

DOMESTIC & RESIDENTIAL PUMP FOR BS9251

LCD screens shows some of the conditions that are reported on the product, simple buttons allow tests to be started/ results checked

System at pressure and healthy



Weekly Test Passed - System healthy.



We are always improving our products, red powder coating is now used in the bracket assembly. Jet black electrophoretic paint is also used on the outlet pipe system to further enhance the

This innovative product brings our industrial fire sprinkler product expertise to the domestic and residential fire sprinkler market.

FLOWST8N is configured for tank fed systems, and can also be used in suction lift*.

The product combines a pump and controls with a residential riser including alarm signals all together in one product.

The pump acts as a jockey pump making up for small leaks, and as a fire sprinkler pump when required.

Functionality of the pump, flow switch and pressure switches are automatically tested every week.

An LCD screen shows activations of switches in real time and retains activations that cause faults.

Volt free alarm contacts are available for 2 x fire, power failed and general alarm including; weekly test failed, jockey limit, tank low level and annual test due/ failed.

A local simple mist system will react to a fire in close proximity to the product giving the best protection for the whole sprinkler system.

Annual testing including a flow test can be conducted on the pump only, whilst the system remains pressurised; saving time, water and energy.

GRIFEN sprinkler solutions

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PRODUCT FEATURES

- Pre-wired and fully tested
- Automatic full weekly auto test and fault reporting
- Fire sprinkler pump; thermally protected & continuously rated
- Power cables fire resistant **LPCB approved**
- Gunmetal and galvanized MI pipework & valves + electrophoretic jet black pipes
- Unions & Isolation pump can be replaced easily if needed.

PRODUCT FIRE PROTECTION

- **Mist system** - The product is protected by a low-flow misting system which offers fire protection for the product, allowing it to be installed in confined spaces. If the sprinkler head activates the pump will start as the drop in pressure is detected. The system is designed to have a similar water distribution to one sprinkler head if installed in an unprotected space; approximately 2-3 litres/min. Once operational the pump will run at a near closed valve condition ensuring maximum pressure and effective protection.
- Three volt free contacts are available for fire conditions, one could operate a priority demand valve and the second can operate a fire alarm. Two alarms are driven by the flow switch and retard, the third operates when the fire pump latches.

CONTROLS

- **Flow switch (UL listed, MEA approved)** will trigger the pump after a 2 second delay. The pump will then run for 10 seconds, then it stops for 2 seconds. If the flow switch is healthy the pump will turn off, if the flow switch is unhealthy the pump will run permanently (latch) and alarm. The activations are visible on the LCD screen. The flow switch retard mechanism is independent and can be set on site.
- **Pressure switch (LPCB, VdS and FM approved, UL listed) circuit 1** This switch operates the same logic as the flow switch.
- **Pressure switch (LPCB, VdS and FM approved, UL listed) circuit 2** This second circuit uses the same logic as circuit 1 and acts as backup to switch 1, similar to EN12845.
- **Pressure gauge** 0-7 bar glycerine filled to dampen any pressure pulses (11 bar available).
- **Text display** events can be observed and checked.
- **Failsafe wiring** the contact system for the pressure switches and flow switch are open to start the pump. If a float switch is fitted the tank low level alarm is also failsafe.
- **24 Volt DC** wiring to switches which may need adjustment are all low voltage.

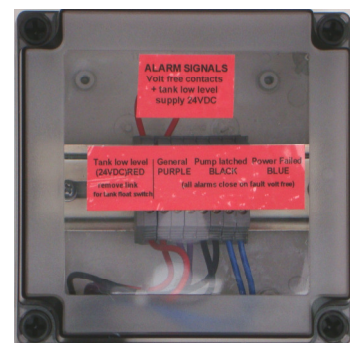
STATUS INDICATORS AND ALARMS

To keep remote monitoring simple an alarm box is provided with a clear cover. The controller driven alarms are all available in one box with the connection for a tank low level monitoring circuit.

