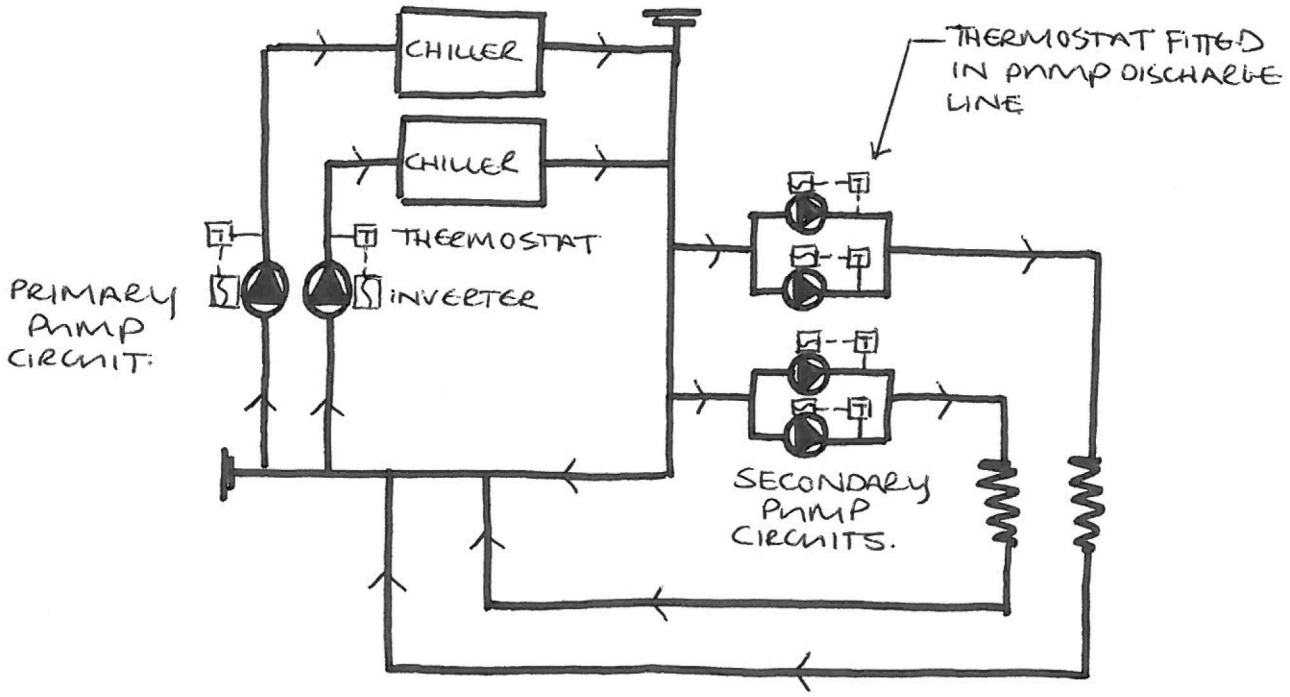
Over Heating of Plastic Chilled Water Pipework

A problem came to light when a plastic pipe melted on a chilled water system. This occurred as a result of a pump being left in 'hand' on the control panel with the chiller switched off and isolated.

The resulting affect was that all the heat from the pump dissipated into the chilled water system. This couldn't be offset as the chiller had been switched off and isolated for maintenance purposes and gradually over time it heated to a temperature that was sufficient to melt / perish the pipe.

To prevent this from happening on future installations the proposal is to install a temperature thermostat in the pump discharge line. This would apply to both primary and secondary circuit pumps.



The thermostat would be hard wired directly to each pump inverter / starter i.e. not through the BMS, should the temperature rise above say 40°C then the pump would be automatically switched off. The thermostat should be positioned such that it cannot be isolated from the pump by closure of a valve. (An alarm could also be routed via the Building Management System to allow action by the plant engineer).

The absolute fool proof answer would be to revert back to installing chilled water systems in steel pipework or thin wall stainless steel pipework (subject to the design parameters of the system).

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