

INSTALLATION AND OPERATION INSTRUCTIONS

Vigilec DRAIN CONTROL

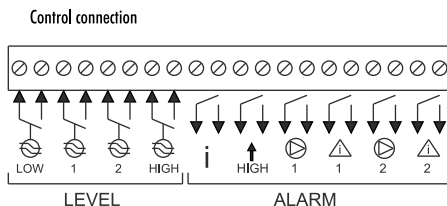
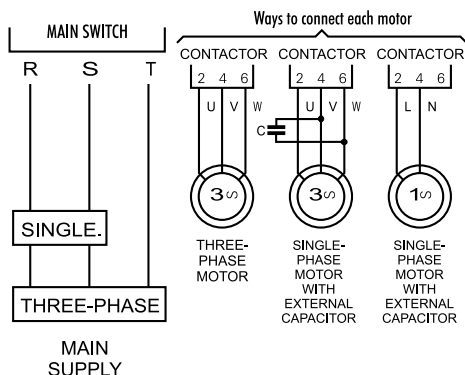
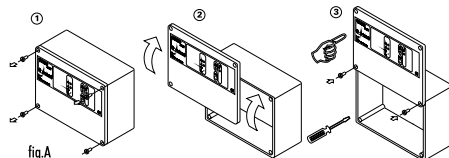
**Control and protection box
for two pumps
(Control by Floats)**



Installation and connection

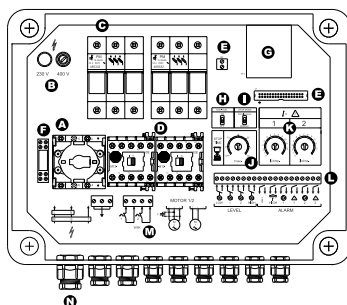
We recommend connection of tag wires to terminal blocks (up to 4 mm²).

- I** Slide to open the front cover and put on upper position (pict. A). **Main switch should be in "0" position.**
- II** Connect MAIN SUPPLY directly to MAIN SWITCH.
- III** Connect MOTOR directly to the respective contactors.
- IV** Connect floats (2, 3 or 4) to their respective TERMINAL BLOCKS. These input contacts should be voltage-free, and activate the pump when closed (see operation diagram).
- V** This unit has 6 voltage-free contacts for ALARM (see Alarm Outputs).




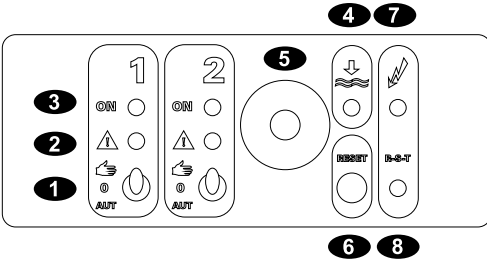




Internal Configuration

Check that all the connections are correct and that the voltage fuse switch is correctly positioned (230 or 400 VAC).



- A.- Main switch.
- B.- Voltage fuse switch.
- C.- Power fuses (option: magnetic circuit breaker).
- D.- Contactor.
- E.- Connectors.
- F.- General alarm output (option).
- G.- Current transformer.
- H.- "TEST-RUN" switch.
- I.- "STOP MODE" switch.
- J.- "STOP TIME" adjustment.
- K.- Maximum current adjustment.
- L.- Control terminal blocks.
- M.- WSK terminal blocks.
- N.- Cable glands.

Front configuration

1  AUT	Function switch: "MANUAL" : Forced motor running. Switch gets back to the original position when released, as a security measure. "0" : No starts allowed under any circumstances. "AUTOMATIC" : Unit works according to established controls and protections.	
2 	MOTOR ALARM pilot light (overload or under load).	
3 ON	MOTOR RUNNING pilot light.	
4 	HIGH LEVEL ALARM pilot light (switched off when level is restored).	
5	HIGH LEVEL ALARM siren.	
6 RESET	RESET button: Resets the unit after pump overload.	
7 	VOLTAGE pilot light (main switch in "I" position).	
8 R-S-T	SENSE OF ROTATION pilot light (three-phase pumps only): Indicates the correct sense of pump rotation by detection of input phase sequence (pilot light switched on): 1.- Connect one pump to terminal blocks 2 (T1), 4 (T2) and 6 (T3) of contactor (U, V, W). 2.- Connect supply to terminal blocks 2 (T1), 4 (T2) and 6 (T3) of main switch (R, S, T). 3.- Close the unit cover. 4.- Put main switch in "I" position. 5.- Start the pump for a while ( : forced running) to check the sense of rotation. 5.1.- If pilot light is switched on, and pump rotates in its right sense, connection is correct. 5.2.- If pilot light is switched off, and pump rotates in its right sense, invert two motor cable wires (contactor) and invert two supply cable wires (main switch). 5.3.- If pilot light is switched on, and pump rotates counter sense, invert two motor cable wires (contactor). 5.4.- If pilot light is switched off and pump rotates counter sense, invert two supply cable wires (main switch). 6.- Repeat this sequence with the second pump.	

Overload adjustment (maximum current)

Controls located inside the unit.

Warning: Adjustment is possible only if the motor is connected to the unit; otherwise, it activates the **UNDER LOAD ALARM**.

