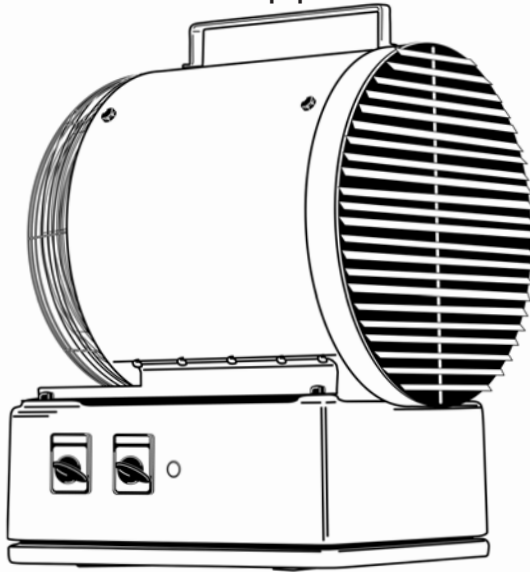


5500 / WD SERIES

WASHDOWN UNIT HEATER

Corrosion Resistant Unit Heater for
Hose Down Applications

3KW thru 4



INSTALLATION INSTRUCTIONS, PARTS, SERVICE, & MAINTENANCE MANUAL



TPI Corporation
P.O. Box 4973
Johnson City, TN
37602-4973

America's Comfort Conditioning Company

ATTENTION: Read carefully before attempting to install, operate or service the Corrosion Resistant Unit Heater.

GENERAL INSTRUCTIONS

This heater has been designed, tested and manufactured to give the most reliable performance practical. Each unit is given a final check before shipment to assure that every component is correctly wired and operating properly.

The safe and dependable operation of the heater depends upon proper installation. Therefore, care should be taken to follow all instructions and to comply with all applicable codes.

MOUNTING

The heater can be mounted in several horizontal positions as shown in figures provided on attached sheets. Optional mounting brackets and attaching hardware (bolts and lockwashers) are provided to hang the heater. Secure the brackets to the heater as indicated in figures shown, depending on the mounting position selected.

Adequate alternatives for suspending the heater from the ceiling are metal rods, chains or angle iron. If the heater is to be mounted other than as shown in figures, the louver assembly should be repositioned to direct the air stream. To do so, remove the four (4) attaching screws, pull the grill off the heater and reinstall in the correct orientation.

MODEL NO. CODE

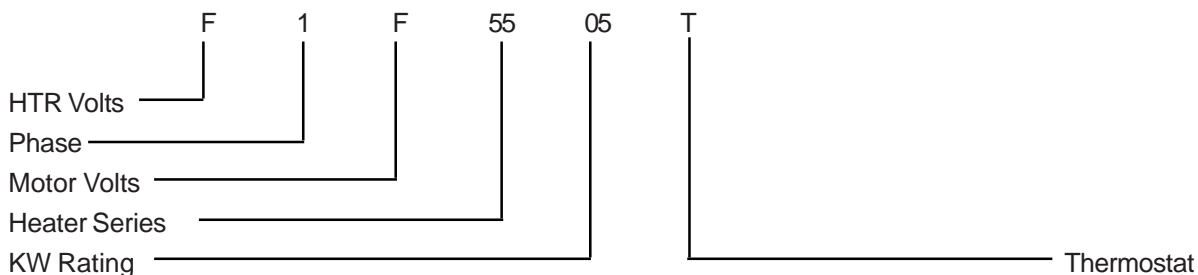
Volts: F =208, H=240, G = 277, P=480, U = 600

Phase: 1 = Single Phase, 3 = Three Phase

KW Rating: 5 = 5KW, 7 = 7.5KW, etc.

Thermostat: T = Built-in Stat, 0=Remote Stat

MODEL DESIGNATION SYSTEM (EXAMPLE: F1F5505T)



IMPORTANT: OWNER SHOULD RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

ELECTRICAL WIRING

See diagram pasted inside control compartment. The amperage load and the minimum recommended wire size is listed on the heater data plate.

