

User's manual

PRESFLO® is a device that starts and stops the pump to which it is fitted, thus replacing traditional pressure switch / surge tank systems.

The pump is started when, as a tap is turned on, the pressure within the system drops below the "start-up pressure" (P_m), and is stopped when the flow rate required is zero or less than the "shut-off flow rate" (Q_a).

PRESFLO®'s electronics protect the pump against unsuitable operating conditions such as running dry or repeated startups due to leaks.

NOTE 1

RUNNING DRY = there is no flow and the pressure is lower than that of the pump start-up pressure (P_m).

It occurs when there is no water. After 15 seconds PRESFLO® stops the pump and indicates an ERROR message. PRESFLO® AUTOMATICALLY tries to resume NORMAL SERVICE at intervals of increasing time (15, 30, 60 minutes and successively once every hour). If PRESFLO® detects any pressure and/or flow, NORMAL SERVICE is resumed, otherwise, the pump is stopped again until the next attempt is made. A MANUAL attempt to resume NORMAL SERVICE can be made at any time.

NOTE 2

FREQUENT START-UP = the repeated stopping and starting of the pump at intervals of less than 2 minutes from each other. This occurs when the flow rate is less than 0.25 gpm.

This may cause damage to the pump. In event of small leaks (dripping), PRESFLO®'s water accumulator guarantees that the pump starts/stops at time intervals of over 2 minutes (less than 30 starts/hour) and that FREQUENT START-UP errors do not occur. In the event of a major leak or extended use at excessively low flow rates (less than 0.25 gpm, the pump may be started/stopped as often as once every few seconds, putting the pump at risk of damage. In this case, after about 30 minutes, PRESFLO® stops the pump for the following 30 minutes (in order to let it cool down) and indicates an ERROR message. If the time interval between the starts-stops is more than 10 seconds (and therefore poses less of a risk to the pump), PRESFLO® will allow the pump to be used for more than 30 minutes. Once enough time has passed to allow the pump to cool down, it is restarted AUTOMATICALLY. The pump may be restarted MANUALLY any time.

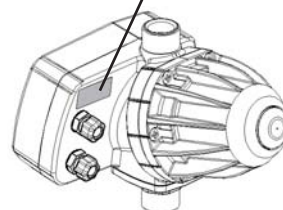
Technical specifications

- Voltage: 230 Volt a.c. or 110 Volt a.c.
- Frequency: 50-60 Hz
- Maximum current: 10 / 16 / 30 A
- Protection grade: IP 65
- Start-up pressure (P_m) : 11 / 21 / 31 psi
- Shut-off flow rate (Q_a) : 0.25 – 0.52 gpm
- Connections: 1" M BSP / 1" M NPT
- Operating pressure – bursting pressure: 140 psi - 570 psi
- Weight: 3.2 lbs
- Protection against:
 - Running dry (automatic restart)
 - repeated start-ups

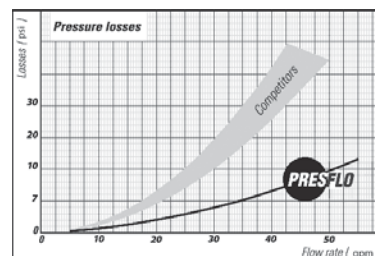
CODE: **V00101101**
V / Hz: **230 / 50 - 60**
I max: **16 A**
P start: **22 psi**
Year: **2008**

RATINGS

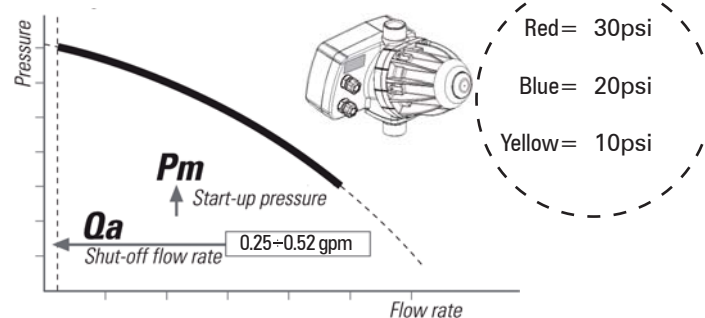
Before installing the product, check that the RATINGS correspond with those required.



Losses



Working area



Operating conditions

A. Compatible/non compatible fluids

PRESFLO® is suitable for use with clean water and chemically non-aggressive liquids. If the fluid contains impurities, a filter should be fitted upstream.

