WARNING - Reliance on this Manual Could Result in Severe Bodily Injury or Death!

This manual is out-of-date and is provided only for its technical information, data and capacities. Portions of this manual detailing procedures or precautions in the operation, inspection, maintenance and repair of the product forming the subject matter of this manual may be inadequate, inaccurate, and/or incomplete and cannot be used, followed, or relied upon. Contact Conair at info@conairgroup.com or 1-800-654-6661 for more current information, warnings, and materials about more recent product manuals containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.

User Guide

SC Carousel Dryer

Models 7.5 and 15, with PLC controls

Installation

Maintenance

Operation

Troubleshooting

Instant Access
Parts and Service
(800) 458-1960
(814) 437-6861

www.conairnet.com

The Conair Group, Inc.
One Conair Drive
Pittsburgh, PA 15202
Phone: (412) 312-6000
Fax: (412)-312-6001

UGD001/1196

Please record your equipment's model and serial number(s) and the date you receive it in the spaces provided.

It's a good idea to record the model and serial number(s) of your equipment and the date you received it in the User Guide. Our service department uses this information, along with the manual number, to provide help for the specific equipment you installed.

Please keep this User Guide and all manuals, engineering prints and parts lists together for documentation of your equipment.

Date:
Manual number: UGD001/1196
Serial number(s): ....
Model number(s): ....

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INTRODUCTION

PURPOSE OF THE USER GUIDE

This User Guide describes the Conair SC series of carousel dehumidifying dryers and explains step-by-step how to install, operate, maintain and repair this equipment.

Before installing this product, please take a few moments to read the User Guide and review the diagrams and safety information in the instruction packet. You also should review manuals covering associated equipment in your system. This review won't take long, and it could save you valuable installation and operating time later.

HOW THE GUIDE IS ORGANIZED

Symbols have been used to help organize the User Guide and call your attention to important information regarding safe installation and operation.

⚠ Symbols within triangles warn of conditions that could be hazardous to users or could damage equipment. Read and take precautions before proceeding.

1 Numbers within shaded squares indicate tasks or steps to be performed by the user.

◆ A diamond indicates the equipment's response to an action performed by the user.

❒ An open box marks items in a checklist.

● A shaded circle marks items in a list.

YOUR RESPONSIBILITY AS A USER

You must be familiar with all safety procedures concerning installation, operation and maintenance of this equipment. Responsible safety procedures include:

- Thorough review of this User Guide, paying particular attention to hazard warnings, appendices and related diagrams.
- Thorough review of the equipment itself, with careful attention to voltage sources, intended use and warning labels.
- Thorough review of instruction manuals for associated equipment.
- Step-by-step adherence to instructions outlined in this User Guide.

We design equipment with the user's safety in mind. You can avoid the potential hazards identified on this machine by following the procedures outlined below and elsewhere in the User Guide.

⚠ ATTENTION: READ THIS SO NO ONE GETS HURT

CAUTION: High voltage

This equipment is powered by three-phase main voltage. Always disconnect and lock out the main power source before servicing. To help you, we've equipped the dryer with a lockable, electrical disconnect device. You are responsible for developing a lockout procedure.

CAUTION: Hot Surfaces

Always protect yourself from hot surfaces inside the dryer and hopper. Also exercise caution around certain exterior surfaces that can reach temperatures of 180˚ to 200˚ F (82˚ to 93˚ C). These include the hopper door frame, the exterior of an uninsulated hopper, the return air hose and the dryer's process filter housing and moisture exhaust outlet.

WARNING: Do not place aerosol, compressed gas or flammable materials on or near this equipment.

The hot temperatures associated with the drying process may cause aerosols or other flammable materials placed on the dryer or hopper to explode.

How to Use the Lockout Device

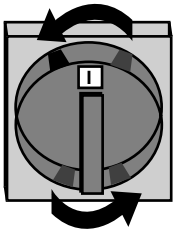
⚠ CAUTION: Before performing maintenance or repairs on this product, you should disconnect and lock out electrical power sources to prevent injury from unexpected energization or start-up. A lockable device has been provided to isolate this product from potentially hazardous electricity.

Lockout is the preferred method of isolating machines or equipment from energy sources. Your Conair product is equipped with the lockout device pictured below. To use the lockout device:

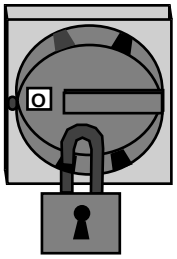
1. **Stop or turn off the equipment**.

2. **Isolate the equipment from electrical power.**

   Turn the rotary disconnect switch to Off, or O position.



3. **Secure the device with an assigned lock or tag.**



4. **The equipment is now locked out.**

⚠ WARNING: Before removing lockout devices and returning switches to the ON position, make sure that all personnel are clear of the machine, tools have been removed and all safety guards reinstalled.

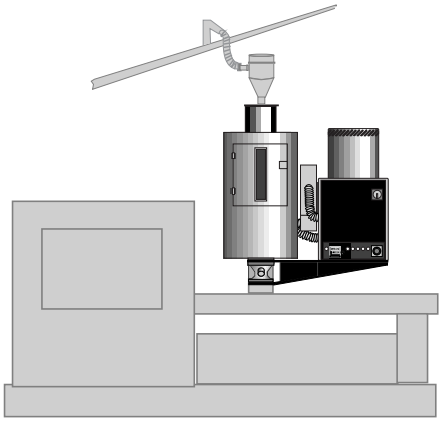
DESCRIPTION

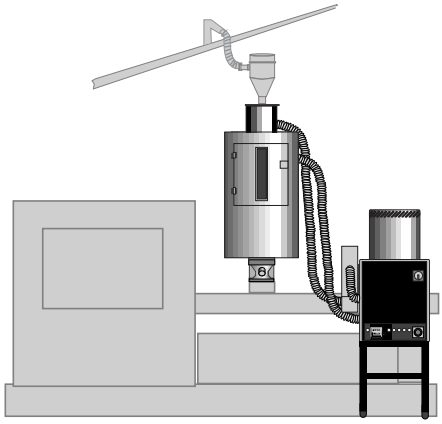
WHAT IS THE SC CAROUSEL DRYER?

The SC Carousel Dehumidifying Dryer produces hot, low-dew point air that removes moisture from hygroscopic plastics. The dryer pulls warm, moist air from a drying hopper and pumps it through dehumidifying desiccant. The dryer then heats the air to the drying temperature you selected and circulates it through the material in the hopper.

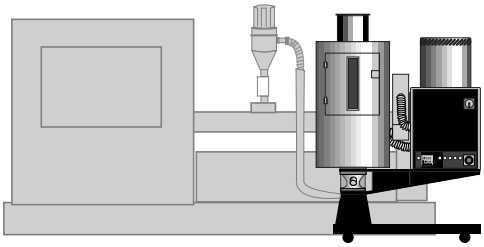
The dryer's three-tank, closed-loop design ensures a continuous supply of hot, dehumidified air while preventing contamination from moisture in the plant.

TYPICAL APPLICATIONS





The small SC dryer can be mounted beside the hopper on the throat of a processing machine, or on a floor stand. Two mobile floor stand designs are available.



The SC dryer can be used successfully in applications that require:

- A contamination-free drying environment.
- Drying temperatures of 150˚ to 375˚ F (66˚ to 191˚ C).
- Throughput rates of 15 to 28 pounds (6.8 to 12.7 kilograms) per hour.
- Dew points of -40˚ F (-40˚C).

If you are drying material at temperatures over 250˚ F (121˚C), you will need the high-temperature package that includes an aftercooler.

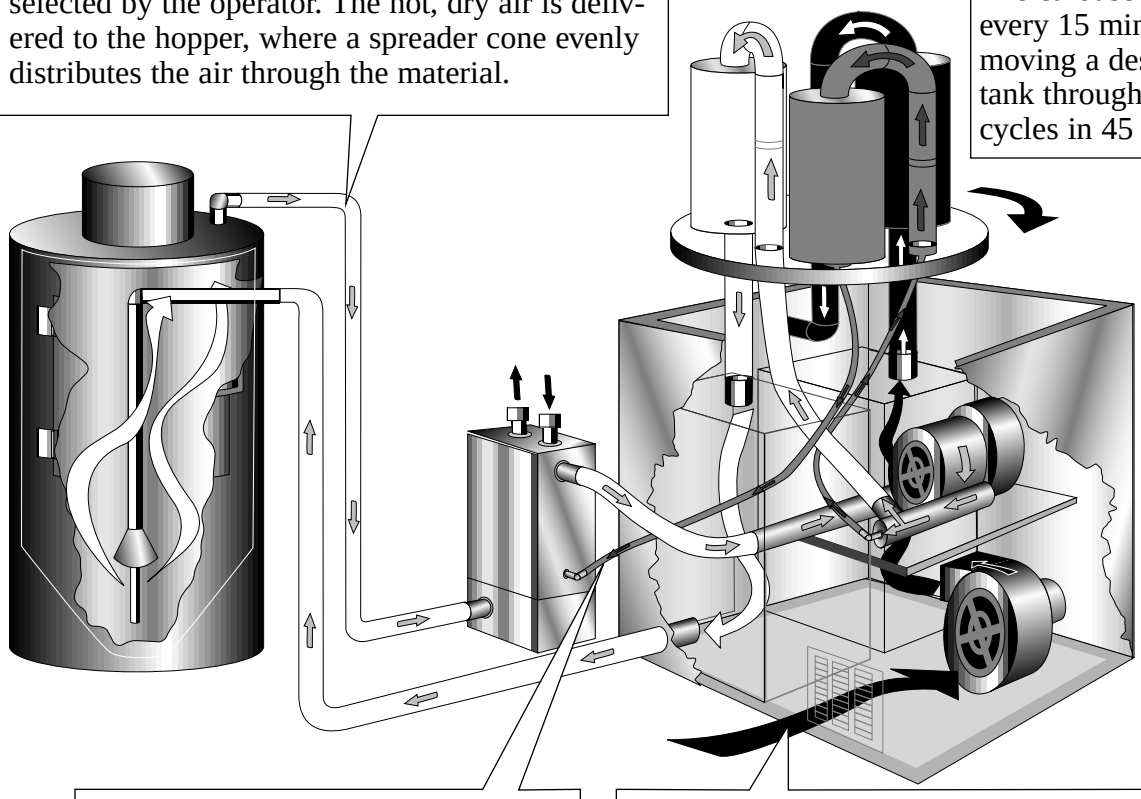
HOW IT WORKS

The SC Carousel Dryer achieves continuous, closed loop drying by passing air simultaneously through two heaters and three tanks of molecular sieve desiccant.

The Process (Drying) Cycle

The process blower pulls moist air from the top of the drying hopper. The air passes through the process filter and aftercooler into the dryer's desiccant tank, where moisture is removed. The now-dry air moves through the process heater, where it is heated to the drying temperature selected by the operator. The hot, dry air is delivered to the hopper, where a spreader cone evenly distributes the air through the material.

The Carousel
The carousel indexes every 15 minutes, moving a desiccant tank through three cycles in 45 minutes.



The Cooling Cycle

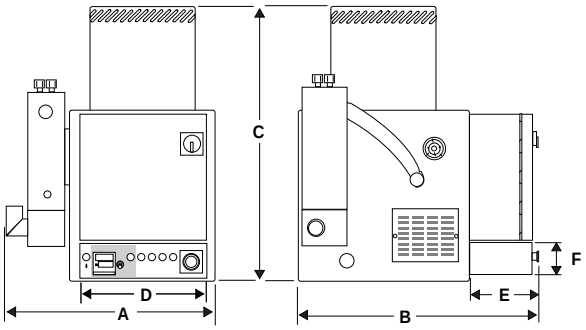
A regenerated desiccant tank must be cooled to the drying temperature range before it is moved back into the process cycle. The process blower pushes a small amount of air through the regenerated desiccant tank. The cooling air then passes through the aftercooler and repeats the circuit.