ELECTRICAL GROUND

This heater must be grounded before operating as required by the National Electrical Code and by applicable local codes. Use a conductor of the appropriate size, secured to the ground lug in the heater and to a grounded connection in the service panel.

INSTALLATION GUIDELINES

Arrange units so that intake and discharge air is not obstructed by building columns, machinery and other objects. Locate thermostats on interior partition walls or position away from cold drafts, internal heat sources and unit air discharge streams.

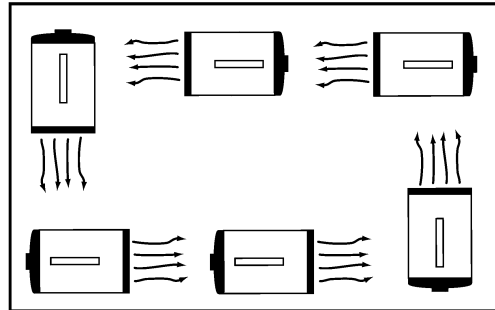
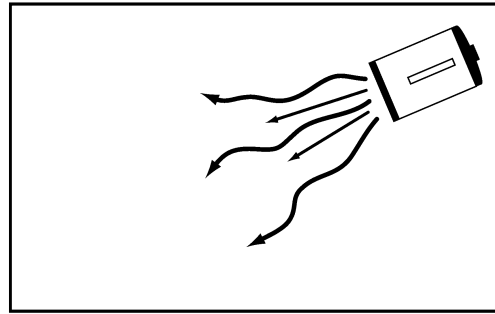
The National Electrical Code requires that overcurrent protection and supply wiring for electric heating equipment be rated at least 125% of the full amp-load of the circuit.

Make sure all field wiring connections are properly made and are tight. Conduit openings are provided in the back of the wiring compartment.

THERMOSTAT (OPTIONAL REMOTE)

The thermostat should be located where it will sense the free air movement within the structure. It should not be positioned or located in direct sunlight or where it will be affected by a localized heat source such as lighting or other heaters.

If a wall mounted thermostat is used, it should be mounted 5 feet above the floor. It should be connected to the control terminal block in the heater as shown on the wiring diagram and per instructions packed with the thermostat. All control circuitry must be per NEC class 1 wiring.

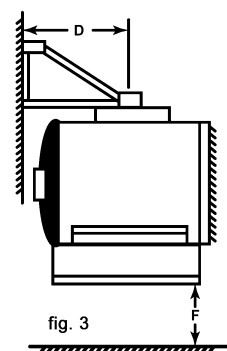
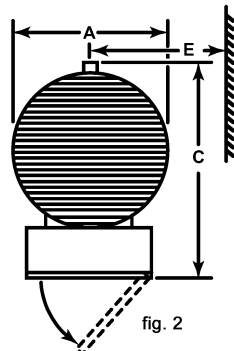
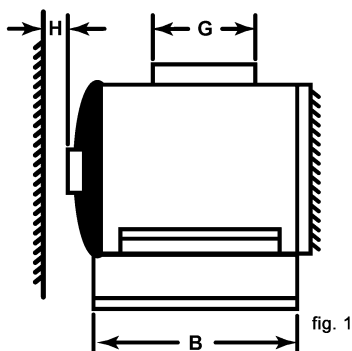


HOSEDOWN INSTRUCTIONS

1. Open the power supply circuit to the heater before any hosedown operations are attempted.
2. DO NOT use high pressure type cleaning equipment for washing or rinsing the heater..
3. Never direct the water spray at the shaft bearing of the fan motor or the control compartment gasket.
4. To remove accumulations which may build up on the heater use a mild detergent and warm water. Do not use caustic solutions which may damage to the seals of the enclosure.
5. The discharge grille can be removed for access to the fan blade and the heating elements.
6. Be sure the grill and all covers have been replaced after cleaning has been completed.

