1,8	57
								120	7,2	19

Pump model	Max. immersion depth m	Max. grit concentration g/m3	Max. no. start-ups n°/h	Max. water temp. °C
PI 40/08M	20	2,5	20	40
PI 80/15M	20	2,5	20	40



SIR IRRIGATION STATIONS

ACCESSORIES

PRESSURE REGULATOR (supplied)

Application Automatic electronic pressure-flow switch to adjust the operation of electric pumps.

Function Commands automatic start-up and stoppage of the pump when a tap or a valve connected to the system is opened or closed. When the pump is started, it remains in operation for as long as any one of the users is open, transmitting the required flow rate to the network. If there is an absence of water during suction, the pump will stop automatically.

Construction characteristics Complete with non return valve. Adjustable start-up pressure. Operation indicators and RESET button. Maximum water temperature 60°C. Protection level IP65.



Item	Supply voltage V	Frequency Hz	Max. current intensity A	Start-up pressure bar	Max. working pressure bar	Max. flow rate l/h	Connector diameter	Weight kg
PRESSCMF	220	50/60	10	1,5-2,5	10 (±10%)	10000	1"	0,6

ELECTRIC PUMP CONTROL PANEL WITH PRESSURE SWITCH (optional)

Function Electronic panel to command and protect a single phase user equipped with a pressure switch.

Installation method If the panel with the pressure switch is installed outside and not protected against atmospheric agents, it should be housed in an appropriate casing or cabinet with protection grade IP55.

Construction characteristics

- Power supply 1 ~ 50/60Hz 230V±10% • Low voltage inputs and command circuits; • Normally open input for start-up command; • Level control relay for 3 unipolar probes or float switches; • Button pad to select automatic, manual (momentary), Off/Reset; • Dip-switch for Filling/Emptying probe operation; • Adjustable probe sensitivity; • Green mains electricity present LED; • Green automatic operation LED; • Green motor On LED; • Red level alarm LED; • Red motor in overload alarm LED; • Electronic adjustable motor overload control; • Auxiliaries and motor protected by fuses; • Alarm output (com-no-nc resistive load); • Main switch with door interlock; • Box in ABS, IP55; • Room temperature: -5/+40 °C; • Relative humidity 50% at 40 °C (without condensation).

Pressure switch characteristics

- Pressure switch built in compliance with EN60947-4/-5; • Working room temperature: from -40 to +65 °C;
- Protection IP30; • Electrical connection: inlet with 6 to 14 mm cable; • Max. pressure: 17 bars.



Item	Pump power		Current A	Size			Weight Kg
	Kw	HP		Height mm	Length mm	Depth mm	
QCSIRPRESS1	0,37-2,2	0,5-3	16	320	240	190	1,5

FILTER CARTRIDGES (optional)

Material Transparent SAN bowl, filled polypropylene head, brass threaded inserts.

Application Filtration system to be installed downstream of a rainwater harvesting and re-use plant.

Function Single cartridge filtration to eliminate sediment and other physical impurities. Double cartridge filtration to eliminate chlorine and reduce odours.

Item	N° cartridges	Filtration type	Micron	Cartridge width mm	Cartridge height mm	Inlet/outlet diameter mm
FCR9SB	1	Rete in poliestere	150	133	307	1"
FCR9SBCA	2	Rete in poliestere + carbone estruso compresso	150 + 5/10	133	307	1"



IRRIGATION STATIONS

TECHNICAL CHARACTERISTICS

Rototec has designed a line of products specifically for simple and efficient rainwater harvesting. These products, together with the Rototec underground tanks (above-ground on request), allow rainwater to be harvested for “less noble” uses: watering gardens, washing outdoor surfaces and cars, flushing toilets, etc.

The irrigation stations consist of underground tanks with rainwater inlet and overflow pipes and an electric submersible pump with protection panel for delivering the stored water under pressure.

A typical evolution of the irrigation station is the **HABITA irrigation station** in which the submersible electric pump is linked to an automatic control unit which, thanks to the probes installed in the tank, replenishes the system from the mains water supply through a solenoid valve during periods of low rainfall.

Another system, similar to the first, is the **HABITA PRESS module** in which the above-ground installation of the self-priming pump, control unit and motorised valve in a single module is used to replenish the system from the mains water supply.

Finally, in the case of an existing rainwater harvesting system, the **REINTEGRA module** can be used to top-up the water stored in the tank.