The Regeneration Cycle

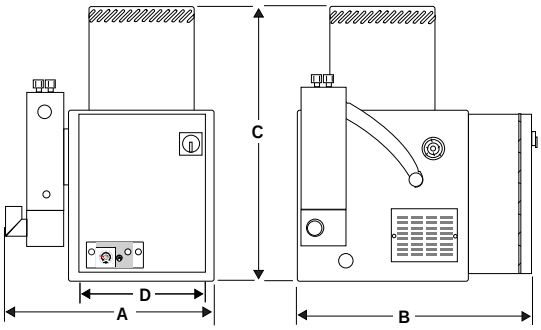
The regeneration blower pulls air through the regeneration filter into the dryer's regeneration heater. The air is heated to 425˚ F (218˚ C) before it is pushed into the "wet" desiccant tank. The hot air purges moisture from the desiccant. The moist air is blown out the exhaust at the back of the dryer.

SPECIFICATIONS: SC CAROUSEL DRYER

Standard model



Economy model



Model	SC7.5	SC15	SC30	SC60
Dimensions inches (cm)				
A	20.5 (54.6)	21.5 (54.6)	26.5 (67.3)	30.5 (77.5)
B	25 (63.5)	25 (63.5)	28.25 (71.8)	30.0 (76.2)
C	27.5 (69.9)	30.5 (77.5)	36.12 (91.7)	43 (109.2)
D*	12.25 (31.1)	12.25 (31.1)	14.25 (36.2)	14.25 (36.2)
E*	6.5 (15.2)	6.5 (15.2)	6.5 (16.5)	6.5 (16.5)
F*	3.5 (8.9)	3.5 (8.9)	3.5 (8.9)	3.5 (8.9)
Weight lbs (Kg)	125 (56.8)	140 (63.5)	185 (83.9)	240 (108.8)
Voltage / Total Amps				
208 V/3 phase/60 hz	11 A	10 A	15.2 A	25 A
240 V/3 phase/60 hz	9.6 A	8.7 A	13.2 A	24 A
380 V/3 phase/50 hz	5.6 A	5.5 A	8.2 A	14.7 A
415 V/3 phase/50 hz	5.4 A	5 A	7.5 A	14.0 A
480 V/3 phase/60 hz	4.0 A	4.3 A	6.7 A	12.8 A
575 V/3 phase/60 hz	4.3 A	3.7 A	5.9 A	10.7 A
Total Kilowatts	2.8 KW (159 BTU/Min)	3.7 KW (208 BTU/Min)	5.05 KW (287 BTU/Min)	9.1 KW (517 BTU/Min)
Air Flow ft^3/min. (m^3/min.)	7.5 (0.21)	15 (0.4)	30 (0.85)	60 (1.7)
Drying Temperature	ALL MODELS 150 -375˚F (66-191˚C)			
Dewpoint	ALL MODELS -40˚F (-40˚C)			

*Not applicable on economy models

SPECIFICATIONS: MAIN POWER SUPPLY WIRE

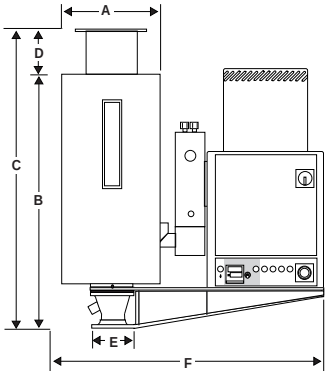
The main power wire must be:

- Grounded and secured with a strain relief.
- Correctly sized for the current drawn.

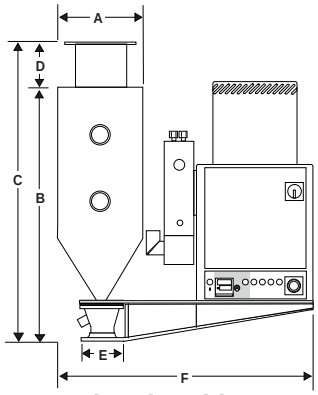
Allowable ampacities of Copper Conductors

U.S.A. 75˚C insulation 30˚C ambient air		Canada 90˚C insulation 40˚C ambient air		European Community 70˚C insulation; 40˚C ambient air	
Conductor Size AWG	**Maximum Full Load Amps**		**Ground wire Size AWG**	**Conductor Size mm^2**	**Maximum Full Load Amps**
14	15	13	14	2,5	16
12	20	17	12	4	23
10	30	27	10	6	29
8	43	47	10	10	40

NOTE: Local or regional electrical guidelines may have specifications that differ from the above national codes. You should comply with the codes for your area.



Insulated hopper



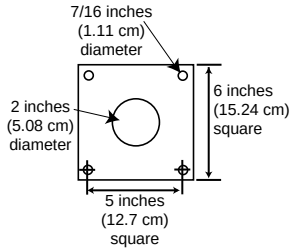
Uninsulated hopper

SPECIFICATIONS:

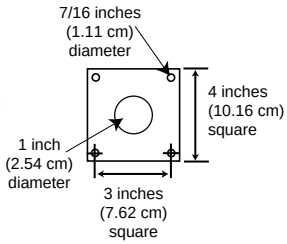
CH10 DRYING HOPPER

Model	CH10-1		CH10-1.5	
	Insulated	Uninsulated	Insulated	Uninsulated
Dimensions inches (CM)				
A	12.5 (31.8)	10 (25.4)	12.5 (31.8)	10 (25.4)
B	33.5 (85.1)	33.5 (85.1)	48 (121.9)	48 (121.9)
C	39.5 (100.3)	39.5 (100.3)	54 (137.2)	54 (137.2)
D (optional flange)	6 (15.2)	6 (15.2)	6 (15.2)	6 (15.2)
E	7.5 (19.1)	7.5 (19.1)	7.5 (19.1)	7.5 (19.1)
F	31 (78.7)	29.75 (75.6)	31 (78.7)	29.75 (75.6)
Hopper weight lbs (Kg)	40 (18.1)	25 (11.3)	50 (22.7)	35 (15.8)
Mounting frame weight	30 (13.6)	30 (13.6)	30 (13.6)	30 (13.6)
Volume Ft^3 (liters)	1 (28.3)	1 (28.3)	1.5 (42.5)	1.5 (42.5)

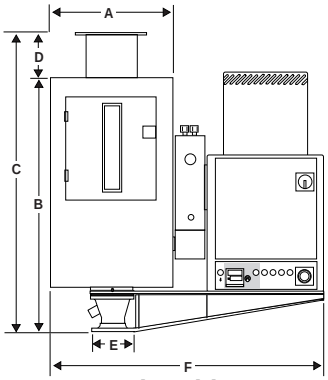
DISCHARGE ASSEMBLY



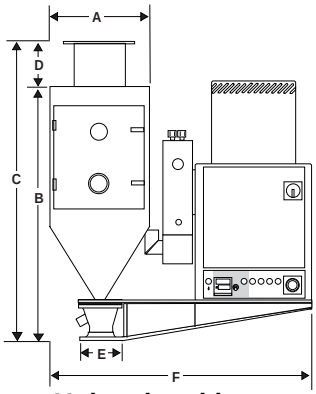
standard



optional



Insulated hopper



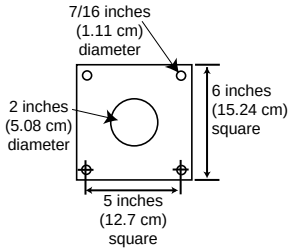
Uninsulated hopper

SPECIFICATIONS:

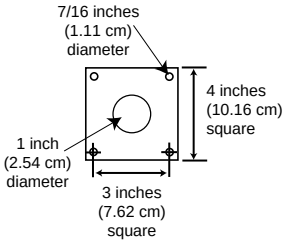
CH14 DRYING HOPPER

Model	CH14-2		CH14-3	
	Insulated	Uninsulated	Insulated	Uninsulated
Dimensions inches (CM)				
A	17 (43.2)	14 (35.6)	17 (43.2)	14 (35.6)
B	37 (94.0)	37 (94.0)	48 (121.9)	48 (121.9)
C	43 (109.2)	43 (109.2)	54 (137.2)	54 (137.2)
D	6 (15.2)	6 (15.2)	6 (15.2)	6 (15.2)
E	6.5 (16.5)	6.5 (16.5)	6.5 (16.5)	6.5 (16.5)
F	36.75 (93.4)	35.25 (89.5)	36.75 (93.4)	35.25 (89.5)
Hopper weight lbs (Kg)	70 (31.7)	40 (18.1)	80 (36.3)	50 (22.7)
Mounting frame weight	35 (15.9)	35 (15.9)	35 (15.9)	35 (15.9)
Volume Ft^3 (liters)	2 (56.6)	2 (56.6)	3 (85)	3 (85)

DISCHARGE ASSEMBLY



standard

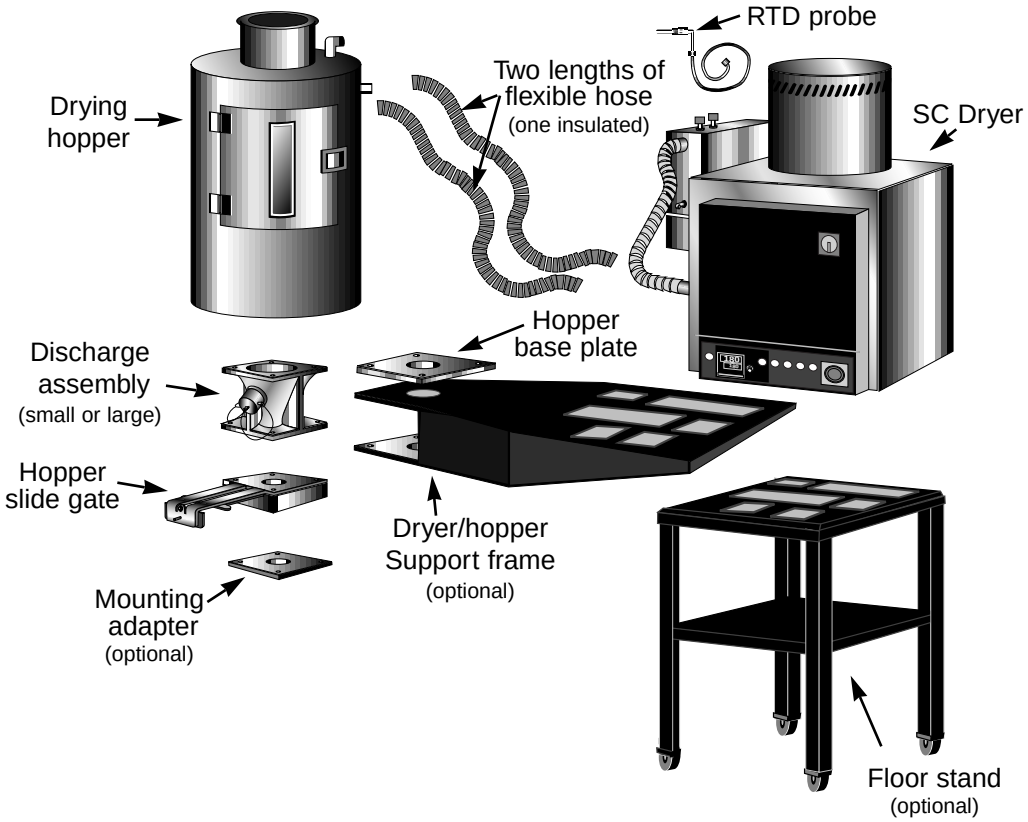


optional

INSTALLATION

UNPACKING THE BOXES

The SC carousel dryer comes in one to four boxes, depending on the models and options ordered. The boxes should include:



Mounting Hardware:

Floor stand option:

- ❒ *four 3/8-16 self-locking bolts*
- ❒ *four 3/8-16 bolts with lock washers*
- ❒ *three 1/4-20 self-locking bolts*
- ❒ *four hose clamps*

Support frame option:

- ❒ *eight 3/8-16 self-locking bolts*
- ❒ *three 1/4-20 self-locking bolts*
- ❒ *four 3/8-16 countersunk bolts*
- ❒ *four hose clamps*

NOTE: *You must mount the dryer on a floor stand, If your processing machine throat opening is 1 inch (2.54 cm) diameter or smaller and requires a 3x3 inch (7.6x7.6 cm) or smaller bolt pattern.*

1 **Carefully remove the dryer and components** from their shipping containers, and set upright.

