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50mm [VSU] Low Pressure Natural Gas Purge Unit



Introduction:

This package includes a rechargeable plastic construction air fan. It can be re-charged via a vehicle 12V cigarette lighter socket or a 230V socket using the adaptors included in the package that connect to the 6V inlet connection on the rear of the fan. Being of lightweight construction, the fan must be used with care.

The unit has a flow capacity of about 5 m³/h when testing a U16/U40/G25 meter and the air fan has a limited pressure capability under zero flow conditions. The fan should not be run under zero flow conditions other than for very short periods. When new, the rechargeable batteries will have a capacity of about 30 minutes but should not be run for more than 10minutes at a time in order to keep the motor cool. The fan should be placed back on charge after each use to maintain its full capacity. The fan **MUST NOT** be run whilst on charge.

Foreign material must not be permitted to enter into the fan inlet/suction connection.

The fan **MUST** not be used to suck natural gas into its inlet connection and must only be used as a blower in gas free locations.

The unit is supplied with a 10m x ¾" outlet hose for connection between the meter and the vent stack with flame arrestor for purging. There is also a 3m lightweight hose for connecting the fan to the meter.

The meter or pipework system **MUST** be de-pressurised before connecting the air fan.

Assembly

Extend the legs of the tripod by releasing both clips on each leg. Raise the centre support by winding the lever. The tripod can be levelled to match ground conditions. Hang the three No Smoking signs over the tripod.

The purge vent stack comprises four PVC pipes that can be hand tightened together, jointing compound is not needed. The flame arrestor cap must be mounted to the top stack. On the base of the PVC stack, mount the steel assembly with the test/pressure point. Clip the vent stack assembly into the tripod pipe clips.

The 10m purge hose assembly comprises a ¾" bore hose with camlock type end connectors. Connect the hose to the base of the vent stack and to the meter or gas pipework.

When using natural gas for installation pipe purging, the pressure at the test point will indicate the flow rate. A pressure reading of over 3mbar indicates that the flow rate is over 4.5m³/h. A pressure reading of over 12mbar indicates that the flow rate is over 11m³/h.

When purging a meter it should be possible to complete the purge in under 10 seconds. The purge should be confirmed with a combustible gas analyser such as a Gascoseeker.

INSTRUCTIONS FOR USE



Gas to air purge

The fan must only be used in a gas free environment, well below 20% LEL.

Assemble the unit as above and connect to the meter or pipework. Depressurize the meter/pipework through the vent stack and confirm the pressure reading at the base of the stack is Zero.

Connect the fan hose to the fan, turn it on and then connect it with the camlock type fittings to the meter or pipework to be purged. Confirm the pressure at the base of the stack is over 2mbar for purging all systems up to 2" bsp pipe sizes. Test at the end fitting with a Combustible gas analyser.

When removing redundant pipework and gas meters it is essential to purge to air and to get less than 40% LFL or more than 20.5% oxygen. An optional airflow mover is available for gas to air purges.

Air to gas purge

Assemble the unit as above and connect to the meter or pipework. Connect the 3/4" hose to a valved connection on the far end of a meter or section of pipework. Open the inlet valve. Confirm the pressure at the base of the vent stack is over 3mbar for purging all systems up to 2" bsp pipe sizes. A minimum of 12mbar is required for 3" bsp pipework. Purge until the test gas reading at the end fitting is typically above 90%.

After use

Ensure any hoses are free of gas and that the camlock type fittings have been removed from the pipework before packing away. Place the fan assembly back on charge via the cigar lighter in the vehicle.

The direct gas to air or air to gas purge operation is detailed in IGEM UP/1 and UP/1A.

Never attempt to light the purge gases on the Flame Trap.

**All removed components must be capped or sealed correctly.
Open ended pipework must not be left.**