B. Environmental conditions

PRESFLO® should not be used where there is the risk of an explosion. The temperature of the location should range between 32°F and 150°F, and the humidity should not exceed 90%.

C. Power supply

Make sure that the variation in the power supply is never more or less than 10 % of the RATING value.

Higher values may cause damage to the electronic components. PRESFLO® can only be used with single-phase pumps.

ATTENTION

Please make sure to follow your state electrical code's for installation.

Safety regulations



Before installing or using PRESFLO®, read this manual carefully and thoroughly.

The pump should be installed and serviced by qualified personnel, responsible for making the hydraulic and electrical connections in compliance with the relevant regulations.

DGFLOW® shall not be held liable for any damage relating to, or resulting from, an improper use of the product, or for any damage relating to, or resulting from, servicing or repairs carried out by unqualified personnel and/or with non-OEM spare parts.

The warranty, which is valid for 24 months from the date of purchase, will no longer be applicable should the product suffer damage as a consequence of the use of non-OEM spare parts, tampering or improper use.

When starting the installation, check the following:

- the power supply is switched off.
- the power lines can withstand the maximum current.
- the cable bushings and circuit board cover have been properly assembled and secured (see Electrical Connections).
- the power supply is fitted with regulation earthing and safety devices.

When servicing the product, check the following:

- the system is not pressurised (turn a tap on)
- the power supply is switched off.

EMERGENCY STOP

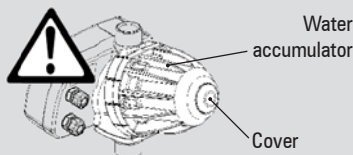
- When in use, the pump can be stopped in the event of an emergency: press START/STOP.



PRESFLO® is put OUT OF SERVICE.



Never disassemble
water accumulator
and cover



Installation

Preliminary checks

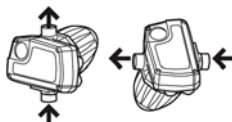
Take the PRESFLO® out of the packaging and check the following:

- Check for damages.
- Check that RATINGS correspond with those required.
- Check the cable bushings and screws are in place.
- Check PRESFLO®'s inlets and outlets to be clean and free of any packaging materials.
- Check that valve moves smoothly.

Hydraulic connections

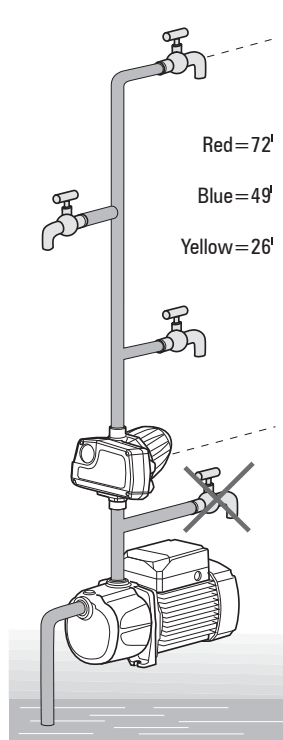
Orientation

PRESFLO® can be installed at any angle depending on the flow direction, as indicated in the diagrams.



Position

PRESFLO® can either be fitted directly to the pump outlet or anywhere along the delivery line. No taps or check valves need to be installed between the pump and PRESFLO®. A foot valve should be installed on the suction pipe.



ATTENTION

The pressure applied by the water column above PRESFLO® must not exceed that of the pump start-up pressure (P_m).

If, for example, PRESFLO® is installed at a height of 65 feet below that of the highest tap in the system, the pressure detected by PRESFLO® will be approximately 28 psi.

A model with P_m = 30 psi should, therefore, be installed in order to guarantee that the pump is started when a tap is turned on.

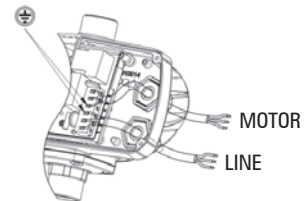
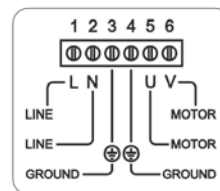
ATTENTION

The maximum pressure produced by the pump must be at least 14-20 psi higher than the start-up pressure (P_m). If the pressure produced by the pump is too low, PRESFLO® will stop the pump and indicate a 'dry running' error message.