2 **Remove all packing material,** protective paper, tape and plastic.

3 **Carefully inspect all components** to make sure no damage occurred during shipping, and that you have all the necessary hardware.

4 **Take a moment to record serial numbers** and electrical power specifications in the blanks provided on the back of the the User Guide's title page. The information will be helpful if you ever need service or parts.

5 **You are now ready to begin installation.**
Follow the preparation steps on the next page, then choose one of the three mounting options:

- Dryer and hopper on a mobile floor stand. (Go to page 3-8 after completing first preparation step.)
- Dryer and hopper on the processing machine throat.
- Dryer on a floor stand; hopper on the throat.

PREPARING FOR INSTALLATION

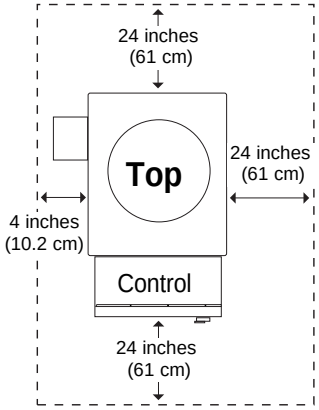
The SC Dryer is easy to install, if you plan the location and prepare the mounting area properly.

1 Make sure the mounting area provides:

❒ **A grounded, three-phase power source supplying the correct current** for your dryer model. Check the dryer's serial tag for the correct amps, voltage and cycles. Field wiring should be completed by qualified personnel to the planned location for the dryer. All electrical wiring should comply with your region's electrical codes.

❒ **A source of water, if you have an aftercooler.** The SC dryer's optional aftercooler can use tower, city or chiller water with temperatures up to 90˚ F (32˚ C). Pipe should be run to the planned dryer location. Use flexible hose to connect the water pipes to the aftercooler.

❒ **Minimum clearance for safe operation and maintenance.** We recommend at least 25 inches (63.5 cm) clearance above the dryer for removing the carousel housing. You should maintain 24 inches (61 cm) clearance on at least three sides of the dryer. If the dryer is mounted with a hopper on a processing machine throat, clearance between the dryer and hopper can be 4 inches (10.2 cm).

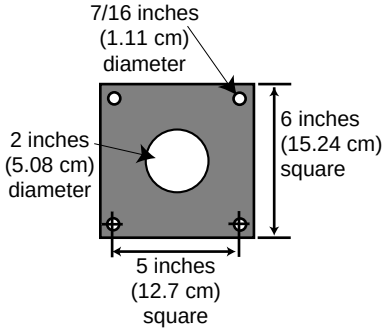


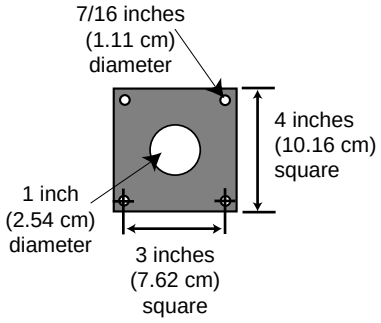
❒ **A mounting surface that will support the weight** of the dryer, support frame and a fully-loaded hopper, or just the fully-loaded hopper. See the specifications tables for weights and volumes.

❒ **Material and conveying lines installed.** If you plan to use vacuum or compressed air loaders to fill the hopper, install conveying lines to the drying hopper location.

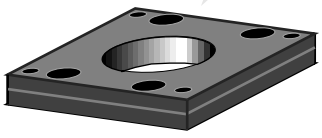
2 Drill and tap mounting holes or make adapter.

Available discharge assemblies and slide gates fit mounting surfaces with these bolt patterns and diameters:





If your mounting surface does not match the standard bolt patterns available, you will need an adapter. You can make an adapter using the dimensions provided or purchase one from Conair.

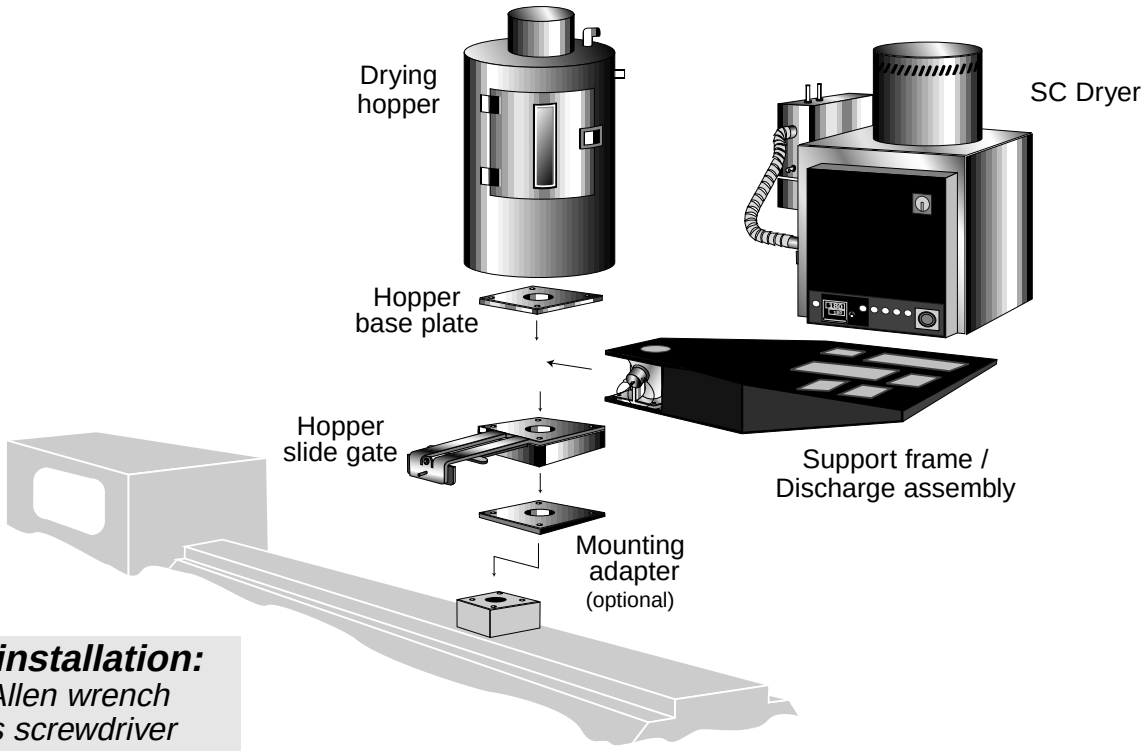


MOUNTING DRYER AND HOPPER ON A PROCESSING MACHINE

⚠ WARNING: You are responsible for the structural integrity of this installation.

We recommend that you:

- **Use bolts no smaller than 3/8 inch (M 10) when mounting the hopper/dryer combination to the throat of a processing machine.**
- **Do not mount the hopper/dryer combination on a plate that swings away or slides away from the processing machine throat. Either remove the swing or slide plate, or mount the dryer on a floor stand.**



Tools for installation:

- ❒ *5/32" Allen wrench*
- ❒ *Phillips screwdriver*
- ❒ *Flathead screwdriver*
- ❒ *9/16" and 3/8" wrench*
- ❒ *Hoist and strap*

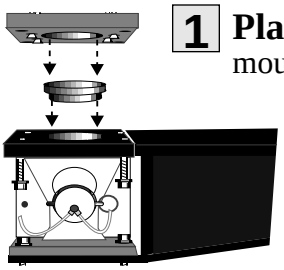
NOTE: *You must mount the dryer on a floor stand, If your processing machine throat requires the small discharge assembly or a mounting plate with less than a 3x3 inch (7.6x7.6 cm) bolt pattern and 1-inch (2.54 cm) diameter opening.*

The dryer and hopper mounts on a special bracket that bolts to the throat of the processing machine, as pictured above.

⚠ CAUTION: To prevent accident and injury, lift the empty hopper onto the throat of the processing machine using a hoist and the lifting lugs provided. After the hopper is mounted, then lift the dryer onto the support frame using a hoist and strap.

MOUNTING DRYER AND HOPPER ON A PROCESSING MACHINE

Remove the hopper base plate and bolts from the bag attached to the mounting bracket/ discharge assembly.

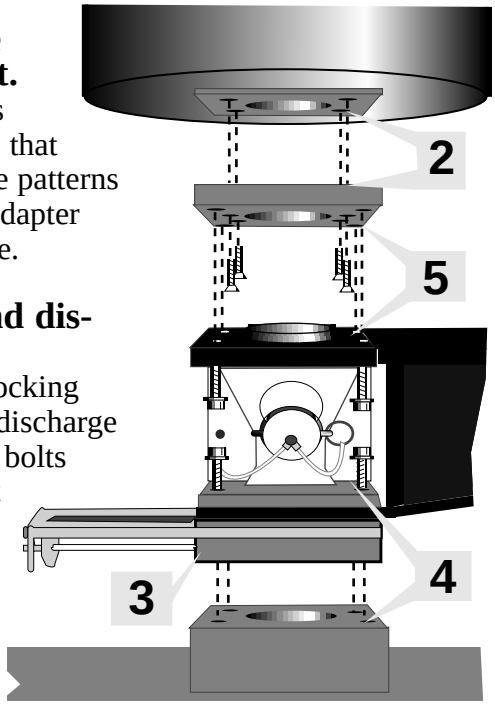


1 **Place the aluminum ring** on the mounting bracket / discharge assembly.

2 **Bolt the base plate to the hopper bottom.**
Use the four 3/8-16 countersunk bolts provided.

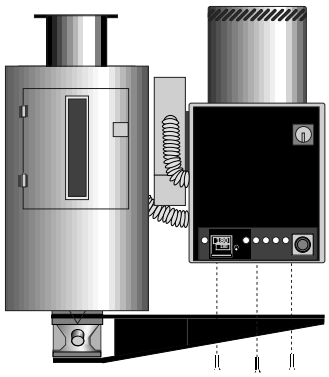
3 **Place the slide gate on the processing machine throat.**
Position the slide gate so that its bolt holes line up with the holes that were drilled in the throat. If hole patterns do not match, bolt a mounting adapter between the throat and slide gate.

4 **Bolt the support frame and discharge to the throat.**
Using four 3/8-16 (M 10) self-locking bolts, fasten the support frame, discharge and slide gate to the throat. The bolts must be long enough to reach at least 1/2 inch (1.25 cm) into the mounting adapter or processing machine throat after passing through the discharge assembly, support frame and slide gate.



5 **Lift and bolt the hopper to the support frame and discharge assembly.**
Lift the hopper with a hoist, using the lug nuts provided. Align the bolt holes and fasten, using the four 3/8-16 self-locking bolts provided.

