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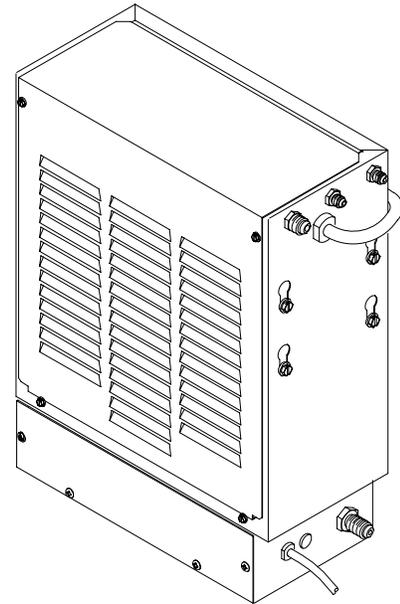
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Operator's Manual

CARBONATOR

With Plain Water Boost



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THIS DOCUMENT CONTAINS IMPORTANT INFORMATION

This Manual must be read and understood before installing or operating this equipment

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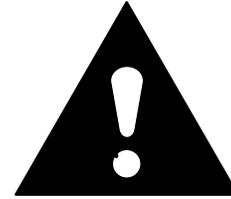
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SAFETY INFORMATION

Recognize Safety Information

This is the safety-alert symbol. When you see this symbol on our machine or in this manual, be alert to the potentially of personal injury.

Follow recommended precautions and safe operating practices.



Understand Signal Words

A signal word - **DANGER**, **WARNING**, OR **CAUTION** is used with the safety-alert symbol. **DANGER** identifies the most serious hazards.

Safety signs with signal word **DANGER** or **WARNING** are typically near specific hazards.

General precautions are listed on **CAUTION** safety signs. **CAUTION** also calls attention to safety messages in this manual.



Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Learn how to operate the machine and how to use the controls properly. Do not let anyone operate the machine without instructions. Keep your machine in proper working condition. Unauthorized modifications to the machine may impair function and/or safety and affect the machine life.

CO₂ (Carbon Dioxide) Warning

CO₂ Displaces Oxygen. Strict Attention *must* be observed in the prevention of CO₂ (carbon dioxide) gas leaks in the entire CO₂ and soft drink system. If a CO₂ gas leak is suspected, particularly in a small area, *immediately* ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentration of CO₂ gas will experience tremors which are followed rapidly by loss of consciousness and suffocation.

Shipping, Storing, Or Relocating Unit

CAUTION: All water must be purged from the Unit if exposed to freezing temperature. A freezing ambient temperature will cause residual water remaining inside the Unit to freeze resulting in damage to internal components of the Unit.

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GENERAL INFORMATION

TO THE USER OF THIS MANUAL

This is an Operator's Manual for the Carbonator with Plain Water Booster (hereafter referred to as a Unit). Retain this manual with your equipment manuals for future reference.

This Unit must be serviced by a qualified Service Person. This Unit contains no User serviceable parts.

CLAIMS INSTRUCTIONS

Claims: In the event of shortage, notify the carrier as well as Cornelius immediately. In the event of damage, notify the carrier. **Cornelius is not responsible for damage occurring in transit, but will gladly render assistance necessary to pursue your claim. Merchandise must be inspected for concealed damage within 15 days of receipt.**

WARRANTY REFERENCE INFORMATION

Warranty Registration Date (to be filled out by customer)
Unit Part Number:
Serial Number:
Install Date:
Local Authorized Service Center:

DESIGN DATA

Table 1. Design Data	
Model Numbers	
115 VAC Unit	416417000
230 VAC Unit	496417000
230 VAC Unit	496417020
230 VAC Unit	496417040

Table 1. Design Data (cont'd)	
Overall Dimensions:	
Width	6-3/8 inches
Height	18-1/4 inches
Depth	14 inches
Weight:	
Dry	35 pounds
Shipping	38 pounds
Ambient Operating Temperature	40° F to 100° F
Maximum CO ₂ Operating Pressure	125 PSI
Electrical Requirements:	
Model No. 416417000:	
Operating Voltage	115 VAC, 60 Hz
Current Draw	6.5 Amps
Model No. 496417000, 496417020, and 496417040 :	
Operating Voltage	220/230 VAC, 50/60 Hz
Current Draw	3.3 Amps

