

W MODELS 150, 200, 300 AND 400



Model W150
(with DC-T Control)

CAROUSEL PLUS RELIABILITY; MEDLINE SPECIFICATIONS

This already superior dryer line has now been improved, painted RAL 9003 white and calibrated to ISO standards to help you achieve higher profit margins with increased productivity and product quality in medical applications. The optional eight-inch high-resolution TouchView™ control has bright, crisp graphics and includes trending screens. For cleanrooms, the touch screen is able to be cleaned with isopropyl alcohol, and is chemical resistant.

Purchase this dryer and you will find that you have more control over drying dewpoint and temperature than ever before, in a package that is simpler, smaller, lighter, more energy efficient and easier to use and maintain than any other dryer on the market today.

DESIGNED WITH MEDICAL REQUIREMENTS IN MIND

These medium-sized dryers are small enough to be used beside the machine, yet powerful enough for central drying.

The Carousel Plus Dryers use molecular sieve desiccant that is bonded into a fiberglass substrate and formed into a continuously rotating wheel. The result is rock steady drying temperatures and dewpoint levels, critical for processing moisture and temperature sensitive material.

These units are capable of delivering nominal throughput rates ranging from 150 to more than 400 lb/hour.

The thermo-formed, impact resistant ABS filter cover adds to the good looks and space-saving design of the Carousel Plus Dryers.

Models W150 and 200 also are available as Mobile Drying and Conveying units.

■ **Optional easy-to-use, full-color touch screen**

Intuitive screen navigation will allow you to easily view critical drying parameters such as dewpoint and temperature. With the TouchView™ control, operation and alarm diagnostics are user friendly, and trending is available. This web-enabled control allows wireless connection to a tablet or smartphone.

■ **Reduced energy costs**

The desiccant wheel assembly heats and cools easily, saving you up to 35% on your energy bill. Fewer parts, lighter mass, less to heat, therefore less wasted energy.

■ **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. Shift-after-shift this dryer will deliver the performance you need to stay up and running.

■ **Precise, adjustable dewpoint control**

An industry first! The dewpoint control built into the microprocessor control system allows you to select a particular dewpoint value, which the control locks onto. The control then adjusts various dryer functions to precisely hold the dewpoint selected, virtually eliminating any chance of overdrying costly material.



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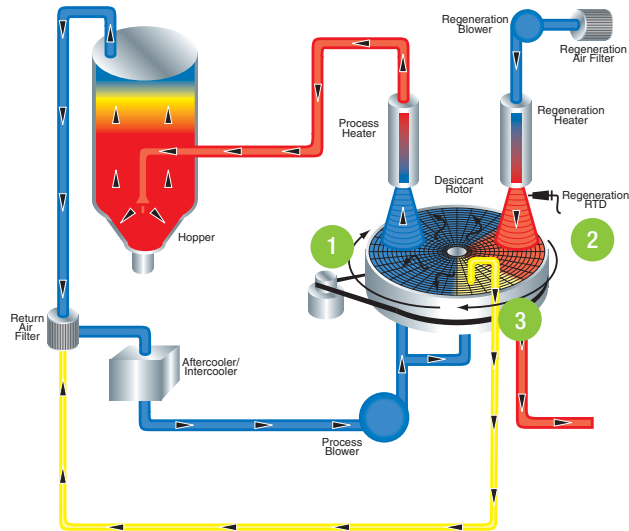
HOW IT WORKS

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 at the rate of 12 revolutions per hour passing through three cycles with each revolution.

THE BENEFITS

- The high airflow across the surface area of the rotor 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.
- The rotor technology minimizes energy consumption by reducing the structural mass, less structural mass to heat means less energy wasted.



- 1 First, the dry air is dehumidified in the adsorption cycle, capturing and removing moisture from the drying air stream.
- 2 Next, the desiccant passes into the high temperature regeneration cycle where the adsorbed moisture is heated and purged out of the desiccant to the atmosphere.
- 3 The desiccant is then advanced to the post-regeneration cooling cycle and cooled with closed loop dry air. All Carousel Plus Dryers feature this unique closed loop cooling technology to eliminate moisture that can cause defects in parts.

WHICH PACKAGE IS RIGHT FOR YOU?

