

USER GUIDE

UGE075-0913

ECB Cooling Tank

ECB Series Models



Please record your equipment's model and serial number(s) and the date you received 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: UGE075-0913

Serial Number(s):

Model Number(s):

DISCLAIMER: The Conair Group, Inc., shall not be liable for errors contained in this User Guide or for incidental, consequential damages in connection with the furnishing, performance or use of this information. Conair makes no warranty of any kind with regard to this information, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose.

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Introduction

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Purpose of the User Guide

This User Guide describes the Conair ECB Series Tanks. It 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 the manuals covering associated equipment in your system. This review will not 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.



Numbers 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 circle marks items in a list.



Indicates a tip. A tip is used to provide you with a suggestion that will help you with the maintenance and the operation of this equipment.



Indicates a note. A note is used to provide additional information about the steps you are following throughout the manual.

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.

ATTENTION:

Read This So No One Gets Hurt

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.



WARNING: Improper installation, operation, or servicing may result in equipment damage or personal injury.



This equipment should be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.

You should keep the area around the tank clean and free from pooling water. We recommend installing a grate or drain system beneath this equipment to prevent water from pooling around the tank.



WARNING: Voltage hazard



This equipment is powered by three-phase alternating current, as specified on the machine serial tag and data plate.

A properly sized conductive ground wire from the incoming power supply must be connected to the chassis ground terminal inside the electrical enclosure. Improper grounding can result in severe personal injury and erratic machine operation.

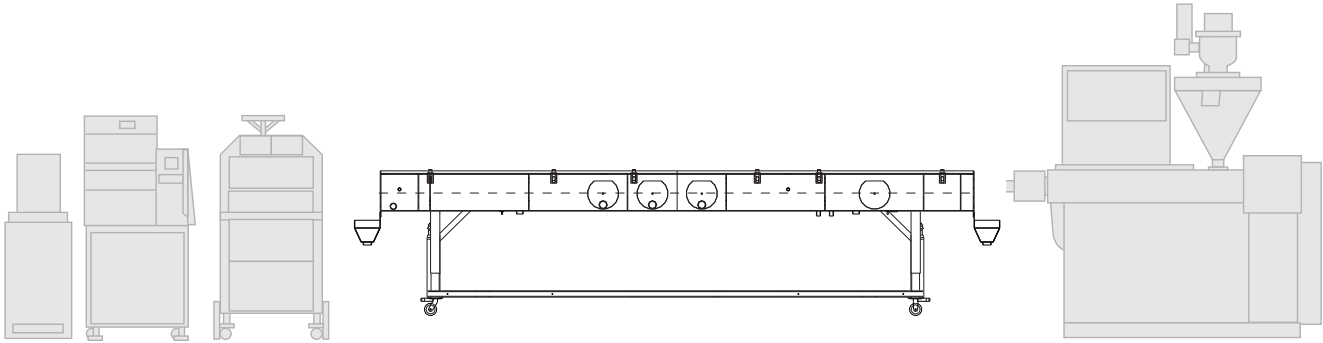
Always disconnect and lock out the incoming main power source before opening the electrical enclosure or performing non-standard operating procedures, such as routine maintenance. Only qualified personnel should perform troubleshooting procedures that require access to the electrical enclosure while power is on.

Description

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What is the ECB Tank?

The Conair ECB Water and Spray Tanks are designed to provide additional spray or flood cooling of extruded profiles, tubing, and pipe, or as a primary spray or cooling tank. Height adjustment hydraulic jacks at both ends of the tank permit and ensure proper alignment with the extrusion line.



After an extrusion has been sized and solidified, it may require additional controlled cooling to obtain the desired characteristics.

The ECB water tank provides flood cooling. You can submerge the extrusion in heated water to slow the cooling rate, or in cool water to cool it more quickly. The internal plumbing configuration for flood cooling is designed to provide maximum turbulence to break up the temperature strata that forms around the extrusion for optimum heat transfer. Support and hold-down rollers keep the buoyant extrusion in place as it passes through the tank.

When the spray option is chosen, the ECB spray tank reduces the buoyancy of the extrusion in the water and provides maximum heat transfer through evaporation by spraying water onto the hot extrusion surface. The extrusion can be held above the water level or submerged in the water in the spray compartment.

The ECB tank has two compartments: a long water or spray compartment for controlled cooling of the extrusion, and a short air-wipe compartment for removing water from the extrusion surface as it leaves the water or spray compartment.

The water and spray compartments are sealed by gaskets on each end. Black wiping gaskets backed up by red support gaskets retain the flood and spray water.

An optional closed water recirculation reservoir, pump, and heat exchanger can interface with your portable chiller or central chiller for reduced water consumption.

