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Congratulations on your purchase of a CFR Pro 400 Station. Read this entire manual before operating or servicing the Pro 400 Station.

## **Unpacking your new Pro 400 Station**

Your Pro 400 Station was thoroughly inspected, tested, and packaged to deliver the equipment in good operating condition. The freight carrier received and signed for the equipment in good condition. Damage can occur during shipping and to protect your interest, all cartons must be inspected for damage (including any concealed damage) that might have occurred during shipment. Any damage is the responsibility of the freight carrier and should be reported immediately to the carrier. It is your responsibility to issue a claim and to receive compensation from the freight carrier for any damage done in transit. Shipping damage is not warranted.

### **CAUTION**

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#### **Read All Instructions, Warnings and Cautions Before Using**

These guidelines are provided for your protection and convenience. Please read them carefully. If you have any questions regarding the use of your equipment call CFR Technical Service at 888.878.4190. Failure to adhere to instructions provided can potentially void any warranties. Precautions and safety warnings are provided for your protection. Failure to observe these warnings could result in personal injury and damage to the equipment. When using an electrical appliance, basic safety precautions should always be followed.

### **WARNING**

To avoid fire, do not use with a flammable or combustible liquid to clean floor.

## **IMPORTANT SAFETY INSTRUCTIONS**

The Pro 400 Station is intended for use only as described in this manual. Using the Pro 400 Station in any manner not described in this manual can void the warranty. Use only manufacturer s recommended accessories.

### **READ ALL INSTRUCTIONS BEFORE USING**

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#### **THIS PRODUCT IS INTENDED FOR COMMERCIAL USE ONLY**

When using a electrical piece of equipment basic precautions should be followed, including the following:

***WARNING! To reduce the risk of electric shock, fire, or injury:***

1. Operators must read and understand this manual completely before operating the equipment.
  2. Make sure all caution, warning, and instructional decals are in place and legible. Replace damaged or missing labels.
  3. Do not leave unit when plugged in. Unplug from outlet when not in use and before servicing.
  4. Connect to a proper grounded outlet only. (*See Grounding Instructions.*)
  5. Do not use with damaged cord or plug.
  6. Do not handle plug or unit with wet hands.
  7. Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaces.
  8. Turn off all controls before unplugging.
  9. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
  10. Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
  11. Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
  12. Do not use without filters in place.
  13. Use extra care when cleaning stairs.
  14. Do not use to pick up flammable or combustible liquids such as gasoline or use in areas where they may be present.
  15. Do not expose to rain. Store indoors.
  16. If unit is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, take it to a local CFR service center.
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## GROUNDING INSTRUCTIONS

This unit must be grounded. Grounding provides the path of least resistance for electric current, in the event of malfunction or breakdown, to reduce the risk of electric shock. This unit is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**WARNING!** Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance — if it will not fit the outlet; have a grounded outlet installed by a qualified electrician.

## SET UP INSTRUCTION

1. Attach handles to chassis with the handle wheels facing to the rear of the unit, using the four wing nuts provided for this purpose.
2. Fill out Warranty Card and return it to CFR.

### Filter Installation

There are three filters in the Pro 400: inlet filter, main filter and pump protection filter. It is imperative to the efficient operation of the Pro 400 Station that the filters are installed properly.

**Inlet Filter** — Install inlet filter bag on removable inlet filter holder and mount holder in the tank vacuum inlet fitting using the black knob. Open side of filter holder should face vacuum inlet hose connection.

**Main Filter** — Wet the rim of the filter and position it on the filter mound. (white plastic disc) Twist and slide over the mound by pushing downward.