STANDARD PACKAGES	MZ	TV
FEATURES		
DC-1 control	●	
DC-T control		●
Audible and visual alarms	●	●
Calibration	●	●
RAL 9003 paint	●	●
Temperature setback	●	●
Dewpoint monitor	●	●
Dewpoint control	●	●
Trending screens		●
OPTIONS		
Communications		●
Precooler	●	●
Volatile trap	●	●
Filter check	●	●
Drying monitor		●

Features

- **Calibration** - Calibration is completed to ISO standards.
- **MedLine paint** - MedLine white RAL 9003 paint is used for medical cleanroom applications.
- **Audible and visual alarm** - A combination of a blinking red alarm light and a horn alert the operator to any shut down alarm.
- **Temperature setback** - Automatically reduces the drying temperature to a lower standby mode when the machine throughput is reduced or stopped. Processors using resins prone to degradation due to over-drying could greatly benefit from the temperature setback feature.
- **Dewpoint monitor** - Allows the operator to monitor the performance of the dryer by providing a digital dewpoint readout of the drying air.
- **Dewpoint control** - The dryer locks onto and tracks an operator-selected dewpoint level. This helps prevent overdrying of moisture sensitive materials such as Nylon. Location and season changes can drastically change the atmospheric dewpoint of the air used for drying. Dewpoint control is used to increase or decrease the regeneration temperature from 350°F {177°C} as needed depending on atmospheric conditions. This type of control saves energy costs and increases end-product quality. The Carousel Plus is the first dryer in the industry providing precise dewpoint control!

Options

- **Drying monitor** - Automatically monitors the temperature profile inside your drying hopper within a pre-set temperature band to protect you from over drying or under drying your material.
- **Communications** - Allows the dryer to be networked to industrial control systems. When a dryer is connected to a network the controller on the network may read actual temperatures, change setpoints, read dryer status, and process and display this information at a central location.



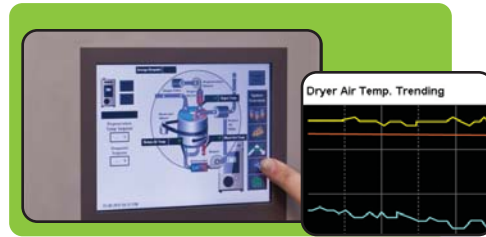
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Choose the control you need...DC-1 or TouchView™



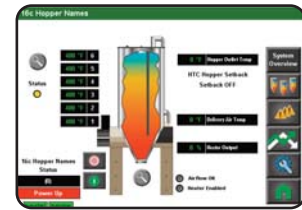
DC-1 CONTROL FEATURES

- Six character, seven segment LED display for high visibility of setpoint and actual operating parameters
- Full access to setup parameters and alarms through error codes
- Autostart count down timer
- Operator password protection
- English/Metric units
- Solid-state heater contactors with isolation protection
- Return air temperature display



DC-T CONTROL FEATURES

- 8-inch color touch screen
- Web-enabled
- Password protected (multiple level)
- English/Metric units
- Trending - air temperature and dewpoint
- Return air temperature display
- Real-time clock - time of day
- Date format selection
- Auto start
- Temperature setback
- Solid-state heater contactors with isolation protection
- Multiple hopper control



The optional DM3-e is the latest generation of technology created for analyzing drying performance from a multi-zone, resistance temperature detector (RTD) probe installed in the drying hopper. Embedded into the DC-T dryer control software, the optional DM3-e is designed to provide early detection of poor drying conditions and provide alarms for correcting problems. Up to 15 hoppers can be monitored.

RECOMMENDED THROUGHPUTS (60 Hz chart)*

MATERIAL	DRYING TEMP / °F {°C}	DRYING TIME / HR†	INITIAL MOISTURE %	BULK DENSITY‡	MODEL THROUGHPUT RATE§ / LB/HR			
					W150**	W200**	W300**	W400**
ABS	180-190 {82-88}	4	0.40	40	150	200	300	400
Acetal	180-230 {82-110}	4	0.60	40	113	149	225	300
Acrylic	170-180 {77-82}	4	0.30	40	173	233	347	465
Nylon	160-180 {71-82}	6	0.40	40	162	215	323	430
PBT	210-260 {99-127}	4	0.30	45	168	223	335	445
PC	250 {121}	4	0.30	40	155	208	313	416
PE (HD/LP) w/40% black	170 {77}	5	-	26-34	150	200	300	400
PET virgin bottle grade	300-350 {144-177}	6	0.30	50	150	200	300	400
PETG	140-150 {60-66}	6	0.30	50	162	215	323	430
Polysulfone	200-275 {93-135}	4	0.50	50	92	123	185	245
Polyurethane	180-210 {82-99}	4	0.50	40	105	140	210	280
SAN	160-180 {71-82}	2-4	0.30	45	188	250	375	500

Select the right dryer for your application

- 1 **Identify the resin and throughput rate.** Use the chart to quickly select the correct dryer model for your throughput rate.
- 2 **Multiply the suggested drying time by your throughput rate to determine the hopper size.** Refer to Conair drying hopper specifications, or contact a Conair representative to determine the correct hopper for your application.
- 3 **Select the dryer model and options to suit your application.** Carousel Plus models can be used for individual station or central drying applications.