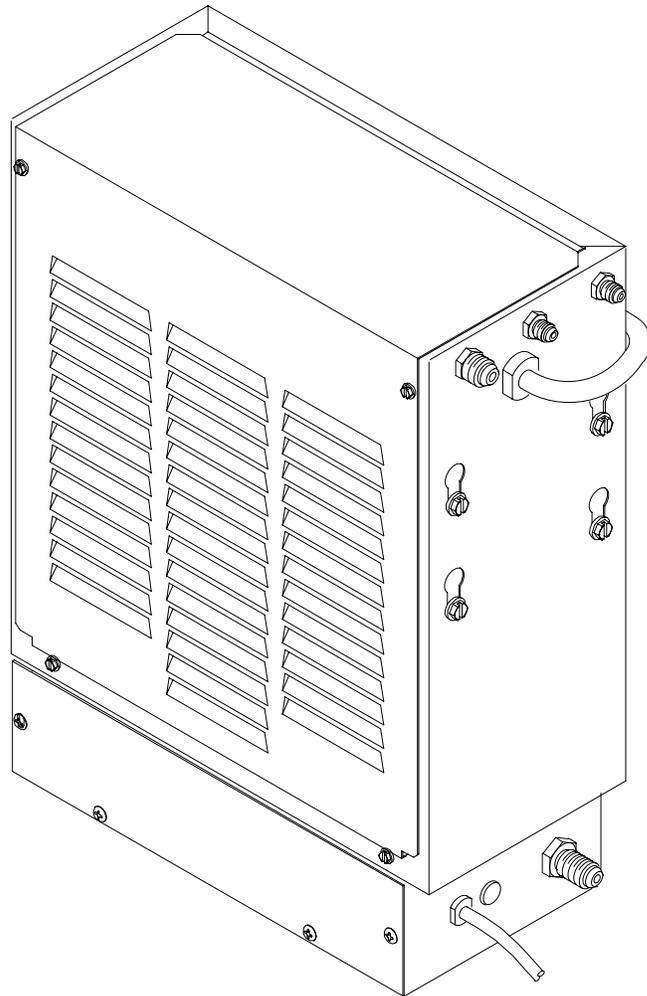


FIGURE 1. CARBONATOR WITH PLAIN-WATER BOOSTER

THEORY OF OPERATION

A CO₂ cylinder delivers carbon dioxide (CO₂) gas through a CO₂ regulator to the carbonator tank. When carbonator tank calls for water, an electrical circuit is completed through the level switches, which opens water solenoid valve and also starts water pump motor. Plain water is pumped through water solenoid valve into carbonator tank which is carbonated by CO₂ which is also entering the tank. When carbonator tank is full, weight of water in tank forces tank and balance control mechanism down activating level control switches which stops water pump motor and also closes water solenoid valve.

When still (non-carbonated) drink dispensing valve is activated, it sends an electrical signal to start the carbonator water pump motor. The carbonator water pump provides pressurized plain-water to dispensing valve dispensing still (non-carbonated) drink. When dispensing valve lever is released, electrical signal to carbonator water pump motor is cut off which stops water pump motor.

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OPERATORS INSTRUCTIONS



CAUTION: This Unit must not be installed in an unsheltered outdoor location where it will be exposed to the elements.

IMPORTANT: Only qualified Personnel should service internal components of the Unit.



CAUTION: To prevent a fire hazard, no object should be placed or stored on top of the Unit.

This section covers operator's cleaning and maintenance responsibilities for the Unit.

PERIODIC INSPECTION

CHECKING CO₂ SUPPLY

Make sure CO₂ cylinder regulator assembly 1800-psi gage indicator is not in shaded ("change CO₂ cylinder") portion of dial. If so, CO₂ cylinder is almost empty and must be replaced as instructed.

CHECKING FOR CO₂ AND WATER LEAKS

Check Unit for CO₂ and water leaks and if found, call a qualified Service Person to repair as necessary.

WATER PUMP MOTOR LUBRICATION

The water pump motor bearings must be lubricated periodically. Call a qualified Service Person to perform the bearings lubrication procedure.

ADJUSTING CARBONATOR CO₂ REGULATOR

The carbonator CO₂ regulator should be periodically checked for proper CO₂ gas pressure setting (nominal-80 psig, *DO NOT EXCEED 125 PSIG*). If adjustment is necessary, call a qualified Service Person to perform the adjustment procedure.

WATER PUMP YEARLY MAINTENANCE (OR AFTER WATER SYSTEM DISRUPTION)

The water pump water strainer screen, double liquid check valve, and the carbonated water tank relief valve must be inspected and cleaned at least once a year under normal circumstances and after any water system disruption (plumbing work, earthquake, etc.). Call a qualified Service Person to inspect and clean the water strainer screen, double liquid check valve, and the carbonated water tank relief valve.

PERIODIC CLEANING

Periodically wash all external surfaces of the Unit, rinse with clean water, then wipe dry with a clean soft cloth. **DO NOT USE ABRASIVE-TYPE CLEANERS.**

REPLENISHING CO₂ SUPPLY

NOTE: When indicator on CO₂ cylinder regulator assembly 2000-psi gage is in shaded (“change CO₂ cylinder”) portion of the dial, CO₂ cylinder is almost empty and should be changed.

