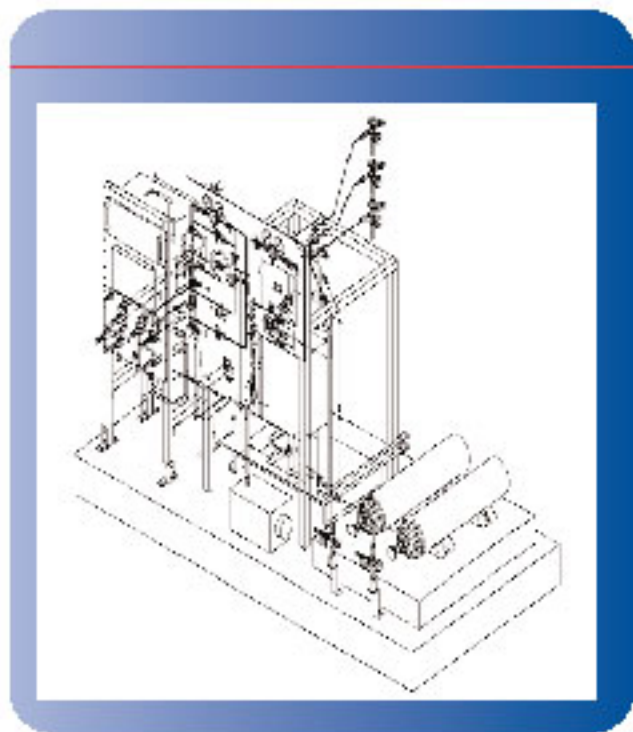


Product Transfer and Recovery Systems (continued)



The XLE requires the following services:

Electric: 380V, 50Hz, 3 phase for compressor operation and 110V, 60Hz, single phase for vacuum pump and weight scale.

Nitrogen: Electrical enclosure purge estimate 4.0 SCFH @ 80 PSIG (2.0 SLPM @ 5.5 Bar G).

Cooling Water: 1.0 GPM (3.8 LPM)

The XLE design primarily uses VCR and butt-weld fittings for greatest system integrity. A VCR joint contains a pair of fittings with a micro-polished ridge and a stainless steel gasket. Advantages of VCR fittings are excellent leak-tight performance from vacuum through maximum working pressure, zero-clearance assembly, and lower torque requirement to obtain a leak-tight seal.

The design uses diaphragm valves for high purity and low diffusion. Nominal pressure rating is 3000 PSIG (207 Bar-G). Typical helium leak rates are less than 2×10^{-8} scc/s (standard cubic centimeters per second) at the seat and seals.

Xenon Transfer & Recovery System

Primary components of the Xenon Loading Equipment (XLE) are compressor, vacuum pump, high precision weight scale (0.02 kg accuracy), after cooler, and pre-heater. Maximum operating pressure is 2700 PSIG (186 Bar G). Estimated overall size/ weight is 2.5m high x 2.5m wide x 2.0m deep at 1000 kg. Please refer to the process flow in the schematic to the left.

Features:

- Purge with an inert gas.
- Evacuate system to 10-3 Torr.
- Fill with xenon to 180 BarG in 12 hours.
- Recover more than 95% xenon from PPS in 10 hours.
- Measure mass of loaded xenon by a weight-loss method from xenon source bottles.
- Provide connections for sample bottles.
- Maintain xenon purity during fill operation.