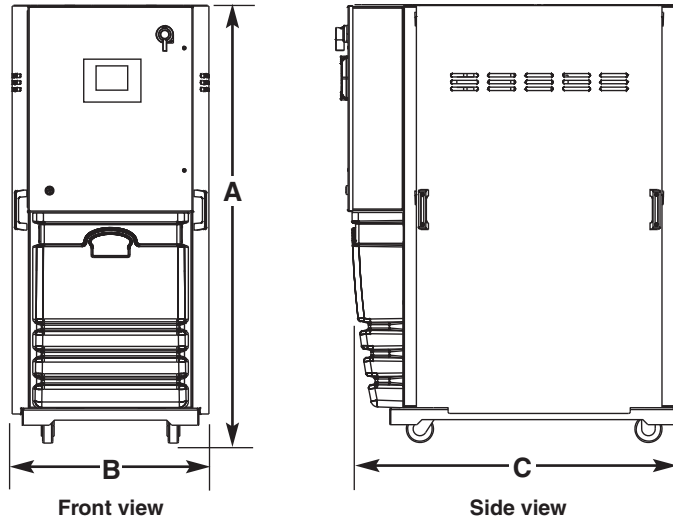
APPLICATION NOTES:

- * Material throughputs are based on typical virgin material with initial moisture content as supplied by the material suppliers. Consult Conair if specific initial and final moisture content of your material are known for your application.
- † The parameters of drying temperature and time may vary depending upon the type, grade and manufacturer of the material being processed. Consult your material supplier for their precise recommendations.
- ‡ Unit of measurement for bulk density is lb/ft³. Bulk density listed is the nominal weight for typical pellets. The bulk density may vary somewhat depending upon the size and shape of the pellets. The bulk density of regrind may vary widely depending upon the size and the shape of the flake. Be sure to consider the bulk density of the material when selecting and the drying time desired.
- § Throughputs will vary by type of material. For 50 Hz application, reduce rates by 17%. Consult Conair concerning throughputs for materials that are not listed.
- ** All Conair Dryers are equipped with an aftercooler as standard. The aftercooler reduces the temperature of the return air from the drying hopper, improving the efficiency of the desiccant. The aftercooler should be connected with the proper water flow rating and temperature to attain the listed throughput.



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SPECIFICATIONS



MODEL	W150	W200	W300	W400
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	64.3 {163.3}			
B - Overall width	29 {73.7}			
C - Depth	51.5 {130.8}			
Outlet/inlet tube size OD	2.5 {63.5}	5.0 {127.0}	5.0 {127.0}	5.0 {127.0}
Weight lbs {kg}				
Standard dryer installed	600 {272}	660 {300}	710 {322}	760 {345}
Voltage - Full load amps Standard/Central drying				
230 V/3 phase/60 Hz	47.1 / 16.7	57.6 / 19.9	67.7 / 30.0	N/A
400 V/3 phase/50 Hz*	23.4 / 8.9	32.1 / 10.4	37.9 / 16.2	64.5 / 21.1
460 V/3 phase/60 Hz	21.0 / 8.4	28.9 / 10.0	34.0 / 15.1	56.3 / 18.6
575 V/3 phase/60 Hz	16.8 / 6.7	23.7 / 8.6	27.3 / 12.2	43.2 / 13.0
Water requirements (for aftercooler or optional precooler)†				
Recommended temperature‡	45° - 85°F {7° - 29°C}			
Water flow gal./min. {liters/min.}	3 {11.4}			
Water connections NPT	3/4 inch NPT			

APPLICATION NOTES:

All dryers are supplied with an aftercooler as standard. The aftercooler reduces the temperature of the return air from the drying hopper, improving the efficiency of the desiccant. The aftercooler 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 Heater Pack mounted on the hopper and controlled from the dryer.

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.

SPECIFICATION NOTES:

* 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.

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

