



flowpac compact[®]

1F.D Pump Manual

OPERATION AND MAINTENANCE MANUAL

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General

Information

These instructions are to assist in the installation of the flowpac compact 1F.D Pump please follow them carefully.

If, having read this Operation & Maintenance Manual, there is any doubt about any aspect of the installation please don't hesitate to contact our technical team.

Definitions of Safety Warnings and Precautions



WARNING!

Indicates a potentially hazardous situation which, if not avoided, can result in serious injury or death.



CAUTION!

Indicates a potentially hazardous situation which, if not avoided. Can result in minor to moderate injury, or serious damage to the product.

Safety

Information

It is essential that correct and safe working practices are adhered to at all times when installing, operating and/or maintaining any piece of equipment. Always consult safety data sheets, operating and maintenance manuals, Health & Safety legislation and recommendations and specific requirements of any equipment manufacturer, site controller, building manager or any other persons or organisation relating to the procurement, installation, operation and/or maintenance of any piece of equipment associated or in conjunction with any product provided by **flowtech** Water Solutions.

This document is intended for ALL installers, operators, users and persons carrying out maintenance of this equipment and must be kept with the equipment, for the life of the equipment and made available to all persons at all times. Prior to carrying out any work associated with the set it is essential that the following sheets are read, fully understood and adhered to at all times.

Equipment must only be installed, operated, used, and/or maintained by a competent person. A competent person is someone who is technically competent and familiar with all safety practices and all of the hazards involved.

Any damage caused to any equipment by misapplication, mishandling or misuse could lead to risk of Electrocutation, Burns, Fire, Flooding, death or injury to people and/or damage to property dependent upon the circumstances involved. **flowtech** Water Solutions accepts no responsibility or liability for any damage, losses, injury, fatalities or consequences of any kind due to misapplication, mishandling or misuse of any equipment, or as a result of failure to comply with this manual.

Failure to install, operate, use or maintain the equipment in accordance with the information contained within this document could cause damage to the equipment and any other equipment subsequently connected to it, invalidating any warranties provided by **flowtech** Water Solutions to the buyer.

Safety Warnings &

Precautions

These instructions should be read and clearly understood before working on the system. Please read this manual carefully and all of the warning signs attached before installing or operating the equipment keep this manual handy for your reference. This equipment should be installed, adjusted and serviced by trained and qualified personnel. Failure to observe this precaution could result in bodily injury.



WARNING! - Install an emergency stop key separately from the isolator. Rotating shafts can be hazardous.



WARNING! - This equipment has a high leakage current and must be permanently fixed to earth.



WARNING! - Do not attach or remove wiring or connectors when the power is applied. Do not check signals during operation. When the power is turned on and the running command is on, the motor will start rotating. The stop key is only effective when the function is set. If there is a power failure and an operation instruction is given the unit may start automatically when the power is reinstated.



WARNING! - Make sure that the input voltage is correct. Be sure to install the unit in a room that is not exposed to direct sunlight and is well ventilated.

Avoid environments which have a high ambient temperature, high humidity or excessive condensation. Avoid dust. Corrosive gas, explosive gas, inflammable gas, grinding-fluid mist and salt damage, etc.



WARNING! - Do not connect the power source to any terminals except power connectors.



WARNING! - Motor control equipment and electronic controllers are connected to hazardous line voltages. When servicing drives and electronic controllers, you may be exposed to components at or above the line potential. Extreme care should be taken to protect against shock. Dangerous voltage may exist after the power light is off.

Wait more than 5 minutes after turning off the power supply before performing maintenance or inspection. Hazard of electric shock. Disconnect incoming power before working on this unit.



WARNING! - The inverter should be protected separately against ground fault.

Observe the regional regulations for electrical installation!



CAUTION! - It is strongly recommended that all electrical equipment conforms to National Electrical Codes and local regulations. Only qualified personnel should perform installation, alignment and maintenance. The manufacturer reserves the right to alter the technical data in order to make improvements or update information.



CAUTION! - Failure to observe these rules will render the guarantee invalid. The same applies to repair jobs and/or replacement. Your legal rights are not affected.



CAUTION! - The manufacturer declines all responsibility in the event of damage or injury caused as a result of tampering with the equipment.



