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# IMI CORNELIUS CHILLER

## Service Manual

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## SERVICE MANUAL

The products, technical information, and instructions contained in this manual are subject to change without notice. These instructions are not intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation or maintenance of this equipment. This manual assumes that the person(s) working on the equipment have been trained and are skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. It is assumed that appropriate safety precautions are taken and that all local safety and construction requirements are being met, in addition to the information contained in this manual.

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# CORNELIUS CHILLER

## AIR COOLED

621057526	Chiller 75'	1/3 HP	R134a	115 Volts
621057527, 621057528	Chiller 125'	1/3 HP	R134a	115 Volts
621057531, 621057532	Chiller 250'	1/2 HP	R134a	115 Volts
621057535, 621057536, 62057537	Chiller 500'	1 HP	R134a	208/230 Volts

## WATER COOLED

621057529, 621057530	Chiller 125'	1/3 HP	R134a	115 Volts
621057533, 621057534	Chiller 250'	1/2 HP	R134a	115 Volts
621057538, 621057539, 621057540	Chiller 500'	1 HP	R134a	208/230 Volts



# EQUIPMENT SPECIFICATIONS

## COOLING DISTANCE:

621057526 .....UP TO 75' of trunk line  
 621057527, 621057528, 621057529. 621057530 .....UP TO 125' of trunk line  
 621057531, 621057532, 621057533, 621057534 .....UP TO 250' of trunk line  
 621057535, 621057536, 621057537, 621057538, 621057539, 621057540 .UP TO 500' of trunk line

Model	75'	125'	250'	500'
<b>Part Number</b>	621057526	621057527, 621057528, 621057529, 621057530	621057531, 621057532, 621057533, 621057534	621057535, 621057536, 621057537, 621057538, 621057539, 621057540
Voltage	115	115	115	208/230
Start up	9.5A	12.8A	13.6A	7.5A
Running	7.2A	10.1A	10.9A	5.3A
Refrigerant	R134a	R134a	R134a	R134a
Charge	8.5 oz.	10.5 oz.	12 oz.	20 oz.
Pressure	100 (low) 360 (high)	100 (low) 360 (high)	100 (low) 360 (high)	100 (low) 360 (high)
Dimensions (inches)*	H: 22 W: 20 D: 24	H: 32 W: 18 D: 26	H: 32 W: 18 D: 26	H: 37 W:18 D: 26
Weight	90 lbs.	110 lbs.	130 lbs.	155 lbs.
* Dimensions include pump and motor				
Tank capacity	5 gal.	11.5 gal.	11.3 gal.	11.5 gal.
2-part Injection Foam Insulation	1"	1"	1"	1"
75' Unit:	Submerged vertical pump with capacity of 60 GPH. No priming required.			
125', 250', and 500' Units:	Gear pump with capacity of 80 GPH gravity fed to insure longer pump life.			

# INSTALLATION AND OPERATION

1. Remove packaging from the unit in the vicinity of the area where it will be installed.
2. Carefully lift the unit into the desired position.

**NOTE: DO NOT PUSH UNIT - damage will be caused to the legs if the unit is pushed into position.**

## 75' UNIT

1. Connect one of the glycol tubes to the pump outlet. Insulate any exposed tubing.
2. Connect the second glycol line to the pump outlet. Insulate any exposed tubing.
3. Carefully push the glycol bath lid to one side, allowing sufficient space to fill the bath with liquid.
4. Inspect the bath for debris.
5. Fill the glycol bath with propylene glycol solution (**mixed 2 ½ parts water to 1 part glycol**). Fill the bath to the fill level on the glycol level indicator.
6. Connect unit to the electrical outlets capable of handling the required voltage loads. This should be carried out by suitably trained personnel and comply with all state and national electrical codes.
7. Glycol level will fall as glycol is pumped through the glycol lines. Continue to fill the bath to the fill level on the glycol level indicator.
8. Replace top cover.
9. Inspect for any leaks.

## 125', 250', AND 500' UNITS

1. Remove the refrigeration deck from the unit.
2. Inspect the glycol tank for any debris.
3. Connect one of the glycol lines from the beer python to the pump outlet. Insulate any exposed tubing.

**NOTE: In units with more than one pump, connect a glycol line to each pump outlet.**

4. Connect the second glycol line from each circuit to the glycol bath inlet.
5. Fill the glycol bath with propylene glycol solution (**mixed 2 ½ parts water to 1 part glycol**). Fill bath to the level of the fill line on the glycol level indicator.
6. Replace the refrigeration deck.
7. Connect the unit to the electrical outlets capable of handling the required voltage loads. This should be carried out by suitably trained personnel and must comply with all state and national codes.
8. Glycol level will fall as glycol is pumped through the glycol lines. Continue to fill the bath to the fill level on the glycol level indicator.
9. Inspect for any leaks.
10. Temperature of the glycol outlet will drop slowly to 30°F.

**NOTE: To adjust the glycol temperature please see Adjusting the Electronic Thermostat.**

## ELECTRONIC TEMPERATURE CONTROL WITH DISPLAY

**NOTE:** When the unit leaves the factory the electronic thermostat is pre-set to the following parameters:

Temperature Scale:	F (Fahrenheit)
Setpoint:	30°F
Differential:	3°F
Operating Mode:	C1 (Cooling)

**NOTE:** To ensure the correct operation of your unit these parameters must be adhered to.

**NOTE:** The Keypad Lockout switch must be in the “UNLOCK” position (factory setting) before adjusting the control. If the keypad is locked, pressing buttons has no effect on the control. The Keypad Lockout switch is located on the back inside of the front cover. If necessary, remove the cover by loosening the four captive cover screws.