Contact Conair Sales
about portable chillers or
other heat transfer equipment.
(724) 584-5500

How the ECB Tank Works

The extrusion enters the water or spray compartment after leaving the calibration tooling or a sizing tank. Simple support and hold-down rollers are used to hold small diameter hollow forms in position as the extrusion passes through the tank. Contoured support and hold-down rollers usually are required for large hollow forms.

In an ECB water tank, the extrusion is submerged in a flooded water compartment. Water enters the compartment through a quick fill valve or through one center-supply, drilled water header that is mounted along the top and back side of the compartment. The water level is controlled by a telescoping overflow standpipe.

In the ECB tank with spray option, the extrusion may be submerged or held above the water.

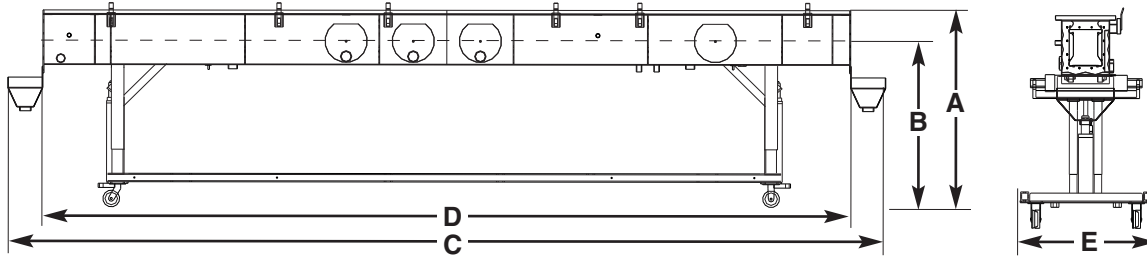
All water enters the compartment through four center-supply water headers mounted at the four corners along the full length of the compartment. These water headers are drilled or equipped with spray heads. Each pair of spray headers has its own water supply valve.

Water levels are controlled by the setting of the standpipe. When set low, the standpipe keeps the water level below the extrusion. When set high, the standpipe allows complete submersion of the extrusion in the flooded compartment.

The extrusion passes from the water or spray compartment into an air-wipe compartment equipped with two, tubular air wiper rings connected to compressed air. Angled holes drilled in the wiper ring blasts air on the extrusion in the direction of the extruder to blow off surface water. A gasket seal at the exit of the air wipe compartment ensures the extrusion will be dry as it reaches the puller.



Specifications: ECB Tank



MODEL	ECB-1				ECB-2			
TANK LENGTH ft.	7				12	16	21	30
Performance characteristics								
Tube/profile capacity	1 inch {25 mm}				Up to 2 inches {50 mm}			
Pumps	.5 Hp				2 Hp or 5 Hp water			
Number of compartments	2				2	2	2	2
Size - cooling / air wipe	6 inch {152 mm} / 1 inch {25 mm}				11 ft. / 1 ft.	15 ft. / 1 ft.	20 ft. / 1 ft.	29 ft. / 1 ft.
Dimensions inches {mm}								
A - Overall height	55 {1397}				55 {1397}	55 {1397}	55 {1397}	55 {1397}
B - Height to centerline*	42 {1067}				42 {1067}	42 {1067}	42 {1067}	42 {1067}
C - Overall length	84 {2134}				180 {4572}	216 {5486}	288 {7315}	396 {10058}
D - Tank length ft {m}	7 {2.1}				13.5 {4.1}	17.5 {5.3}	22.5 {6.9}	31.5 {9.6}
E - Overall width	30 {762}				48.5 {1232}	48.5 {1232}	48.5 {1232}	48.5 {1232}
Tank compartment width [†]	8 {203}				12 {306}	12 {306}	12 {306}	12 {306}
Tank compartment height	8 {203}				8 {203}	8 {203}	8 {203}	8 {203}
Approximate weight lb {kg} [‡]								
Shipping	700 {318}				2200 {998}	2800 {1270}	3500 {1587}	4500 {2041}
Voltages available § 240 V/3-phase/50-60 Hz or 480 V/3-phase/50-60 Hz								
Water requirements City, tower, or chiller water; main supply line 1 inch NPT fitting								

