ARMSTRONG®

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Installation & Operating Instructions
GLA - Glycol Make-up Units

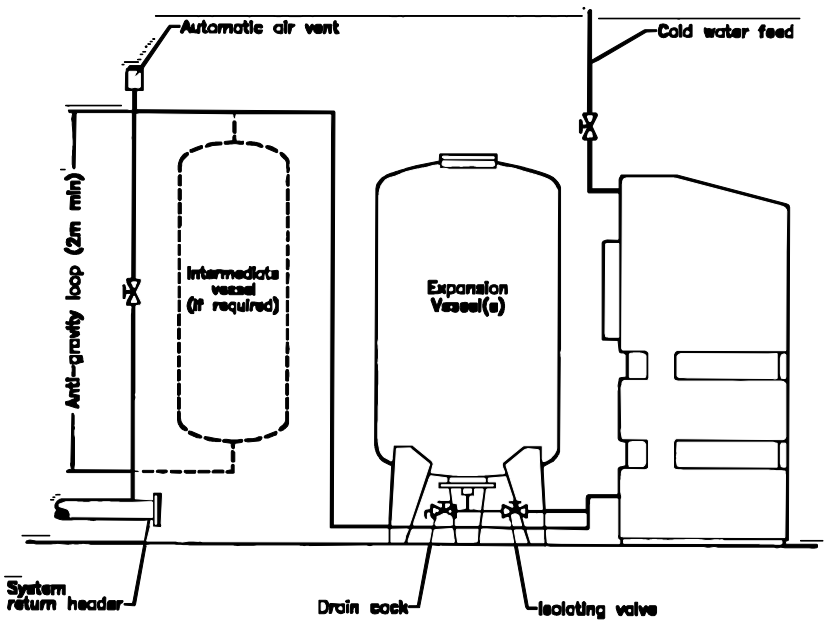
ESSENTIAL SAFETY REQUIREMENTS

1) **Glycol** is toxic and the glycol supplier's 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 be 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. The dosage 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 that the supply voltage and overload protection is correct.
7) A competent electrician should perform the electrical installation.
8) Guards and covers must not be removed during operation.

Expansion Vessel Installation and Commissioning

Refer to separate Armstrong publication for Armstrong vessels.

Install the **GLA** unit as indicated in the diagram below.



NOTES:

1) The pipework from the system to the expansion vessels should not be insulated.
2) For systems operating above 200 degrees F (93 C), an anti-gravity loop with a minimum height of 6 feet, (or an intermediate vessel) should be installed to provide thermal protection to the expansion tanks.
3) For hot water systems, the connections to the intermediate vessel should be reversed, i.e. top to system, and bottom to expansion vessel.
4) The GLA unit is suitable for floor mounting.
5) The ball float valve is fitted with a low-pressure seat; a high-pressure seat is attached to the float valve and should be fitted if required.
6) 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.
7) Where multiple expansion vessels are required it is recommended that each vessel be installed with its own isolating valve and drain cock.

Pressure Switch Adjustment

1) Low system pressure – PS1
2) High system pressure – PS2
3) Duty pump control switch – PS3
4) Standby pump control switch (where fitted) – PS4

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 changeover.
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 Ultra versions of the GLA have the capability of controlling duty and standby pumps from a single pressure switch.

GLA Ultra Settings

The extra functionality of Ultra 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 to 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 printed circuit board for use with other Armstrong products. For GLA application, all switches except 1 and 7 must be set to OFF.

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 isolation 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 (Ultra model only)

A solenoid valve is fitted to provide powered agitation of the mixture. Automatically this valve is periodically opened and the duty pump starts 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 liters and US gallons. The normal top up level is 53 US gallons (200 liters).

1. Calculate the amount of water needed and add or drain 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.

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