Electrical connections

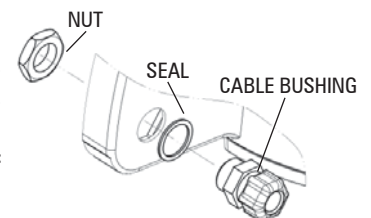


The electrical connections should be made as indicated in the diagram which can also be found on the inside of the circuit cover.



ATTENTION

The cable bushings and circuit-board cover must be properly assembled and secured in order to guarantee IP 65 grade protection of the electrical components.



STATEMENT OF COMPLIANCE

Under our exclusive responsibility, we hereby declare that this product is compliant with the following EU Directive and relevant implementing national regulations:

73/23/CEE, 89/336/CEE, EN 60730-2-6, EN 61000-6-3

Bigarello 24.05.08

DGFLOW S.r.l.
Director
Stefano Concini

First start-up

Priming the pump

For instructions on how to prime (fill) the pump, see the pump manual.

ATTENTION

PRESFLO® is fitted with a check valve: do not use the PRESFLO®'s outlet to fill the pump for priming.

Switching the pump on

The red (Power) LED lights up; PRESFLO® instantly detects that there is no pressure within the system and starts the pump (the green 'Status' LED lights up). If, within 15 seconds of starting up, PRESFLO® does not detect the correct priming of the pump, it stops the pump and indicates a 'running dry' error message.



ATTENTION

When the pump is started for the first time, it may have to be run for longer in order to complete the priming procedure.

Press the **START/STOP** button to restart the pump and complete the priming procedure.



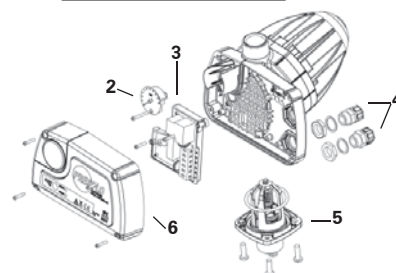
Parts Break Down

ATTENTION: when ordering spare parts, always state the position n° from the diagram below and the product code number found in the pressure-flow regulator technical data table.

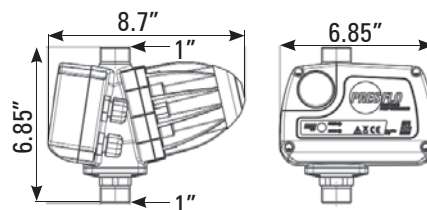
- 1 - Circuit board cover
- 2 - Pressure gauge
- 3 - Circuit board
- 4 - Cable bushings
- 5 - Valve unit

CODE: **V00101101**
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P start: **22 psi**
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← Product code number



Size



Disposal

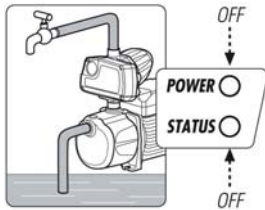
When disposing of any PRESFLO® parts, adhere to the relevant laws and regulations in force in the country in which the equipment is being used. Do not dispose of any polluting parts in the environment.



Problems	Signals	Possible causes	Solutions
PRESFLO® will not turn on.	POWER OFF STATUS OFF	No power	Check the electrical connections
The pump will not start when a tap is turned on.	POWER ON STATUS OFF	PRESFLO® model with an inadequate start-up pressure (Pm) for the chosen application.	Relocate PRESFLO® to another position Install a model with a higher start-up pressure (Pm)
	POWER ON STATUS ON	Faulty electrical connections or pump out of service.	Check the electrical connections and that the pump is working
	POWER Flashing STATUS ON	PRESFLO® "OUT OF SERVICE"	Reset PRESFLO® (See Operation, point 3).
	POWER ON STATUS Flashing	PRESFLO® in temporary shut down due to "RUNNING DRY" due to lack of water Maximum pump pressure is insufficient	Wait for the automatic restart or press START to restart manually (See Operation, point 4a) Replace the pump with one with more suitable characteristics Install a model with a lower start-up pressure (Pm)
The pump delivers no or low pressure.	POWER ON STATUS Flashing	PRESFLO® in temporary shut down due to "FREQUENT START-UP"	Wait for the automatic restart or press START to restart manually (See Operation, point 4b). Remove any cause of leakage from system or install an expansion tank
	POWER ON STATUS ON	Filters or pipes may be partly blocked	Check the water pipes
	POWER ON STATUS ON	PRESFLO®'s valve will not open completely	Check that the valve is not blocked by any foreign objects and clean if necessary
The pump stops and starts repeatedly.	POWER ON STATUS ON POWER ON STATUS OFF	Leaks within the system (less than the shut-off flow rate Qa)	Check the hydraulic connections and repair any leaks If a leak cannot be repaired, install an expansion tank
The pump will not stop.	POWER ON STATUS ON	The flow rate is higher than the shut-off flow rate (Qa)	Make sure that all taps are turned off and that there are no leaks within the system
	POWER ON STATUS ON	PRESFLO®'s check valve will not close	Check that the valve is not blocked by any foreign objects and clean if necessary

