ARMSTRONG

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INSTALLATION AND OPERATING INSTRUCTIONS

GLA - Glycol Make-Up Units

ESSENTIAL SAFETY REQUIREMENTS

1) Glycol is toxic and the glycol suppliers safety instructions must be adhered to. In critical areas a retaining wall should be used to contain any spillage or leakage. Overflows should be arranged not to contaminate drainage systems.
2) It is recommended that initial commissioning is carried out with water.
3) The flow rates from the unit are designed for make-up rates. It is therefore suggested that the system is back-filled with due precautions taken to avoid contamination.
4) Glycol is sometimes subject to bacterial attack and can become slimy as a result. We recommend the addition of a suitable biocide. Alpha-Fry Ltd recommend dosing with 0.1% Fernox AF10 Biocide. The dose should be calculated on the amount of water glycol mixture added and not the total tank contents. If bacterial attack occurs on untreated mixtures the unit should be drained, flushed and refilled with fresh mixture and dosed with biocide.
5) Locate units in a well ventilated environment and ensure that ventilation fans and apertures are not obstructed.
6) Check the supply voltage and overload protection is correct
7) Electrical installation should be performed by a competent electrician
8) Guards and covers must not be removed during operation

Expansion Vessel Installation and Commissioning

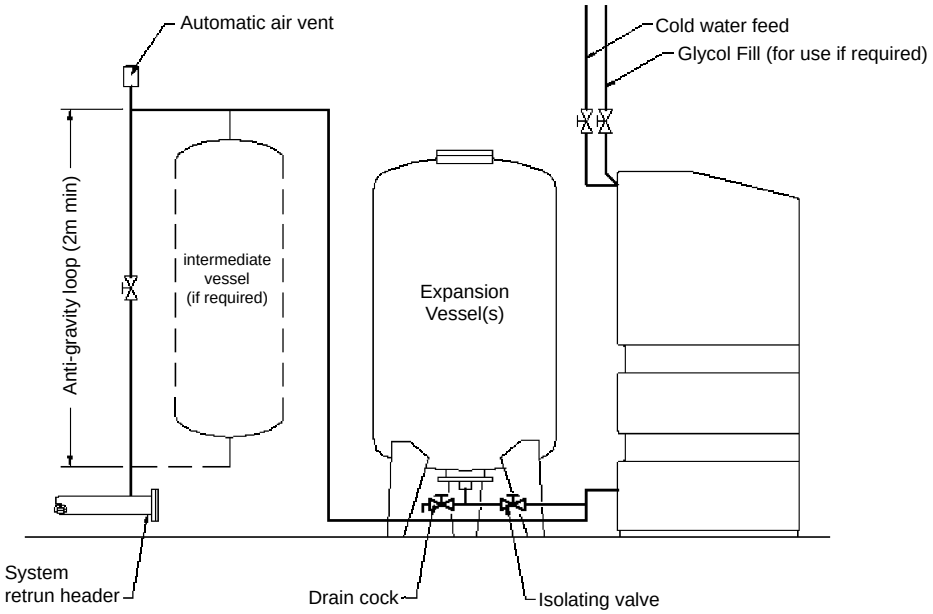


Fig.1

Refer to separate Armstrong publication for Armstrong vessels. Install the GLA unit as indicated in the diagram attached. (Fig. 1)

NOTES:

1) The pipework from the system to the expansion vessels should not be lagged.
2) An anti-gravity loop with a minimum height of 2m (or an intermediate vessel) should be installed to provide thermal protection to the expansion vessels.
3) For chilled water systems the connections to the intermediate vessel should be reversed, i.e. bottom to system, and top to expansion vessel
4) The GLA unit is suitable for floor mounting.
5) The pipework to the expansion vessels should be sized according to the size and number of vessels and should be at least the same size as the vessel connection.
6) Where multiple expansion vessels are required it is recommended that each vessel be installed with its own isolating valve and drain cock.
7) If a finished floor screed is to be applied on completion of all mechanical services, then it is advisable that all floor-mounted equipment is mounted on a concrete plinth.