MODEL	ECB-4				ECB-6			
TANK LENGTH	12	16	21	30	12	16	21	30
Performance characteristics								
Tube/profile capacity	Up to 4 inches {101 mm}				Up to 6 inches {152 mm}			
Pumps	2 Hp, 5 Hp or 7.5 Hp water							
Number of compartments	2	2	2	2	2	2	2	2
Size - cooling / air wipe	11 ft. / 1 ft.	15 ft. / 1 ft.	20 ft. / 1 ft.	29 ft. / 1 ft.	11 ft. / 1 ft.	15 ft. / 1 ft.	20 ft. / 1 ft.	29 ft. / 1 ft.
Dimensions inches (mm)								
A - Overall height	55 {1397}	55 {1397}	55 {1397}	55 {1397}	55 {1397}	55 {1397}	55 {1397}	55 {1397}
B - Height to centerline*	42 {1067}	42 {1067}	42 {1067}	42 {1067}	42 {1067}	42 {1067}	42 {1067}	42 {1067}
C - Overall length	180 {4572}	216 {5486}	288 {7315}	396 {10058}	180 {4572}	216 {5486}	288 {7315}	396 {10058}
D - Tank length ft {m}	13.5 {4.1}	17.5 {5.3}	22.5 {6.9}	31.5 {9.6}	13.5 {4.1}	17.5 {5.3}	22.5 {6.9}	31.5 {9.6}
E - Overall width	48.5 {1232}	48.5 {1232}	48.5 {1232}	48.5 {1232}	48.5 {1232}	48.5 {1232}	48.5 {1232}	48.5 {1232}
Tank compartment width [†]	12 {306}	12 {306}	12 {306}	12 {306}	14 {356}	14 {356}	14 {356}	14 {356}
Tank compartment height	12 {306}	12 {306}	12 {306}	12 {306}	14 {356}	14 {356}	14 {356}	14 {356}
Approximate weight lb (kg) [‡]								
Shipping	2200 {998}	2800 {1270}	3500 {1587}	4500 {2041}	2200 {998}	2800 {1270}	3500 {1587}	4500 {2041}
Voltages available § 240 V/3-phase/50-60 Hz or 480 V/3-phase/50-60 Hz								
Water requirements City, tower, or chiller water; main supply line 1 inch NPT fitting								

SPECIFICATION NOTES:

* Centerline height is adjustable ± 2 inches (50.8 mm).

[†] You will need a V-groove caster adapter if you have rails that are not spaced 25 inches (635 mm) apart. Adapters are available for rails with centerline spacing of 22 to 25 inches (559 to 635 mm).

[‡] Weights are based on standard configuration only and do not include any of the available options.

§ Consult factory. Amp draws will be based on options selected.

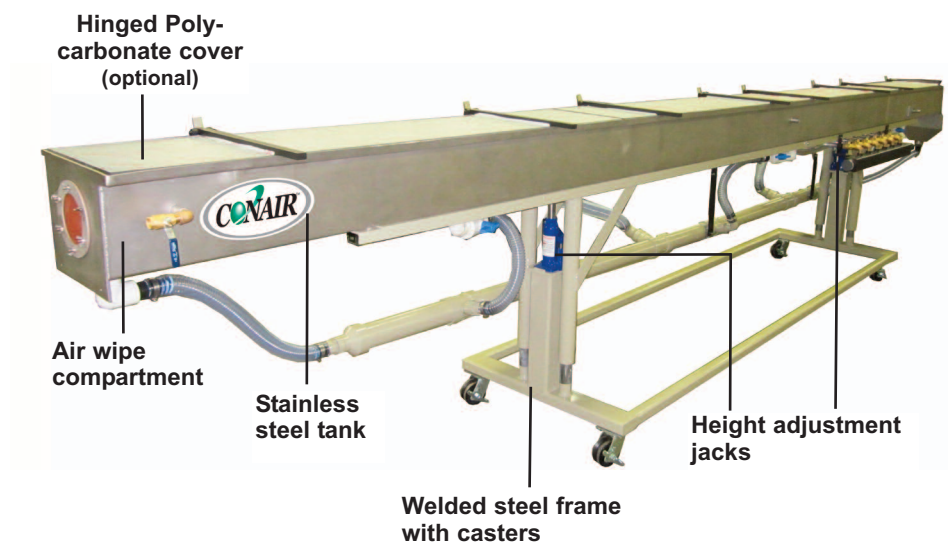
These tables define standard configurations only.

Specifications can change without notice. Contact a Conair representative for the most current information.

APPLICATION NOTE:

The base tank is supplied without the recirculation system. The tank is drained by gravity.

Features and Options



- **Tank:** The stainless steel, all-welded tank has two compartments: a long water or spray compartment and a short air-wipe compartment. Spray header water connections are stainless steel fittings welded through the tank bottom. The air wipe compartment has two drilled copper blow-off rings mounted concentric to the extruded product. The rings are drilled at an angle to generate water blow-off forces opposite to the direction of extrusion flow. Air supply is through the front sidewall of the compartment. A throttling valve is supplied.

Bulkheads are equipped with studs for applying gaskets. Black gaskets wipe the extruded product. Red gaskets provide dynamic sealing.