6 **Lift the dryer onto the support frame.**
Lift using a hoist and strap. Align the three bolt holes on the bottom of the dryer with the three bolt holes on the top of the support frame. Make sure the acorn nuts on the bottom of the dryer fit in the holes on the support form. Fasten the dryer to the frame with 1/4-20 bolts.



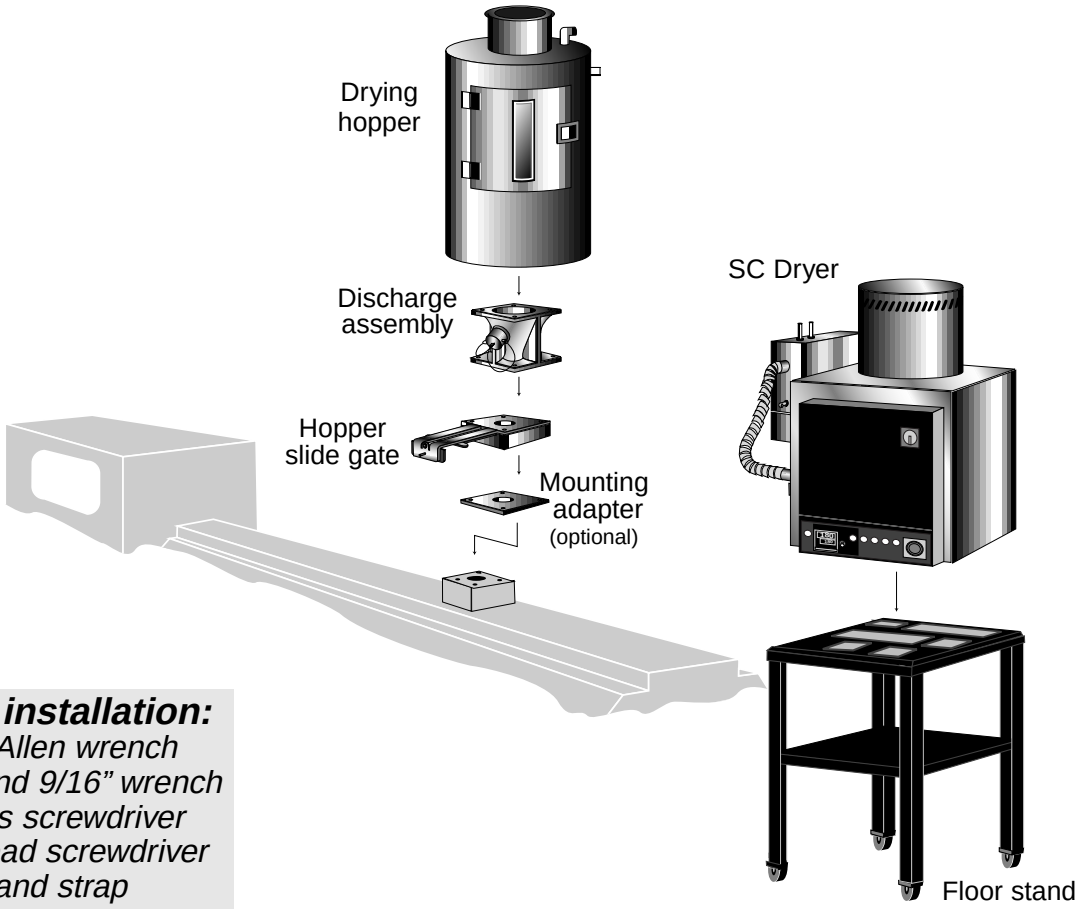
NOTE: *You may position the drain port and slide gate to face the direction that best suits your maintenance and operation routines. The slide gate also can be mounted between the hopper and discharge assembly. See "Slide Gate Mounting Options" in the Appendix.*

MOUNTING THE DRYER ON A FLOOR STAND; HOPPER ON THE THROAT

⚠ WARNING: You are responsible for the structural integrity of this installation.

We recommend that you:

- **Use bolts no smaller than 3/8 inch (M 10) to mount the hopper on the throat of a processing machine.**



Tools for installation:

- ❒ *5/32" Allen wrench*
- ❒ *3/8" and 9/16" wrench*
- ❒ *Phillips screwdriver*
- ❒ *Flathead screwdriver*
- ❒ *Hoist and strap*

The hopper bolts to the throat of the processing machine, as pictured above. The dryer bolts to a mobile floor stand.

⚠ CAUTION: To prevent accident and injury, lift the empty hopper onto the throat of the processing machine using a hoist and the lifting lugs provided. Lift the dryer onto the floor stand using a hoist and strap.

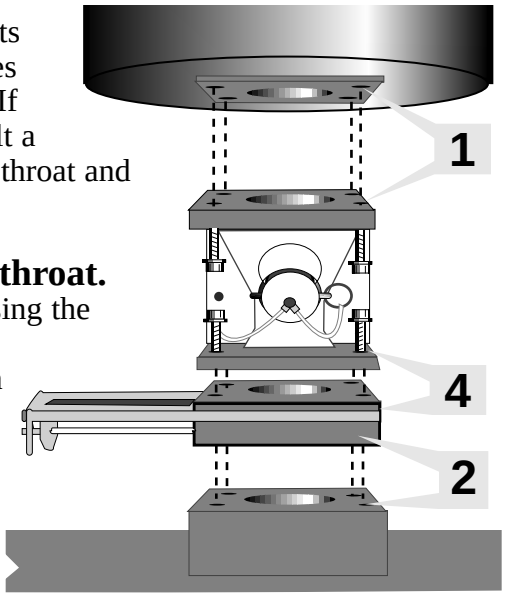
MOUNTING THE HOPPER

You need to assemble the hopper and discharge before mounting the hopper on the throat of the processing machine.

1 Bolt the discharge to the hopper bottom.
Use the four 3/8-16 bolts with lock washers provided.

2 Place the slide gate on the throat of the processing machine.
Position the slide gate so that its bolt holes line up with the holes that were drilled in the throat. If hole patterns do not match, bolt a mounting adapter between the throat and slide gate.

3 Lift the hopper onto the throat.
Lift the hopper with a hoist, using the lifting lugs provided. Make sure you align the bolt holes in the throat with the bolt holes on the slide gate and discharge assembly.



NOTE: *You may position the drain port and slide gate to face the direction that best suits your maintenance and operation routines. The slide gate also can be mounted between the hopper and discharge assembly. See "Slide Gate Mounting Options" in the Appendix.*

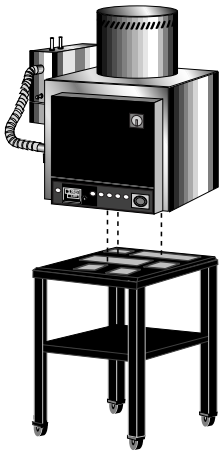
4 Bolt the hopper to the throat of the machine.
Using four 3/8-16 (M 10) self-locking bolts, fasten the support frame, discharge and slide gate to the throat. The bolts must be long enough to reach at least 1/2 inch (1.25 cm) into the mounting adapter or processing machine throat, after passing through the discharge and slide gate.

MOUNTING THE DRYER

1 Lift the dryer onto the floor stand, and bolt.
Lift using a hoist and strap.

2 Align the three bolt holes
on the bottom of the dryer with the three bolts holes on the top of the floor stand.

3 Bolt the dryer to the stand
using the three 1/4-20 bolts provided.

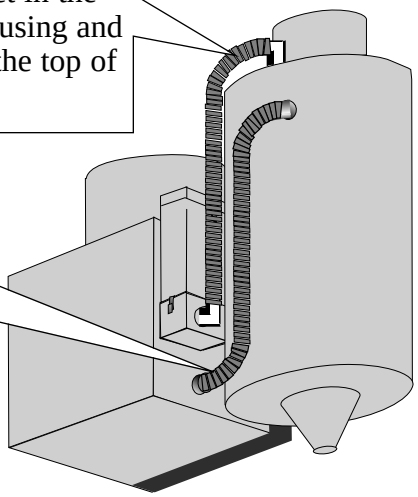


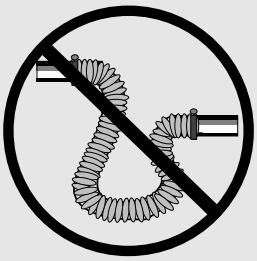
CONNECTING AIR HOSES

Using the two flexible hoses provided, connect the inlets and outlets of the drying hopper to the dryer. If you have mounted the dryer on a floor stand, make sure the dryer is located no more than 5 feet (1.5 m) from the hopper to reduce heat loss.

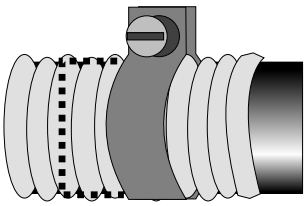
1 **Attach the 2 1/2-inch (6.4 cm) hose** to the return air inlet in the base of the aftercooler housing and to the return air outlet at the top of the hopper.

2 **Attach the 2-inch (5.1 cm) insulated hose** to the delivery air outlet in the base of the dryer and to the hopper's delivery air inlet.





NOTE: *Do not allow the flexible hoses to kink or crimp.*

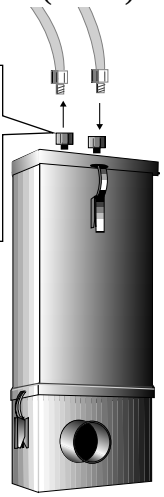


3 **Secure hoses with clamps.** The hose clamp should be secured at least 1/4 inch (.64 cm) from the end of the inlet or outlet tube.

CONNECTING WATER HOSES

The optional aftercooler requires a source of cooling water and a discharge or return line. The water source should provide 3 gallons (11.36 liters) per minute at temperatures up to 90˚ F (32˚ C).

1/2 inch NPT female couplings. If a manual shut off valve is used, it should be mounted on the inlet line.



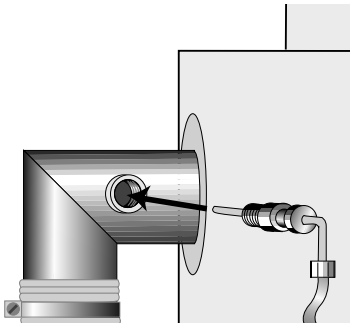
1 **Connect the cooler inlet to the water source.**

2 **Connect the cooler outlet to a discharge or return line.**

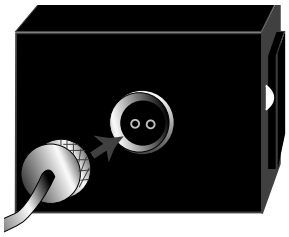
TIP: *Make the connections with flexible hose at least 14 inches (35.5 cm) long. This allows you to easily remove the cooler coils for cleaning.*

CONNECTING THE RTD PROBE

The RTD probe monitors the temperature of the drying air as it enters the hopper. If the probe is not installed correctly, temperature readings will be inaccurate.



1 **Insert the probe in the delivery air inlet** at the top of the hopper. The end of the probe must not touch the walls of the inlet. Tighten the nuts to lock the probe in place.

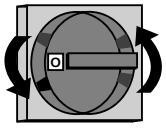


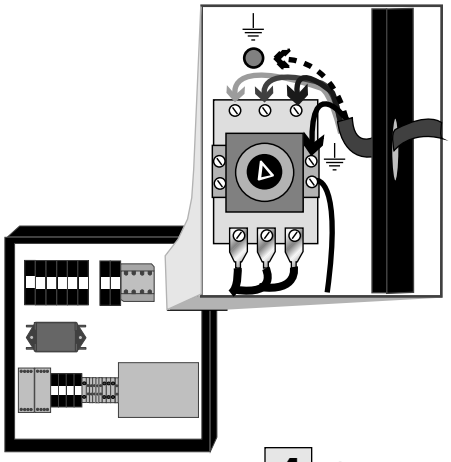
2 **Plug the probe's cable into the dryer control** box. Coil any excess cable and secure with a wire tie.