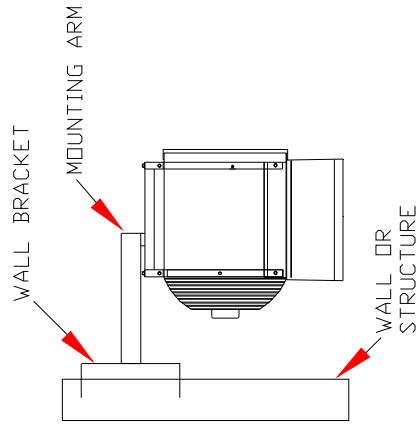
DIMENSION DATA

Heater Size	A	B	C	D	E	F	G	H	Approx. lbs.
3-5 - 7.5 KW	12"	18"	19 3/4"	15 1/4"	16 1/2"	6'	8"	6"	45
10 - 15 KW	14"	19"	21 3/4"	15 1/4"	18"	6'	8"	6"	55
20, 25, 30 KW	16"	27"	28 3/4"	19 1/2"	17 1/2"	6'	15 1/2"	4 1/2"	85
40, 48 KW	18"	31"	30 3/4"	19 1/2"	19 1/2"	6'	21 3/4"	2 3/4"	130

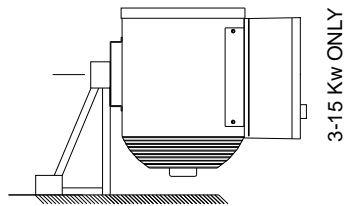


Mounting Bracket Kits

Ideal for use in buildings that have substantial walls. Arm (only) can be bolted directly to structural steel.

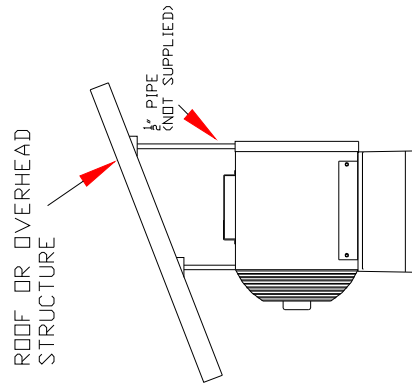


W5550



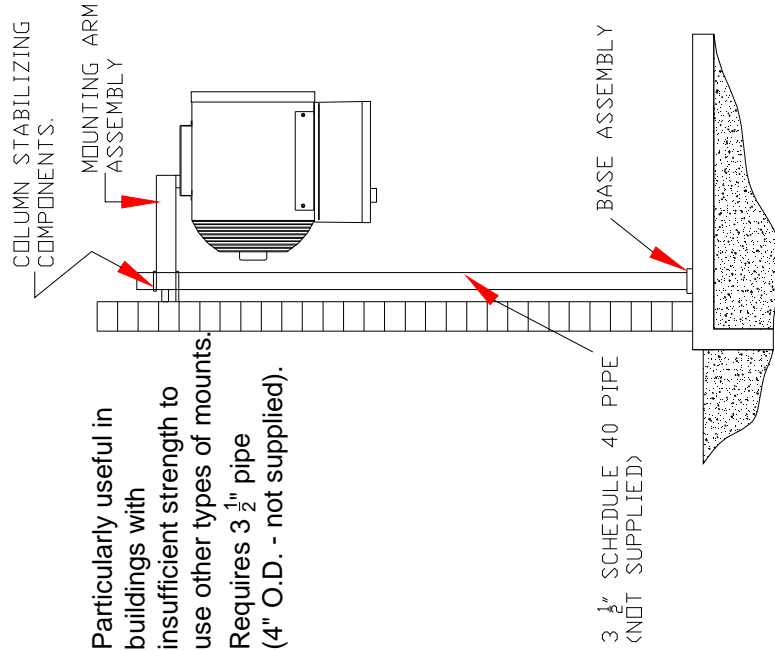
A5520

Simple and economical if adequate overhead structure exists. Requires 1/2" pipe, cut and threaded (not supplied).



