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VENTAM SYSTEMS

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Ventam 80 Gas Proving Installation & Commissioning Instructions

General

The Ventam 80 is a Gas Proving system.

Current Electrical and Gas Regulations must be adhered to at all times and all Gas Proving Systems must only be installed and/or maintained by competent and approved persons. Attention is drawn in particular to Regulations relating to isolation and de-isolation of Gas and Electrical Systems. All these instructions should be read before installation. Refer to wiring diagrams provided as required.

2 Principle of operation

The Ventam 80 Gas Proving System is comprised of two units:

- A Ventam 80 Control Panel.
- B Gas Isolation and weep by-pass valve assembly

The Ventam 80 Panel is mounted in a laboratory, workshop, and plant room etc where it is accessible and visible to the user.

The Ventam 80 System prevents the main gas valve from opening until the gas system has been “proved” to be sound.

The main gas valve cannot open if a gas tap has been left open.

IF there are significant gas leaks or if gas taps have been left open the main gas valve WILL NOT OPEN.

Once the main gas isolation valve has opened, if the gas supply pressure subsequently falls too low, the main gas valve will automatically close.

Once the main gas isolation valve has opened, if the emergency stop button is pressed, the main gas valve will automatically close.

Each time an emergency stop is depressed OR the line gas pressure falls too low, the gas system MUST BE GAS PROVED AGAIN.

The gas cannot be turned on without the “Gas on” key.



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3 Ventam 80 gas proving panel location

Install the Ventam 80 Interlock Panel adjacent to the emergency exit and at an elevation suitable for the users to reach the panel controls.

The panel must not be located where it is liable to be struck by passing traffic etc.

The panel must not be located where access to it may be obstructed – e.g. by placing it behind an opening door or where it may be obstructed by mobile trolleys, hanging clothing or similar. It should not be located where the shut-off button could be operated accidentally.

Mount the panel on a flat level surface.

The control panel must not be located adjacent to or above sources of heat, vapour or steam, e.g. beside or above a cooking range or cooking or washing appliances.

The panel location must allow 600mm clearance to the front and 150mm clearance on all sides for access and maintenance.

The panel must be mounted to enable the front of panel to be fully opened for maintenance.

4 Panel power Supply

The panel must be supplied by a 240Vac five Amp single-phase earthed supply, via a fused spur or similar.

5 Additional Emergency Stop Buttons

Where there is more than one emergency exit, a normally closed emergency stop button should be located at each exit. Additional emergency stop buttons are wired in series to terminals 11 and 12. This is a 12VDC circuit.

6 Gas Isolation Valve

The Gas Isolation Valve must only be powered from the Ventam 80 Interlock Panel, as per supplied wiring diagrams and in accordance with Electrical and Gas Regulations.

The main gas valve is rated at 240 VAC.

The main gas valve must be fitted in an accessible location for future maintenance.

The main Gas Isolation Valve must be fitted in the **equipment** gas supply pipe work.

The valve is connected to the Ventam 80 Control Panel via three off THREE core cables. (These are all Live, Neutral and Earth).

The gas isolation valve is heavy. Ensure that the gas pipe-work it is adequately supported.

Ensure that the gas isolation valve is located where it cannot be damaged or tampered with.

N.B. Set the gas proving pressure switch to 60% of line pressure (approx 12mbar for natural gas systems) The pressure switch is factory set to 12 mbar.

7 Fan pressure switch

The Ventam 80 can be interlocked with an extraction fan if required. Wire the fan pressure switch normally open contacts to terminals 1 and 2.

In this configuration, the gas cannot come on unless the fan is running. If no pressure switches are used, leave the factory supplied link in terminals 1 & 2 and terminals 3 & 4.

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8 Gas detectors

It is possible to connect gas leak detectors to the system.

Connect normally closed volt-free contacts to terminals 11 & 12. These will be wired in series with any additional remote emergency stop buttons.

If a gas leak is detected, the emergency stop circuit is activated, closing the main isolation valve and illuminating the “emergency stop operated” panel lamp.

Test each gas detector, emergency stop button etc in turn to ensure that the emergency stop circuit is activated by each detector/e-stop in the circuit.

9 Fire alarm

The site fire alarm can be interfaced with the Ventam 80 panel.

Connect a volt-free, normally closed contact in the fire alarm panel in series with terminals 11 & 12 of the Ventam 80 panel.

When the fire alarm is activated, the fire alarm panel contact will open and this will operate the Ventam 80 panel emergency stop circuit and close the main gas isolation valve.