The fault signals that are available are;

- **General alarm**
- **Fire pump latched**
- **Power failed**

These volt free outputs need to be connected to suitable fault indication devices
The alarms all close on fault, open on fault is available as an option



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STATUS INDICATORS AND ALARMS

2 x Retarded fire alarms are available in the flow switch

Events are displayed on the LCD screen and the alarm signals will close if necessary

The general alarm covers the following conditions to make fault finding simpler;

- **Jockey stop/ start alarm** - Check system for possible leaks, switch faults or a leaking NRV
- **Weekly test failed** pump, contactor, solenoid, pressure switch failure
- **Weekly test passed— LCD only**, visual check for failure at the remote station
- **Flow switch activations**
- **Pressure switch activations**

Non critical alarms can be silenced on the product. The cause of the fault stays on the text display until the fault is cleared or a healthy test is carried out. It is possible to perform weekly tests and annual tests manually upon installation to ensure the product is set up correctly.

ANTI-TAMPER

Power supply power failed alarm volt free contact giving warnings of 400, 230VAC and 24VDC failure.



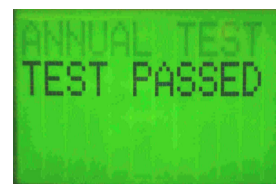
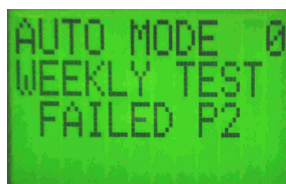
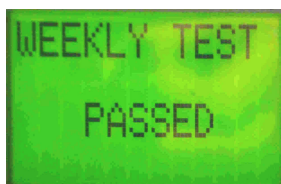
This screen shows;
The fire pump has latched
The remote alarm is closed
Pressure switch No 2 caused the pump to latch (unhealthy)
Pressure switches No 1 & No 2 are currently unhealthy

LCD display to view results, and real time information.

A weekly test passed or failed is shown on the screen and will show a failure to a remote station. If the test fails the switch in fault is highlighted.

The product keeps a watch on the number of times it starts as a jockey pump. This aims to give pre failure warnings due to system leaks

The annual flow test must check the correct function of the pump and all the switches. If it passes the unit will warn again in 12 months, if failed it will warn at the remote station and must be repeated until passed.



TESTING – COMMISSION, WEEKLY & ANNUAL

- **Power on** when the system is switched on, it will run until the pressure switches and flow switch are healthy. The product will then enter AUTO MODE.
- **Auto Mode** Continually monitors all the switches and acts to correct faults
- **Weekly** The product will self test itself each week by opening a solenoid valve and sending some water to drain / back to the tank. The flow switch must detect flow and the pressure switch(es) must return to a healthy state if they become unhealthy. Industrial sprinkler systems rely on weekly tests by a human operator, this feature allows the same high level of testing with no operator present. End users can perform an on demand test enabling you to “see” the product if a fault develops without an engineer having to travel to site

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PROTECTING THE INSTALLATION INVESTMENT

ANNUAL SERVICES to be carried out by fire sprinkler companies with the correct key code, ensuring ongoing compliance with the standard. If an annual service is not carried out the system will still function and alarm. The service engineer needs to enter the correct key code and perform a full functionality test to silence the alarm.

- SERVICE DUE WARNING Indication is given when an annual service is due, the general alarm operates 2 seconds on, 2 seconds off
- At any time when the annual test is carried out by the code holder to completion the alarm will silence for one year.
- If the device is switched off the power failed alarm will operate.
- When power is restored the device will remember its last annual status and operate the intermittent alarm if a test is due.
- The system remains pressurised at all building levels when maintenance is being carried out.
- The flow tests are only carried out on the pump ensuring the motor and impeller are capable of the duty at the correct pressure.
- The product provides volt free contacts to enable alarms, it does not provide the wiring / alarm units themselves.

BUILDING CONTROL/ INSURERS/ OWNER

- Building control officers and insurers have the peace of mind that the system will be serviced and maintained beyond its warranty.
- Building owners can check their annual service is carried out to the correct standard ensuring ongoing peace of mind.
- The display keeps a count of the number of annual tests completed.

PROTECTING THE ENVIRONMENT

The system isolation valve enables a flow test to be performed on the pump without draining any water from the sprinkler system. This can save vast quantities of water, shortens testing time and reduces amounts of energy used in running the pump when refilling the system.

We have applied for a Patent for this system ensuring we can offer all the benefits well into the future.