**Pump Protection Filter** — Position on brass fitting on the filter mound. Slide it down.

## **OPERATING INSTRUCTIONS**

1. Check inlet filter. Make sure the removable inlet filter holder and filter bag are attached to the tank inlet fitting before using the Pro 400.
2. Check main filter. Make sure the stainless steel filter is installed snugly.
3. Fill tank with water to a depth of 1/2 (1.25 cm) below the bottom of the upper level float switch. This depth indicates the 10-gallon fill level. Maximum water temperature to be used is 120 to 130 degrees F. Note: The two little dots on the float must point up (they point down on the lower float switch).
4. Add in-tank cleaner per chemical label use instructions. In addition, pre-spraying is often desirable and will assist in producing the fastest and best cleaning results. See chemical product labels for more information. Note: Use caution when moving machine (especially on inclines) with fluid in the tank to prevent fluid from entering vacuum standpipe at back of machine tank and flooding the vacuum.
5. Attach hose assembly to machine. Connect fluid hose to the quick-disconnect found on the front of machine.
6. Prime pump by re-circulating fluid through fluid hose (without a nozzle attached) into the tank for 15/30 seconds. Re-circulating the fluid primes the pump and expels trapped air from the system.
7. Attach the desired tool to the valve end of the hose assembly.
8. Close tank cover, turn on vacuum and pump switches.
9. Clean surface with tool attached to hose assembly.
10. During the cleaning process, the fluid level will be reduced and the lower level float switch will shut off the pump. When the pump shuts off, drain and rinse tank, rinse ultra filter, refill with fresh water and cleaning chemical, and continue cleaning.

**CAUTION!** When cleaning, monitor foam in the machine's tank. Areas cleaned with other cleaning equipment or chemicals may cause excessive foam to collect in the tank.

**WARNING! EXCESSIVE FOAM IN THE TANK MAY CAUSE VACUUM MOTOR FLOODING AND MACHINE DAMAGE.** Pour one to two ounces of CFR Defoam directly into the tank or into the vacuum hose while the vacuum is running

When finished cleaning, perform the daily maintenance procedure. Be sure that all filters are cleaned thoroughly and replaced in machine. Leave cover open for drying.

## MAINTENANCE

### Daily Maintenance

To maintain optimum performance the equipment, tools and filters should be cleaned after each use. Replace any filters that cannot be cleaned or are damaged. Nozzles that cannot be cleared should be discarded. Wipe down the equipment with a damp cloth to keep clean and preserve the appearance.

#### 1. Tools

Rinse tool head with water to eliminate any debris. Wipe tool with damp cloth and store with head up to prevent clogging of nozzle.

#### 2. Filters

***In-Line Strainer Filter*** — Disconnect the In-line Strainer Filter on the wand by using the quick disconnect coupler. Remove the filter and rinse with water. Remove any debris from the strainer. Keep o-ring and threads of the plug lubricated. CFR DeFoam is a good lubricant or use a non-petroleum based lubricant. This will ensure a tighter seal.

***Inlet Filter*** — Remove the inlet filter from the holder using the black knob. Dump and clean debris at the end of each cleaning job.

***Main Filter*** — Remove the main filter sleeve and rinse out and clean thoroughly.

***Pump Protection Filter*** — This ball-shaped filter should be in place when the tank is cleaned and rinsed. Remove and rinse only after the tank is rinsed.

