

HL HEATLESS DESICCANT AIR DRYER

HL800 – HL5000

Compression Technologies and Services
Davidson, NC 28036

Date: **01-Sep-2017**
Cancels: **All Previous**

SUGGESTED AIR DRYER SPECIFICATION

General –

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. A continuous supply of dry air shall be provided by the automatically cycled operation of the drying vessels on a fixed cycle, including drying, pressure stabilization and regeneration. Automatic cycling shall be controlled by an electronic controller. Airflow shall be directed through alternate drying vessels by pneumatically operated valves which require no lubrication. Dryers shall use high performance, stainless steel angle seated valves.

Fire rated relief valves shall be located on each pressure vessel.

The purge air control system shall include mufflers to reduce the noise level of the purge air exhaust to within OSHA standards. No electrical or other energy shall be supplied to the dryer from an outside source for reactivation. Total electrical requirements shall not exceed 5 Amperes at 110, 115 or 120 Vac. The dryer shall include, as a minimum, gauges showing pressure in each drying tower, a gauge showing purge pressure, a manual purge

adjustment valve, an electronic controller with a keypad, and a light indication panel that indicates the status of the dryer including ON/OFF & tower status.

EMS Option –

As an option, the dryer can be equipped with an Energy Management System (EMS): a hygrometer sensor located in the airstream downstream of the desiccant bed will determine moisture content of process air and the PCB or PLC controls will correspondingly modulate the dryer cycle. At the end of the purge and repressurization cycles, if the dew point is below the set-point value (adjustable through the controller), the purge exhaust valves will remain closed and no purge air will be consumed. The dryer will continue to operate through the drying cycle in order to maintain heat of adsorption within both desiccant beds. When the dew point reaches the EMS control setpoint, the dryer will revert to fixed cycle with the last regenerated bed switched for online drying.

The EMS function shall be displayed on the dryer controller. The display shall include the dew-point value, system status, cycle point indication, and a common alarm dry contact. Selections can be made for DRYER OFF, DRYER ON and EMS ON.

Dryer shall be Ingersoll Rand Model HL_____.

Prefilter and Afterfilter –

A prefilter shall be included for installation upstream of dryer to remove oil and liquid water down to 0.01 mg/m³ content at 21°C (0.008 ppm W at 70°F). Prefilter shall be capable of removing solid particles as small as 0.01 micron. Prefilter shall employ a no-touch replaceable element. For HL800-HL1500 filter shall include automatic drain valve for periodic removal of separated contaminants. For dryers HL1800 and larger with ship loose filters, no drain valve is included. For dryers HL1800 and larger with filters mounted on a separate skid, a manual ball valve is included as standard for the pre-filter. For HL1500 and smaller dryers, filter is equipped with a dual scale differential pressure gauge for indication of element replacement. For HL1800 and larger dryers, filter equipped with color-coded differential pressure gauge for indication of element replacement.

Prefilter shall be Ingersoll Rand Model _____.

An afterfilter shall be included as standard for installation downstream of the dryer to remove particulate matter. Afterfilter shall be capable of removing solid particles down to 0.1 micron. Afterfilter shall employ a no-touch replaceable element. For HL1500 and smaller dryers, filter is equipped with a dual scale differential pressure gauge for indication of element replacement. For HL1800 and larger dryers, filter equipped with color-coded differential pressure gauge for indication of element replacement.

Afterfilter shall be Ingersoll Rand Model _____.