

# THE COBRA SYSTEM

## HEATED C.T.A.

412-872-4149

Thank you for purchasing "The Cobra System".  
Please read important information  
below:

***THE COBRA SYSTEM must be installed by a certified electrician and plumber.  
Warranty is rendered null and void if not following specific directions while installing  
THE COBRA SYSTEM.***

**\*NOTE:**

- We recommend using Teflon tape for all pipe thread connections on all threaded fittings.
- Be sure there is no electric current going to The Cobra System CTA until units are filled with 100% anti-freeze (where the pressure relief valve is located) within a 1/2" to top inside tank.
- You cannot make any adjustments to the digital thermostats they are preset and locked out to ensure non-tampering for the correct temperature.

### **COBRA TIPS FOR GETTING CLEANER WHEELS & TIRES**

1. No manual prepping. Keeping wheels and tires dry.
2. Prevent presoak spraying on the wheels.
3. Correct chemical ratio.
4. Spray pattern should be concentrated on wheel.
5. Allow wheel and tire chemical to stay concentrated as long as possible
6. Wheel blaster set 20 to 40 ft. from Cobra's if possible
7. Run alkaline not acidic on lower brushes
8. 90psi at air diaphragm pump (minimum) (G57 Flojet pump with 511 Hydrominder)

### **WARRANTY**

Parts manufactured by The Cobra System are covered for a period of 90 days from the shipment date and 1 (one) year on labor. Other parts which are purchased by The Cobra System used to manufacture The Cobra System products are covered by their respective manufacture warranties.

**WARRANTY TERMS:**

The Cobra System warrants to the original purchaser to be free of Defective Parts and Workmanship for a period of 1 (one) year. This warranty begins on the date of original retail delivery or original use, whichever occurs first. Repairs or replacements und warranty will not extend the warranty coverage. No benefits or remedies are available under this limited warranty while the invoice for the unit or related services remains outstanding. This warranty is Non-Transferable. If any part of the Cobra System C.T.A. Fails in normal use because of defective parts or workmanship performed by the manufacturer and is returned to us, then it will be repaired or assembly replaced. The alleged defective part of the assembly MUST be returned to the manufacturer, at your cost properly supported by purchase receipt, For inspection and credit consideration in order for the Replacement coverage to be applicable, As specified below.

**ALL WARRANTY REPLACEMENTS AND FIELD REPAIRS MUST BE PRE-APPROVED. AN IDENTIFICATION REFERENCE MUST BE OBTAINED BEFORE ANY SERVICE IS PERFORMED.**

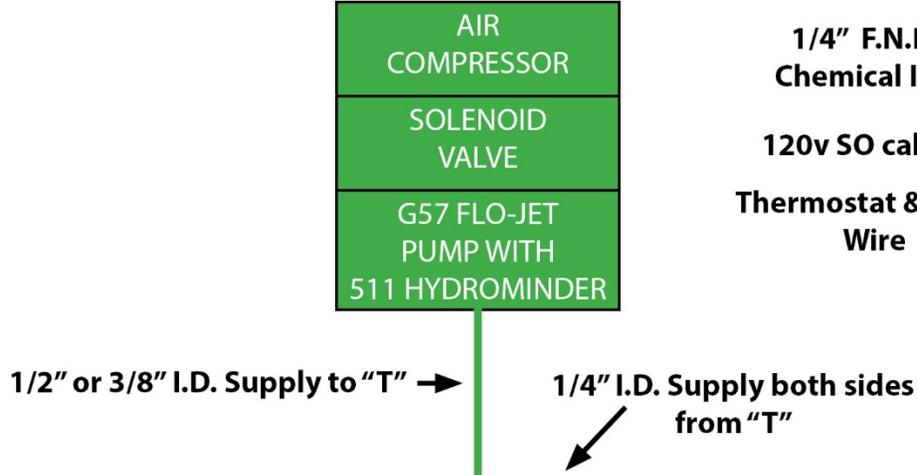
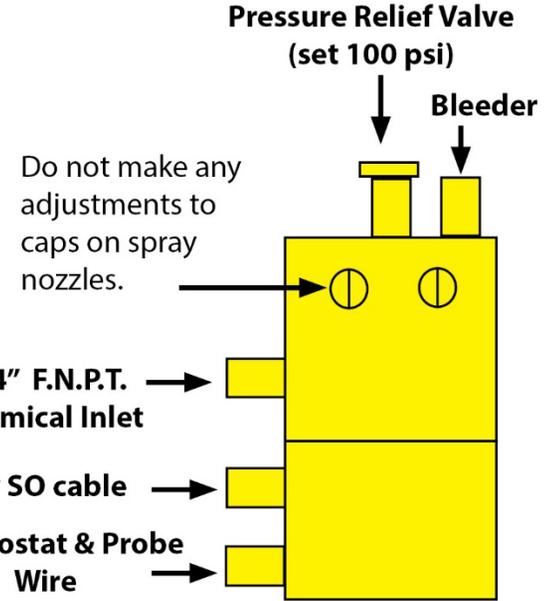
Operating Costs **\*\*ONLY\*\***  
 \$1.43 a day!  
**TYPICAL INSTALLATION**

