Massively Capable:
Everyday Simplicity

One simple user interface - Conair has eliminated the need to learn different control systems for different equipment. From small to large, fully-loaded or basic, all Conair Carousel Plus dryers now use a common control user interface - AND it's the same as the blender, conveying control, and TCU.

D Series dryers feature automatic Temperature Setback (to protect resin and save energy), and automatic Dewpoint Control (for changing moisture content). All have highly efficient desiccant wheels, long-life tube heaters and powerful blowers.

Plus, you control and monitor process heat from the dryer, whether you have one hopper or 16, whether you're heating with multiple central drying hoppers (like a ResinWorks sled) or individual hopper heaters, or even natural gas (like the GasTrac).

Model D600
Shown with DC-B control

Large Capacity Central or Machine-Side Drying, Any Heat Source

Conair Carousel Plus Dryers use molecular sieve desiccant that is bonded onto a fiberglass substrate and formed into a light, compact, continuously rotating wheel that never breaks down, while providing low-pressure, free-flow of dehumidified air.

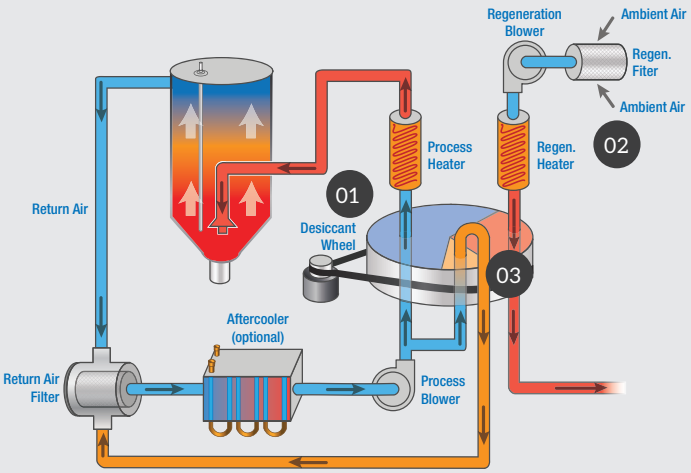
The result is rock-steady, spike-free drying temperatures and low, consistent dewpoint levels, critical for processing moisture and temperature sensative resins. Desiccant is efficiently regenerated at reduced temperatures, making Conair Carousel Plus Dryers the most energy efficient dryer you can buy. Maximum uptime with minimal energy usage.

The D600-5000 series of dryers are capable of delivering nominal throughput rates ranging from 600 to more than 5,000 lb/hour {272 to 2,268 kg/hr}. Heat can come from hopper heaters, a central drying system sled, or even a gas-fired heater - all controlled by the D dryer.

- **Pleasant user experience (UX) with a simple-to-use touchscreen control**
  The DC-B control platform maximizes user confidence. Designed with new operators in mind, the 4-inch "Plus", or 7-inch "Premium" touchscreen control has new intuitive navigation, with tutorial help screens. Training new operators is easy and quick, making even the most novice operators feel comfortable. The color touch screens feature detailed trending, auto start, password protection and recipe control.
- **Closed-loop drying and optional included conveying system**
  Each dryer uses a 2-blower closed-loop drying system which makes them ultra consistent and efficient, no matter what the location or time of year.
- **Maximum uptime, maximum reliability**
  With significantly reduced part count, easy access, and less wear, you can expect many years of trouble-free operation. The weight of the desiccant assembly has been reduced by 70%, the part count reduced by 90%, there are no more indexing bed plates, no more cumbersome 4-way valves and no more messy desiccant beads.
- **Precise, adjustable dewpoint control**
  An industry first! The Dewpoint Control function built into the microprocessor control system allows you to select your desired particular dewpoint value. The control then AUTOMATICALLY adjusts various dryer functions to precisely hold the dewpoint selected, adjusting for changing incoming material moisture, resulting in rock-steady dewpoint without swings. All accomplished while using less energy.

How it Works

The core of the Carousel Plus Dryer is the Munters® unique fluted desiccant rotor, which contains molecular sieve desiccant. The molecular sieve has been grown into the rotor's porous fiberglass substrate, preventing the possibility of desiccant break down and dusting over time. The desiccant rotor revolves slowly, passing through three cycles with each revolution.