H5550

Particularly useful in buildings with insufficient strength to use other types of mounts. Requires 3 1/2" pipe (4" O.D. - not supplied).



P5550

CORROSION RESISTANT WASHDOWN UNIT HEATER

SERVICE INSTRUCTIONS - 5500 / WD SERIES 3 KW - 15 KW

SERVICING THE ELEMENTS

The elements are designed to be removed individually and can be removed with the use of standard hand tools.

A. Removing an element:

1. Open all electric power supply disconnects to the heater (cut all power to the heater).
2. Disconnect the element leads at the element terminals inside cabinet. Note: Hold terminal securely when loosening nut to prevent damage to element pin.
3. Remove the outer louver grill by first removing four (4) screws holding the grill to the scroll.
4. Remove 5/16 inch hex machine screw securing element retaining clamp. Located in top center bracket inside scroll housing. One provided for each element.
5. Remove the nuts and washer securing the element inside the control compartment. Use a 15/16 inch deep well socket or box end wrench.
6. Repeat procedure for all elements to be removed.

B. Installing a new element:

Be sure the replacement element matches the original part in voltage and wattage ratings as well as in physical size and shape. Reverse the steps under *removing an element* described above. All elements must be installed in the same orientation.

Caution: Make sure silicone bulkhead washers are located on element before reinstalling element. Do not overtighten bulkhead mounting nuts. Fit should be snug only.

REPLACING THE MOTOR OR FAN

A. Removing the motor and fan:

1. Open all electric power supply disconnects to the heater (cut all power to the heater).
2. Disconnect the motor wiring inside the control box.
3. Remove the strain relief from the cabinet and pull the motor wiring out of the control box.
4. Remove all the screws holding the inlet assembly to the cabinet. Support the weight of the motor as the last screws are removed.
5. Slip the inlet assembly (motor, fan and fan guard) off of the cabinet.
6. Remove the fan blade from the motor shaft.
7. Snip the wire ties securing the motor lead to the fan guard.
8. Remove the screws securing the motor to the fan guard.

B. Installing the Motor Fan:

Reverse the steps under *removing the motor fan*. Be sure to reconnect the grounding lead as it provides the grounding for the motor to the cabinet.

Replace the motor only with an identical part. Contact the factory for information regarding alternate motors.

To prevent overheating and to maintain the designed performance, a replacement fan blade must be identical to the original blade.

LIMIT CONTROL REPLACEMENT (3.3 KW THROUGH 7.5 KW)

Disassemble as described in the following steps 1-9. Be sure replacement control is the correct model.

1. Disconnect power to unit from remote power disconnect.
2. Remove heater from mounting bracket and support on horizontal surface. Place heater on side with door hinge.
3. Remove four (4) 5/16 hex bolts securing fan assembly to rear of heater scroll. Remove scroll and set aside.
4. Slide the limit control capillary bulb to the rear and out of mounting bracket above heating elements.
5. Open control compartment door with key provided with heater.
6. Loosen screws on limit control and remove leads.
7. Remove two (2) 1/4 hex head screws securing limit control to mounting plate. Lift out control and slide capillary through sealed opening in scroll and compartment.
8. Carefully unroll replacement limit capillary tube (be careful not to kink tube), insert bulb and tube through opening provided.
9. Remount control by reversing 4, 6 and 7.
10. Complete assembly and remount by reversing steps 1 through 3.

NOTE: After the capillary tube has been relocated and secured in bracket, the capillary tube must be sealed through scroll and cabinet. Silicone (RTV) sealant must be used (not included). Silicone should be applied from the scroll side of the unit to capillary opening until outflow can be seen inside the enclosure at the base of the capillary tube. Wipe off excess material. Any excess capillary tube should be rolled and secured to internal wires with (2) wire ties provided with replacement control. Be sure capillary tube is adequately spaced away from all live components.