CONNECTING THE MAIN POWER

CAUTION: Always disconnect and lock out the main power sources before making electrical connections. Electrical connections should be made only by qualified personnel.

1 **Open the dryer's electrical enclosure.** Turn the disconnect dial on the dryer door to the Off position. Lock out the main power. Turn the captive screw, and swing the door open.





2 **Insert the main power wire** through the knockout in the side of the enclosure. Secure the wire with a rubber compression fitting or strain relief.

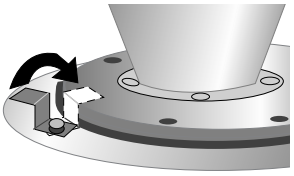
3 **Connect the power wires** to the three terminals at the top of the disconnect holder.

4 **Connect the ground wire** to either grounding point shown in the diagram.

IMPORTANT: *Always refer to the wiring diagrams that came with your dryer before making electrical connections. The diagrams show the minimum size main power cable required for your dryer, and the most accurate electrical component information.*

MOUNTING A LOADER ON THE HOPPER

If you have a Conair loader or vacuum receiver, you can use the flange and mounting clips provided on the top of the hopper. Refer to the manuals that came with your receiver or loader for detailed installation instructions.

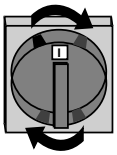


TESTING THE INSTALLATION

You have completed the installation. Now it's time to make sure everything works. You should perform this test with no material in the hopper.

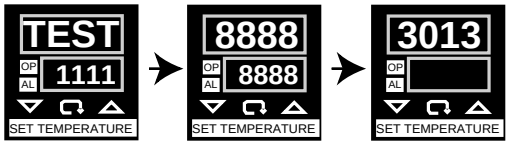
1 **Make sure there is no material in the hopper.**
If you have mounted a loader or vacuum receiver on the hopper, disconnect the material inlet hose at the source.

2 **Turn on the main power to the dryer.**
Make sure the dryer's disconnect dial and Emergency Stop button are in the on position.



If everything is installed correctly:

- The dryer control's white power-on light turns on.
- The temperature controller display turns on.
- Temperature controller runs a self-diagnostic test. The following sequence will display briefly:



3 **Set the drying temperature.**
Press the up or down arrow on the temperature controller until the setpoint temperature you want appears in the lower display.

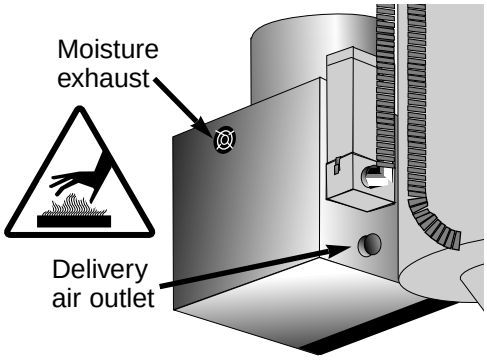
4 **Flip the toggle switch to START.**

If everything is installed correctly:

- The green drying light turns on.
- The process and regeneration blowers turn on.
- The process and regeneration heaters turn on.
- If the desiccant tanks aren't in their correct position, the carousel will turn clockwise and stop in the correct position.

5 Check for proper air flow.

Remove the delivery air hose on the dryer. Hold your hand near the outlet with the dryer on. You should feel air blowing out of the dryer.



6 Flip the toggle switch to STOP to turn off the dryer.

If everything is installed correctly:

- The green drying light stays on for two minutes.
- The blowers continue running for two minutes to cool the heaters.

7 The test is over.

If the dryer performed the normal operating sequences as outlined, you can begin operation. If it did not, refer to the troubleshooting section of the User Guide.

OPERATION

The Dryer Control Panel

You operate the SC Carousel Dryer from the dryer's control panel. The control panel may have been mounted in a remote location.

Alarm Lights

These four lights can help you diagnose problems. The Troubleshooting section describes their functions. NOTE: The air flow light should turn on briefly each time the carousel rotates.

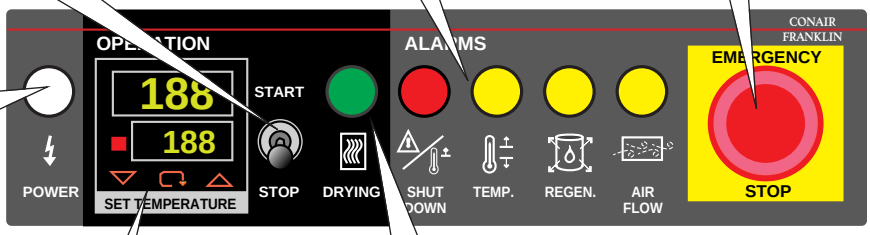
Start/Stop Toggle Switch

Emergency Stop Button

Push to turn off the dryer during an emergency. Pull to restore power before restarting.

Power On

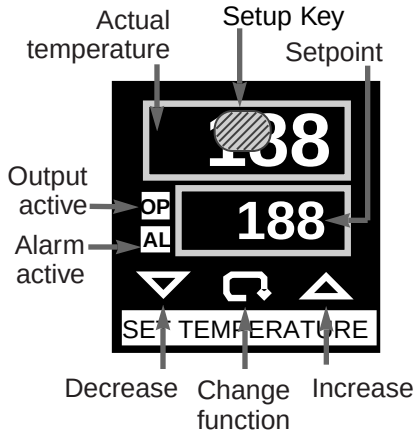
This light indicates the control panel is receiving power. The light remains on even when the Emergency Stop button has been activated.



Drying Light

This light is on when the dryer is operating.

Temperature Controller



Message Displays

Message	What it means	Message	What it means
TEST / 1111	Self-test activated	SnSr / FAIL	RTD sensor failed or is loose
8888 / 8888	Self-test working	- - - - / LP.br	Air temperature not reaching setpoint
- - - - / AL.SP	Alarm setpoint	- - - - / SET	Standby mode. The message will blink from SET to OFF.

---- is actual temperature

- **To light the buttons:** Touch any button on the temperature controller.
- **To modify setpoint:** Press ▲ and ▼.
- **To change the process air temperature alarm band:** Press ↻ until you see **AL.SP** in the setpoint display. Press ▲ or ▼ to modify.

  NOTE: The alarm band is factory set at ± 20˚ F (± 11˚ C). Do not set the alarm band lower than ± 5˚ F (± 3˚ C).

- **To change from ˚F to ˚C:** Cycle power OFF and ON. After the 4-digit configuration code (3013 or 3017) appears, press the Setup Key. The first digit of the code should blink. Press ▼ until the fourth digit blinks. Press ▲ to change the fourth digit to **7 for ˚C** or **3 for ˚F**.

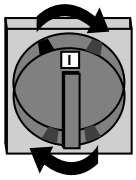
  WARNING: Change only the fourth digit. The configuration code must be 3013 for ˚F drying or 3017 for ˚C drying. Changing other digits in the code will harm dryer operation.

  Press the Setup Key to save the change and exit. Press ↻ to exit without saving changes.

TO START DRYING

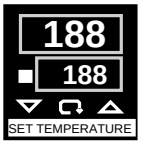
1 Verify there is material in the hopper.

2 Turn on main power to the dryer.



- ◆ The white power light turns on.
- ◆ Temperature display turns on.
- ◆ Temperature controller performs self-diagnostic testing.

3 Set the drying temperature.



Press the up or down arrow on the temperature controller until the setpoint temperature you want appears in the lower display.

4 Flip the toggle switch to START.

- ◆ The green drying light turns on.
- ◆ Both blowers turn on.
- ◆ Heaters turn on.
- ◆ If the desiccant tanks aren't in their correct position, the carousel will turn to the correct position.
- ◆ The yellow air flow alarm light will turn on each time the desiccant carousel indexes correctly.

NOTE: The drying light will not turn on if the Emergency Stop button is pushed in. Make sure the stop button is pulled out before starting the dryer.

TO STOP DRYING

1 Flip the toggle switch to STOP.

- ◆ The drying light stays on and the blowers continue running for two minutes to cool the heaters.

IMPORTANT: Do **not** use the Emergency Stop button to stop the dryer unless it is an emergency. Using the Emergency Stop button during normal operation prevents cooling of the heaters and could damage your dryer. Using the Emergency Stop button to stop the dryer also can trigger the Shut Down/High Temperature alarm during your next drying cycle.

MAINTENANCE

PREVENTATIVE MAINTENANCE CHECKLIST

Routine maintenance will ensure optimum operation and performance of the SC Carousel Dryer. We recommend the following maintenance schedule and tasks.

● Whenever you change materials

❒ **Drain and clean the hopper.**

● Weekly, or as often as needed

❒ **Clean the process and regeneration filters.**
You may need to clean filters more often than weekly. Frequency depends on how much material you process and how dusty or full of fines it is.

❒ **Clean the return air screen in the hopper.**
Cleaning frequency depends on how much material you process and how dusty or full of fines it is.

❒ **Inspect hoses and hose connections.**
Check for damage, kinks or loose hose clamps. Replace any hoses that show signs of damage or wear. Reposition and tighten loose hose clamps.

● Monthly

❒ **Clean the aftercooler coils.**
You may need to clean the coils more often than monthly. Frequency will depend on the type and volume of material you process.

● Every six months

❒ **Inspect gaskets for damage or wear.**
Damaged gaskets can allow moisture to seep into the closed-loop drying system. Replace any gasket that is torn or cracked.

CLEANING THE HOPPER

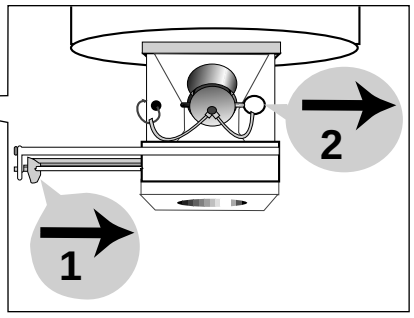
CAUTION: Hot surfaces.
Always protect yourself from hot surfaces inside and outside the dryer and drying hopper.

The hopper, spreader cone and discharge assembly should be cleaned thoroughly between material changes to prevent resin contamination.

Place a container beneath the hopper's drain port to catch the material.

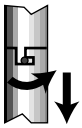
1 **Close the hopper slide gate.**

2 **Remove the drain-port plug.**
Pull the pin and allow the plug to drop.



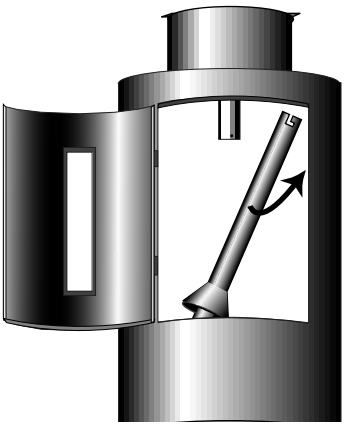
3 **After draining material, open the hopper door.**
You must lift the safety catch below the sight glass on the hopper door before pulling the door handle open.

4 **Remove the spreader cone.** Reach into the hopper. Grasp the spreader cone tube, lift up slightly, twist and then push down to release it. Tilt the cone assembly and pull it out through the hopper door.



