

EH HEATED DESICCANT AIR DRYER

EH150 – EH8000

Compression Technologies and Services
Davidson, NC 28036

Date: **15-Mar-2016**
Cancels: **All Previous**

SUGGESTED SPECIFICATION

Compressed air dryer capable of reducing the moisture content of _____ scfm air at _____ psig and 100°F inlet air temperature to maintain a pressure dew point of the dried air at -40°F (or -100°F).

Dryer shall employ twin-drying towers comprising ASME code-welded pressure vessels, spherical-particle, non-corrosive activated alumina desiccant, and desiccant fill and empty ports. The desiccant shall be removable without any disassembly of the dryer or interconnecting piping.

A continuous supply of dry air shall be provided by the automatically cycled operation of the drying vessels, including drying, heated reactivation, cooling and pressure stabilization. Automatic cycling shall be controlled by an electronic controller. Air flow shall be directed through alternative vessels by pneumatically controlled switching valves and pressure differential.

Regeneration shall be accomplished by using 7-8% of the dry outlet air. A purge pressure gauge shall be installed in the purge air inlet line. Regeneration shall be sufficient to maintain a -40F pressure dew point (except during tower switchover). The regeneration cycle is controlled by time and temperature. The electric

heater is cycled on and off by a Solid State relay. This advanced control precisely monitors purge air temperature and adjusts the heater temperature accordingly. This will eliminate unnecessary heater operation and electrical consumption. A cool dry air cycle shall remove the heat from the desiccant bed. When the temperature of the air in the purge exhaust manifold has reached the proper temperature, the cooling cycle will stop and dryer will repressurize.

The dryer shall use low watt density heating elements located in an insulated externally located exchanger. Maximum watt density shall not exceed 23 Watts per square inch. Over-temperature shutdown protection of the heater shall be provided. The dryers shall be rated for NEMA 4 with 460/3/60 electric. A single point electrical connection shall be provided on all models.

Dryer shall include as a minimum: gauges showing pressure in each drying tower, a gauge showing purge pressure, a manual purge adjustment valve, safety relief valves on each tower, a common alarm light and dry contact, a switch for selecting power "ON-OFF," an indicating light signaling power "ON" and a digital display showing dryer and alarm status. A PLC controller shall be utilized to control all basic functions of the dryer status.

With EMS option, dryer shall also include: a digital dew point display and dew point control of the dryer cycle.

Dryer shall be Ingersoll Rand Model EH_____.

Prefilter is included as standard and is installed upstream of dryer to remove oil, liquid water down to .01 PPM (parts per million by weight), shall have a theoretical efficiency greater than 99.9999% and shall be capable of removing solid particles as small as 0.01 micron. Prefilter shall employ a replaceable element for coalescing oil mists. For dryers EH150-EH1500, filters shall be mounted and include a mechanical float drain. For dryers EH1800 and larger, filters will be shipped loose and no drain valve will be included. For dryers EH1800 and larger with filters mounted on a separate skid, a manual ball valve is included as standard for the pre-filter. A differential pressure gauge for indication of element replacement shall also be included.

Afterfilter, is included as standard and is installed down stream of dryer to remove particulate matter with a rating of 99.95% of all particulates 1 micron and larger. For EH150-EH1500, filters shall be mounted. For EH1800 and larger, filters shall be shipped loose. Afterfilter shall be equipped with a differential pressure gauge for indication of element replacement. Afterfilter shall be rated for 450F.