

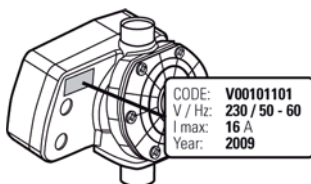
User's manual

FLUX® is a device that starts and stops the pump to which it is fitted. The pump installed with positive suction head or water supplied with aqueduct is started when a tap is turned on to generate a flow and is stopped when the flow rate required is zero or less than the "shut-off flow rate" (Qa).

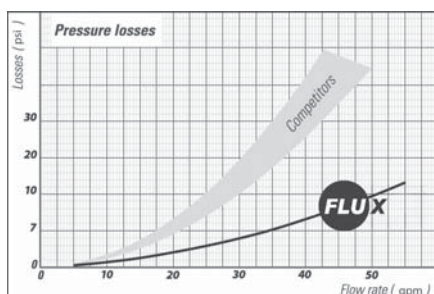
Technical specifications

- Voltage: 230 Volt a.c. or 110 Volt a.c.
- Frequency: 50-60 Hz
- Maximum current: 16A
- Protection grade: IP 65
- Run/stop flow rate (Qa) : 0.225-0.5 gpm
- Connections: 1" M NPT
- Operating pressure – bursting pressure: 140 psi - 570 psi
- Weight: 2.61 lbs

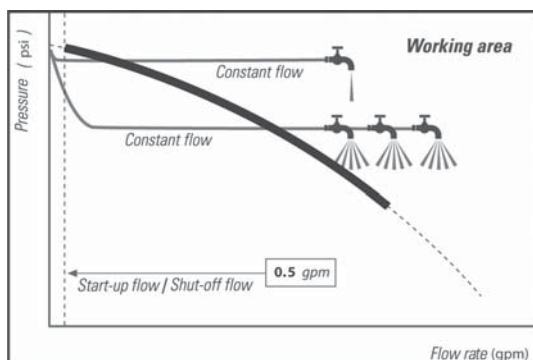
Before installing the product, check that the RATINGS correspond with those required.



Losses



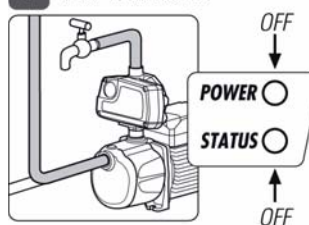
Working area



Operation

1 No power supply

FLUX® is switched off.



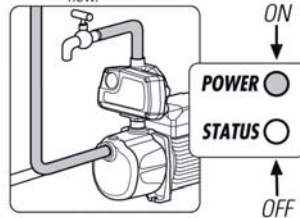
START STOP **PRESS BRIEFLY or HOLD DOWN**
= nothing happens

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

2a NORMAL SERVICE:

The pump is inactive.

All taps are turned off. There is no demand for water. FLUX® detects no flow.



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

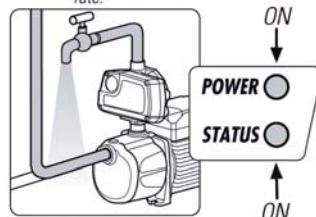
HOLD DOWN = the pump is put OUT OF SERVICE. For instructions on how to reactivate the pump, see point 3.

A tap is turned on
= as soon as the flow goes over the shut off rate the pump is started.

2b NORMAL SERVICE:

The pump is running.

The assembly requires water. One or more taps are turned on. FLUX® detects a flow higher than the shut off rate.

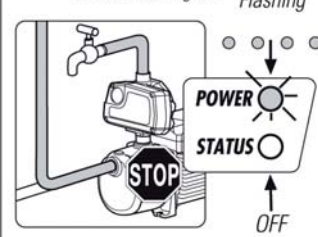


START STOP **PRESS BRIEFLY**
= the pump is stopped and put OUT OF SERVICE. For instructions on how to reactivate the pump, see point 3.

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. **Flashing**



START STOP **PRESS BRIEFLY**
= nothing happens.

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

Problems	Possible causes	Solutions
FLUX® will not turn on.	A - No power	A - Check the electrical connections
The pump will not start when a tap is turned on.	B1 - The flow is lower than start-up/ shut-off flow rate	B1-1 - check whether there is incoming water in the suction pipes B1-2 - Open the tap more B1-3 - Modify the system so that even when the pump stops, flow rates higher than 0.75 gpm can be generated at the opening of a tap
	B2 - FLUX® does not detect a flow even when replace the circuit board	B2-1 - Change circuit board
	B3 - Detective Electrical Connections	B3-1 - Check electrical connections between FLUX and the water pump.
	B4 - FLUX® is in OUT OF SERVICE state	B4-1 - Turn on FLUX® again (see Operation, point 3)
	B5 - FLUX® is near to stop because of insufficient flow	B5-1 - None; restore the flow
The pump delivers no or low pressure.	C1 - Filters or pipes may be partly blocked	C1-1 - Check the water pipes
	C2 - FLUX®'s valve will not open completely	C2-1 - Check that the valve is not blocked by any foreign objects and clean if necessary
The pump will not stop.	D1 - Leaks in the system are higher than the shut-off flow rate (Qa)	D1-1 - Make sure that all taps are turned off and that there are no leaks within the system
	D2 - FLUX®'s check valve will not close	D2-1 - Check that the valve is not blocked by any foreign objects and clean if necessary