## **Periodic Maintenance**

1. Check power cord for any breaks, separations, or cuts. Make sure the ground pin on the connector is intact or the machine will be unsafe. Make sure the ground pin on all three prongs on the twist lock connector are intact.
- 2.
3. Check for plugged nozzles when using tools. If streaking occurs during cleaning, a plugged nozzle may be the cause. A plugged or partially plugged nozzle can be identified by holding the tool 5-7" above the surface and checking for an even spray pattern. To clean a plugged nozzle, remove the nozzle and direct pressurized air backwards through the nozzle or backwash the nozzle with water. A convenient method is to insert the nozzle into a garden hose ball valve, tighten the ball valve to a faucet, and turn on the water. (CFR has ball valves available, part #7AX020). Inspect nozzle and repeat cleaning procedure, if necessary. Discard nozzles that cannot be cleared. Tool nozzles wear and must be replaced after 200-250 hours of use.
4. Occasionally open side panel(s) and inspect hose and other connections for leaks. Repair or replace any leaking parts. Always disconnect power cord, before removing side panels.
5. It is very important to monitor machine operating hours for proper maintenance of the motors and pumps. After 700 hours of operation, the vacuum motor brushes should be inspected by an authorized repair station and replaced if worn (length is .5 inches or less).
6. Check vacuum motor performance using a vacuum gauge (CFR #70412A). Place this gauge on the tank inlet fitting with the vacuum turned on. Water lift should be between 105 and 135 inches. If the reading is lower, check for air leaks in the tank, cover gasket, and drain hose.
7. Check pump performance occasionally against built-in pressure gauge. Pump running pressure should be  $400 \pm 10$  p.s.i. When pumping fluid through one #04 nozzle, the pressure should be  $340 \pm 20$  p.s.i. If the pumping pressure is outside of this range, call your dealer or authorized station. After 400 hours, the pump valves should be replaced. After 700 hours of operation the pump cam bearing and plunger should be replaced. The pressure regulator should be rebuilt after 400 hours of operation.

**SPECIFICATIONS - Pro 400**

Power Cord	One Cord, 12 Ga, 3 Wire, Molded End Plug
Voltage	115/120 Volts AC, 60 HZ
Amps	Vacuum Motor - 12.75 Amps Pump Motor - 3 Amps
Tank Volume	10 Gallons (37.9 liters)
Fill Level	1/2 (1.25cm) below the bottom of the Vac Float Switch
Vacuum Motor	3 stage with 135 inch of maximum water lift
Pump Motor	1/3 HP AC Motor
Pump	Plunger Type; 0 to 400 psi.
Float Switches	High float switch for Vac shut-off. Low float switch for Pump shut-off
Weight	102 lbs. (46.3KG)
Height	42 1/2 (108 cm)
Width	20 (51 cm)
Length	27" (68 cm)
Wheels	10 (25 cm) Non-marking wheels
Casters	5 (13 cm) Non-marking wheels
Body	Machine body structure is painted aluminum.
Machine Handles	Chrome plated steel; secured to machine body with stainless screws.
Filters	Three filters: Inlet Filter, Main Filter, and Pump Protection Filter.
Electrical Safety Features	<p><i>GFCI (Ground Fault Circuit Interrupter):</i> The GFCI protects the operation from transient or accidental grounding in the electrical system. Should the machine develop an unwanted ground, the GFCI reset button will trip and shut off electricity to the vacuum and pump motors.</p> <p><i>Circuit Breakers:</i> Overload circuit breakers are placed in both the pump and vacuum circuits to protect against unusually heavy current (ampere) loads. If either breaker trips, the pump motor or vacuum motor is overloaded.</p>



**SPECIFICATIONS - PRO 400 220/240V**

Power Cord	One Cord, 12 Ga, 3 Wire, Molded End Plug
Voltage	220/240 Volts AC, 50 HZ 220/240 Volts AC, 60 HZ
Amps	Vacuum Motor 8.8 Amps Pump Motor 1.7 Amps
Tank Volume	10 Gallons (37.9 liters)
Fill Level	1/2 (1.25 cm) below the bottom of the Vac Float Switch
Vacuum Motor	3 stage motor, 125 to 135 inch of maximum water lift
Pump Motor	1/3 HP AC Motor
Pump	Plunger Type; 0 to 400 psi.
Float Switches	High float switch for Vac shut-off Low float switch for Pump shut-off
Weight	102 lbs. (46.3KG)
Height	42 1/2 (108 cm)
Width	20 (51 cm)
Length	27" (68 cm)
Wheels	10 Non-marking wheels (25 cm)
Casters	5 Non-marking wheels (13 cm)
Body	Machine body structure is painted aluminum.
Machine Handles	Chrome plated steel; secured to machine body with stainless screws.
Filters:	Three filters: Inlet Filter, Ultra Filter, and Back Flush Filter.
Electrical Safety Features	Circuit Breakers: Overload circuit breakers are placed in both the pump and vacuum circuits to protect against unusually heavy current (ampere) loads. If either breaker trips, the pump motor or vacuum motor is overloaded.