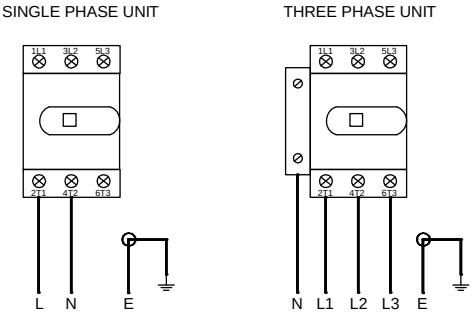


FIG.2a

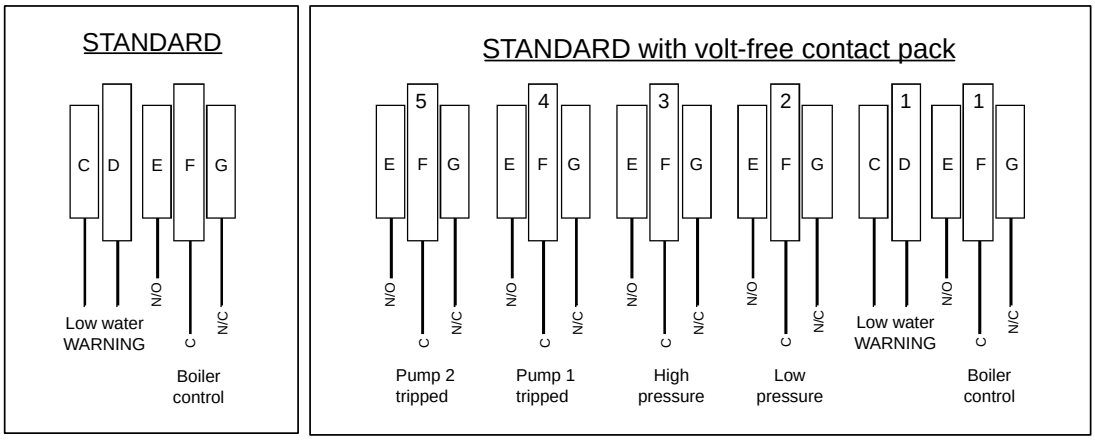


Fig.2b

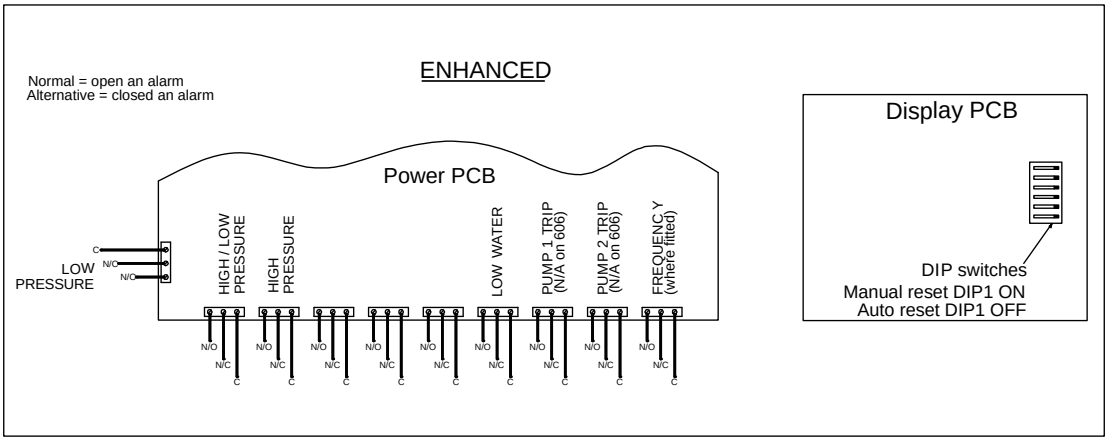
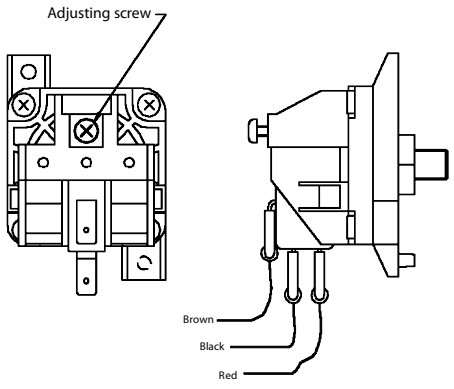


