Liquid Oxygen Tank (VIE)

The Liquid Oxygen Supply System shall provide a reliable and constant source of medical quality gaseous oxygen and comply with the requirements of HTM 2022 and C11. The Vacuum insulated evaporator (VIE) shall comprise of a vacuum insulated tank to store the bulk liquid at the appropriate operating pressure, a pressure raising system to maintain the VIE operating pressure and a vaporiser system to convert the liquid into gaseous product at ambient temperature. The capacity of the VIE tank shall be at least 20 days’ consumption of the hospital. The VIE inner vessel shall be designed, constructed and certified in accordance with BS 5500, Category 1. The outer vacuum jacket shall be designed and constructed to BOC process plants standards and protected to withstand the most sever weather conditions. The space between the inner and outer walls shall be filled with granular expanded perlite and evacuated to a high vacuum providing a minimum of evaporation loss. An integral control circuit shall incorporate a pressure-raising coil, economiser valve, relief valves and bursting discs for maximum safety. Operation of the VIE shall be completely automatic. Vessel, valves and associated pipework shall be degreased for oxygen service and finally pressurised with dry nitrogen to 0.2 Bar prior to dispatch.

A matches system of Vaporizers heated by ambient air shall be fitted to ensure that maximum design flow rates are maintained. An Emergency Standby Manifold shall be provided, controlled to ensure that continuity of supply is maintained in the event of the liquid supply failure. All necessary Pressure Regulators shall be supplied to provide 410kPa (4.1 bar) at the distribution system, and a pressure relief valve set at 534 kPa (5.34 bar) shall be fitted. Volt free "normally closed" terminals shall be provided to enable connection of a remote alarm system which operates to HTM 2022 and C11 logic.

A remote alarm system shall constantly monitors the supply system operates in accordance with HTM2022 and C11.

The liquid Oxygen Supply System shall be installed in an outdoor purpose built, secure compound.