Note: Dryers D600-W5000 that are central dryers do not have process heaters. Heater Packs, Hopper Temperature Controllers (HTC's), or GasTrac Dryers (CGT's) are used at the hopper for heating the process air.

The Benefits

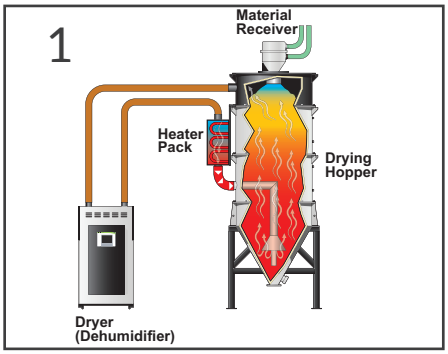
- The high airflow across the rotor surface area produces a resin-drying low dewpoint within five minutes of start-up and offers multi-year media life with virtually no maintenance.
- The continuously revolving rotor provides rock steady temperature and dewpoint control - no bed shift heat bumps.
- The rotor technology minimizes energy consumption by reducing the structural mass. Less structural mass to heat means less energy wasted.
- The fiberglass wheel does not break down over time, so regular desiccant changes are not required.

01 The dry air is dehumidified in the adsorption cycle, capturing and removing moisture from the drying air stream.

02 The desiccant passes into the high temperature regeneration cycle. Absorbed moisture is heated and purged out of the desiccant to the atmosphere.

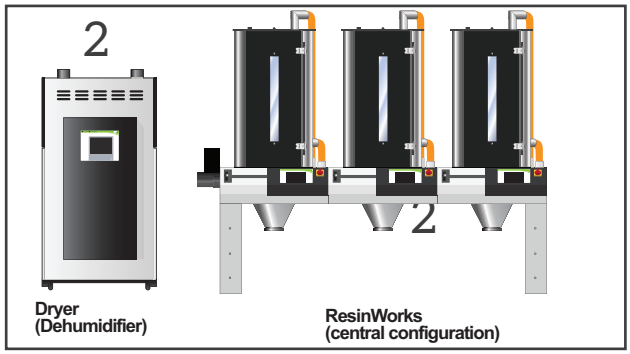
03 The desiccant is then advanced to the post-regeneration cooling cycle and cooled with closed loop dry air. This unique closed loop cooling technology eliminates moisture that can cause defects in parts.

Typical Applications



Standard (one dryer, one hopper) - Figure 1

Dryer on the floor, single hopper (with process Heater Pack mounted to hopper) on a floor stand.

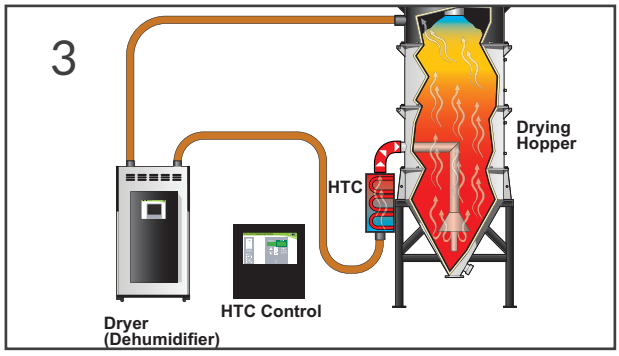


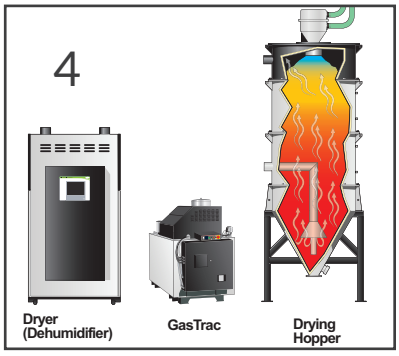
Central drying system (ResinWorks) - Figure 2

Dryer on the floor, multiple hoppers in central configuration (ResinWorks) with separate heat source for each hopper.