- **Tank Support:** The tank support system provides for accurate vertical positioning (via hydraulic jacks) of each end of the tank to meet centerline height requirements.
- **Water Supply System:** Water is supplied from a short water supply header carried on the tank. A ball valve controls water to each spray header. This valve is used to modulate water to the tank. On small water tanks with one spray header, the second valve is used for "quick fill". On long tanks, a third ball valve directs water to an end port to assist in "quick fill".
- **Tank Drain System:** All tanks have overflow stand pipes that continuously carry modulating water to the drain without drain valving. To drain the tank quickly, one to three drains are supplied, depending on the tank length and tank size. Additional tank drains, controlled by gate valves, empty into the tank drain header pipe. The header pipe, made of rigid PVC with demented fittings, is attached to the base frame and slopes toward the extruder.

The large drain size provides unrestricted water flow to the plant drains or plant water recovery system.

- **Casters and Wheels:** The tank base is supported at all four corners by V-groove casters. Non-grooved wheels are available.

(Continued)

Features and Options (continued)

- **Vertical Adjustment System:** The tank support system is moved vertically up and down on each end to position the centerline and to level the horizontal plane. Hydraulic jacks on each end are used to adjust the tank height. Maximum travel is 6 inches {152.4 mm}.
- **Closed Water Recirculation System Option:** The system includes a reservoir (sump tank), pump, and heat exchanger. On a closed water pump system, spray water introduced into the tank through the spray headers is drained to a sump tank. The water is then pumped back to the spray water supply header for control by the header valves. The sump tank, filled from customer's water supply, has automatic water level control. The pump has a suction filter inside the sump tank at the pump port. The pump is mounted on the bottom tank frame members. Two pump choices are available: centrifugal and gear.

The 5 Hp {3.73 kW} centrifugal pump has a capacity up to 100 gpm {378.5 lpm} at 45 psi {0.310 bar}, and is self protecting. It can be operated without damage with the spray header valves fully closed.

The 2 Hp {1.49 kW} centrifugal pump has a capacity of about 40 gpm {151.4 lpm} at 50 psi {3.45 bar}. A relief valve on the output of the pump directs water to the tank to protect the pump if the spray header valves are fully closed.

- **Tank Covers Option:** Water tanks seldom require covers as there is little or no splashing. However, spray tanks with their cross spray patterns, may require covers.
- **Thermometers Option:** On water tanks, thermometers may be mounted through the tank sidewall to monitor water temperature in the tank. On a tank with a gear pump system, the thermometers are mounted through the sump tank sidewall to monitor temperatures in the sump that indicates the temperature of water to the tank.

Installation

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Unpacking the Boxes

The Conair ECB tank comes fully assembled in a single crate.



CAUTION: Lifting

To avoid personal injury or damage to the tank, lift the tank using a forklift or hoist with straps that have been positioned at the tank's center of gravity.

- 1 Carefully uncrate the tank and its components.**
- 2 Remove all packing material,** protective paper, tape, and plastic. Compare the contents to the shipping papers to ensure that you have all the parts.
- 3 Carefully inspect all components** to make sure no damage occurred during shipping. Check all wire terminal connections, bolts, and any other electrical connections which may have come loose during shipping.
- 4 Record serial numbers and specifications** in the blanks provided on the back of the User Guide's title page. This information will be helpful if you ever need service or parts.
- 5 You are now ready to begin installation.** *See Installation Section entitled, Preparing for Installation.*

Preparing for Installation

1 You will need these tools for installation:

- Wire strain relief (for recirculation package only)
- One plumb bob or laser bore sight
- One hex key wrench
- One flathead screwdriver
- Flexible hose with 1.5 inch NPT coupling

You will install the ECB tank on the extrusion line, downstream of the extruder and any calibration/sizing equipment.

2 Plan the location. Make sure the area where the ECB tank is installed has the following:

- A source of water.** City, tower, or chilled water may be used. Water supply flow should be about 80 gpm @ 60-70 psi {6.1 liters/sec @ 4.8-5.5 bar}.
- A grounded 3-phase power source** supplying the correct current and voltage for the recirculation system on your tank. Check the serial tag for the correct amps and voltage. Electrical power is required only if you have the recirculation system option.
- Minimum clearance for safe operation and maintenance.** The distance, or air gap, between the face of the die or sizing tank and the upstream end of the ECB tank may be up to 12 inches {304.8 mm}. Allow at least 12 to 24 inches {304.8 to 609.6 mm} between the downstream end of the tank and the upstream end of the puller to roll the tank away from the extruder for maintenance.

3 Determine the correct position for the tank on the extrusion line.

There may be an additional cooling tank or an optional laser gauge/diameter gauge between the downstream end of the ECB tank and the puller. Allow 1 to 2 feet {304.8 to 609.6 mm} between the ECB tank and an additional cooling tank. Allow 1 to 3 feet {304.8 to 914.4 mm} between the ECB tank and a laser gauge and between a laser gauge and the puller.

