

# flowpac

Compact 1F.DT Range CAT5  
Packaged Booster Sets

## OPERATION AND MAINTENANCE MANUAL

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CAT5 Packaged Booster Sets

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# BOOSTER SET INSTALLATION

## FAQs

flowpac Compact 1F.DT Range  
CAT5 Packaged Booster Sets

### **Can I connect the booster set directly to the incoming cold water main?**

Yes, the unit is designed for this application.

### **Can I connect hot water to the tank?**

No, the tank and pump are designed for use with cold water normally circa 10°C however the tank and pump are suitable for temperatures from 0°C to 30°C.

### **Can I reduce the size of the inlet pipework when connecting to the ball valve in the tank?**

Yes, however the ball valve has been sized based on the flow capability of the pumps so this may or may not affect the refill rate of the tank.

### **Can I reduce the size of the discharge pipework when connecting to the system?**

Yes, this is possible however care must be taken to ensure the booster set can overcome the resistance of the reduced bore pipework, care must also be taken to ensure the velocity noise is acceptable.

### **Do I need to put isolating valves on the discharge?**

Yes, a valve with unions must be installed on the discharge manifolds to enable correct commissioning and service and maintenance of the unit, Valve kits are available from **flowtech** Water Solutions.

### **Do I need to support the suction and discharge pipework on the booster set?**

The installer must support their pipework which is connected to the discharge pipework on the booster set adequately, failure to do so may cause undue stress on the fittings and cause leaks on the pipework.

### **What type of MCB should I use to protect the booster set?**

A Type B MCB must be used on all FIXED SPEED booster sets to avoid nuisance tripping.  
A Type C MCB must be used on all INVERTER DRIVEN booster sets to avoid nuisance tripping.

### **Can I connect the booster set to a generator?**

No, the booster set must be connected to a stable power supply with a voltage of 230volts  $\pm 10\%$  or 415volts  $\pm 10\%$  depending on the model of booster set you have purchased.



## GENERAL INFORMATION

**flowpac** Compact 1F.DT Range  
CAT5 Packaged Booster Sets

Available in four  
standard tank sizes\*

187 litre

251 litre

305 litre

375 litre

\*other tank sizes available on request

These instructions are to assist in the installation of the CAT5 packaged cold water booster set, 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

## flowpac Compact 1F.DT Range CAT5 Packaged Booster Sets

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:

The packaged booster and tank 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.

Water storage tanks contain water and as such represent a risk of injury or death as a result of drowning and/or flooding and/or injury or death as a result of structural failure of the tank. The tank is not suitable for use as a working platform or designed to support the weight of standing on, walking across, and/or use of the tank as a support. Tanks are designed to operate at atmospheric pressure only and must not be pressurised or be subjected to vacuum. **flowstore** tanks are designed to operate within a specific temperature range between 0°C & 30°C. **UNLESS SPECIFICALLY STATED OTHERWISE.**

Tanks are designed to contain clean, wholesome water only, and are not suitable to be in contact with water containing additives of any kind other than those included by any local water authority for the purposes of maintaining water hygiene and within standards and to concentrations allowing such water to remain as of a potable standard, being fit for drinking purposes.

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

## flowpac Compact 1F.DT Range CAT5 Packaged Booster Sets

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.



**We strongly recommend that commissioning and service work is carried out by the manufacturer's personnel or appointed agents ~ please contact our technical sales department for information on our commissioning and service contract packages.**

# CUSTOMER / CONTRACTOR RESPONSIBILITIES

**flowpac** Compact 1F.DT Range  
CAT5 Packaged Booster Sets

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.

# OFFLOADING & HANDLING

## flowpac Compact 1F.DT Range CAT5 Packaged Booster Sets

Do not lift the booster by any pipe work or control panels. **flow**vess vessels are supplied loose for transport purposes.

The set must be inspected upon delivery to site, and prior to any site positioning and/or installation. Any damage to, and/or unsuitability of the set must be identified prior to installation. Failure to do so may result in death or serious injury and/or structural failure of the booster or tank resulting in serious damage to equipment and/or property.

# SITING & POSITIONING THE BOOSTER SET

## flowpac Compact 1F.DT Range CAT5 Packaged Booster Sets

The booster set must be installed in an area where in the event of any pipe work or component failure the resultant water leak can not cause any damage to surrounding property, if the unit is to be installed or stored prior to installation in an unheated room then adequate frost protection must be installed, the maximum ambient temperature should not exceed 35°C

The booster set must be installed on a level surface and if the plant room has a chance of flooding it is recommended that the unit is installed on a suitable plinth.

The foundation on which the tank is to be positioned must be inspected to ensure suitability for that purpose. The foundation must be no smaller than the gross external dimensions of the tank. The foundation area must be free of local high and/or low spots and be free from debris of any kind. Positioning and/or commissioning of the tank on an unsuitable foundation may result in death or serious injury and/or structural failure of the tank resulting in serious damage to equipment and/or property.

It is essential that any base, foundation, plinth, wall or other supporting structure to which the tank and/or any associated equipment is to be positioned and/or attached is designed, engineered and fabricated to carry





the entire mass of the equipment including the water that the tank will contain under worst-case fault conditions. For example, tank filled to maximum nominal capacity at overflow condition. Failure to observe this may result in death or serious injury and/or serious damage to equipment and/or property.

A full bore isolating valve must be installed on the suction and the discharge to enable commissioning and maintenance to be carried out correctly.

Before switching on the booster set please ensure the pumps have been adequately primed.