APPLICATIONS

- **Rainwater harvesting and re-use** for re-use in irrigation, washing of external surfaces and cars and to fill toilet cisterns.
- **Creating volumes of stored water** and their subsequent delivery into the domestic system

USE AND MAINTENANCE

All maintenance operations must be carried out with the pump disconnected from the power supply. The pump must be disconnected by trained technicians, so that there is no risk of it starting accidentally.

The maintenance recommendations provided in these instructions are not to be understood as “do-it-yourself” operations, as they require specific technical knowledge. A service contract with a specialist technician will ensure you receive the best technical assistance at all times.

- a) When carrying out maintenance operations and cleaning of the tank and any components installed inside it, always comply with the requirements indicated in the safety regulations about temporary or mobile work sites;
- b) in the event of a maintenance operation of any kind, always comply with the safety regulations regarding operations within closed waste water treatment areas, and with the general technical procedures applicable;
- c) keep the area around the tank **free** from any material that might obstruct or impede the maintenance work;
- d) always work in pairs when carrying out tank inspection and cleaning operations, and wear suitable safety equipment (safety harness, lines, gloves,...);
- e) check the tank **every 6 months**. In the presence of high levels of sludge, clean the tank with a jet of pressurised water, and if necessary empty the tank.
- f) check that the inlet, outlet and overflow pipes are not blocked by large solids that prevent the passage of fluid. If any sediment is found, it must be removed. Also check the vent, and if anything is obstructing the free flow of air, remove it.
- g) check **every 6 months** to ensure that pipes, connectors and gaskets are sealed;

Electric pumps:

- Under normal operating conditions, the electric pumps do not require any maintenance operations.
- In the case of permanent installations, an annual inspection is recommended. Remove any residual dirt that may have accumulated on the command floats.
- Check the state of the electric cable; if it is damaged, contact the **service department**.
- Check the state of the handle and the fixing devices.
- Should it be necessary to **dismantle** a pump for any reason, unfasten the compression fitting on the pump delivery pipe, then extract the pump, with the aid of the lifting chain.

WARNINGS

RISK OF ELECTRIC SHOCK:

- Do not transport or handle the pump using the electric power supply cable;
- Before connecting up the pump, make sure that the power supply network is **properly earthed**;
- Before carrying out any type of control or maintenance operation, **disconnect the power supply**;
- Never start the pump if you are in contact with the liquid to be pumped;
- Always ensure that the pump is checked and repaired **by authorised personnel only**. Unauthorised repairs might make the product unsafe and/or dangerous;

SEVERE RISK TO PERSONS AND/OR PROPERTY:

- If the electric pump is not properly fixed, it may become unsteady or topple over on start-up due to the starting torque;
- **Never** move the electric pump when it is operating or with the power cable connected to the power supply;
- Never use the electric pump to **pump dangerous liquids** (toxic, flammable, etc...)
- **Never put your hands** or other objects into the pumped liquid inlets or outlets in the vicinity of the impellers, if present, as these are moving parts;

RISK OF DAMAGE TO THE PUMP OR SYSTEM:

- The electric pump must only operate **in a vertical position** (with the motor at the top and the pump section at the bottom);
- Only start the electric pump once it has been installed; **do not attempt a dry start**;
- Do not remove the suction filter, if there is one, for any reason whatsoever;
- On the **three-phase version of the pump**, the correct direction of rotation is indicated by the arrow stamped on the pump body and on the identification plate.

TROUBLESHOOTING

	PROBLEM		CAUSE		SOLUTION
	The electric pump does not work, the motor does not turn		no power supply		- check the power supply
			circuit broken		- check the circuit
			pump blocked		- check the state of the electric pump
			float blocked		- check that the float is free and that it reaches the ON level
			impeller blocked		- free the impeller from any obstructions
			thermal cut-out triggered		- the pump will re-start automatically
			short-circuit		- check that the amp range corresponds with that of the pump
	The motor turns, but the electric pump does not work or the flow rate is restricted		bad connections (three-phase model)		- reverse the phase connections
			delivery pipe or suction filter partially blocked		- remove the obstructions
			impellers worn		- replace the impellers
			check valve blocked		- clean the valve
			groundwater level has dropped		- lower the pump, taking into account the minimum head
			turns in the wrong direction		- reverse the direction of rotation
			project values have changed		- check that the required head, linear distance or capacity have not changed
			pipes are leaking		- check that the pipes are undamaged

For further information on how to deal with malfunctions please see the information provided in the manual for installation and use of the electric panel supplied inside the panel itself.