10 Panel interface terminals

Terminals 5, 6 and 7 are volt-free change-over contacts that mimic the fan(s) on/ off status. These can be used to remote indicate fan running status.

Terminals 8, 9 and 10 are volt-free change-over contacts that mimic the emergency stop status. These can be used to remote indicate when the emergency stop circuit is operated.

11 Pre Commissioning

The Ventam 80 Interlock Panel is supplied fitted with links in various terminals. Do not remove these links until pre-commissioning is completed.

Do not connect the gas isolation valve or the fan pressure switch until pre-commissioning is completed.

Refer to the supplied schematic wiring diagrams in conjunction with these instructions.

Isolate and make safe all Gas and Electrical services including the fan power supply and make known to others that works are commencing.

Install the Ventam 80 Panel and the Gas Isolation Valve according to current regulations.

Install the electrical supply to the Control Panel via an un-switched fused spur.

Install cables between the Ventam 80 Control Panel and the Gas Isolation Valve.

Re-set the Emergency Stop Button on the Control Panel by turning the button in the direction of the arrows on the button.

Check all panel terminations are secure. Use the correct tool and do not over-tighten.

Ensure that the following factory installed terminal links are fitted (if not fit them now) - Link between terminals 1 and 2, link between terminals 3 and 4, link between terminals 11 and 12.

12 Panel power supply

Connect the panel power supply to terminals L1, N1 and E1 and power up the panel.

Panel should indicate “Gas Off”.

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13 System Commissioning

Confirm that the cables to the gas proving valve are terminated correctly. Incorrect terminations will cause system and valve damage.

14 Stop buttons

Ensure all emergency stop buttons are reset.

15 Gas Proving Test one

Isolate all gas appliances.

Operate the spring return "Gas On Key Switch" by switching it clockwise and releasing it.

The system will now check for gas leaks before opening the main gas isolation valve.

NOTE – IF IT TAKES LONGER THAN 30 SECONDS FOR THE "GAS ON" LIGHT TO COME ON, CHECK THAT ALL GAS TAPS ARE CLOSED.

The gas will not turn on if a gas tap is left open.

Remove the "Gas On" key from the panel when the gas comes on.

The "Gas On" key must not be left in the panel when the gas system is not being used.

16 Gas Proving Test two

This test confirms that the system WILL NOT turn the gas on when it should not.

Isolate all gas appliances.

TURN ON ONE GAS APPLIANCE that does not have Flame Failure Devices fitted.

Operate the spring return "Gas On Key Switch" by switching it clockwise and releasing it.

The system will now check for gas leaks before opening the main gas isolation valve.

NOTE that the gas supply should not turn on.

Isolate the appliance that was turned on.

Operate the spring return "Gas On Key Switch" by switching it clockwise and releasing it.

The system will now check for gas leaks before opening the main gas isolation valve.

NOTE that the gas supply should now turn on.

Remove the "Gas On" key from the panel when the gas comes on.

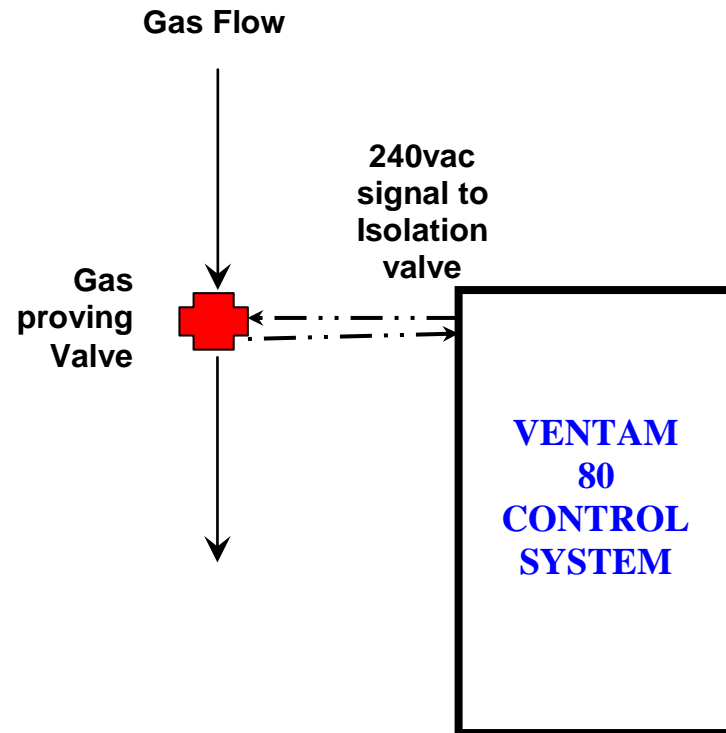
The "Gas On" key must not be left in the panel when the gas system is not being used.