4 Install V-rails.

If your tank comes with V-groove casters, you may choose to use V-rails to insure repeatable tank alignment. The overall length of the rails will be determined by equipment sharing the rails. The V-rails should be long enough to move all downstream equipment away from the extruder for removal of the screw.

Typically, the rails should be 2 to 4 feet {609.6 to 1219.2 mm} longer than the ECB tank. The distance between the centers of the V-groove casters on standard ECB tanks is 22 inches {558.8 mm}. Optional widths may have been ordered.

Aligning the Tank



CAUTION: Lifting

To avoid personal injury or damage to the ECB tank, you should lift and move the tank with a forklift or hoist and straps positioned at the tank's center of gravity.



WARNING: Improper installation, operation, or servicing may result in equipment damage or personal injury.

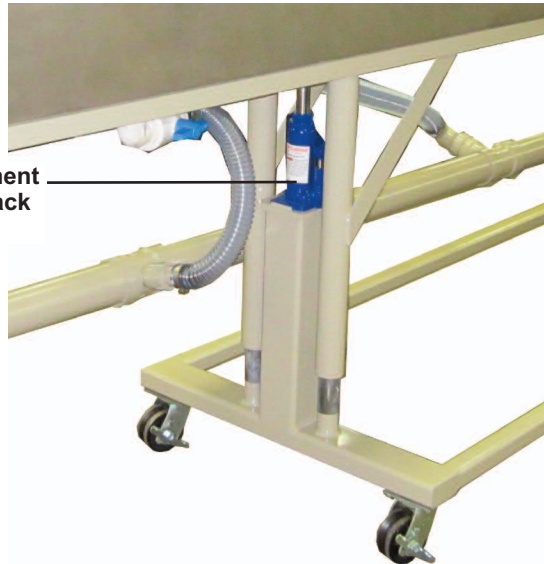


This equipment should only be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.

- 1 Position the ECB tank downstream of the extruder.** Place the tank inline with the extruder. Set the tank's V-groove casters on the V-rails, if present.
- 2 Adjust the height of the tank** to match the extruder's centerline height. Use a level and the hydraulic jacks on each end of the tank to adjust height of the ECB the tank.

Height adjustment
via hydraulic jack



Connecting the Main Power Source



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This equipment should only be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.

Electrical connections are required only on ECB tanks with the optional water recirculation system and/or heat exchanger.

Always refer to the wiring diagrams that came with your tank before making electrical connections. The diagrams show the minimum size main power cable required for your tank, and the most accurate electrical component information. The procedure for making electrical connections will vary according to the options ordered with the tank.

Generally, you should:

- 1 Disconnect and lock out the incoming main power source.**
- 2 Open the electrical enclosure.**
- 3 Connect the power and ground wires** to the terminals indicated on the wiring diagram that came with your machine.
- 4 Check every terminal screw** to make sure wires are secure. Gently tug each wire. If a wire is loose, use a screwdriver to tighten the terminal.
- 5 Connect the ground wire** to the grounding point shown in the wiring diagram shipped with your unit.

Connecting the Water and Air Supplies

Standard ECB tanks are designed for use with city, tower, or chilled water supplies. You may choose to treat the water to prevent algae build-up.



WARNING: Do not use deionized water, brine, or other corrosive water mixtures for the main water supply unless your tank has been specially designed for such mixtures. Consult a water treatment specialist for the best way to prevent algae build-up without damaging the equipment


- 1 Connect the main water supply** to the 1 1/2-inch NPT fitting on the tank.
- 2 Connect the compressed air supply** to the fitting on the tank air wipe compartment.

Connecting a Chiller

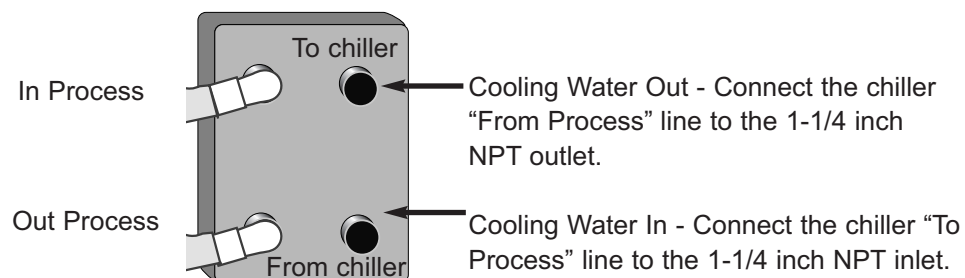
You can connect a chiller to the tank's optional heat exchanger to remove heat from the extrudate more efficiently. Two types of heat exchanger are available from Conair: a single plate heat exchanger or a tube and shell heat exchanger.