CAUTION! - Do not switch on/off power supply to run/stop the motor/system! Start the unit only by using run button or external run command.

Customer / Contractor

RESPONSIBILITIES

It is the responsibility of the customer and/or the contractor:

- To ensure that anyone working on the equipment is wearing all necessary protective gear and/or clothing.
- Is aware of appropriate health & safety warnings.
- Has read the information in this section of the manual.

General

Before starting the pump, read this instruction booklet carefully and keep it in a safe place for future reference. The pump must only be used for the purpose for which it was designed. For safety reasons the pump must not be used by anyone under the age of 16 or by anyone who has not read and understood the present instructions booklet.

The power cord and floating switch must never be used to carry or move the pump. Always use the pump's handle.

When handling the pump, while it is connected to the electric power supply, you should avoid all contact with water.

Never remove the plug by pulling on the power cord.

Before taking any action on the pump, always remove the plug from the power socket.

If the power supply cord has been damaged, it must be replaced by the manufacturer or its authorised customer support service in order to avoid all risks.

The pump is equipped with a thermal overload safety device. In the event of any overheating of the motor, this device automatically switches off the pump. The cooling time is roughly 15 to 20 minutes, then the pump automatically comes on again. If the overload cutout is tripped, it is essential to identify and deal with the cause of the overheating. See Troubleshooting.

Description

Multi-impeller submersible pumps with built-in electronics ideal for rain water and mains irrigation systems, for pumping water from tanks, ponds and wells and other applications that require high pressure.

The pump is equipped with a built-in electronic control unit which manages its operation (pump ON/FF) and prevents damages.

The electronics protects the pump against dry running conditions:

- Priming cycle: When started, the pump will perform the following operation until it is primed: four priming trials of 30" (motor ON) with pauses of 3" (motor OFF). If there is no water, i.e. if the priming trials fail, the pump will stop for an hour before trying to prime again. If also this trial fails, there will be a 5 hours pause. Afterwards, if the lack of water persists, the pump will try to prime every 24 hours until it has picked up a prime.
- Normal Operation: If, during the pumps operation, the water supply is inferior to the minimum delivery for more than 40", the pump will go into alarm, and start a priming cycle. In this case the priming trials are made after 1, 5, and 24 hours until the pump picks up a prime.

The electronic unit also protects the pump from damages that could be caused by the blocking of the Not Return Valve (NRV). Such blockings are generally due to dirt deposits, or sand and they cause the pump to operate also if there is no water demand from the end-user. The protection function stops the pump automatically every hour; if no damage is detected the pump re-starts immediately. If the VNR is blocked the pump goes into alarm and stops. In this case the pump can be re-started only after unplugging the pump and removing the obstruction to the VNR.

The best working condition is with the pump be completely submersed in water.

Anyway the motor's cooling system allows the use at the minimum suction height for very short periods.

The pump is equipped with a stainless steel anti-deposit filter

The temperature of the fluid being pumped must never exceed 35° C.

The pump must not be used to pump salt water (unless specifically designed for the purpose), sewage, flammable, corrosive or explosive liquids (e.g. petroleum oil, petrol, thinners), grease, oils or foodstuffs.

Comply with the rules and regulations of the local water authority when using the pump for the supply of domestic water.

Starting the pump

Given the different provisions applicable to the safety of electric systems in different countries, make sure that the pump system, as concerns its intended use, is in accordance with current legislation.

Before starting the pump, make sure that:

- The voltage and frequency specified on the pump's nameplate coincide with those of the available power supply;
- There are no signs of damage to the pump or its power cord;
- The electric connection is made in a dry place, protected against any risk of flooding;
- The electric system is complete with a residual current circuit-breaker ($I \Delta n \leq 30 \text{ mA}$) and an efficient earthing connection;
- Any extension cords must comply with the requirements of the DIN VDE standard 0620.

Recommendations

To ensure the proper operation of the pump, it is important to comply with the following recommendations:

- The pump must only be used when it is immersed in water.
- The pump must be placed in a stable position inside a trap or in the lowest part of the place where it is installed.
- Periodically, it is advisable to make sure that no dirt (leaves, sand, etc.) has accumulated in the collection trap.