**COBRA SYSTEM INCLUDES:**

1	Set of C.T.A.'s
2	Temperature Control Switches
2	Poly Ball Valves - (Chemical Bleeders)
4	Diaphragm Check Valve Nozzle
4	V-Jet Foaming Nozzles
2	Pressure relief valves
2	1/4" x 1/4" Male Connectors

- Thermostat & Probe Wire
- 110 or 24 Volt Electric
- Chemical

SUPPORT EQUIPMENT	
	Typical Installation 2 - Pneumatic Switches 1 - Normally open 1 - Normally closed
	Car Wash Controller 24 Vac Relay
	511 Hydro minder G57 Flo-Jet Pump Air Compressor



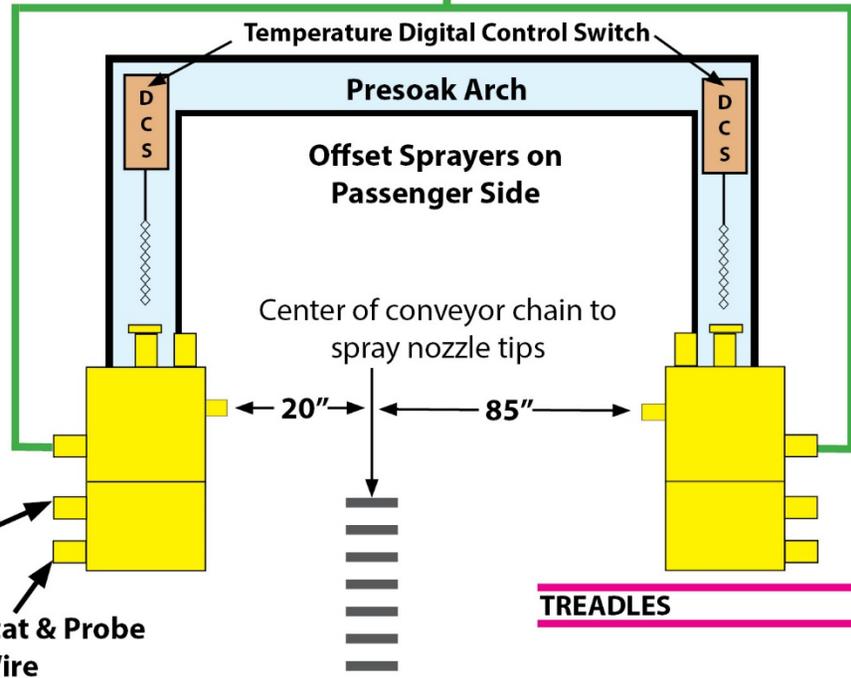
**TIMER FOR CTA'S OPEN - CLOSE BUSINESS**

**CAR WASH CONTROLLER**

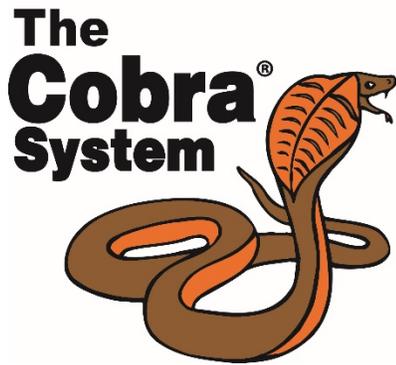
OFF ON

120v SO cable (driver and passenger side)

Thermostat & Probe Wire



TREADLES

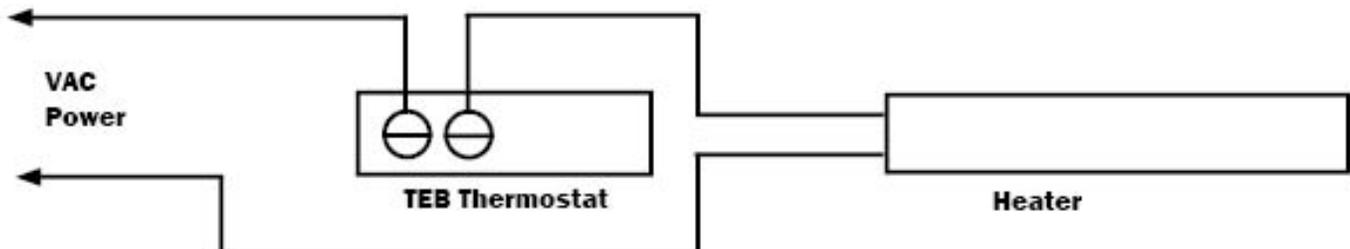


## HEATER WIRING

The Cobra System CTAs require a designated 15 amp breaker for each side. See Installation Instructions for 2019 models and up, Digital Temperature Control Switch (Page 4).