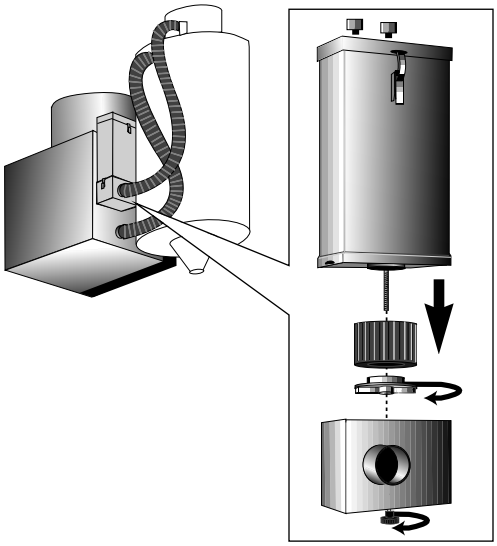
5 **Clean the spreader cone and the inside of the hopper.**

6 **Repeat the steps in reverse order** to reassemble the hopper before adding material.



CLEANING THE PROCESS FILTER

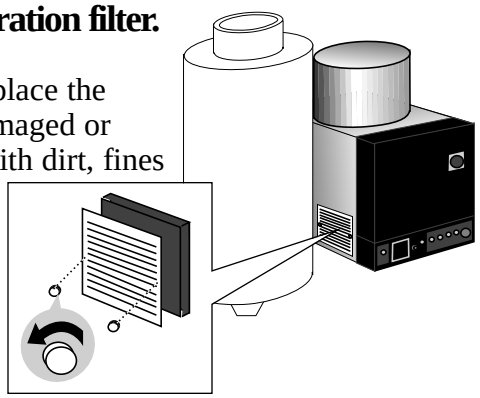
Clogged filters reduce air flow and dryer efficiency. Cleaning frequency depends on how much material you process and how dusty it is.



1. **Loosen the knob** below the process filter box and remove the box.
2. **Clean the filter box.**
3. **Remove the filter** by turning the metal end cap. Clean the filter. If the filter is worn, damaged or clogged, replace it.
4. **Reassemble** by repeating the steps in reverse order.

CLEANING THE REGENERATION FILTER

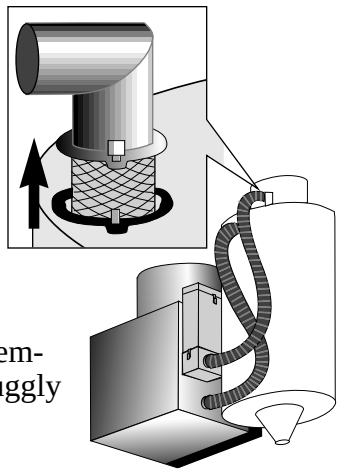
1. **Remove the regeneration filter.**
2. **Clean the filter.** Replace the filter if it is worn, damaged or hopelessly clogged with dirt, fines or dust.
3. **Reassemble** by repeating the steps in reverse order.



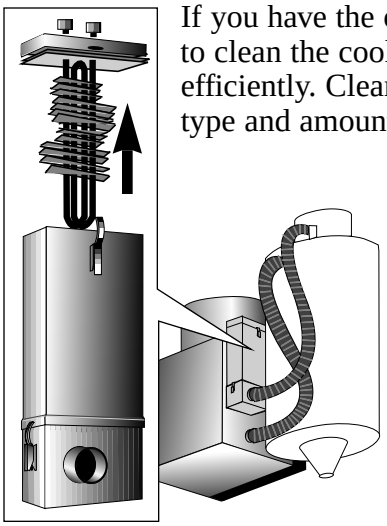
CLEANING THE RETURN AIR SCREEN

A screen in the return air outlet of the hopper prevents material from being drawn into the dryer. This screen may need to be cleaned.

1. **Loosen the fasteners** at the base of the return air outlet.
2. **Pull the screen and outlet up** out of the hopper.
3. **Clean the screen,** then reassemble. Make sure the outlet fits snuggly over the gasket in the hopper.



CLEANING THE AFTERCOOLER COILS



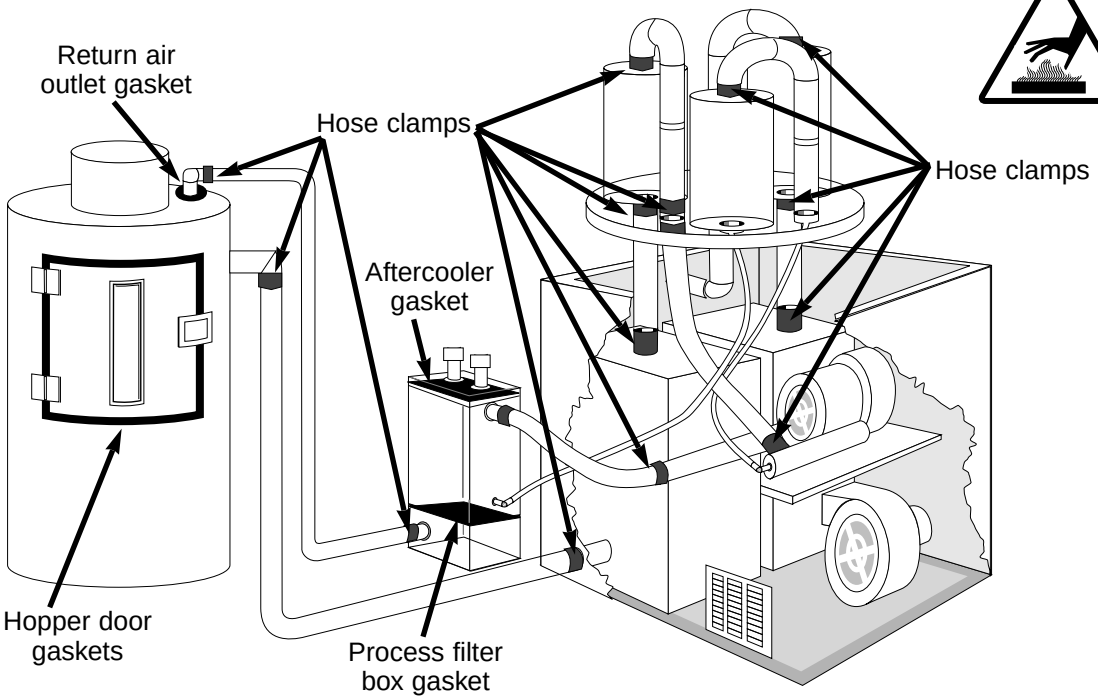
If you have the optional aftercooler, you need to clean the cooling coils to keep them working efficiently. Cleaning frequency depends on the type and amount of material you process.

1. **Release the latches** at the top of the aftercooler.
2. **Pull the coils out** of the aftercooler housing.
3. **Clean the coils** with high-pressure steam, then reassemble.

INSPECT HOSES AND GASKETS

Loose or damaged hoses and gaskets can allow moisture to seep into the closed-loop drying system.

1. **Tighten any loose hose clamps.**
2. **Replace worn or damaged hoses and gaskets.**



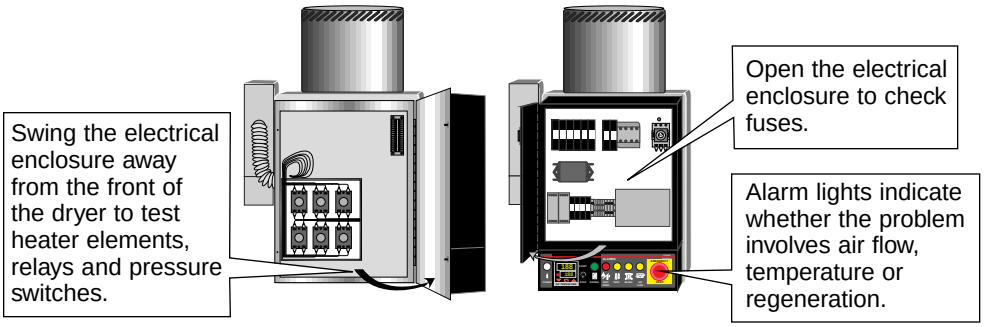
TROUBLESHOOTING

BEFORE BEGINNING

You can avoid most problems by following the recommended installation and maintenance procedures outlined in this User Guide. If you do have a problem, this section will help you determine what caused it and how to fix it.

Before you start pulling side panels off the dryer:

❑ **Diagnose causes from the front of the dryer.**
You can locate any problem from the front of the dryer.



❑ **Find the wiring and equipment diagrams that were shipped with your dryer.** These diagrams are the best reference for correcting a problem. The diagrams also will note any custom features, such as special wiring or alarm capabilities, not covered in this User Guide.

A FEW WORDS OF CAUTION

The standard SC Carousel Dryer is equipped with numerous safety devices. Do not remove or defeat them. Improper corrective action can lead to hazardous conditions and should never be attempted to sustain production

WARNING: Only qualified service personnel should examine and correct problems that require opening the dryer's electrical enclosure or using electrical wires to diagnose the cause.

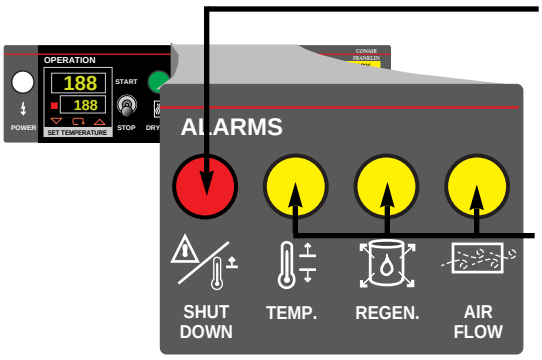
CAUTION: High voltage.
Always turn off the SC Carousel dryer, disconnect and lock out the main power source before troubleshooting or performing repairs.

CAUTION: Hot surfaces.
Always protect yourself from hot surfaces inside and outside of the dryer and hopper.

UNDERSTANDING THE ALARM LIGHTS

The alarm lights on the SC dryer control panel are associated with the temperature, regeneration and air flow circuits in the dryer.

A problem can trigger two types of alarms:



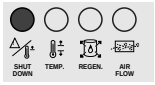
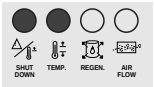
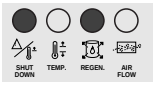
- **Shut Down (red):** The dryer has automatically shut down because it detected a serious problem that could damage your material or facility.
- **Passive (yellow):** The dryer continues to operate, but warns of a problem that could prevent correct drying of your material. If ignored, this problem could lead to a shut-down condition.

The lights also can indicate multiple alarms.

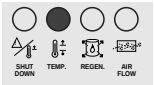
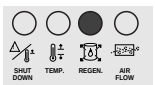
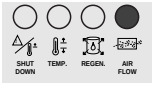
When more than one yellow light is on or blinking, more than one alarm condition occurred. The multiple alarms may indicate problems that occurred at the same time, or a problem that caused another problem to develop.

If this light is on:

Shut down alarms

A		Sensors near the process or regeneration heaters detected abnormally high temperature (solid light) or no air flow (blinking light).
B		Temperatures in the process, or drying air, circuit are above or below the setpoint alarm band.
C		The desiccant tank carousel did not rotate or index correctly.