CORROSION RESISTANT WASHDOWN UNIT HEATER

SERVICE INSTRUCTIONS - 5500 / WD SERIES 20 KW - 48 KW

SERVICING THE ELEMENTS

The elements are designed to be removed individually and can be removed with the use of standard hand tools.

A. Removing an element:

1. Open all electric power supply disconnects to the heater (cut all power to the heater).
2. Disconnect the element leads at the element terminals inside cabinet. Note: Hold terminal securely when loosening nut to prevent damage to element pin.
3. Remove the outer louver grill by first removing four (4) screws holding the grill to the scroll.
4. Remove inlet/fan assembly by removing three (3) bolts provided for mounting
5. Remove machine screws located along each side of the scroll housing and remove top half of scroll.
6. Remove two (2) machine screws and two (2) element retaining wires for each element to be removed, using a 5/16 inch hex socket.
7. Remove the nut and washer securing the element to the control box. Use a 15/16 inch deep well type socket.
8. While supporting the element, slide it up and out of the heater.

B. Installing a new element:

Be sure the replacement element matches the original part in voltage and wattage ratings as well as in physical size and shape. Reverse the steps under *removing an element* described above. All elements must be installed in the same orientation.

REPLACING THE MOTOR OR FAN

A. Removing the motor and fan:

1. Open all electric power supply disconnects to the heater (cut all power to the heater).
2. Disconnect the motor wiring inside the control box.
3. Remove the strain relief from the cabinet and pull the motor wiring out of the control box.
4. Remove all the screws holding the inlet assembly to the cabinet. Support the weight of the motor as the last screws are removed.
5. Slip the inlet assembly (motor, fan and fan guard) off of the cabinet.
6. Remove the fan blade from the motor shaft.
7. Remove waterproof fitting and plastic conduit from motor and leads
8. Remove the screws securing the motor to the fan guard.

B. Installing the Motor Fan:

Reverse the steps under *removing the motor fan*. Be sure to reconnect the grounding lead as it provides the grounding for the motor to the cabinet.

Replace the motor only with an identical part. Contact the factory for information regarding alternate motors.

To prevent overheating and to maintain the designed performance, a replacement fan blade must be identical to the original blade.

LIMIT CONTROL REPLACEMENT (10 KW THROUGH 15 KW)

Disassemble as described in the following steps 1-9. Be sure replacement control is the correct model.

