DRY STAR HOT

REFRIGERATED AIR DRYERS

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Campbellsville, Kentucky

DRY STAR HOT SERIES
High Inlet Temperature Refrigerated Dryer
Suggested Specifications
(15 - 100 scfm)

DryStar HOT High Temperature refrigerated air dryer designed to provide clean dry air capable of reducing the temperature of _____ scfm of saturated with an inlet temperature of _____°F at _____ psig to a pressure dew point of 50°F when operating in a 95°F ambient temperature, and removing the condensed liquids (water and compressor lubricant) via integral no air loss automatic drains.

Compressed Air Aftercooler
The DryStar HOT Series High Temperature refrigerated dryers use refrigeration cooling to condense entrained water vapor out of the air stream. Hot saturated air enters the built in aftercooler and has 65% of the water removed by cooling the air down to within 25°F (13.9°C) of ambient air temperature. This will reduce the heat load on the refrigeration system and reduce the energy consumption of the refrigeration compressor.

Filter/Separator
The air then enters a two-stage filter/separator with 3μ (3-micron) coalescing filter element prior to warm saturated air entering the heat exchanger (evaporator/chiller) where it is cooled by an air-to-refrigerant process. The filter element shall effectively separate condensed oil and water from the compressed air throughout the entire range of flow. The cooling condenses the water vapor so that it can be removed as a liquid. The condensate is then removed by the moisture separator and discharged through an automatic drain. The cold, dry air is reheated as it passes through the reheater.

Evaporator
The heat exchanger used to chill the air and evaporate the refrigerant shall be a spiraled smooth bore tube-in-tube heat exchanger with integral air-to-air exchanger and insulated with polystyrene. The precooling portion of this air circuit shall lower the inlet air temperature to the compressed air, thus reducing the required refrigeration horsepower. The reheater portion of the air circuit shall reheat the cool dry air to prevent condensation on the down stream piping.

Refrigeration System
The dryer shall incorporate a fully hermetic air-cooled refrigeration compressor/condenser and liquid refrigerant filter/dryer. The dryer shall be charged with refrigerant R134a. Refrigerants, such as R12, which are no longer acceptable to the environment, shall not be used.

Controls and Instrumentation
Dryer shall be equipped with an on/off switch, power on light and a suction pressure indicator to show refrigerant system condition. The control system shall allow automatic and continuous operation at all load conditions from zero (0%) load to full (100%) load while tolerating load swings without freezing, in the specified ambient temperature range (40°F - 115°F), without adjustment.

Packaging
The dryer shall be enclosed in a powder coated sheet metal enclosure and shall meet NEMA 1 (IP20) electrical standards. Access to internal components shall be through a single removable side panel.

Testing
The dryer shall undergo a complete refrigerant leak check and an electrical function test.

Warranty
Dryer shall carry a comprehensive (1) one-year factory warranty on parts and labor.

Electrical
Power shall be 115 volt, 1 phase, 60 Hz.

All high temperature refrigerated dryers shall be UL Listed.

Compressed air dryer shall be Ingersoll-Rand DryStar HOT model number DS____-H.

Flow (scfm)	Model
15	DS15-H
25	DS25-H
35	DS35-H
50	DS50-H
75	DS75-H
100	DS100-H

Capacity ratings are based on 125 psig (8.6 barg) inlet air pressure, 180°F (82°C) inlet air temperature, 95°F (35°C) ambient air temperature and 50°F (10°C) pressure dew point with 5 psid (0.35 bar) max. pressure drop.