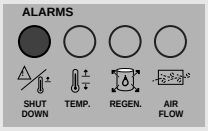
Passive alarms

D		Air returning from the hopper is too hot for desiccant to work at capacity. Dew point will suffer. (blinking light)
E		Temperature sensors indicate the desiccant did not get hot enough to regenerate. (blinking light)
F		Pressure switches indicate reduced air flow, probably caused by clogged filters or damaged hoses. (solid light)

SHUT DOWN ALARMS

When the red Shut Down alarm lights, the dryer has detected a problem or combination of problems that could damage your plant or materials. When a malfunction triggers a Shut Down alarm:

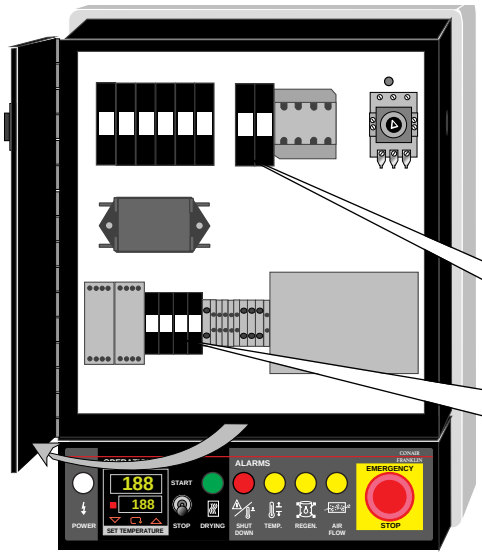
- The dryer automatically shuts off.
- The alarm light turns on or blinks on and off.
- The temperature controller enters standby mode.
- The power light remains on.

Alarm	Possible cause	Solution
A  **Solid light:** The dryer shut down because excessive heat was detected in the process or regeneration heater box.	**Was there a loss of power or improper shut down using the Emergency Stop button?**	Flip the toggle switch to STOP, and then to START. The power interruption prevented the heaters from cooling down after normal operation. This may have triggered a high-temperature alarm.
	Was there an electrical short in a heater relay?	Disconnect power. Check continuity of the process and regeneration heater relay outputs. **See Checking Switches and Heater Relays.**
Blinking light: The dryer shut down because pressure switches detected no air flow coming from the process or regeneration blower.	**Did the regeneration or process blower fail, causing the air flow pressure switches to close?**	❒ Disconnect power. Check the blower fuses, and replace if needed. See Replacing Fuses. ❒ Check motor current against voltage and amp rating on the motor nameplate. If currents, do not match, make sure the transformer is wired correctly. If the transformer is wired correctly, replace the blower.
WARNING: Only qualified electrical service personnel should examine and correct problems that require opening the dryer's electrical enclosure or checking electrical current to diagnose the cause of a problem.	**Did an air flow pressure switch fail?**	Disconnect power. Check the continuity of the pressure switches. **See Checking Switches and Heater Relays.**
	Are the air lines blocked or disconnected? (If this is the cause, the Air Flow alarm light should have turned on first.)	❑ Straighten crimps. Remove any objects blocking air flow through hoses and tubes. ❑ Connect any loose hoses. ❑ Clean or replace clogged filters.

Replacing Fuses

1 **Disconnect power.**

2 **Open the electrical enclosure door.**



3 **Check the fuse.**
If necessary, pull the fuse out and replace it with a fuse of the same type and rating.

Fuse Blocks
To locate the appropriate fuse and replacement part, refer to the wiring diagrams that came with your dryer.

IMPORTANT:
Always refer to the wiring diagrams that came with your dryer to locate specific electrical components. Illustrations in the User Guide are intended to be representative only.

Checking Switches and Heater Relays

1 **Disconnect power.**

2 **Swing the electrical enclosure away** from the front of the dryer.

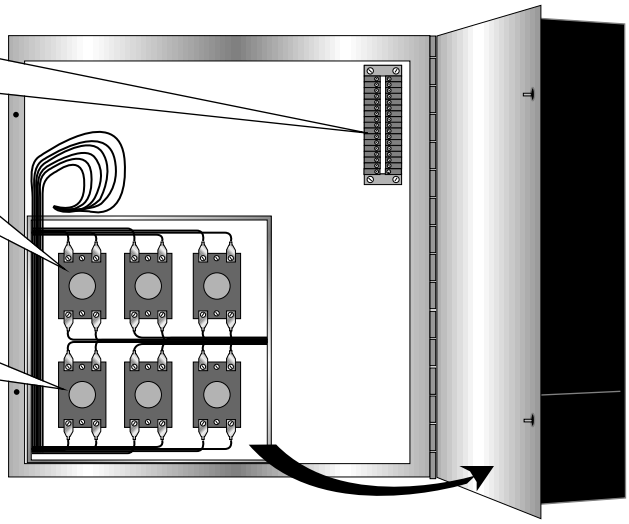
3 **Locate the relay or switch terminals.** Refer to the wiring diagrams that came with your dryer.

4 **Check continuity** using an ohmmeter.

Pressure switch
The switch is normally closed. Replace if resistance is high or infinity.

Regeneration heater relays
If ohms equal zero or infinity, replace the relay.

Process heater relays
If ohms equal zero or infinity, replace the relay.

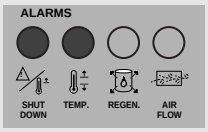


IMPORTANT:
Always refer to the wiring diagrams that came with your dryer to locate specific electrical components. Illustrations in the User Guide are intended to be representative only.

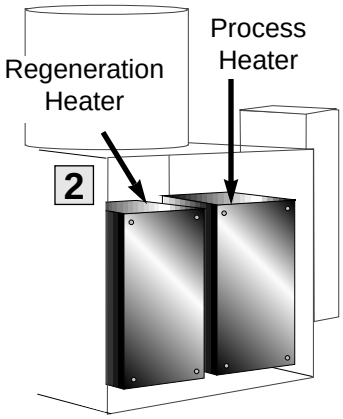
SHUT DOWN ALARMS

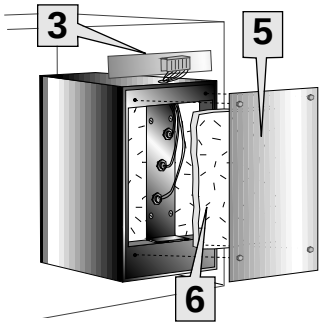
When the red Shut Down alarm lights, the dryer has detected a problem or combination of problems that could damage your plant or materials. When a malfunction triggers a Shut Down alarm:

- The dryer automatically shuts off.
- The alarm light (or lights) turns on.
- The temperature controller enters standby mode.
- The power light remains on.

Alarm	Possible cause	Solution
B  The dryer has shut down because the drying, or process circuit, temperature is higher or lower than the setpoint alarm band allows.	**Is the dryer too far from the hopper to maintain setpoint temperature of the air?**	The dryer should be no more than 5 feet (1.5 m) from the hopper. Move the dryer closer to the hopper, or insulate the air delivery hoses.
	Is "LP.br" showing in the temperature controller display?	The RTD probe has failed or is no longer connected correctly. Make sure the probe is inserted in the delivery air inlet of the hopper, and that it is plugged into the control box. If the connections are correct, the probe is damaged. Replace it
	Is the setpoint alarm band set too low?	Readjust the alarm band on the temperature controller. The alarm band should not be set lower than ± 5˚ F (± 3˚ C).
 **WARNING:** Only qualified electrical service personnel should examine and correct problems that require opening the dryer's electrical enclosure or checking electrical current to diagnose the cause of a problem.	**Did a process heating element fail?**	Check the process heater elements. Disconnect power and check continuity across the three process relay outputs to the heater elements. Ohm readings should be about equal. Only electrical service personnel should check amperage or voltage of heater wires. **See Replacing Heater Elements.**
	Did a process heater relay fail?	Disconnect power. Check the continuity of the relay outputs. If the ohm reading is zero or near zero, replace the relay. **See Checking Switches and Heater Relays.**

REPLACING HEATER ELEMENTS





1 **Disconnect power and remove the dryer's back panel.**

2 **Locate the appropriate heater box.**

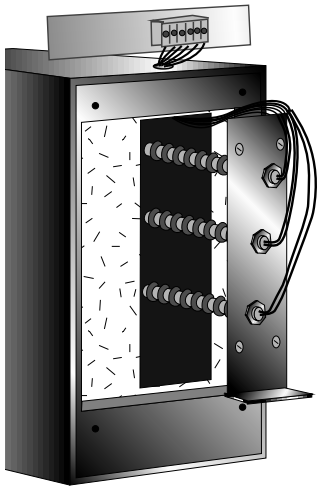
3 **Detach the heater element wires** from the terminal strip above the heater box. Each element has two wires.

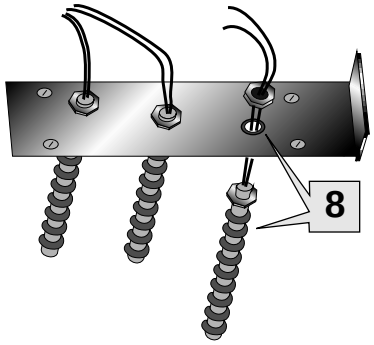
4 **Check continuity of the heater element wires.** Replace any element that shows an ohm reading of zero or infinity.

5 **Remove the heater cover.**

6 **Remove the insulation.** Set the insulation aside for reassembly.

7 **Remove the heater element assembly.** Loosen the screws and pull the assembly out of the box.





8 **Replace the faulty heater element(s).** Remove the nut holding the element to the assembly plate. Pull the element out of the plate. Insert the wires of a new element through the plate. Secure the element with the nut.

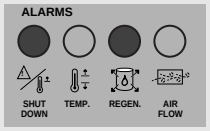
9 **Reassemble.** Follow steps in reverse order

TIP: *For faster repairs, keep a spare heater assembly that can be swapped for the assembly containing a faulty element.*

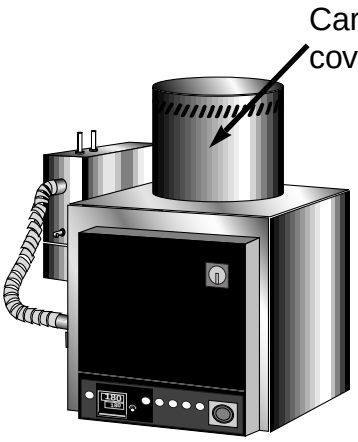
SHUT DOWN ALARMS

When the red Shut Down alarm lights, the dryer has detected a problem or combination of problems that could damage your plant or materials. When a malfunction triggers a Shut Down alarm:

- The dryer automatically shuts off.
- The alarm light (or lights) turns on.
- The temperature controller enters standby mode.
- The power light remains on.

Alarm	Possible cause	Solution
C  The dryer shut down because the desiccant tank carousel did not rotate from one position to the next within the correct time.	**Is the limit switch adjusted correctly?**	Adjust the limit switch so that it drops into the valley along the edge of the bed plate. **See Adjusting the Limit Switch.**
	Did the bed-drive motor control blow a fuse?	Disconnect power and open the electrical enclosure. Check the bed-drive motor fuse, and replace if necessary. For the fuse number and appropriate replacement part, refer to the wiring diagrams that came with your dryer.
	Is the bed-drive motor damaged?	Check the electrical connections to the motor. If the fuses and the connections are in working order, the motor is damaged. Replace it.

ADJUSTING THE LIMIT SWITCH

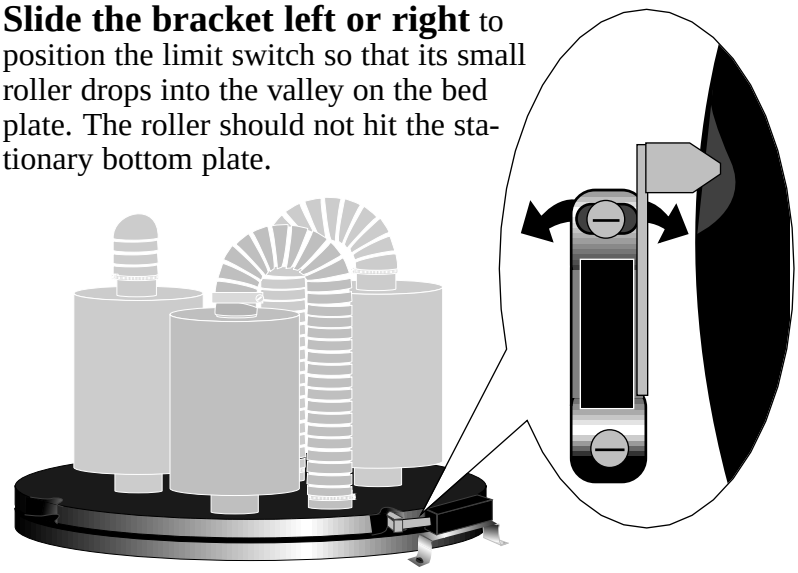


1 **Stop the dryer. Disconnect and lockout the main power.**

2 **Remove the carousel cover.**

3 **Loosen the screw on the limit switch bracket.**

4 **Slide the bracket left or right** to position the limit switch so that its small roller drops into the valley on the bed plate. The roller should not hit the stationary bottom plate.