Instruct site staff in correct system operation and instruct staff to test the system regularly.

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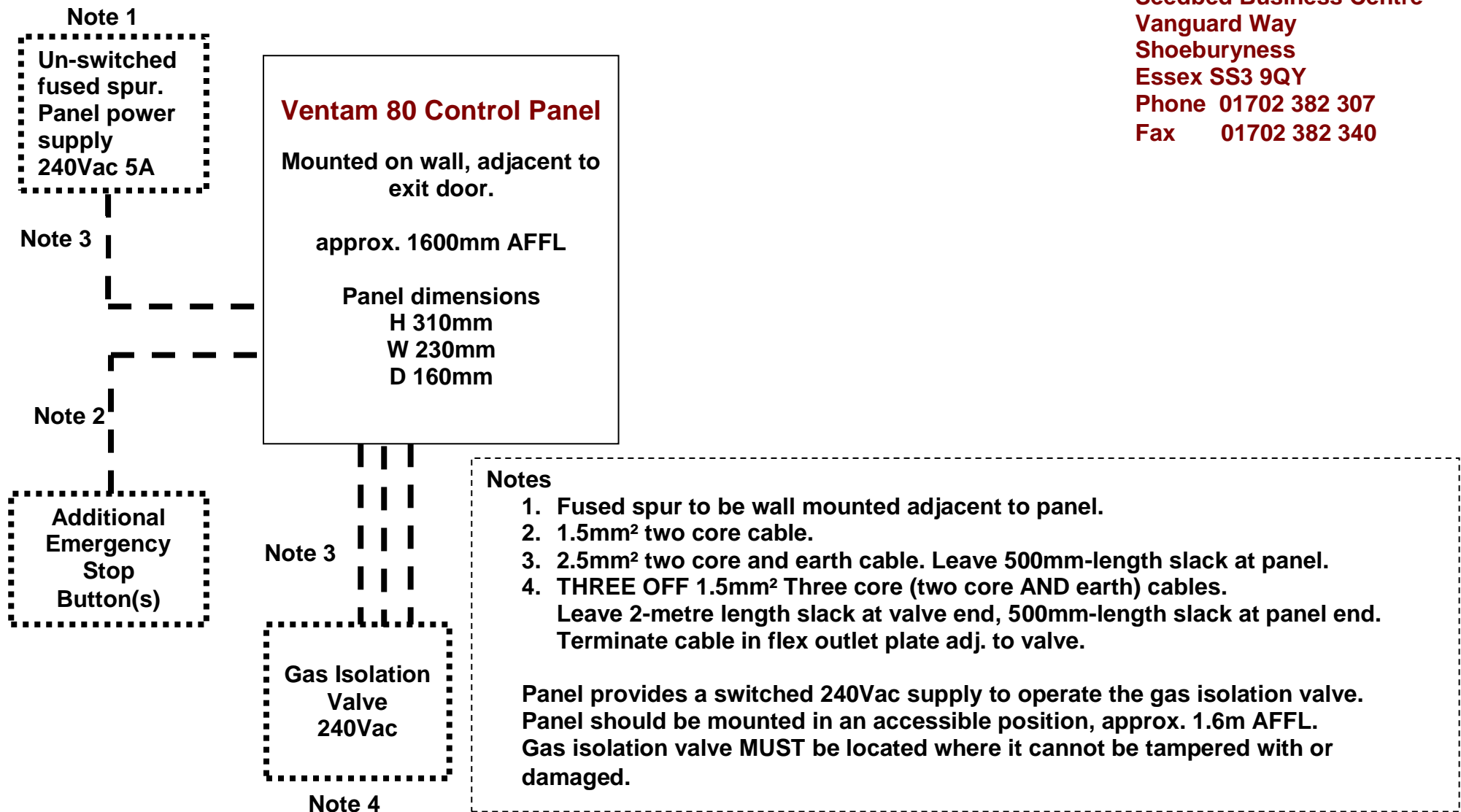
Mount the "User Guide" adjacent to the control panel.

Ventam 80 Gas Proving System Control Schematic



One line diagram for electrical first fix

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Ventam 80 Gas Proving wiring schematic