PRODUCT OPTIONS

- A range of pumps to suit your applications
- Your own 2 code system and scrolling service message with your telephone number
- 11 bar pressure gauge (no cost option)
- * Suction lift - no cost option please call for advice. Max suction lift 2.5 meters
- Fault outputs as Normally closed and/ or normally open
- Touch screen display with time and date stamp for every event
- SMS text message of results and/or faults
- Duty / backup pump systems or 2 x 1/2 duty
- Prewired isolators
- Soft starters
- Demand valves
- Additional alarms eg. pump running, pump failed to start
- Emergency stop button—non latching

Service due warning (scrolls)



We are happy to consider other ideas which you may have to improve our system as a standard or for site specific situations.

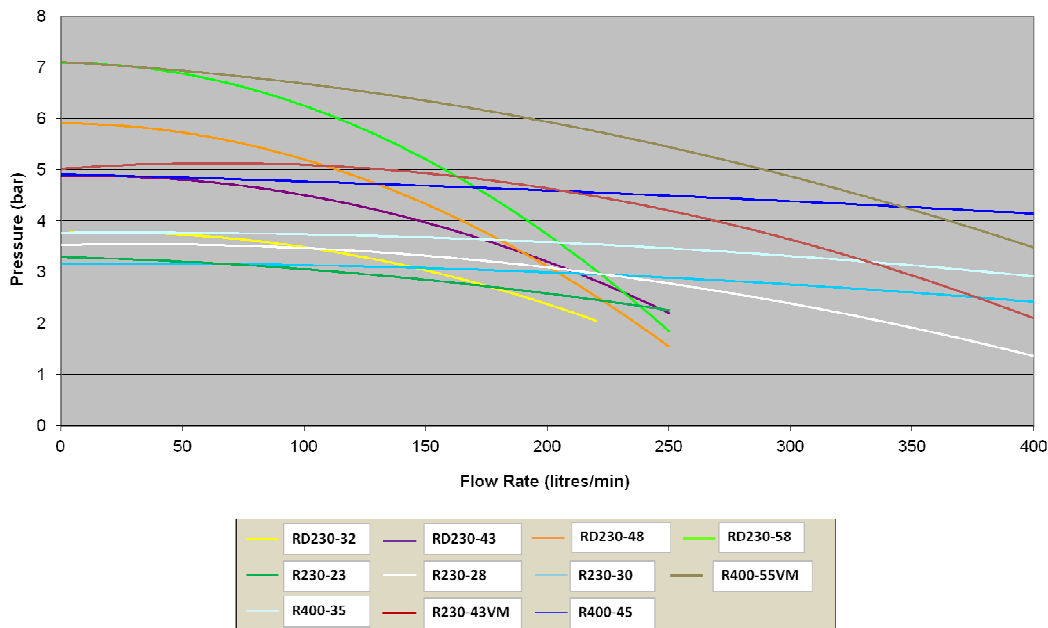
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Technical Specifications

Model	Pump flow	P max	VAC	kW	inlet	outlet	test"
RD230-32	120l/min @ 3.2 bar	3.8 bar	230	1.5	1.5"	1"	1"
RD230-43	120l/min@ 4.3 bar	4.9 bar	230	2.2	1.5"	1"	1"
RD230-48	120l/min @ 4.8 bar	6.0 bar	230	2.2	1.5"	1.25"	1.25"
RD230-58	120l/min @ 5.8 bar	7.2 bar	230	2.2	1.5"	1.25"	1.25"
R230-23	240l/min@ 2.3 bar	3.3 bar	230	1.5	1.5"	1.5"	1.25"
R230-28	240/min @ 2.8 bar	3.5 bar	230	2.2	2"	1.5"	1.25"
R230-30	240l/min @ 2.95 bar	3.2 bar	230	2.2	2"	2"	1.25"
R230-43VM	240l/min@ 4.3 bar	5.8 bar	230	3	2"	2"	1.25"
R400-55VM	240l/min@ 5.5 bar	7.1 bar	400	4	2"	2"	1.25"
R400-35	240l/min@ 3.5 bar	3.8 bar	400	3	2"	2"	1.25"
R400-45	240l/min@ 4.5 bar	4.9 bar	400	4	2"	2"	1.25"

FLOWSTEN Pump Curves



This graph combines the products on one selection chart, pump curves are available for individual units.

Understanding the product codes

RD = 120l/min, R = 240l/min

230 / 400 = voltage

Number = head in metres @ duty point

e.g. R400-35 = 240 litres / min at 3.5 bars 400VAC motor

Suffix VM = vertical multistage pump

Other pump duties are available, if you can provide the duty we can assist in the product selection.