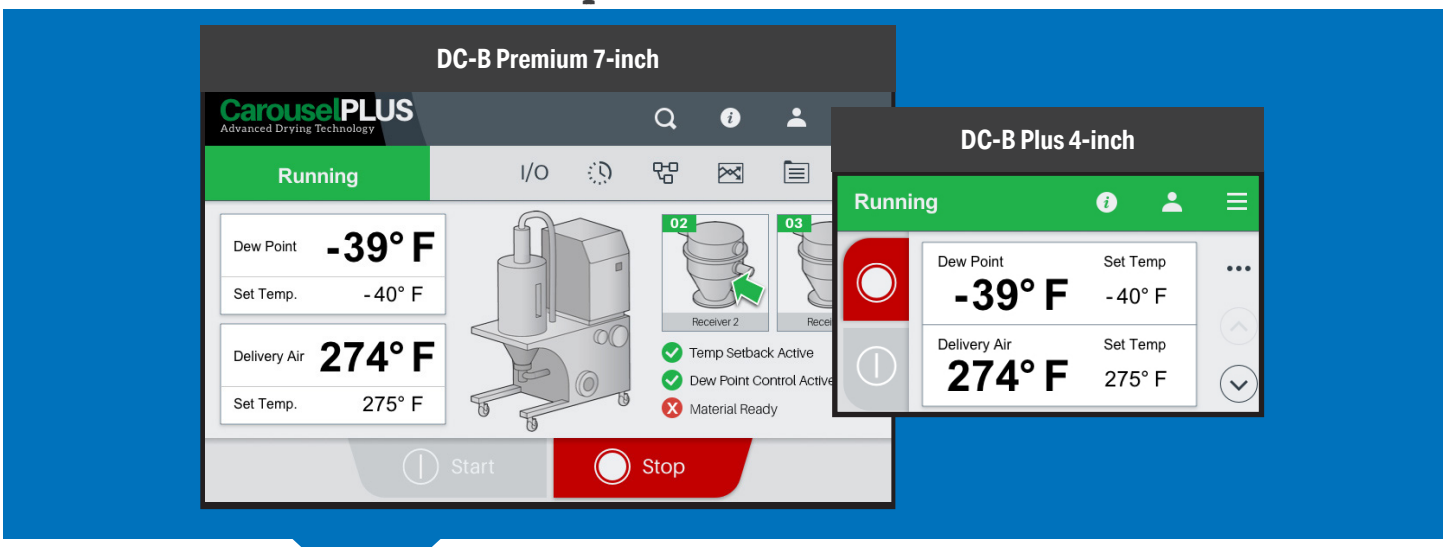
Central drying system (Hopper Temperature Controllers -HTC's or GasTrac with large hoppers) - Figure 3 and Figure 4

Dryer on the floor with Conair GasTrac or HTCs for process heat connected to hopper(s).





DC-B Control Features and Options



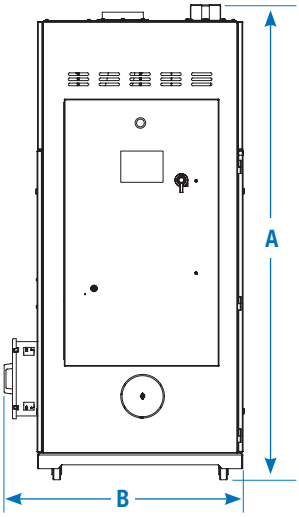
Control	DC-B Plus	DC-B Premium
Standard		
Processor	PLC	PLC
Display / HMI screen	4-inch color	7-inch color
Real-time data trending	●	●
Auto start/stop (7 days)	●	●
English / Metric units	●	●
Multi-level password protection	●	●
Temperature Setback (manual/auto)	○	●
Dewpoint monitor and control	●	●
Energy Usage Monitor	●	●
Audible and Visual alarms	●	●
Predictive maintenance	●	●
Recipe library control	●	●
On-screen help	●	●
VNC viewer	●	●
Wheel rotation sensor	●	●
Available options		
Drying Monitor w/ Material Ready		○
Vacuum conveying control	○	○
Number of vacuum receivers	1	2
Optional inputs (fill)	0	2
Optional outputs (ratio/purge)	0	1
Airflow measurement		○
Process filter check		○
Water flow control		○
Water flow on/off	○	
UL 508A panel design	○	○
Volatile trap (water-cooled only)	○	○
Precooler (to run below 150°F)	○	○
Communications (OPC-UA or Modbus TCP/IP)	○	○
Air-cooled aftercooler	○	○