1. Fully close (clockwise) CO₂ cylinder valve.
2. Slowly loosen CO₂ regulator assembly coupling nut allowing CO₂ pressure to escape, then remove regulator assembly from empty CO₂ cylinder.
3. Unfasten safety chain and remove empty CO₂ cylinder.



WARNING: To avoid personnel injury and/or property damage, always secure the CO₂ cylinder with a safety chain to prevent it from falling over. Should the valve become accidentally damaged or broken off, a CO₂ cylinder can cause serious personnel injury.

4. Position the CO₂ cylinder and secure with a safety chain.
5. Make sure gasket is in place inside the CO₂ regulator coupling nut, then install regulator on the CO₂ cylinder.
6. Open (counterclockwise) CO₂ cylinder valve slightly to allow lines to slowly with gas, then open valve fully to back-seat the valve (back-seating the valve prevents leakage around the valve shaft).
7. Check CO₂ connections for leaks. Tighten any loose connections.

TROUBLESHOOTING

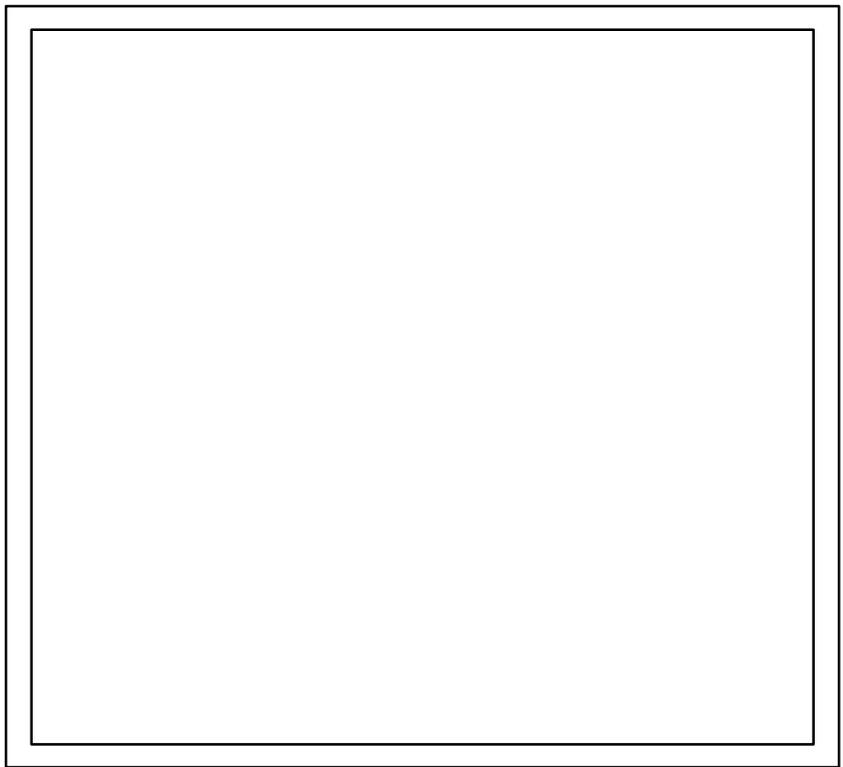
IMPORTANT: Only qualified personnel should service internal components or electrical wiring.



WARNING: If repairs are to be made to a product system, remove quick disconnects from the applicable product tank, then relieve the system pressure before proceeding. If repairs are to be made to the CO₂ system, stop dispensing, shut off the CO₂ supply, then relieve the system pressure before proceeding. If repairs are to be made to the refrigeration system, make sure electrical power is disconnected from the unit.

Trouble	Probable Cause	Remedy
CARBONATOR WILL NOT OPERATE	A. Power cord unplugged or circuit breaker open in panel box.	A. Plug in power cord or reset circuit breaker.
	B. Inoperative carbonator.	B. Call a qualified Service Person.
WATER PUMP MOTOR WILL NOT SHUT OFF.	A. Carbonator internal problem.	A. Call a qualified Service Person.
ERRATIC CYCLING OF CARBONATOR.	A. Carbonator internal problem.	A. Call a qualified Service Person.
WATER PUMP MOTOR OPERATES BUT WATER PUMP DOES NOT PUMP WATER.	A. Carbonator internal problem or a water supply line problem.	A. Call a qualified Service Person.
CARBONATOR CARBONATED WATER CAPACITY TOO LOW.	A. Carbonator internal problem or a water supply line problem.	A. Call a qualified Service Person.
	B. Water filter clogged.	B. Replace water filter.
NO PLAIN WATER DISPENSED WHEN DISPENSING VALVE IS OPENED.	A. Dispensing valve problem.	A. Call a qualified Service Person.
	B. Poor electrical connection or broken 24 VAC service cord from dispensing valve to carbonator.	B. Call a qualified Service Person.
	C. Carbonator internal problem.	C. Call a qualified Service Person.

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