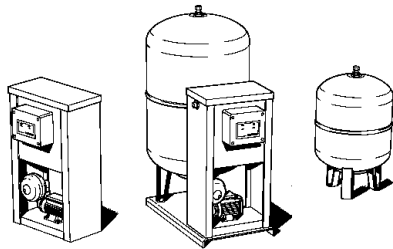


THERMOFLO SEALED SYSTEMS



INSTALLATION

LOCATION

The equipment should be located in a clean dry, ventilated environment and be easily accessible for servicing. Mount the equipment on a concrete plinth suitably sized to avoid vibrations and provide adequate support.

CONNECTION TO THE SYSTEM

Before connecting the equipment, flush the pipework until clean.

Connect the Expansion vessel and the pressurizer to the system return main, and the inlet side of the main circulating pump.

To reduce thermal expansion between the system and expansion vessel an anti-gravity loop should be included within the expansion pipe-run.

To ensure optimum service life of expansion vessels it is necessary to control the water temperature at the vessel diaphragm to no more than 70 degrees C. In the systems at 90 degrees C and above we recommend that a thermal buffer is incorporated within the expansion pipe-run. A vertical section of enlarged pipe or an intermediate cooling vessel can be used for this purpose.

Do not insulate the expansion pipe-run, expansion vessel nor the cooling vessel.

Circulating pumps should not be of the type incorporating packed glands.

WATER SUPPLY & OVERFLOW

Connect a mains water supply to the pressurizer float valve. Pipe the overflow to waste.

PRESSURIZER

Pressurizers are not designed to fill the system, it is recommended that a temporary initial fill line be incorporated for this purpose.

Thermoflo pressurizers include factory set Low & High pressure switches.

The operating voltage and electrical data are indicated on the equipment nameplate, electrical connection should be made as shown in the wiring diagram.

CAUTION - The electric supply to the equipment must not be interrupted by a time clock or other cut out.

EXPANSION VESSELS

VESSEL CONNECTION

Thermoflo base-mounted combination sealed systems incorporate the Expansion vessel pre-piped, terminating with a suitably sized system connection.

When expansion vessels are supplied loose each vessel pipework should include a Drain-cock and union or flange connection between the vessel isolating valve and the Expansion vessel.

GAS CUSHION

The vessel gas cushion is pre-charged to suit the system data given, check and maintain the gas cushion periodically - at least every three months, drain the vessel of water pressure to carry out this check.

Use nitrogen or dry compressed air for re-charging.

COMMISSIONING

1 - Isolate Expansion vessel(s) and pressurizer prior to system hydro-testing, and commissioning. Back-fill the system to the 'initial system design pressure'.

2 - Always commission from cold.

3 - Verify gas cushion in Expansion vessel and pressurizer Accumulator.

4 - Fill pressurizer tank and verify float valve operation.

5 - Open equipment valves, vent pump(s) and check that the impeller is free to turn carefully turning the motor fan.

6 - Check the pump(s) operation, allows the pump to run until it cuts out automatically at the system initial pressure

7 - Slowly open the system valve so that the pressure stabilises at the initial pressure - adjust if necessary.

8 - At maximum system design temperature the system pressure will rise to the 'Final design pressure' - verify.

PRESSURE SETTINGS

When the system operating data has been given, then the equipment settings will be factory set - verify as follows:

1 - Pressurizer pump - Set to cut out at the system 'initial pressure' Set differential at minimum.

2 - Low pressure switch - Set whilst the system is cold and at the 'initial pressure' - adjust the switch range to operate the Low pressure condition. Slowly reduce the range setting until the system resets, then decrease the range setting by 0.15 bar. The differential is set at minimum.

3 - High pressure switch - Set to operate the High pressure condition at 0.35 bar above the system 'final pressure' - which should be 0.35 bar below the safety valves set pressure. Set differential at around 0.5 bar.

4 - Expansion vessel gas cushion - Set to equal the system 'initial pressure'.

5 - Pressurizer Accumulator gas cushion - Set to 0.2 bar below the pressurizer pump cut in pressure.

MAINTENANCE

1 - Check and maintain gas cushion pressure periodically.

2 - Any idle pump may tend to stick when it does not operate for prolonged periods, test the pump for running periodically.

3 - When duplicate pumps are fitted, alternate the duty pump weekly.

4 - Check the electrical equipment, (fuses, bulbs and connections etc), every six months.