

GENERAL

The Powerex Medical Air Treatment Center is designed to provide medical breathing quality air for hospital and medical institutions. This system meets NFPA 99 requirements for Risk Category 1.

AIR PURIFICATION PACKAGE

The air purification package shall be sized in conformance with NFPA 99 specifications and consist of the following: Dual desiccant air dryers, dual filter and regulator bank with sample ports, Dew Point and CO Monitors with alarms, and all bypass piping. Piping to be brass, stainless, or type K copper, and cleaned for medical air use. All components shall be mounted piped and wired to the air receiver.

DESICCANT AIR DRYERS

Each twin-tower desiccant dryer shall be sized for the peak calculated system demand to provide a pressure dew point to meet NFPA standards. Dryer controls shall include a repressurization cycle to prevent shocking of the desiccant bed prior to switching towers. An integral purge saving control system shall be provided and shall suspend the purge air loss during periods of low demand. When the dryer is in purge control mode, the tower switching valves shall not operate, and only one desiccant tower shall be on-line. Dryers that continue to operate the switching valves on a fixed cycle, while in purge control mode shall not be acceptable.

FILTRATION AND PRESSURE REDUCING STATION

The filtration systems shall consist of 3 stages of filtration, two pressure reducing valves with pressure gauges, a 75 psig final line safety valve, and a sample air port. The first stage of filtration shall include dual pre-filters with element change indicators and automatic condensate drains and installed up-stream of the air dryers. The second stage shall include dual particulate filters with element change indicators and installed downstream of the air dryers. An optional third stage of filtration is available. This shall include dual activated carbon filters installed downstream of the air dryers.

A dual set of pressure reducing valves with pressure gauges shall be installed downstream of the final filters and shall be adjusted to an outlet pressure of 55 psig. Each filter/dryer/regulator assembly shall be plumbed with bypass valves to enable service without disrupting air flow to the facility.

DEW POINT MONITOR

The system-integrated hygrometer shall be equipped with an LCD dewpoint display and high dewpoint alarm with dry contacts for remote monitoring. The monitor shall include a self-calibration mode to enable calibration of the dewpoint sensor without the need to return the sensor to the factory for calibration.

CARBON MONOXIDE MONITOR

The carbon monoxide (CO) monitor is provided in an enclosure with LCD display of CO concentrations. The monitor shall continuously display the CO content of the discharge air and shall provide audible and visual high CO alarms. High alarm is set at 10 ppm per NFPA99. Dry contacts are provided for remote monitoring of the high CO alarm.