Typically, the tank is supplied with the lines and fittings appropriate for the type heat exchanger ordered. The inlet and outlet of the heat exchanger can be used for the chiller.

Single Plate Heat Exchanger:

 **NOTE:** For maximum cooling efficiency: always plumb cooling water in the opposite direction of process water.

Connect the chiller "To Process" and "From Process" lines to the 1-1/4 inch NPT fittings on the plate heat exchanger.

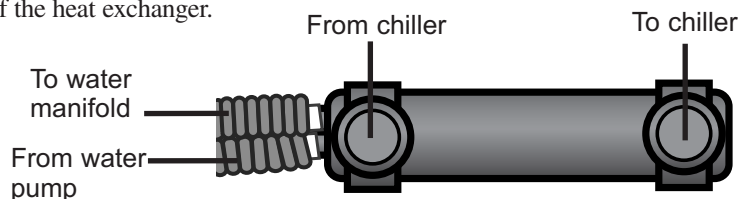


 **-TIP:** If you have a water supply with high mineral content, connect the chiller to the tube ends of the heat exchanger.

Tube and Shell Heat Exchanger:

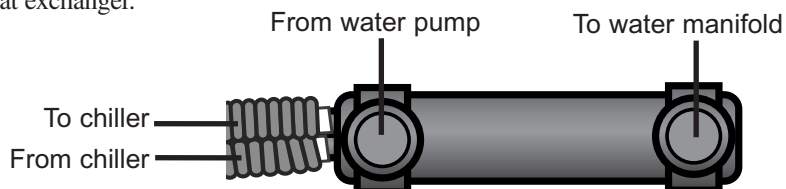
For maximum water flow

Connect the chiller "To Process" and "From Process" lines to the largest NPT fittings in the shell of the heat exchanger.



For maximum cooling efficiency

Connect the chiller "To Process" and "From Process" lines to the smallest NPT tube ends of the heat exchanger.





Testing the Installation

- 1 Adjust the rotary inside each compartment for the water level you want to maintain.**
- 2 Turn the water supply on and fill the tank.**
 - Water fills the tank to the water level you set.
 - If you have a spray tank, water should enter the tank through the spray bars.
 - Excess water flows through the drain lines.

If you have the optional recirculation system:

- 1 Turn water pump on.** Press the REC START button.
 - The pump draws water through the heat exchanger and into the upper tank.
- 2 Check the pump for proper rotation.** The pump rotation must match the direction indicated on the rotation sticker on top of the pump.

 **WARNING:** If a pump rotates in the wrong direction for more than a very short time, damage will occur.

 **WARNING:** Always disconnect and lock out the incoming main power source before opening the electrical enclosure or performing non-standard operating procedures, such as routine maintenance. Only qualified personnel should perform troubleshooting procedures that require access to the electrical enclosure while power is on.

If the pump rotation is incorrect, turn off the pump and disconnect the power. Swap any two of the three power source wires on the terminal block in the electrical enclosure.

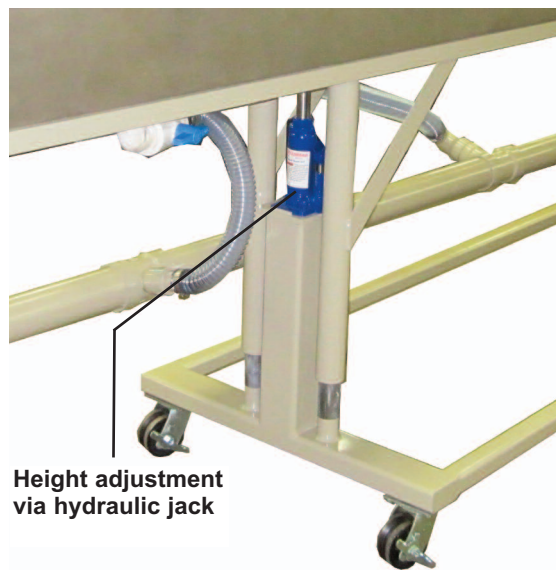
Operation

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Preparing for Operation

The ECB tank provides cooling through tank water flow, while the ECB with spray option cools with water flow and water sprayed onto the extrusion. Immersion rollers inside each tank chamber keep the extrusion positioned for even cooling.

- 1 Determine the cooling mode you will use.** The best cooling mode and roller position for your profile depends upon your material and process.
 - **Immersion cooling:** The extrusion should be fully immersed in the tank water. The immersion rollers are usually positioned above the extrusion to keep it submerged.
 - **Spray cooling:** The extrusion is cooled by water sprayed over its surface. An inch or two of runoff water flows below the extrusion. The immersion rollers are usually positioned below the profile.
- 2 Make sure the extruder and puller are ready.** The extruder should be discharging melt or extrudate that is up to the correct temperature. Set the extruder and puller at minimum speed.
- 3 Center the tank with the extrudate.** During installation, you aligned the ECB tank with the extrusion line. Before each operation of the tank, you should fine tune the height and side to side position of the tank to align it with the center of the extrudate.