If an Anti Cycle Vessel is part of the pump assembly; please ensure that the booster set has been put in to place and connected to the suction and discharge pipe work before installing the Anti Cycle Vessels, on no account should the Anti Cycle Vessels be used to “manoeuvre” the booster set in to place.

An Anti Cycle Vessel **MUST** always be fitted on the discharge manifold, do not attempt to operate the booster set without installing the anti cycle vessel/s as serious damage to the unit can occur.

# INSTALLATION & CONNECTION

## flowpac Compact E.H.C Range CAT5 Packaged Booster Sets

- Position and secure the combined tank and booster set..
- Connect the inlet water supply via an isolating valve and strainer.
- Connect the overflow overflow pipework and ensure any discharge of water is to a safe place
- Connect the early warning pipework and ensure any discharge of water is to a safe place.
- Connect the discharge pipe to the system via an isolating valve.
- Connect the electrical supply cable.
- Fill the system and vent the pump.
- Test and commission.

All pipework must be in accordance with local Water Authority regulations.

- A Y-type strainer and an isolation valve should be fitted to the mains water supply to the unit.



- The discharge pipework must be sized according to the system demand.
- All pipework must be securely supported and not over-stressed.

It is essential that the tank is correctly connected to all incoming, outgoing, drain and overflow and/or any other related pipe work and/or electrical equipment of any kind before the tank is filled.

It is the Installer’s responsibility to ensure that the Overflow and Warning Pipe (if fitted) are suitably piped.

# WIRING DIAGRAM

## flowpac Compact 1F.DT Range CAT5 Packaged Booster Sets

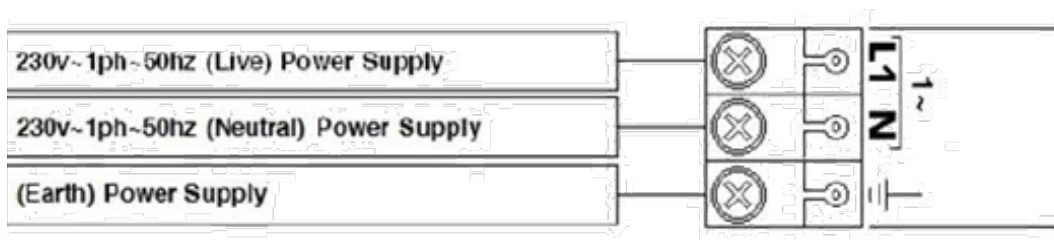
Electrical supply: 230volts + or – 10%

Motor 0.75kw

Full load current: 4.98 amps

Motor protection class: IP68

The electrical supply feed should be a dedicated line to minimise electromagnetic interference. A suitably rated MCB protected electrical connection should be made.



# ROUTINE USER MAINTENANCE & SERVICING

## flowpac Compact 1F.DT Range CAT5 Packaged Booster Sets

The **flowpac** Compact has been designed to keep maintenance to a minimum. It is recommended that the user is to make routine visual checks of the product during use.

Do not remove the main lid of the tank without first draining the tank. The lid is a structural part of the tank and **MUST** remain correctly fitted and fixed down at all times whether water is contained within the tank, or whether the tank is empty.

### Weekly Checks

- Inspect for leaks, etc.
- Inspect the running of the unit and note any unusual noises or vibration.

### Monthly Checks

- Inspect for leaks, etc.
- Inspect the running of the unit and note any unusual noises or vibration.
- Clear of dust and any other obstructions.
- Switch off and visually check hydraulic and electrical connections.

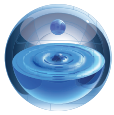
### 6 Monthly Checks

- Inspect for leaks, etc.
- Inspect the running of the unit and note any unusual noises or vibration.
- Clear of dust and any other obstructions.
- Switch off and visually check hydraulic and electrical connections.
- Pressure Vessel to be drained and pre charge pressure checked.
- Check cleanliness of the pump and internal tank.

### Annual Servicing

Before attempting to open any unit or service a pump: Familiarise yourself with the contents of this manual. Installation, maintenance and repair work must only be carried out by trained, skilled and suitably qualified personnel.

- Disconnect or lock-out the power source to ensure that the pump(s) will remain inoperative. Locking out the equipment by switching off the release mechanism or set value WILL NOT prevent accidental starting of the motor.
- Allow the pump(s) to cool if over-heated.
- CLOSE the isolating valves on the suction and discharge connections of the affected pump(s).
- VENT the pump(s) slowly and cautiously
- DRAIN the pump(s).



**flowtech**<sup>®</sup>  
WATER SOLUTIONS

# flowzone<sup>®</sup>

MEMBERS AREA

This section of the **flowtech**<sup>®</sup> 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<sup>®</sup>

AFTER SALES SERVICE

At **flowtech**<sup>®</sup> we operate a network of Service Engineers located throughout the UK who are supported by our offices located in Cumbria 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.

### MANUFACTURE & SUPPLY

TELEPHONE : 0333 200 1756

EMAIL: [info@flowtech.org.uk](mailto:info@flowtech.org.uk)

### SERVICE & MAINTENANCE

TELEPHONE : 0333 200 1813

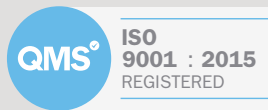
EMAIL: [service@flowtech.org.uk](mailto:service@flowtech.org.uk)

WEBSITE: [www.flowtech.org.uk](http://www.flowtech.org.uk)

ADDRESS : Unit 1 Lock Flight Buildings, Wheatlea Industrial Estate,  
Wigan, Greater Manchester WN3 6XP United Kingdom



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