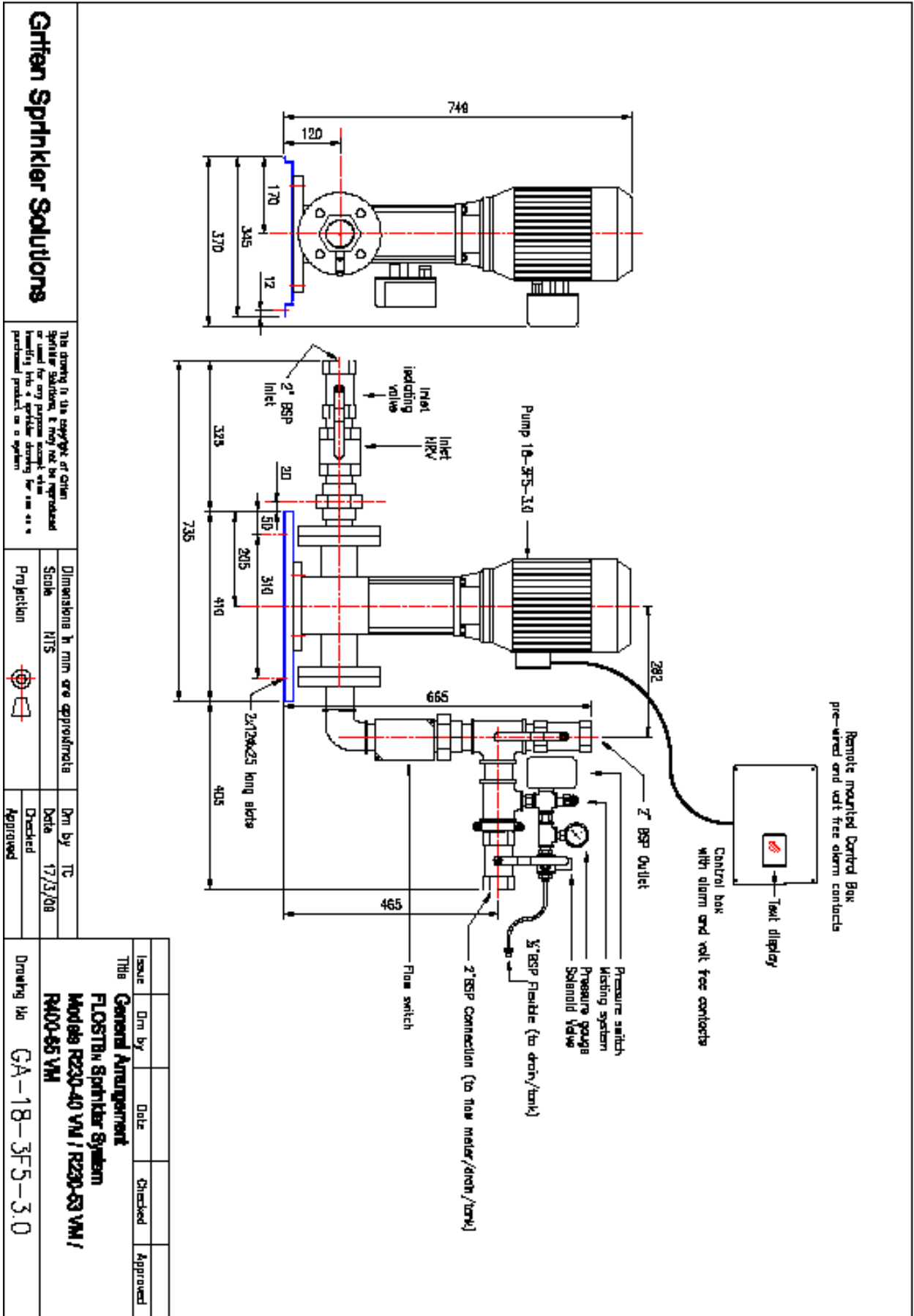
N.B suction pipes, bends, valves, the flow switch, water height in the tank all affect pump duty, they must be considered and calculated. The curves are a replication of the manufacturer pump curves, it is essential good design practice is applied to the suction side delivery side to avoid losses. It is recommended that products are selected with a margin for error/ safety.

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DRAWING MODEL R 230-40VM

CAD files available for all **FLOWST8N** systems



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