

Essential Safety Instructions for Albany Positive Displacement Pumps

EC DECLARATION OF INCORPORATION

(In accordance with Annex II B of the Machinery Directive 89/392/EEC)

1.
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Declare that the pumps described in this document comply with the following EU directives:

EN809 EN12-100

and within the limits specified for the machinery, is in conformity with the essential health and safety requirements of the Machinery Directive 89/392/Eec and subsequent amending directives.

The machinery described in this certificate must not be put into service until the machinery in which it is incorporated has been declared in conformity with the provisions of the Machinery Directive and its amendments.

MANUFACTURER:

.....
(Signature)

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- 1) **Safety** – The following symbols are used to draw attention to specific points



Warning – non compliance with this point could result in injury/harm



Refers to points affecting electrical safety

- 2) **Limits of Use:**



The pump/pump set must not be subjected to pressures & temperatures in excess of those for which it was originally quoted and supplied. It must not be subject to extremes of temperature and/or humidity for which it was not designed.

- 3) On receipt of the pump and prior to installation all packing material, blanking plugs etc must be removed.
If the pump is to be stored for a prolonged period please refer to Albany for details of long term Storage procedures.

- 4) **Technical/Description** –

Albany Pumps are external gear type positive displacement pumps. (Or twin screw and rotary lobe types)

The pumping rotors are contained within a rigid housing which is securely fixed together to prevent leakage or ejection of fluid under pressure between mating faces.

The driving shaft of the pump is also sealed by means of either a packed gland or by a lipseal pressure relieved or a mechanical seal to prevent leakage of the pumped fluid.

Pumps are normally mounted on a combination baseplate to a prime mover (electric motor etc) which is coupled to the pump by means of a flexible coupling.

This coupling is in turn covered by a securely mounted guard for safety purposes.

Guards can only be removed with the use of tools.

- 5) **Installation** -



The pump/pump set must be installed on a firm and rigid base and be securely bolted down.

Pipework must be attached correctly to the pump and not be strained to make it line up.

Pipework must be of the correct size for the duty.

Coupling should be checked for alignment before use.



Electrical supply must be of the correct volts/ph/Hz to suit the electric motor or other items fitted.

Any electrical work must be carried out by properly qualified personnel.

- 6) **Operation** -



Prior to starting the pump ensure that all packing materials are safely away from the pump, that all connections electrical and pipeline are in place and securely attached.

Check that all valves in the system upstream of the pump are open so as to prevent running against a closed valve.

Open the valves on the suction side.

Check that the rotation of the pump as signified is correct.

Pump is now ready for use.

Run pump without pressure and check for any leakages, if OK pressure can now be applied.

If still no leaks pump is OK to use.

Watch/Look/Listen for excessive noise, vibration etc.

Noise will be above 70dba and will usually be in the 80-85 dba area, please refer to works for typical levels for individual pump units.



It is vital that the fluid passing through the pump is clean and free from abrasives or solids as damage to the pump could occur.

7) Maintenance –



Before commencing any maintenance work on the pump or drive ensure that the power supply has been isolated and locked off.

Make sure that any residual pressure in the pump and adjacent pipe work has been dissipated.

The pump/pump set should now be safe to work on. If the pump has been used to handle flammable or corrosive liquids the appropriate precautions should be taken to contain and/or neutralize any dangers involved.

8) Fault Finding/Trouble Shooting -

1. No liquid delivered.
 - a) Pump not primed.
 - b) Suction lift too high. Check with a gauge at the pump suction.
2. Not enough liquid delivered
 - a) Air leaks in suction line.
 - b) Suction lift too high, suction pipe diameter too small.
3. Pump takes too much power.
 - a) Liquid too viscous.
 - b) Discharge line obstructed.
 - c) Mechanical defects.
4. Noisy pump
 - a) Speed too high
 - b) Suction lift or viscosity too high (piping diameter too small): Cavitation.
 - c) Wrong direction of rotation (recesses in the pump covers to prevent hydraulic noise operate only in one direction.
 - d) Badly supported pipes or bedplates causing resonant vibration.
 - e) Worn pump.
5. Gland leakage.
 - a) Packing hard and shaft worn.
 - b) Pressure on pump too high or pressure relief passage blocked.
6. Excessive wear
 - a) Abrasive liquid
 - b) Excessive speed.
 - c) Misalignment.
7. Motor running hot and overloading.
 - a) Pressure or viscosity too high. Back pressure too great.
 - b) Incorrect supply voltage.
 - c) Motor phasing.
8. Pump overheating
 - a) Pump being run against a closed valve or against higher pressure than recommended.
 - b) Overtight gland.



9. Special care should be exercised when dealing with heated pumps to prevent operators/technicians being burnt by hot surface or pumped product