**SPECIFICATIONS - PRO 400 ETL 15/20**

Power Cord	One 30' Cord, 14 Ga., 3 Wire, Molded End Plug
Voltage	115Volts AC, 60 HZ
Amp	Pro 400 CSA 15 12.7 amps Pro 400 CSA 20 15.4 amps
Tank Volume	10 Gallons (38 liters)
Fill Level	1/2 (1.25 cm) below the bottom of the Vacuum Float Switch.
Vacuum	Pro 400 CSA 15 - 3 stage with maximum 115 inch of water lift. Pro 400 CSA 20 - 3 stage with maximum 135 inch water lift
Pump Motor	1/3 HP AC Motor
Pump	Plunger Type: 0 to 400 psi.
Float Switches	High float switch for Vacuum shut-off. Low float switch for Pump shut-off.
Weigh	102 lbs (46 kg)
Height	42.5" (108 cm)
Width	20" (51 cm)
Length	27" (68 cm)
Wheels	10 (25 cm) Non-marking wheels.
Casters	5 (13 cm) Non-marking wheels.
Body	Machine body structure is painted aluminum.
Machine Handle	Chrome plated steel; secured to machine body with stainless cap nuts.
Filters	Three filters: Inlet Filter, Ultra Filter, and Back Flush Filter.
Electrical Safety Features	<p>GFCI (Ground Fault Circuit Interrupter): The GFCI protects the operation from transient or accidental grounding in the electrical system. Should the machine develop an unwanted ground, the GFCI reset button will trip and shut off electricity to the vacuum and pump motors.</p> <p>Circuit Breakers: Overload circuit breakers are placed in both the pump and vacuum circuits to protect against unusually heavy current (ampere) loads. If either breaker trips, the pump motor or vacuum motor is overloaded.</p>

**TROUBLE SHOOTING GUIDE**

<p><b>Vacuum or pump will not run</b></p>	<ul style="list-style-type: none"> <li>• Check that electrical cord is firmly seated in wall outlet.</li> <li>• Check and reset building circuit breaker if tripped.</li> <li>• Check GFCI on back of machine and reset if tripped.</li> </ul> <p>NOTE: GFCI and/or circuit breaker may trip if vacuum motor is flooded. Open tank cover and try to run vacuum motor for 10 minutes to dry vacuum motor. If the GFCI trips again, wait 5 minutes, reset and try vacuum again.</p> <ul style="list-style-type: none"> <li>• Check vacuum/pump switch. It should be in the <b>on</b> position.</li> <li>• Check upper float eyes or dots making sure they point up and the lower float eyes point down.</li> </ul>
<p><b>Trips building circuit breaker</b></p>	<ul style="list-style-type: none"> <li>• Circuit is overloaded — move cord to a different wall outlet.</li> <li>• If using an extension cord, make sure it is in good condition, less than 70 feet long and #10 gauge or heavier.</li> <li>• Check plug end and cord for damage.</li> </ul>
<p><b>Vacuum won't run.</b></p>	<ul style="list-style-type: none"> <li>• <b>Check vacuum switch. It should be in the <b>on</b> position.</b></li> <li>• Check circuit breaker and reset if tripped.</li> </ul> <p>NOTE: GFCI and/or circuit breaker may trip if vacuum motor is flooded. Open tank cover and try to run vacuum motor for 10 minutes to dry vacuum motor. If the GFCI trips again, wait 5 minutes, reset and try vacuum again.</p> <ul style="list-style-type: none"> <li>• Check upper float — eyes or dots on white float must point up. Move float up and down to see if vacuum will turn on. Water level must be below upper float. Float must be in the lowest position.</li> </ul>
<p><b>Pump won't run</b></p>	<ul style="list-style-type: none"> <li>• Check pump switch — it should be in the <b>on</b> position.</li> <li>• Check pump circuit breaker (5 amp) and reset if tripped.</li> <li>• Check fluid level, must have at least 4 gallons in tank.</li> <li>• Check fluid level inside of Ultra Filter Cage — pump float must be at highest position to operate. If fluid is lower inside filter, drain tank and remove and clean filter.</li> <li>• Check upper float — eyes or dots on white float must point up. Move float up and down to see if vacuum will turn on. Water level must be below upper float. Float must be in the lowest position.</li> <li>• Check red light on back panel. If off, check pump switch and float. If on, call distributor for service.</li> </ul>
<p><b>Pump tries to run and then blows circuit breaker</b></p>	<ul style="list-style-type: none"> <li>• Check power cord for frayed, cut or worn spots.</li> <li>• If using an extension cord, make sure it is in good condition, less than 70 feet long and #10 gauge or heavier.</li> <li>• Check pump static PSI — must be 400 psi or less</li> <li>• Check wall outlet voltage. If below 105 volts, pump will not work.</li> </ul>
<p><b>Pump starts and stops</b></p>	<ul style="list-style-type: none"> <li>• Check for dirty Ultra Filter. Water level should be the same inside and outside of filter.</li> <li>• Check for sticking pump float.</li> <li>• Check fluid level — must have at least 4 gallons in tank.</li> </ul>