For a full pump protection it is necessary a correct overcurrent adjustment, as shown below:




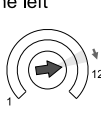







Lamp ON



Lamp FLASHING

● Lamp OFF

Turn right to the limit.  (inside the unit) - Motor 1 running.	 Wait 1 minute	Turn slowly to the left until...  ... pump stops.	Then, turn slightly to the left  - pump is still stop.
Push RESET on the cover.  - Motor starts.	 Wait 5 to 10 minutes	if... Running  - Adjustment is correct.	if... Alarm  - Repeat steps 3 and 4
		if... Running  - Repeat this process with pump 2.	

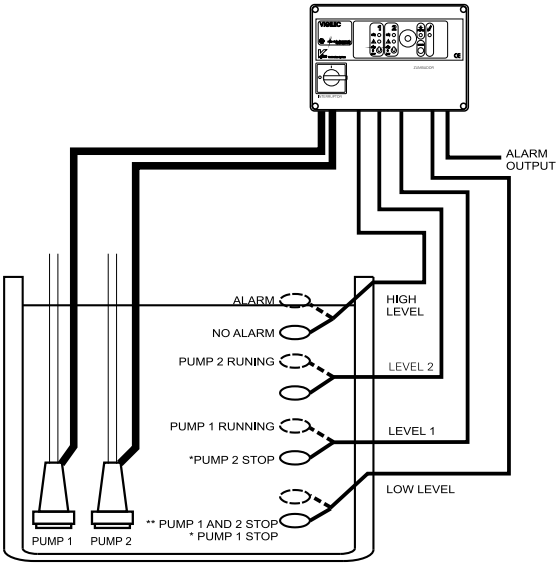
Overcurrent

As additional protection for motors, there is an input (per pump) for thermal winding contacts (WSK) installed in motor coil. This protection stops the motor when circuit opens, making manual reset necessary for the subsequent starting (indicated by motor alarm pilot light). If these inputs are not used, they should be bridge circuit switched to avoid motor alarm trip.



Unit operation

The high level float activates the pumps in case of failure of the other floats. Also, failure in any float enables the immediate higher float.



Alarm outputs

Six independent alarm outputs (to voltage-free contact) inform about installation state.

- General alarm, grouped by anomalies:
 - A.- Overcurrent in motor 1.
 - B.- Overcurrent in motor 2.
 - C.- Very high level.

HIGH - Very high level.

1 - Pump 1 running.

2 - Pump 2 running.

1 - Overcurrent in pump 1.

2 - Overcurrent in pump 2.

- * Function switch (stop mode) in deferred position (B).
- ** Function switch (stop mode) in simultaneous position (A).

Test-Run

This function prevents pumps from jamming during long resting periods, activating motors for 1 second every 23 hours (only when switch is in automatic position: see "Front configuration").

This function can be activated (ON) or deactivated (OFF) by a switch inside the unit.



Stop Mode

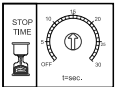
This switch selects the system stop mode:

- Simultaneous: Pumps stop simultaneously when level drops under the low level probe.
- Deferred: Pumps stop in succession with level "1" the first pump, and level "LOW" the second one.



Stop Time

An adjustable timer (0–30 seconds), located in mother board, enables the instantaneous or deferred motor stop.



Alarm siren

The alarm siren (90 dB) sounds when level reaches the high level float, stopping when alarm ceases. Press RESET button to get the alarm silenced.

General alarm output (option)

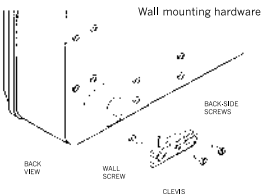
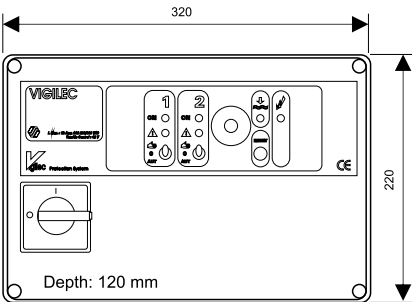
230 VAC / 1 A output (terminal blocks 1 and 2) for connection of a general alarm system (siren, headlights, horn, etc). Press RESET button to get the alarm stopped.



Technical features

Main supply	230 / 400 VAC (selectable) – 50 / 60 Hz
Permissible voltage fluctuations	± 20%, automatic disconnection from
Maximum current	+ 30% 12 A (per pump) AC3
Maximum power	7.5 CV 400 V / 4 CV 230 V
Maximum current adjustment	0 – 13 A (adjustable)
Undercurrent trip (underload)	< 0.5 A
General alarm output	230 VAC / 1 A
Current in floats	12 VDC / 50 mA
Float and alarm terminal blocks	4 mm2
Input connection (power)	Direct to switch
Output connection (motors)	Direct to contactor 4 mm2
Mounting	Wall mounting
Weight	3 kg
Protection	IP56
Operating temperature range	-10 +55 °C

Size



Troubleshooting

Problem	Cause	Solution
The equipment des not work and the voltage light is off, even when the system is connected to a power source.	Control fuse is burned out. Incorrect input connection (single-phase installation). Phase failure	Check and replace voltage fuse (5x20 / 0.1 A). Connect correctly. Check phase state.
Unit works but contactor doesn't activate or taps.	Switch fuse incorrectly positioned at 400 VAC, when is powered at 230 VAC.	Put fuse in the proper position (230 / 400 VAC).
Motor alarm trips.	Over current adjustment too low or critical. Error in input phases. Abnormally excessive motor consumption. Low motor consumption (<0.5 A).	Check motor consumption and adjust the electronic current control again. Check the appearance of the three phases. Check the motor. Pump is overloaded. Check the pump (no water in suction, it's blocked, etc.).