Height Adjustment: Kneeling at the upstream end of the tank at eye level with the die, use the hydraulic jacks at each end of the tank to adjust the tank height until it aligns with the center of the extrudate.

- 4 Turn on the water supply to fill the tank.** Adjust the standpipe for the water level you want to maintain. If you have the optional recirculation system, make sure the water level in the reservoir is above the pump input before proceeding.
- 5 Recheck the tank alignment.** With the extrudate threaded, verify that the tank is precisely aligned with the center of the extrudate.
- 6 Position the immersion rollers to prevent the extrusion from sinking or floating.** Slide each roller a up or down to the desired position. The best position for the rollers depends upon your material, process and, cooling mode.

Starting the ECB Tank

- 1 Turn water pump on, if you have the optional recirculation system.** After the tank has been filled, press REC START button.
- 2 Start the other equipment in the extrusion line.**
- 3 Gradually increase line speed.** Raise extruder rpm slowly until extrudate is close to the product desired.
- 4 Adjust water flow and water levels.** The best water flow rates and levels depend upon your material, process, and cooling mode.



NOTE: You should check profile size and surface finish at start up and periodically throughout processing. Check the size of the profile using an optional in-line laser gauge, ID, or OD gauge. Check the surface finish for imperfections. *See the Troubleshooting section for product quality problems that could be related to the ECB tank.*

Stopping the ECB Tank

Tank operation is stopped by turning off the water pump. Extrudate will continue to move through the tank unless the entire extrusion line is shut down. A typical shutdown procedure is given below.

- 1 Move the tank downstream.** While the material is still running, move the tank away from the die.
- 2 Lower extruder rpm.**
- 3 Cut the plastic off at the die with a soft metal spatula or scraper.**
- 4 Cover the tank entrance hole.** Place one hand over the hole to limit water spillage when you stop the pump.
- 5 Turn the water pump off.** Press REC STOP.
- 6 Drain the tank and reservoirs if the tank will not be used or requires water system maintenance.**

Maintenance

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Preventative Maintenance Schedule

Normal operation of the ECB tank involves extended exposure of many components to minerals and other water system contaminants. These minerals and contaminants can produce deposits, scales, slime, or algae that will reduce tank performance.

To maintain the best performance, you should follow this maintenance schedule and develop an effective water treatment program.

- **Weekly, or as often as needed.**
 - ❑ **Inspect gaskets.**

Gaskets at the ends of the tank should be kept in good condition. Replace any gaskets that are excessively worn, cracked, or torn.
 - ❑ **Drain and clean the tank.**

Remove any particles and wipe all surfaces thoroughly.
- **Monthly**
 - ❑ **Lubricate all threads, shafts, sliding components, linear actuator, and bearings.**

Lubricate not only the grease fittings but coat shafts and other sliding surfaces with a seize-resistant bearing compound to prevent corrosion. You may need to lubricate more often than monthly.
 - ❑ **Drain and clean the reservoir.**

If you have the optional recirculation system, remove any particles and wipe all surfaces thoroughly.
 - ❑ **Clean the spray bars.**

Check for clogged holes. Rinse or use compressed air to remove blockage.
- **Quarterly (every three months)**
 - ❑ **Lubricate water pump bearing frame, motor, and coupling.**

Refer to manufacturer's instructions. Recheck pump alignment after performing any maintenance that requires moving the unit.
- **Semi-annual (every six months)**
 - ❑ **Inspect power cords, wires, and electrical connections.**

Check for loose wires, burned contacts, and signs of overheated wires. Check exterior power cords to the main power source and from the electrical box to the pumps. Check the ground wire. Replace any wire that appears damaged or has worn or cracked insulation.

Replacing Gaskets

To replace an end gasket:

- 1 Remove the retaining rings.** Loosen the wing nuts and lift off the ring that holds the gasket in place.
- 2 Remove the damaged gasket and slide a new gasket over the studs.** No sealant is required.
- 3 Reassemble.** Slip the retaining ring over the studs to cover the gasket. Tighten the wing nuts.

Lubricating the Tank Compartments

Tools Required:

- Grease gun
- Seize-resistant bearing compound

Normal operation of the ECB tank creates many wet surfaces. We recommend generous monthly lubrication of any threaded or sliding components involved in positioning the tank. Those components include the positioning mechanisms such as the up/down vertical support shafts. You may need to lubricate more often than monthly.