Operation

1



No power supply

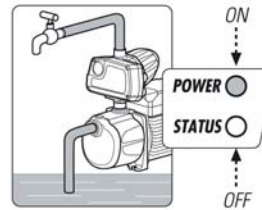
PRESFLO® is switched off.

PRESS BRIEFLY or HOLD DOWN
= nothing happens

Power is restored
= PRESFLO® resumes NORMAL SERVICE and starts the pump (if necessary).



2a



NORMAL SERVICE: The pump is inactive.

The system is pressurised. All taps are turned off. There is no demand for water. PRESFLO® detects an assembly pressure higher than that of the start-up pressure (P_{ni}) and no flow.

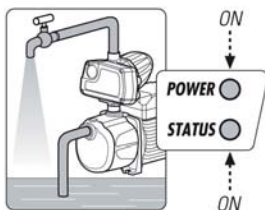
PRESS BRIEFLY
= the pump is started manually and runs for a few seconds before stopping again.

HOLD DOWN
= the pump is put OUT OF SERVICE. For instructions on how to reactivate the pump, see point 3.

A tap is turned on
= as soon as the pressure falls below the start-up pressure (P_{ni}), the pump is started.



2b



NORMAL SERVICE: The pump is running.

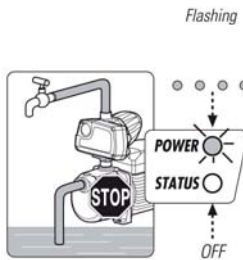
The assembly requires water. One or more taps are turned on. PRESFLO® detects a flow; the assembly pressure is normally higher than the START-UP pressure, but it may also be lower.

PRESS BRIEFLY or HOLD DOWN
= the pump is stopped and put OUT OF SERVICE. For instructions on how to reactivate the pump, see point 3.

The taps are turned off
= If there is no flow for a few seconds, the pump is stopped.



3



OUT OF SERVICE

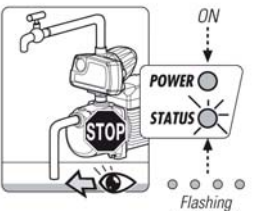
The pump has been stopped manually. The pump will remain inactive until a new command is given.

PRESS BRIEFLY
= nothing happens.

HOLD DOWN
= the pump resumes NORMAL SERVICE. See points 2a - 2b.



4a



ERROR: stopped temporarily due to RUNNING DRY (See NOTE 1)

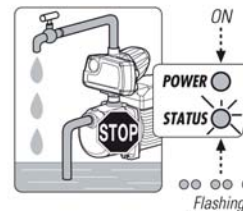
PRESFLO® has detected that the pump is running dry and has therefore stopped it TEMPORARILY.

PRESS BRIEFLY
= the pump is started and manually and resumes NORMAL SERVICE. See points 2a - 2b.

HOLD DOWN
= the pump is put OUT OF SERVICE. For instructions on how to reactivate the pump, see point 3.



4b



ERROR: temporary shut down due to FREQUENT START UP (see NOTE 2)

PRESFLO® has detected that the pump starting-up too often and has therefore stopped it TEMPORARILY.

PRESS BRIEFLY
= the pump is started and manually and resumes NORMAL SERVICE. See points 2a - 2b.

HOLD DOWN
= the pump will not restart and goes OUT OF ORDER! the pump is put OUT OF SERVICE. For instructions on how to reactivate the pump, see point 3.



Highly Recommended:

- Do not alter the diameter of the inlet and outlet of the system. (Do not use diameter reduction for the pipes)
- In case of ball valve usage, it is highly recommended to install a full flow ball valve.