### **General Directions (for 2018 and later models with electro-mechanical thermostats)**

1. Attach the thermostat with screws, to the part that is being controlled applying equal pressure to both screws.
2. Attach circuit wires to the 6-32 screw terminals provided.
3. Typical circuit diagram. A fuse or circuit breaker should be included in the circuit at the VAC source.

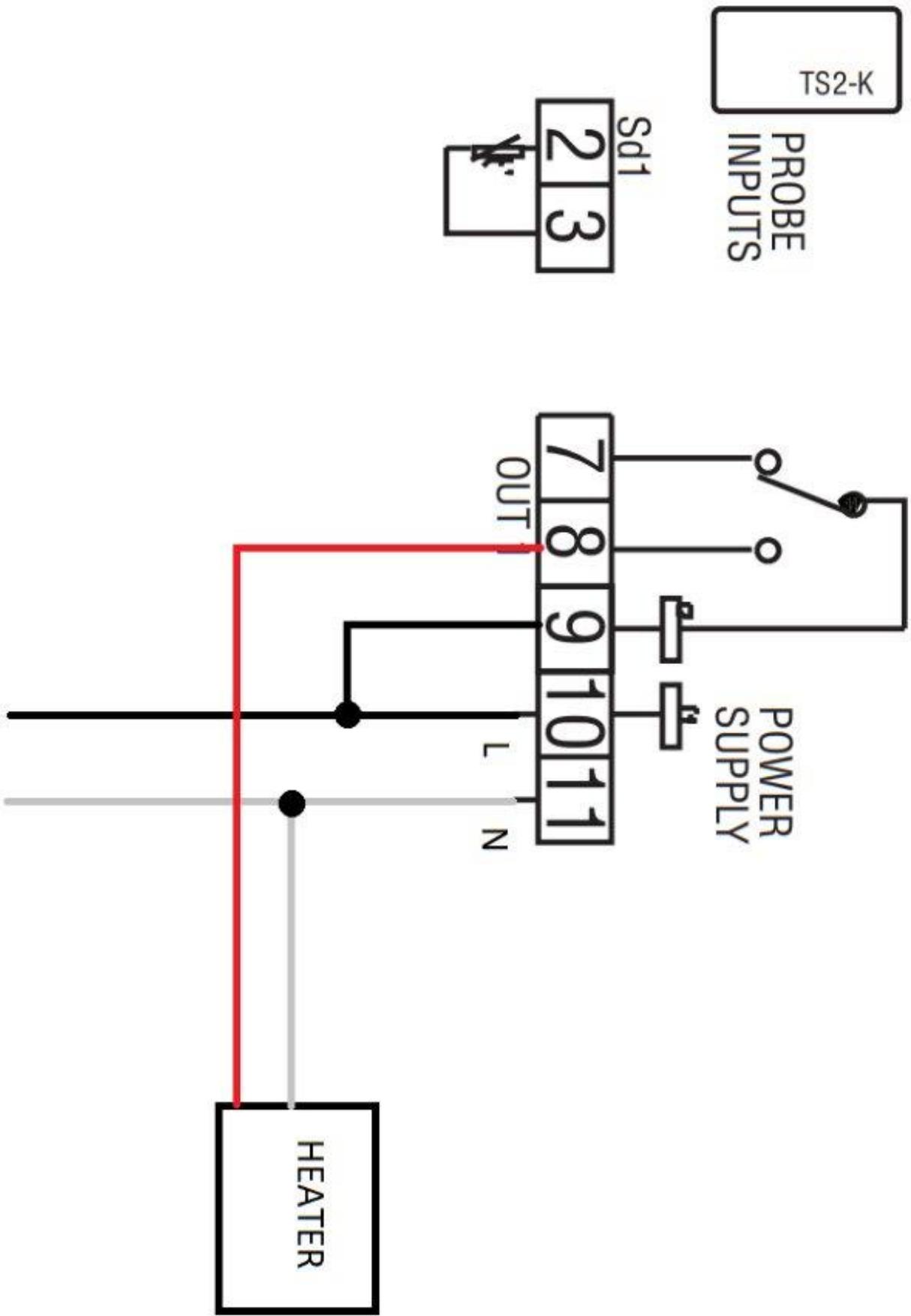


4. Apply power to the system.
5. Turn the shaft or screw adjust clockwise to increase the temperature setting.
6. Turn the shaft or screw adjust counter – clockwise to decrease the temperature setting.
7. Allow 15 minutes for the system to stabilize between adjustments. Repeat steps 5-7 as necessary.