Maintenance and Cleaning

It is absolutely essential to prevent any risk of the pump freezing. In the event of freezing temperatures, remove the pump from the liquid, empty it and keep it in a place where it cannot freeze. The pump must be disconnected from the mains power supply before any cleaning operation is performed. The pump is maintenance free.

Guarantee

Any material or manufacturing defects will be corrected during the guarantee period established by current law in the country where the product is purchased. It is up to the manufacturer to decide whether to repair or replace any faulty parts.

The manufacturer's guarantee covers all substantial defects attributable to manufacturing or material defects, providing the product has been used correctly and in compliance with the instructions.

The guarantee becomes null and void in the event of the following:

- unauthorized attempts to repair the appliance;
- unauthorized technical changes to the appliance;
- use of non-original spare parts; manhandling;
- inappropriate use, e.g. for industrial purposes.

The guarantee does not cover:

- parts liable to rapid wear and tear.

For any action under guarantee, contact an authorized customer support service, presenting your receipt for the purchase of the product.

Troubleshooting

Before taking any troubleshooting action, disconnect the pump from the power supply (i.e. remove the plug from the socket). If there is any damage to the power cable or pump, any necessary repairs or replacements must be performed by the manufacturer or his authorized customer support service, or by an equally-qualified party, in order to prevent all risks.

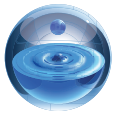
| Fault | Cause | Solution |
|---|--|--|
| The motor does not start or makes no noise | The motor is not powered | Check the power supply |
| | There is no water (pump in alarm mode) | Check the water level |
| | The VNR is blocked (pump in alarm mode) | Clean the valve |
| The pump delivers no water | The suction grid or pipe are clogged | Remove the obstruction |
| | The impeller is worn or stuck | Replace the impeller or remove the obstruction |
| The flow rate is too low | The suction grid is partially blocked | Remove any obstructions |
| | The impeller or delivery pipe are partially blocked or encrusted | Remove any obstructions |
| The pump stops running (possible intervention of the thermal overload switch) | The liquid to be pumped is too dense and overheats the motor | disconnect the power cord correct the reason for overheating then wait until the pump is cooled plug the cord and resume operation |
| | The water temperature is too high | |
| | A solid object is blocking the impeller | |
| | Power supply does not comply with the nameplate data | |

Electrical data

| Size | P1 W | Qmax l/m | Voltage Volt | Frequency Hz | Head Max. m |
|------|------|----------|-----------------------|--------------|-------------|
| 750 | 750 | 95 | 220-240/230 V | 50 | 28 |
| 1000 | 900 | 95 | 220-240/230 V | 50 | 36 |
| 1200 | 1100 | 95 | 220-240/230 V | 50 | 45 |
| 1000 | 900 | 95 | 115-127 V / 220-230 V | 60 | 36 |
| 1200 | 1100 | 95 | 115-127 V / 220-230 V | 60 | 45 |

Disposal

This product or its parts must be disposed of in accordance with the laws regarding the environment; Use the local, public or private, refuse collection services.



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WATER SOLUTIONS

flowzone[®]

MEMBERS AREA

This section of the **flowtech**[®] website holds information exclusively for members. Members will need to log in to gain access to these pages.

Our member's will be granted exclusive access to our technical resource library. Within this resource is a wide range of product information including data sheets, technical drawings, O&M Manuals and training videos



flowcare[®]

AFTER SALES SERVICE

At **flowtech**[®] we operate a network of Service Engineers located throughout the UK who are supported by our offices located in and Greater Manchester. The distribution of engineers means that in the majority of cases we are less than 4 hours away from attending a customer call out.

We place great emphasis on providing technical back up to support our Service Engineers in resolving some difficult operational and technical issues. We pride ourselves on completing a project on time, within budget and never leaving a problem unresolved, or a customer waiting. This quality of service has made us the first choice for our customers.

FOR FURTHER INFORMATION OR ASSISTANCE

contact us

Flowtech Water Solutions are experts in water services and water booster sets. We have continuously supplied a wide range of standard and custom products since being founded in 1996.

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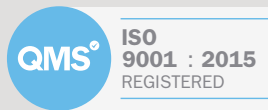
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