- 1 Lubricate the vertical support shaft and grease fittings.** Apply bearing compound to the fittings until it overflows. Apply a coating of the compound to the shafts as well.

Cleaning the Tank and Spray Bars

The tank, spray bars, and optional recirculation reservoir should be thoroughly cleaned to remove particles that can accumulate.

- 1 Drain the tank and reservoir.**
- 2 Wipe surfaces thoroughly** to remove particles.
- 3 Remove the spray bars.** Twist each spray bar counter-clockwise and pull it out.
- 4 Clean the spray bars.** Flush each bar with a compressed air line or water hose. Use a soft brush to remove any particles clogging the small holes.
- 5 Reassemble by repeating the steps in reverse order.**

Checking Electrical Connections



WARNING: Electrical Hazard



Before performing any work on this product, 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.



WARNING: Improper Installation, operation, or servicing may result in equipment damage or personal injury.



This equipment should only be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.

Normal operation of the ECB tank produces many wet surfaces. If you have the optional recirculation system, we recommend that you carefully check all electrical wires for signs of damage that could result in a serious shock.

- 1 Stop the ECB tank.** Press the REC STOP button and lockout the main power source.
- 2 Open the electrical enclosure.** A safety device prevents you from opening the door unless the power is shut down.
- 3 Inspect the wires and connections.** Look for loose wires, burned contacts, and signs of over-heated wires. Have a qualified electrician make any repairs or replacements necessary.
- 4 Inspect the exterior power cords.** Carefully check the power cords from the electrical enclosure to the pumps. Cords should not be crimped, exposed, or rubbing against the frame. Also check the power cord to the machine. If the main power cord runs along the floor, make sure it is not positioned where it could be run over and cut by wheels or casters.

Troubleshooting

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Before Beginning

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

Before you begin troubleshooting:

- ❑ Find any wiring, plubing, and assembly diagrams that were shipped with your equipment. These are the best reference for correcting a problem. The diagrams will note any custom features or options not covered in this User Guide.
- ❑ Verify that you have all instructional materials related to the ECB Tank. Additional details about troubleshooting and repairing specific components are found in these materials.
- ❑ Check that you have manual for other equipment connected in the system. Troubleshooting may require investigating other equipment attached to, or upstream of the ECB Tank.

A Few Words of Caution



WARNING: Improper installation, operation or servicing may result in equipment damage or personal injury.

This equipment should only be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation, and potential hazards of this type of machine.

All wiring, disconnects, and fuses should be installed and adjusted by qualified electrical technicians in accordance with electrical codes in your region. Always maintain a safe ground. Do not operate the equipment at power levels other than what is specified on the machine serial tag and data plate.



WARNING: Electrical hazard



Before performing maintenance or repairs on this product, 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.

Identifying the Cause of a Problem

The Troubleshooting section covers problems directly related to the operation and maintenance of the ECB Tank. This section does not provide solutions to problems that originate with other equipment. Additional troubleshooting help can be found in manuals supplied with the other equipment.

The main problems you will see with the ECB Tank are:

- **Product quality concerns.** Extrudate quality problems may be related to ECB Tank operation. Of course, other sections of the extrusion line also influence the quality of the extruded product. This section does not provide solutions to problems originating with other equipment on the extrusion line.
- **Water System concerns.** This section contains problems that may be related to optional water recirculation system on the ECB tank.

Additional troubleshooting help can be found in the documentation manuals included with this User Guide.

Product Quality Problems

Problem	Possible Cause	Solution
Poor surface quality: Swirls on the surface.	The extrusion dragging against the calibration tooling or tank edges.	Check alignment.
Poor surface quality: Dimples on the surface.	Air bubbles adhering to the extrusion surface, causing uneven cooling.	Increase spray bar flow. Increase agitation in the water tank. Add an anti-static agent to the water.

Water System Problems

Problem	Possible Cause	Solution
No water flow.	<p>Power and the correct voltage are not reaching the pump.</p> <p>The pump overload has tripped.</p>	<p>Verify that the emergency stop button has not been activated, and check all power connections.</p> <p>Verify that the supply power matches the rating on the motor data plate.</p> <p>If necessary, manually reset the pump overload by pressing the reset button. Verify the overload is set to the FLA specified on the motor data plate. If the correct voltage is reaching the pump and the overload continues to trip, you may need to replace the pump.</p>
The pump is running but water flow is very low.	There is blockage in the flow path.	<p>Check the heat exchanger for blockages.</p> <p>Check for any restrictions in the spray bars.</p>


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:



 **NOTE:** Normal operating hours are 8:00 am - 5:00 pm EST. After hours emergency service is available at the same phone number.

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, control type from the serial tag, 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 Department for a nominal fee. Most manuals can be downloaded free of charge from the product section of the Conair website.
www.conairgroup.com

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.