CFR, a Tacony company, warrants new products manufactured and sold under the name CFR to be free from defects in materials and workmanship under normal use and service. CFR's obligation under this warranty is limited to repairing or replacing, at our option, such products or parts which are returned to our factory authorized service center, freight prepaid, within the warranty period and are found to be defective in materials or workmanship. For rotationally molded polyethylene housings and aluminum frames and chassis this warranty expires 60 months from the date of registration; if the warrant is not registered, it expires 60 months from the factory shipment date. For all other components, with the exception of wear items (i.e. filter, nozzles, etc.) this warranty expires 12 months from the date of registration on the warranty. If not registered, it expires 12 months from the factory shipment date. For hoses, tools, and other attachments manufactured and sold by CFR, this warranty expires 12 months from factory shipment date. Parts replaced or repaired under warranty are guaranteed for the remainder of the original warranty period. Replacement parts that have become defective through wear or abuse are not included in this warranty. CFR will pay service labor to the distributor or authorized service repair center per the warranty flat rate schedule. Service labor will be paid for two years on all warranted polyethylene housings, aluminum frames and chassis, and one year on all other warranted components.

CFR systems are designed for use only with specially formulated CFR Recyclable Cleaning Chemicals. Use of any other chemical in CFR systems may cause damage to the pump, motor and other components and may void the warranty.

This warranty shall cease to be in effect if repairs, replacements or alternations are made by the purchaser or any non-authorized service station. This warranty does not apply to damage caused by misuse, abuse, or negligence of the buyer or third party, or damage due to transportation of product.

CFR MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATIONS, ANY WARRANTIES OF FITNESS OR MERCHANTABILITY, EXCEPT AS EXPRESSLY SET FORTH ABOVE WITH RESPECT TO SUCH PRODUCTS OR PARTS THEREIN. NOR SHALL CFR HAVE INCURRED ANY OTHER OBLIGATIONS OR LIABILITIES ON ITS PART OR BE LIABLE FOR ANY ANTICIPATED OR LOST PROFITS, INCIDENTAL DAMAGES, CONSEQUENTIAL DAMAGES, TIME CHARGES OR ANY OTHER LOSSES INCURRED IN CONNECTION WITH THE PURCHASE, INSTALLATION, REPLACEMENT OR REPAIR OF SUCH PRODUCTS OR ANY PARTS THEREIN WHETHER ORIGINAL EQUIPMENT OR INSTALLED AS A REPLACEMENT, COVERED BY THIS WARRANTY OR OTHERWISE; AND CFR DOES NOT AUTHORIZE ANY PERSONA TO ASSUME FOR CFR ANY OTHER LIABILITY IN CONNECTION WITH THE PRODUCTS OR PARTS THEREIN.



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