FIG.2c

Pressure switch adjustment (Refer to Fig. 3)

1) High system pressure – PS1
2) Low system pressure – PS2
3) Pump control switch – PS3



- For each switch, set the delivery to the required pressure. Then very slowly turn the adjusting screw on the switch until the contacts change.
- The high system pressure switch should first be set higher than the required pressure by turning the screw clockwise, and the setting then made by turning the screw anti-clockwise until the switch contacts change-over.
- The other switches should first be set lower than the required pressure by turning the screw anti-clockwise, and the setting then made by turning the screw clockwise until the switch contacts change-over
- A pipe plug is provided on the outlet to allow connection of a test pump to simulate differing system pressures to check switch settings.
- The Enhanced versions of the GLA have the capability of controlling duty and standby pumps from a single pressure switch.

GLA Enhanced Settings
The extra functionality of Enhanced units is integral. The only selectable option is Manual or Automatic reset of alarm conditions. DIP switch 1, on the display board, should be set of OFF for auto reset (Factory setting), and ON for manual reset. On alarm conditions the MUTE switch will mute the buzzer. In manual reset mode this MUTE switch will reset the alarms after the fault condition has been cleared. Other switches change the mode of the PCB for use with other Armstrong products. For GLA application, all switches except 1 and 7 must be set to OFF.

Frequency Alarm (where fitted)
When the Enhanced unit is loaded with Frequency Alarm (optional extra) this is set using the two dials in JP12 on the Power PCB. The dial close to the edge of the PCB sets the number of starts/x1 and the second dial sets starts/hour x 10. The recommended setting is 30 starts/hour.

Priming the make-up pumps
1. Close suction isolating valve.
2. Fill the glycol-mixing tank.
3. Remove the upper vent plug from the make-up pump.
4. Open suction isolating valve until water flows out of this tapping.
5. Close valve and replace plug.
6. Repeat for standby pump (where fitted).
7. Close the system-isolating valve.
8. Open suction isolating valve.
9. Switch on unit, initially both pumps will run. As the pressure reaches the pump control switch threshold the pumps will switch off.
10. Check all piping for leaks following shipping.
11. Crack open system valve. The pressure will fall and the pump will start and maintain pressure.

Powered agitation
A solenoid valve is fitted to provide powered agitation of the mixture. Automatically this valve is periodically opened and the duty pump started creating circulation through the pump and mixing tank. Automatic mixing is inhibited when there is a system demand for make-up.

A switch is provided for manual agitation when adding glycol to the mixing tank.

Topping up with glycol
The mixing tank is calibrated in litres and US gallons. The normal top up level is 200 litres (53 USgals).
1. Calculate the amount of water needed and add to the correct level.
2. Add the required amount of glycol.
3. Operate the manual agitating switch.
4. Check the mixture percentage.

The unit is now ready for service.

Strainer
The strainer is fitted inside the mixing tank to protect the equipment. In the rare occurrence of the strainer becoming blocked, the mixing tank should be drained and cleaned with a pressure hose. The strainer can be removed by disconnecting the pump suction outlet from the end and removing the 'Strainer Holding Bush' (Fig 4)

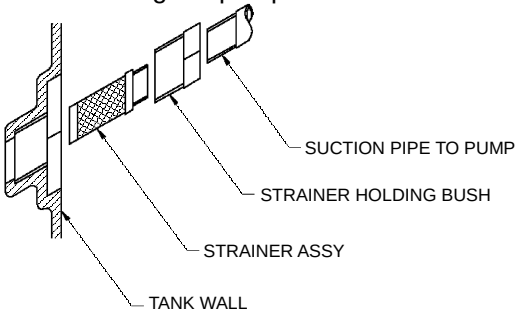


Fig.4

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