● Standard ○ Option

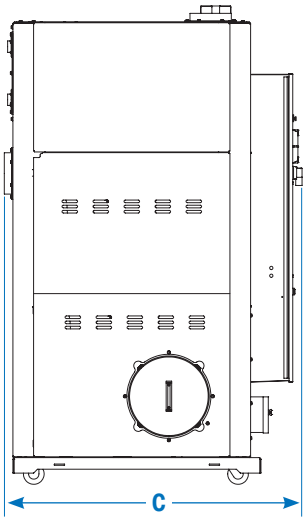
Feature Descriptions (see chart for standard vs options)

- **Audible and visual alarm** - A flashing alarm beacon and horn.
- **Temperature setback** - Automatically reduces the drying temperature to a lower standby mode when the machine throughput is reduced or stopped.
- **Dewpoint monitor** - Monitor dryer performance with a digital readout.
- **Dewpoint control** - Allows the dryer to maintain an operator-selected dewpoint and adjust automatically to changing moisture content.
- **Drying Monitor™** - Save time and money by not using improperly dried material. Drying Monitor automatically monitors the heat profile in the hopper, using a 6-zone temperature probe, preventing over or under drying material. An alarm will alert operators of issues.
- **Material ready** - "Material ready" is a feature that alerts the operator once the material is properly dried. No more bad parts from improper drying when the resin wasn't ready!
- **On-screen help** - A simple click of the contextual help button gives information to the operator about functions and setpoints for each screen/button. The perfect tutorial for new operators.
- **Preventive maintenance** - Recommended maintenance intervals are programmed into the control, so you'll never wonder if it's time to perform maintenance, or forget about key tasks. This is just another way to prevent unplanned downtime.
- **Communications** - Allows the dryer to talk with Conair's SmartServices cloud or your own network via Modbus TCP/IP or OPC-UA communication protocols. Capabilities include viewing data in real time, pushing commands to the dryer, or controlling the system remotely using the built-in VNC virtual connection.
- **Air-to-air aftercooler** - no cooling water hook-up is required for operation. An aftercooler is used to reduce the temperature of the return air from the hopper, which improves the efficiency of the desiccant. Conair dryers can dry between 150-375°F {65.6-190.5°C} as standard with the water or air-cooled after cooling.
- **Process filter check** - A clogged filter will not only decrease dryer performance, it can cause bad end parts, damage the desiccant wheel, pose a safety hazard, or result in unscheduled downtime and increased repair costs. A differential pressure sensor across the filter lets you know when it's ready for a change.

Specifications



Front view



Side view

Application Notes

All dryers are supplied with an aftercooler/intercooler as standard. The aftercooler/intercooler reduces the temperature of the return air from the drying hopper, improving the efficiency of the desiccant. The aftercooler/intercooler should be connected with the proper water flow rate and temperature to attain the optimal throughput.

When to use central models

Central dryers do not have process heaters. These models should be used when drying multiple materials that require different drying temperatures. Central models dehumidify the process air, which is then heated to the correct setpoint by a Hopper Temperature Controller (HTC) or a "pre-heater" mounted on the hopper.

When to use additional filtration

The standard return air cartridge filter is sized for the airflow of each dryer model and is suited for most applications. You should consider adding an optional dust collector and/or volatile trap if:

- The material contains excessive fines. An additional dust collector or cyclone will extend time between filter cleaning.
- The material produces volatiles during drying which condense into a waxy or oily residue. A volatile trap will help to protect the desiccant.

