

# HB HEATED BLOWER DESICCANT AIR DRYER

## HB150 – HB8000

Industrial Technologies  
Davidson, NC 28036

Date: 1-May-2010  
Cancels: All Previous

### SUGGESTED SPECIFICATIONS

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.

Dryer shall employ twin-drying towers comprising ASME-certified 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 a PLC controller. An atmospheric blower shall provide a regenerating air flow across an externally mounted heater. Regeneration shall be sufficient to maintain a minimum of a -40-deg F/C pressure dew point. The regeneration cycle shall be controlled by time and temperature.

An optional sensor at the purge discharge shall shut off the purge air heater when purge exhaust has reached the regeneration temperature. When activated, the auto purge temperature control shall eliminate unnecessary heater operation and electrical consumption.

A selectable, cool dry air cycle shall remove the heat from the desiccant bed.

The dryer will have dual mode operation that will allow it to be operated as a heatless dryer in the

unlikely event of a heater or blower failure.

The dryer outlet dew point shall be -40°F pressure dew point or better, except for switchover transients. Air flow shall be directed alternated through vessels by pneumatically controlled switching valves and pressure differential.

The dryer control system shall include mufflers to reduce the noise level of the depressurization exhaust to within OSHA standards.

The dryer shall use low Watt density heating elements located in an insulated externally located exchanger. Maximum Watt density shall not exceed 25 W/in<sup>2</sup>. Over temperature shutdown protection of the heater shall be provided. The dryers shall be rated for 460Vac/3-phase/60A operation. Control voltage shall be 120Vac and 24Vdc. A single-point electrical connection shall be provided.

Dryer shall include as a minimum the following analog instrumentation: pressure gauges in each drying tower, pressure gauge for dry air cooling pressure, a manual purge adjustment valve, safety relief valves on each tower, common alarm indication and dry contact relay, and an indicating light signaling power "ON".

The panel-mounted text display shall include the following digital indication: description of dryer alarm, purge heater outlet temperature, purge exhaust temperature, and the status of the dryer cycle. A PLC shall be utilized to control all basic functions of the dryer status.

With the EMS option, dryer shall also include high humidity alarm and light, valve switch failure alarm and light, a digital dew point display, dew point control of the dryer cycle. A 3-way selector switch for DRYER OFF, ON and EMS ON.

Dryer shall be Ingersoll Rand Model HB\_\_\_\_\_.

Prefilter is included and is customer-installed upstream of dryer to remove oil, liquid water down to 0.001 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. Filter shall include external drain connection for periodic removal of separated contaminants, and a color-coded differential pressure gauge for indication of element replacement.

Afterfilter is included as standard and is customer installed downstream of dryer to remove particulate matter with a rating of 99.95% of all particulates 1 micron and larger. Afterfilter shall be equipped with a high temperature element.