
STOKVIS

ENERGY SYSTEMS

ECONOPRESS PU PRESSURISATION SETS

INSTALLATION, OPERATION & MAINTENANCE
DOCUMENTATION



STOKVIS ENERGY SYSTEMS

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SEPT05

OPERATING AND MAINTENANCE INSTRUCTIONS

PU131, 231, 232, 131H/L, 231H/L, 232H/L, PU151, 251, 252, 151H/L, 251H/L, 252H/L CHASSIS MOUNTED PRESSURISATION UNITS

The STOKVIS PU *** range of pressurisation units will automatically control the pressure in a sealed system. The unit is permanently connected to the heating or chilled system delivering water at a constant pre-determined pressure.

DESIGNATION CODES

The numbers in the designation code of the pressurisation unit determine the number of pumps, pressure rating, systems and alarm signals.

i.e **232H/L** is a **2** pump, **3** bar, **2** system unit with **High** and **Low** pressure alarms.

LOCATION

The STOKVIS pressurisation unit should be sited in a dry, well-ventilated position but not subject to extremes of temperature. Ensure that the pump and motor are clear of obstructions and that an adequate air supply reaches the motor cooling fan. The unit should be mounted on a level surface.

ELECTRICAL SUPPLY.

The operating voltage and other electrical data is marked on the motor rating label, ensure that the motor is suitable for the electrical supply on which it will be used. The electrical installation should be in accordance with the current requirements of BS 7671 (formally known as I.E.E. 16th Edition rules and regulations), and any current local regulations applicable.

PRIMING AND VENTILATION.

The pump(s) must be vented before starting, since the mechanical seal faces are lubricated/cooled by the pumped liquid. The storage supply tank should be filled with water and the isolating valve opened. The pump must then be vented by releasing the venting plug on the pump casing.

TWIN PUMP UNITS.

On twin pump units the operator has the facility to determine the 'Duty' pump via the selector switch mounted on the set base.

FACTORY SETTINGS.

The STOKVIS Pressurisation Units have been preset to the following settings:

Pu *3* units

| | |
|--------------------------------|----------|
| Pump Cut In | 2.5 bar. |
| Intermediate Vessel Pre-charge | 2.3 bar. |
| Regulating Valve | 1.5 bar. |

High Cut Out (Normally Closed Black term 1 - Brown term2) only) 3.0 bar. (H/L units

Low Cut Out (Normally Open Black term 3 - Blue term 4) units only) 0.75 bar. (H/L

Pu *5* units

| | |
|--------------------------------|----------|
| Pump Cut In | 6 bar. |
| Intermediate Vessel Pre-charge | 5.8 bar. |
| Regulating Valve | 5 bar. |

High Cut Out (Normally Closed Black term 1 - Brown term2) only) 6.5 bar. (H/L units

Low Cut Out (Normally Open Grey term 3 - Blue term 4) only) 3.0 bar. (H/L units

Note! Pressure setting adjustments may be required dependant on individual system conditions.

PERIODIC MAINTENANCE

We recommend that once the unit has been installed, it should be commissioned by STOKVIS prior to being put to work. This will ensure that any problems which may affect the warranty of the unit can be reported and rectified.

Please note that whilst the equipment carries a full 12 month warranty from date of despatch, normal maintenance must be carried out during this time to ensure that the warranty is not invalidated.

TESTING of an EXISTING SYSTEM

- i) Visual inspection for damage or deterioration.
- ii) Ensure pumps are disabled, isolate vessel(s) and drain any water from vessel
- iii) Bleed any air from vessel
- iv) Check that there is no pressure on either the water or the air side of the vessel.
- v) Remove the flange or inspection hatch retaining bolts.
- vi) Remove the flange or inspection hatch and inspect the diaphragm bag and hatch gasket for any damage. (If a significant volume of water is found in the vessel, but outside the bag, it could indicate a ruptured bladder.)
- vii) Visually inspect the interior of the vessel for corrosion (if corrosion is present it must be assessed by a Competent Person regarding the measures required to repair or treat the area or to replace the vessel)

If hydraulic testing required the following procedures would also be carried out

- a) Ensure pumps are disabled, isolate vessel(s) and drain any water from vessel
 - b) Bleed any air from vessel
 - c) Check that there is no pressure on either the water or the air side of the vessel.
 - d) Remove the flange or inspection hatch retaining bolts.
 - e) Push diaphragm bag up into vessel and refit the flange
 - f) Attach 'Bucket Pump' and pressurize the vessel to $1\frac{1}{2}$ times the Maximum Working pressure.
 - g) Allow to soak for a minimum of 15 minutes
 - h) Check for leaks
 - i) Exhaust pressure, remove 'Bucket Pump', remove flange and refit bladder and reassemble.
 - j) Isolate vessel and any pressure sensitive equipment from the system.
 - k) Attach 'Bucket Pump' and pressurize the system to $1\frac{1}{2}$ times closed valve pressure.
 - l) Allow to soak for a minimum of 15 minutes
 - m) Check for leaks
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- viii) Replace the hatch, ensuring that the bolts are tightened in the correct sequence, as recommended by the manufacturer
 - ix) Recharge the air pressure in the vessel to the required value and leave to stand for 15 minutes.
 - x) Check the air pressure in the vessel, and check for leaks
 - xi) Close the Drain valve and slowly open the isolating valve to allow water to return to the vessel and leave to stand for 15 minutes
 - xii) Check for any leaks
 - xiii) Re-enable the pumps to put the system back on line, still checking for leaks
 - xiv) Record all tests and observations onto the test sheet together with any settings