Signals

A	POWER <input type="radio"/> OFF STATUS <input type="radio"/> OFF
B1	POWER <input type="radio"/> ON STATUS <input type="radio"/> OFF
B2	POWER <input type="radio"/> ON STATUS <input type="radio"/> OFF
B3	POWER <input type="radio"/> ON STATUS <input type="radio"/> ON
B4	POWER <input type="radio"/> FLASHING STATUS <input type="radio"/> OFF
B5	POWER <input type="radio"/> ON STATUS <input type="radio"/> FLASHING
C	POWER <input type="radio"/> ON STATUS <input type="radio"/> ON
D	POWER <input type="radio"/> ON STATUS <input type="radio"/> ON

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.
- **FLUX® must be installed with a pressure reducer valve.**
- Before installing the pump, be sure that the maximum flow of the water meter will not be exceeded (see reference below).

Reference:

Meter Size	Flow (gpm)
5/8"	12gpm
3/4"	30 gpm
1"	40 gpm
1.5"	65 gpm

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

DGFLOW S.r.l.
President - Amministratore Unico
Stefano Concini

Bigarello 24.05.08

ATTENTION

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

WARNING

Do not shut down violently the valve on the discharge to avoid damages on system due to water hammer effect.

Operating conditions

A. Compatible/non compatible fluids

FLUX® 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

FLUX® should not be used where there is the risk of an explosion. The temperature of the location should range between 32° F and 180° 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.

FLUX® can only be used with single-phase pumps.

Safety regulations

Before installing or using FLUX®, 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.

FLUX® is put OUT OF SERVICE



Installation

Preliminary checks

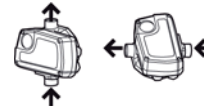
Take the FLUX® out of the packaging and check the following:

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

Hydraulic connections

Orientation

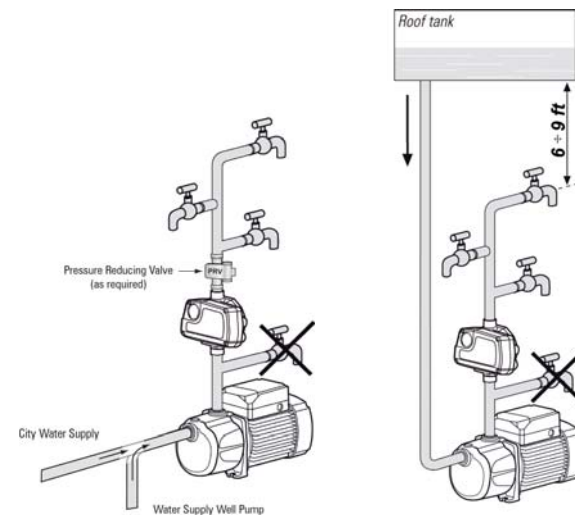
FLUX® can be installed at any angle depending on the flow direction, as indicated in the diagrams.



Position

FLUX® can either be fitted directly to the pump discharge or anywhere along the delivery or suction line, but in any case upstream outlet network.

No taps have to be installed between the pump and FLUX®.



First start-up

ATTENTION

FLUX® has to be used with a pump installed with positive suction head or water supplied with aqueduct. In such conditions the priming starts automatically at the opening of any tap, shower, washing machine etc.

When the pump is turned off the system must be able to guarantee a flow not lower than 0.75 gpm, even when we use a tap at the highest level in the system.

RUNNING DRY = no flow.

It is caused by the lack of water; after 15 seconds FLUX® stops the pump.

When the water is back FLUX® RESUMES AUTOMATICALLY THE NORMAL SERVICE.

Switching the pump on

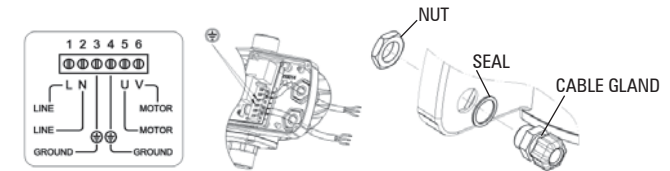
The red (Power) LED lights up; FLUX® instantly goes in standby and at the request of water starts the pump (the green "Status" LED lights up).

15 seconds after the flow has become zero or got under the value 0.25gpm FLUX® stops the pump and goes in standby (only the red (Power) LED is on)



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.



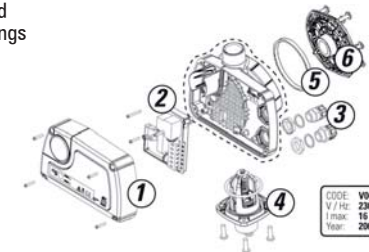
ATTENTION

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.

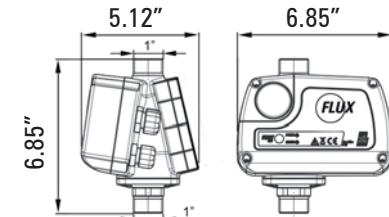
Parts Break Down

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 - Circuit board
- 3 - Cable bushings
- 4 - Valve kit
- 5 - Gasket
- 6 - Back cover



Size



Disposal

When disposing of any FLUX® 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.