Models	D600*	D800*	D1000*	D1300*	D1600*	D2000*	D2400*	D3200*	D4000*	D5000*
Performance characteristics (with full hopper)										
Drying temperature	All models 100° - 375°F {38° - 191°C} with options									
Dewpoint	All models -40°F {-40°C}									
Dimensions inches {cm}										
A - Height	93.8 {238.3}			92.2 {234.2}				98.3 {249.7}		
B - Width	49.3 {125.2}			53.9 {136.9}				58.2 {147.8}		
C - Depth	63.1 {160.2}			97.5 {247.6}				112.9 {286.7}		
Outlet/inlet hose diameter	8.0 {20.3}			12.0 {30.5}						
Approximate weight lbs {kg}										
Installed	1300 {590}		1400 {636}	1600 {726}				2000 {907}		
Shipping	1495 {678}		1515 {687}	2620 {1188}				3385 {1535}		
Voltage - standard/central full load amps† ‡‡ (STANDARD FLA / CENTRAL FLA / STD W VSD FLA / CENTRAL W VSD FLA)										
400 V/3 phase/50 Hz‡	89.1 / 34.2 / 95.6 / 40.7	116.6 / 34.2 / 123.1 / 40.7	116.6 / 34.2 / 123.1 / 40.7	180.1 / 70.3 / 188.5 / 78.7	186.5 / 76.7 / 196.8 / 87	214.0 / 76.7 / 224.3 / 87	248.9 / 83.4 / 260.8 / 95.3	282.2 / 90.0 / 285.3 / 93.1	371.4 / 96.9 / 379.6 / 105.1	371.4 / 96.9 / 379.6 / 105.1
460 V/3 phase/60 Hz	77.6 / 29.8 / 85.1 / 37.3	101.5 / 29.8 / 109 / 37.3	101.5 / 29.8 / 109 / 37.3	162.6 / 61.6 / 175 / 71.1	162.6 / 67.0 / 175 / 79.4	186.5 / 67.0 / 198.9 / 79.4	216.5 / 73.1 / 231.9 / 88.5	246.5 / 79.2 / 252.5 / 85.2	322.9 / 83.9 / 336.2 / 97.2	322.9 / 83.9 / 336.2 / 97.2
575 V/3 phase/60 Hz	61.8 / 23.6 / 62.2 / 24	81.0 / 26.7 / 81.3 / 24	79.9 / 23.6 / 81.3 / 24	130.0 / 49.2 / 131.8 / 50.4	130.0 / 53.6 / 130.8 / 54.4	149.1 /53.6 / 149.9 / 54.4	173.0 / 58.4 / 175.2 / 60.6	197.0 / 63.3 / 202.8 / 69.1	258.1 / 67.1 / 266.1 / 75.1	258.1 / 67.1 / 266.1 / 75.1
Water requirements (for aftercooler or optional precooler)§										
Recommended temperature**	45° - 85°F {7° - 29°C}									
Water flow gal./min. {liters/min.}	6 - 25 {22.7 - 94.6}††			12 - 40 {45.4 - 151.4}††				15 - 50 {56.8 - 189.3}††		
Water connections NPT	1 1/2 inch									

Specification Notes

* Dryers D600-D5000 that are central dryers do not have process heaters. Heater Packs, Hopper Temperature Controllers (HTC's), or GasTrac Dryers (CGT's) are used at the hopper for heating the process air. See the Hopper Temperature Controller (HTC) and GasTrac Dryer (CGT) specification sheets for further technical information. Even though Heater Packs are remote from the dryer, they are controlled by the dryer.

† The first full load amps number listed includes current to operate the dryer and the heat supply controlled by the dryer. The second full load amps number is current required for the dryer only, when operated as a central dryer with heaters (more than one) controlled and powered remotely. Dryers that have the optional VFD will see an increase in FLA by up to 10% on standard units, and an increase of up to 20% on units used as central dryers.

‡ Dryers running at 50 Hz will have 17% less airflow, and a 17% reduction in material throughput.

§ When drying below 150°F {66°C} a precooler is required.

** Temperatures above or below the recommended levels may affect dryer performance. Tower, chiller or municipal water sources can be used.

†† Higher chilling water temperatures will require a greater flow rate.

‡‡ FLA data for reference purposes only. Does not include any options or accessories on equipment. For full FLA detail for power circuit design of specific machines and systems, refer to the electrical diagrams of the equipment order and the nameplate applied to the machine.

Specifications may change without notice. Consult a Conair representative for the most current information.

Installation Note

Wiring between process air heater, Heater Pack, and dryer where control for this heater is located is not included. Maximum wire length between dryer and heat source is 100 feet {30 meters}. Consult Conair or a qualified electrician to determine gauge of wire required for distance. Maximum physical distance between dryer and hopper is 20 feet {6 meters}.