### **Calibrating the TEB Thermostat at a Specific Temperature**

Required Instrument – calibrated thermometer and sensor probe

1. Attach the thermostat to the application and wire it as described above.
2. Apply power and allow the system at least 15 minutes to stabilize.
3. Using the calibrated thermometer and sensor probe, determine at what temperature the thermostat is controlling the process.
4. Turn the shaft or screw adjust clockwise to increase the temperature setting.
5. Turn the shaft or screw adjust counter – clockwise to decrease the temperature setting.
6. Allow 15 minutes for the system to stabilize between adjustments. Repeat steps 5-7 as necessary.



# INSTALLATION INSTRUCTIONS FOR DIGITAL TEMPERATURE CONTROL SWITCH

NEMA 4X Housing, Dual Stage, 20A Contact Rating

*(must be installed by a certified electrician)*

1. Mount water tight electrical boxes to both sides at top of presoak arch or any other rigid surface similar in height and distance to the CTA's.
2. Mount both Digital Temperature Control Switches inside the watertight electrical boxes. (all connectors to be watertight)
3. Feed the Temperature Probe wire from the bottom section of both CTA's and feed each wire thru the ¼" stainless coupler into ½" PVC to make the connections inside the control box. The additional probe wire if needed CANNOT exceed the original probe wire coming from CTA's which is 15 feet or it will have a negative effect on or weaken the signal to the Digital Control Switch. Insert the 2 probe wires into the probe inputs. See wiring instructions on page 5 and inside control lid for power, heater and probe leads. *(Spray or apply electrical sealant to heating element connections)*
4. All Control Settings are factory set LOCKED OUT so tampering is not permitted.
5. Once the power to the heating elements are connected and sprayed with electrical sealant, replace the top section of the CTA's.
6. When you finished wiring the Digital Control Switch. Replace switch and watertight service box covers. (tip: you may want to use a clear cover on the service boxes to see digital temperature)
7. Again, make sure you fill CTA's with 100% Anti-freeze within ½" to the top inside of units. Install pressure relief valves. Set orange PVC caps on top of CTA's before operating.
8. Once the CTA's are powered up (after 15-20 minutes) you will see on the DIGITAL DISPLAY temperature of approximately 130 degrees F. (always keep the watertight box covers on during business operations) (tip: clear cover on watertight service boxes to see digital temperature display)
9. Then the temperature will decrease to an Operating Temperature of 123 degrees F. When it reaches the Lower Set Point (120 degrees F) the Temperature Control will send power to the heating element and maintain the Operating Temperature 123 F until power to the Control Switch is OFF. When the demand for heat recovery is needed power is turned back on to the Control Switch it will repeat they cycle of Operating Temperature.

## **PARTS INCLUDED**

- (2) Digital Temp. Controls
- (4) Poly ¼" x ¼" ball valves
- (2) Pressure relief valves
- (4) V-Jet foaming spray nozzles  
and diaphragm check bodies
- (2) Orange 6" PVC caps
- (2) Wire restrainers for wire probes

## **PARTS NOT INCLUDED**

- (2) Watertight service

## **COBRA CTA DISSASSEMBLY TO INSTALL**

1. Remove CTA's from boxes.
2. Remove (3) ¼" x 3/4" lg. hex head bolts from outside bottom of unit to expose heater and wire probe. Probe is set in place to run to the Digital Control.
3. Mount the bottom part of the CTA's according to page 2 for distance from center of conveyor chain. If you are using a belt conveyor. Wait until the CTA's are fully ready to operate along with the wash at 100% ready to run vehicles before lagging them down. They will be heavy enough not to move to get a good placement to mount. The concentration of the chemical should be spraying on the rim. Chemical runoff to the tire for cleaning will happen.

**CAUTION:** After all wiring and placement of CTA's is completed be sure to fill each unit where the Pressure Relief valve will be installed with 100% ANTIFREEZE ½" up to inside of unit before turning on any power on to them. Install Pressure Relief Valves after filling.

Now you are ready to bleed or purge the air out of the units. Install both spray nozzles and DO NOT make any adjustments on the red caps. They should only be hand tightened and no more! Install your ¼" chemical ball valve and chemical feed to each CTA. Install the second ¼" ball valve into the ¼" coupling located on the top outside of CTA's. Open the ball valve and then turn on your G57 Flojet pump and run it until you see chemical (not foam) coming out of both CTA's. Close the valves first and then turn the pump off so that air will not get pulled back into the unit.

NOTE: We highly recommend using a timer to turn off and on during business hours of operation. If not, you could cause damage to the nozzles clogging not being used as the unit is powered on. Once the CTA's are powered up it will take about 20 to 25 minutes to heat up to operate.

*If you have any questions after or during installation, please call us at tech support at (724) 344-1492.*

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