Model R-Series Dehumidifiers
Continuous Duty Air Dryers and Space Dehumidifiers
Model R-150 & R-300 Dehumidifiers

Application

A continuous duty, rotating disc, atmospheric dryer designed primarily for both dynamic and static systems requiring low humidity control for industrial processes, critical storage areas and controlled environmental rooms. Ideally suited for use with precooling and/or aftercooling equipment to maintain total temperature-humidity control.
**Design Benefits —**

- Energy Efficient, High Water Removal Per KW Input
- Unitized Welded Steel Panels for Heavy Duty Integrity
- Non-toxic, Non-corrosive, Inert, Clinically Safe Desiccant
- Rotary Disc, Direct Drive System Provides Minimum Maintenance Part Replacement
- Minimum Leakage with Special Design Silicone Rubber Air Seals
- Process Air Draw-Thru Design
- Predictable Outlet Conditions
- Compact, Easy Access

**Design Features —**

- Process and Reactivation Blower Assembly Provides Centrifugal, Direct Driven, Open Drip Proof Motor Components
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- Electrical Controller Includes Motor Starters, Control Relays, and Overload Protection
- Industrial Duty Semi-Gloss Air Dried Enamel Finish
- Pre-Cooling, After-Cooling, and Re-Heat Assemblies Offered as Options
- Fully Insulated Interior

**Performance Curves — Dryomatic® R Series**

**Moisture Removal**

**Example:**
Assume 95 GR/# of air and 95°F entering condition to dehumidifier. Enter chart at 95 GR/# of air and extend vertically to intersect with 95°F curve, extend horizontally to left and read GR/# of air leaving dehumidifier.

**Leaving Air Temperature**

**Example:**
Assume 95 GR/# of air and 95°F entering condition to dehumidifier. Enter chart at 95 GR/# of air and extend vertically to intersect with 95°F curve, extend horizontally to right and read temperature of air leaving dehumidifier.

**Principle of Operation**

The perforated metal desiccant bed, containing Silica Gel rotates clockwise at 3.19 RPH. The desiccant bed adsorbs moisture on the process side and is regenerated on the reactivation side of the unit on a continuous basis.
Wiring Diagram

WIRING STD. 208/220/3/60 4 WIRE

LEGEND

AB ADSORPTION BLOWER MOTOR
BD BED DRIVER MOTOR
F-1,2,3 FUSE, HEATER
F-5 FUSE, CONTROL CIRCUIT
FB-1 FUSE BLOCK, HEATER
FB-2 FUSE BLOCK, CONTROL CIRCUIT
VAC VACUUM CONTROLLER
HC HEATER CONTACTOR
HR-1 HEATER

P-1 PILOT LIGHT, MANUAL RESET
P-2 PILOT LIGHT, UNIT ON
MC MOTOR CONTRACTOR
RB REACTIVATION BLOWER MOTOR
S-1 SWITCH, AUTO-OFF-MANUAL
T-1 TRANSFORMER, LINE VOLTAGE 120/240
TB-1 TERMINAL BOARD, POWER
TB-2 TERMINAL BOARD, HUMIDISTAT

Dimensions

MODEL R-150, R-300

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<th>DIM</th>
<th>R-150</th>
<th>R-300</th>
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<td>B</td>
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<td>C</td>
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HUMID AIR INLET "K" DIA.
DAMPER ADJUSTMENT
FILTER BOX, TYPICAL TWO PLACE
FRONT

ACCESS PANEL TO ELECTRICAL EQUIPMENT
CONTROLS
"O" CLEARANCE FOR SERVICE
DAMPER ASSEMBLY FURNISHED BY DRYOMATIC AND INSTALLED BY USER TYPICAL TWO PLACES
"P" CLEARANCE FOR SERVICE
REMOVABLE TOP ACCESS TO DESICCANT BED
REACTIVATION AIR OUTLET "U" DIA.
REACTIVATION AIR INLET "N" DIA.

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Standard Specifications

Dryomatic® Model R-150

Electrical*: Standard 208/220/3/60. 4 wire
Connected Load: 5.5 KW
Process Air Flow: 150 CFM @ .5” external static pressure
Reactivation Air Flow: 70 CFM @ .5” external static pressure
Seals: Silicone rubber
Desiccant**: 28 lbs. non toxic, non corrosive 03 on 8 mesh, Dryomatic® standard silica gel
Insulation: Reinforced, laminated fiberglass
Filter: (2) 6” x 12” x 2” permanent washable filter, factory mounted
Damper: (2) 6” diameter, single blade with duct mounting for field installation on both outlets
Manometer: (1) U-tube manometer, 4” scale, with tubes and probes
Finish: Industrial Gray
Operating Weight: 240 lbs.
Shipping Weight: 285 lbs. FOB Frederick, MD (factory)
Optional Accessory: Humidistat

Dryomatic® Model R-300

Electrical*: Standard 208/220/3/60. 4 wire
Connected Load: 10 KW
Process Air Flow: 300 CFM @ .5” external static pressure
Reactivation Air Flow: 140 CFM @ .5” external static pressure
Seals: Silicone rubber
Desiccant**: 45 lbs. non toxic, non corrosive 03 on 8 mesh, Dryomatic® standard silica gel
Insulation: Reinforced, laminated fiberglass
Filter: (2) 12” x 12” x 2” permanent washable filter, factory mounted
Damper: (2) 8” diameter, single blade with duct mounting for field installation on both outlets
Manometer: (1) U-tube manometer, 4” scale, with tubes and probes
Finish: Industrial Gray
Operating Weight: 300 lbs.
Shipping Weight: 350 lbs. FOB Frederick, MD (factory)
Optional Accessory: Humidistat

* Other voltages and frequencies optional at extra cost.
** Activated alumina or molecular sieve available for special applications.

Consult your nearest representative or the Dryomatic® Division of Airflow Company for additional application information. A wide range of other models of dehumidifiers are available for environmental control of humidity. Airflow Company also manufactures a full range of special purpose air conditioners for military and industrial applications and the DATAAC line of air conditioners for data processing centers.