5 **Test for correct indexing of the carousel.**
Restore main power to the dryer. Hold the limit switch out of the valley on the carousel bed plate while you flip the toggle switch to START. Once the bed plate starts turning, release the switch.

If everything is adjusted correctly:

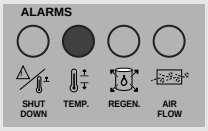
- The carousel bed turns.
- When the limit switch reaches the next valley in the bed plate, the carousel should stop turning.

6 **Reset the desiccant carousel.**
Continue indexing until the desiccant tanks return to the positions they were in when the dryer shut down.

PASSIVE ALARMS

When a yellow “passive” alarm lights, the dryer has detected a problem that could prevent correct drying of your material. When a malfunction triggers a passive alarm:

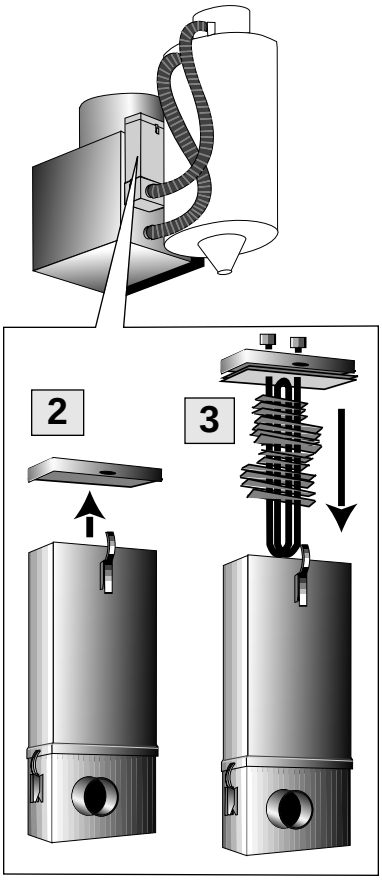
- The alarm light (or lights) turns on.
- The dryer continues to operate.

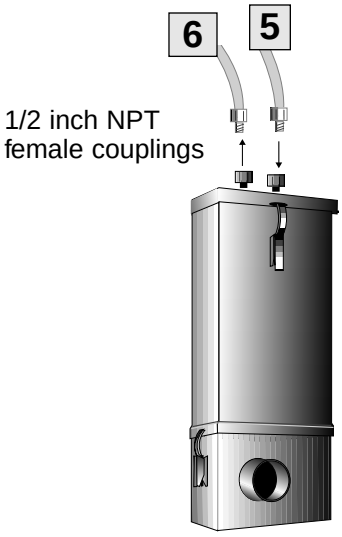
Alarm	Possible cause	Solution
D  Dew point will suffer because the air returning from the hopper is too hot for the desiccant to work at capacity. The return air sensor has been set to alarm at temperatures over 130˚ F (54˚C).	**Does the drying hopper contain enough material?**	Verify that your material supply system is working. Refer to the manuals for your conveying system, if necessary.
	Are you drying with high heat or low throughputs?	You may need an aftercooler if you are drying at temperatures over 250˚ F (121˚C), or if you are drying small amounts of material. An amount less than 50% of the dryer’s rated capacity is considered small. **See Adding an Aftercooler.** If you have an aftercooler, go to the next step.
	Is water flowing to your aftercooler?	Turn on the water supply, or fix the problem that prevents water from flowing through the aftercooler. The water flow must equal at least 3 gallons (11.36 liters) per minute at 90˚ F (32˚ C).
	Are the aftercooler coils dirty?	Clean the aftercooler coils. **See Maintenance: Cleaning the Aftercooler Coils.**

ADDING AN AFTERCOOLER

You can add an aftercooler to the SC Carousel Dryer by ordering the optional aftercooler coils. Installation is easy.

The optional aftercooler requires a source of city, tower or chiller water and a discharge or return line. You can use water at temperatures up to 90˚ F (32˚ C). But the water flow should be at least 3 gallons (11.36 liters) per minute.





1 Stop the dryer and disconnect power.

2 Remove the aftercooler housing cover.

3 Insert the aftercooler coils into the housing.
Make sure the latches on the housing are aligned with the latch holes in the aftercooler coil lid.

4 Secure the latches.

5 Connect the cooler inlet to the water source.
If a manual shut off valve is used, it should be mounted on the inlet line.

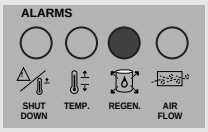
6 Connect the cooler outlet to a discharge or return line.

TIP: *Make the connections with flexible hose at least 14 inches (35.5 cm) long. This allows you to easily remove the cooler coils for cleaning.*

PASSIVE ALARMS

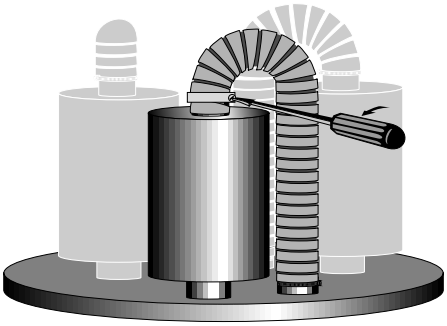
When a yellow “passive” alarm lights, the dryer has detected a problem that could prevent correct drying of your material. When a malfunction triggers a passive alarm:

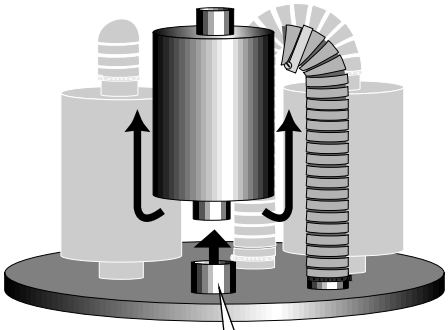
- The alarm light (or lights) turns on.
- The dryer continues to operate.

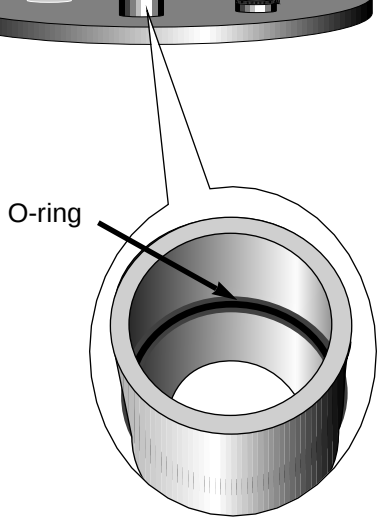
Alarm	Possible cause	Solution
E  Regeneration of the desiccant was unsatisfactory. Desiccant exhaust did not reach a satisfactory temperature within the correct time during the regeneration cycle.	**Is the regeneration filter clogged?**	Clean the regeneration filter.
	Are there any leaks in the regeneration air circuit?	Check hoses, gaskets and O-rings. Replace any that are cracked, torn or displaying excessive wear. Make sure hose clamps are secure.
	Was there an electrical short in a heater relay?	Disconnect power. Check continuity of the regeneration heater relay outputs. **See Checking Switches and Heater Relays.**
 **WARNING:** Only qualified electrical service personnel should examine and correct problems that require opening the dryer’s electrical enclosure or checking electrical current to diagnose the cause of a problem.	**Did a regeneration heater element fail?**	Check the regeneration heater elements. Only qualified electrical service personnel should check amperages and voltages of heater wires at the front of the dryer. **See Replacing Heater Elements.**
	Did the regeneration blower fail, causing the heater box to overheat?	❒ Disconnect power. Check the blower fuses. Replace if needed. **See Replacing Fuses.** ❒ Check motor current against voltage and amp rating on the motor nameplate. If currents, do not match, make sure the transformer is wired correctly. If the transformer is wired correctly, replace the blower.
	Is the desiccant contaminated?	If air and electrical circuits work correctly, the problem probably is contaminated desiccant. **See Replacing Desiccant Tanks.**

REPLACING DESICCANT TANKS

The SC Carousel Dryer has disposal desiccant tanks. The tanks have been sealed, and should require no contact with the desiccant. **When desiccant becomes clogged or contaminated, you should replace all three tanks to ensure optimum performance.**







1 Stop the dryer and disconnect power.

2 Remove the carousel cover.

3 Disconnect the hose from the desiccant tank.
Loosen the hose clamp with a screw driver.

4 Lift the tank off the carousel assembly.

5 Discard the contaminated tank.

6 Check the O-rings in the carousel coupling. Replace any O-rings that are cracked, worn or damaged. Apply petroleum jelly on the inside of the coupling around the O-ring.

7 Place a new tank on the carousel assembly. Make sure the inlet/outlet tube of the tank seats fully into the O-rings on the carousel pipe.

8 Connect the hose to the top of the tank. Secure with the hose clamp.

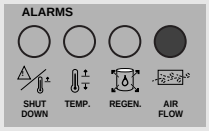
9 Replace the carousel cover.

TIP: *It's important that the new tanks are connected to the correct hoses. Mark the hoses as they are disconnected, or replace one tank at a time, to ensure that you install the new tanks in the correct positions.*

PASSIVE ALARMS

When a yellow “passive” alarm lights, the dryer has detected a problem that could prevent correct drying of your material. When a malfunction triggers a passive alarm:

- ◆ The alarm light (or lights) turns on.
- ◆ The dryer continues to operate.

Alarm	Possible cause	Solution
F  The differential pressure switch detected inadequate air flow in the process circuit.	**Is the process filter clogged?**	Clean the process filter.
	Are the delivery or return air hoses restricted or loose?	❑ Straighten crimps or remove any objects that may have restrict air flow through hoses and tubes. ❑ Connect any loose hoses..
	Did the differential pressure switch fail?	Disconnect power. Check the continuity of the differential pressure switch. The switch is normally open. Replace if resistance is low or zero.
	Is the desiccant clogged or degraded?	If the process air filter, hoses and pressure switch operate correctly, the problem probably is clogged desiccant. Replace all three desiccant tanks. **See Replacing Desiccant Tanks.**

WARNING: Only qualified service personnel should examine and correct problems that require opening the dryer’s electrical enclosure or checking electrical current to diagnose the cause.

NOTE: *This alarm light should turn on briefly each time the carousel rotates correctly.*

We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

How to Contact Customer Service

To contact Customer Service personnel, call:

From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

Before You Call ...

If you do have a problem, please complete the following checklist before calling Conair:

- ❒ Make sure you have all model, serial and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- ❒ Make sure power is supplied to the equipment.
- ❒ Make sure that all connectors and wires within and between control systems and related components have been installed correctly.
- ❒ Check the troubleshooting guide of this manual for a solution.
- ❒ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ❒ Check that the equipment has been operated as described in this manual.
- ❒ Check accompanying schematic drawings for information on special considerations.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Departments for a nominal fee.

EQUIPMENT GUARANTEE

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

PERFORMANCE WARRANTY

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

WARRANTY LIMITATIONS

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.