### Changing Temperature Units

1. Press **Set** button once to display temperature unit.
2. Press the **Up** or **Down** button to toggle between °F and °C.
3. Continue pressing and releasing **Set** button until tank temperature is displayed in normal operating mode (“S1” not flashing).

### Setting the Setpoint

Before setting the setpoint, be sure the control is set to the temperature units you want to use, Celsius or Fahrenheit.

To view and adjust the setpoint, use the following method:

1. Press the **Set** button twice to display Setpoint (“S1” flashing).
2. Press the **Up** or **Down** button to adjust Setpoint.
3. Continue pressing and releasing **Set** button until tank temperature is displayed in normal operating mode (“S1” not flashing).

**NOTE:** If no entries are made for thirty (30) seconds, the control reverts back to the tank temperature display.

## MAINTENANCE

1. Inspect the unit monthly to ensure that the glycol level is maintained to the fill level.
2. If the level is low replace with a propylene glycol solution, (**mixed 2 ½ parts water to 1 part glycol**).
3. If there is evidence of ice build up in the unit, allow the ice to melt and replace all the water/glycol solution with a fresh solution.
4. The glycol/water solution should be changed every 2 years. In regions of high humidity considerations should be given to replacing the solution on an annual basis.
5. Check and clean the condenser fins every 6 months.
6. Check that there is adequate air flow through the unit ensuring enough space all around and that there are no obstructions in front of the air flow vents.
7. Check the condition and effectiveness of the trunk line insulation.
8. At regular intervals, to be determined by the owner, the unit should be checked for electrical safety.

## TROUBLESHOOTING

Trouble		Cause		Solution	
1.	Excessive foam	A.	Warm walk-in cooler	A.	<i>Adjust cooler temperature to 34° to 36°F (use quality thermometer)</i>
		B.	Check applied pressure to barrel	B.	Adjust setting on regulator for proper pressure
		C.	Check equipment	C.	Check the physical equipment from keg to faucet
		D.	Warm product lines	D.	Refer to 5
2.	Compressor does not start (no hum), but the fan motor runs.	A.	Compressor relay or capacitor malfunction	A.	Replace compressor relay, relay or capacitor.
		B.	Inadequate voltage	B.	Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.
		C.	Compressor failure	C.	Replace compressor.
3.	Compressor starts and continues to run until freeze up and will not cut off.	A.	Thermostat control failure	A.	Replace thermostat
		B.	Freon leak	B.	Repair leak and recharge
4.	Compressor does not run but hums.	A.	Inadequate voltage	A.	Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage
		B.	Starting relay malfunction	B.	Replace starting relay Be sure to use correct relay. Failure to use correct relay will cause compressor failure.
		C.	Compressor malfunction	C.	Replace compressor

5.	Warm beer	A.	Defective Pump (check motor also)	A.	Check return line in reservoir for liquid flow. Replace pump
		B.	Defective motor (check pump also)	B.	Replace motor
		C.	Refrigeration unit not running	C.	Refer to 2
		D.	Conduit lines located in overheated area	D.	Remove from any hot water pipes or kitchen area with stove or glass washer.
		E.	Conduit lines flooded in PVC chase.	E.	Remove lines from PVC, thoroughly dry PVC and repair or replace conduit as needed.
		F.	Uninsulated or poorly insulated lines	F.	All lines should be fully insulated from cooler into dispenser. Includes glycol lines from power pack into cooler.
		G.	Thermostat	G.	Adjust temperature to colder setting.
		H.	Condenser fan motor not working	H.	Replace condenser fan motor.
		I.	Freon leak	I.	Repair leak and recharge.
		J.	Dirty condenser	J.	Clean the condenser
		K.	Condensation inside conduit insulation (may be caused from cleaning lines)	K.	Check trunk housing in areas for drooping or low spots, split insulation approximately 5" and separate. Allow any water to drain, then air dry, the seal closed.
		L.	Warm walk in cooler	L.	Check temperature of walk-in cooler-liquid temperature, set cooler at 36° to 38°.

## TYPICAL SPARE PARTS

Component	Part Number	75'	125'	250' 1 pump	250' 2 pumps	500' 2 pumps	500' 3 pumps	500' 4 pumps
Vertical Pump	620202626	x						
Gear Pump	620202662		x		x		x	x
Gear Pump	620202810			x		x	x	
Motor 115V	60030058		x	x	x			
Motor 230V	71860673					x	x	x
Clamp	187483000		x	x	x	x	x	x
Temp Controller	620202617	x						
Digital Controller	620202675		x	x	x	x	x	x
Wick	620202633	x	x	x	x	x	x	x
Wick Tray	620202634	x	x	x	x	x	x	x
Compressor	2129	x						
Compressor	620202815		x					
Compressor	620202816			x	x			
Compressor	620202817					x	x	x
125' Refrigeration Deck	620202818		x					
250' Refrigeration Deck	620202819			x	x			
Leg	70439	x	x	x	x	x	x	x
Nipple for Gear Pump	6170		x	x	x	x	x	x

## WARRANTY

All glycol coolers carry a full warranty against defects in materials and workmanship for a period of one year from the date of sale. The compressor has a five year warranty.

Defective parts, subject to inspection by Cornelius, will be replaced or repaired during the warranty period on a no charge basis.

Labor warranty is provided for 90 days after the date of sale. All loss of sales must be borne by the purchaser.

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