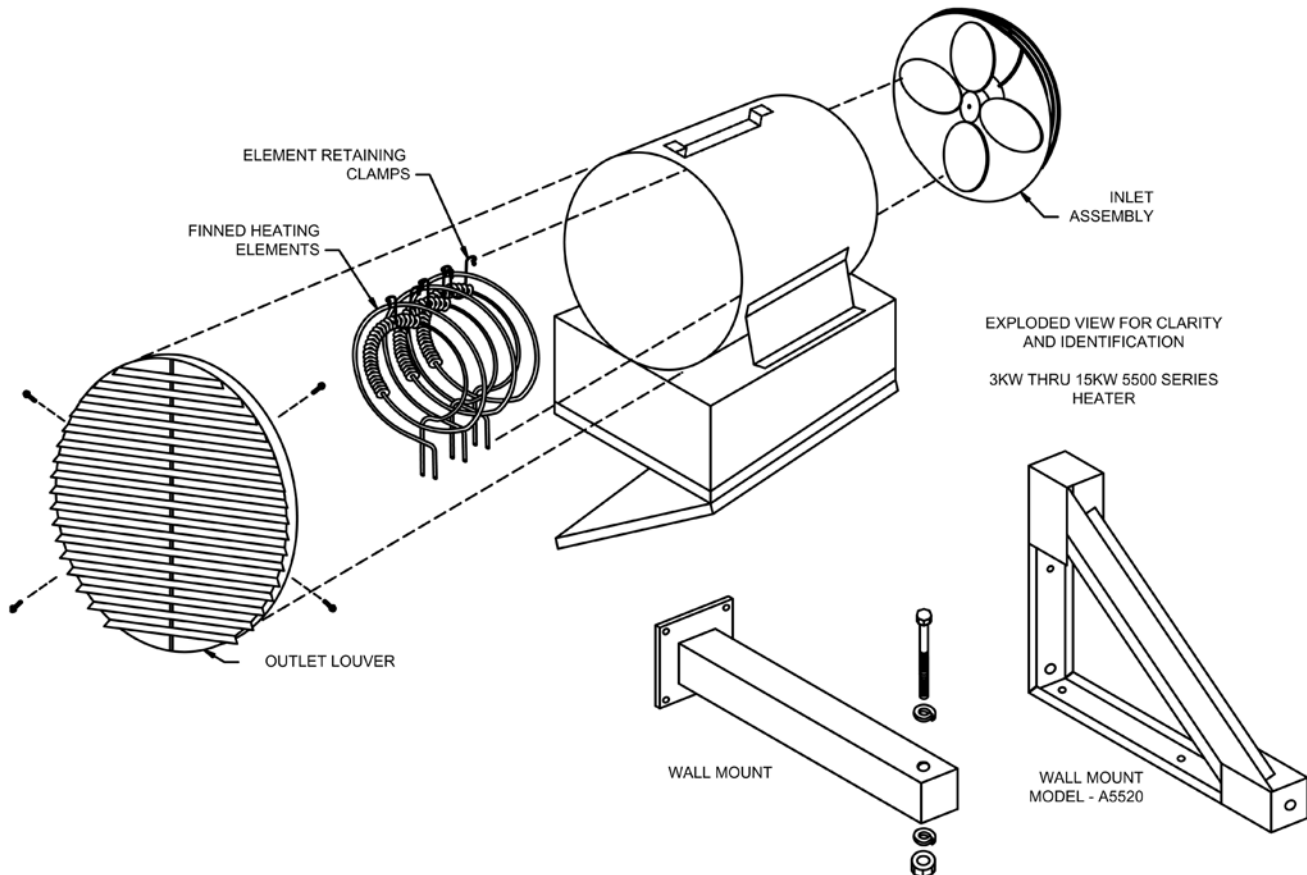
1. Disconnect power to unit from remote power disconnect.
2. Remove heater from mounting bracket and support on horizontal surface. Place heater on side with door hinge.
3. Remove four (4) 10-24 hex screws securing fan assembly to rear of heater scroll. Remove grill and set aside.
4. Remove two (2) 1/4-20 screws on the top of the heater scroll which secure the element mounting bracket to the inside of the scroll.
5. Remove three (3) 10-24 hex screws securing element clamps to the bracket and remove clamps.
6. Slide bracket forward until capillary bulb can be slid out of mounting holes in bracket.
7. Open control compartment door with key provided with heater.
8. Loosen screws on limit control and remove leads.
9. Remove two (2) 1/4 hex head screws securing limit control to mounting plate. Lift out control and slide capillary through sealed opening in scroll and compartment.
10. Carefully unroll replacement limit capillary tube (be careful not to kink tube), insert bulb and tube through opening provided.
11. Remount control by reversing 4 through 9.
12. Complete assembly and remount by reversing steps 1 through 3.

NOTE: After the capillary tube has been relocated and secured in bracket, the capillary tube must be sealed through scroll and cabinet. Silicone (RTV) sealant must be used (not included). Silicone should be applied from the scroll side of the unit to capillary opening until outflow can be seen inside the enclosure at the base of the capillary tube. Wipe off excess material. Any excess capillary tube should be rolled and secured to internal wires with (2) wire ties provided with replacement control. Be sure capillary tube is adequately spaced away from all live components.

PARTS REPLACEMENT LIST

5500 / WD SERIES - FOR 3.3 KW - 15 KW UNITS

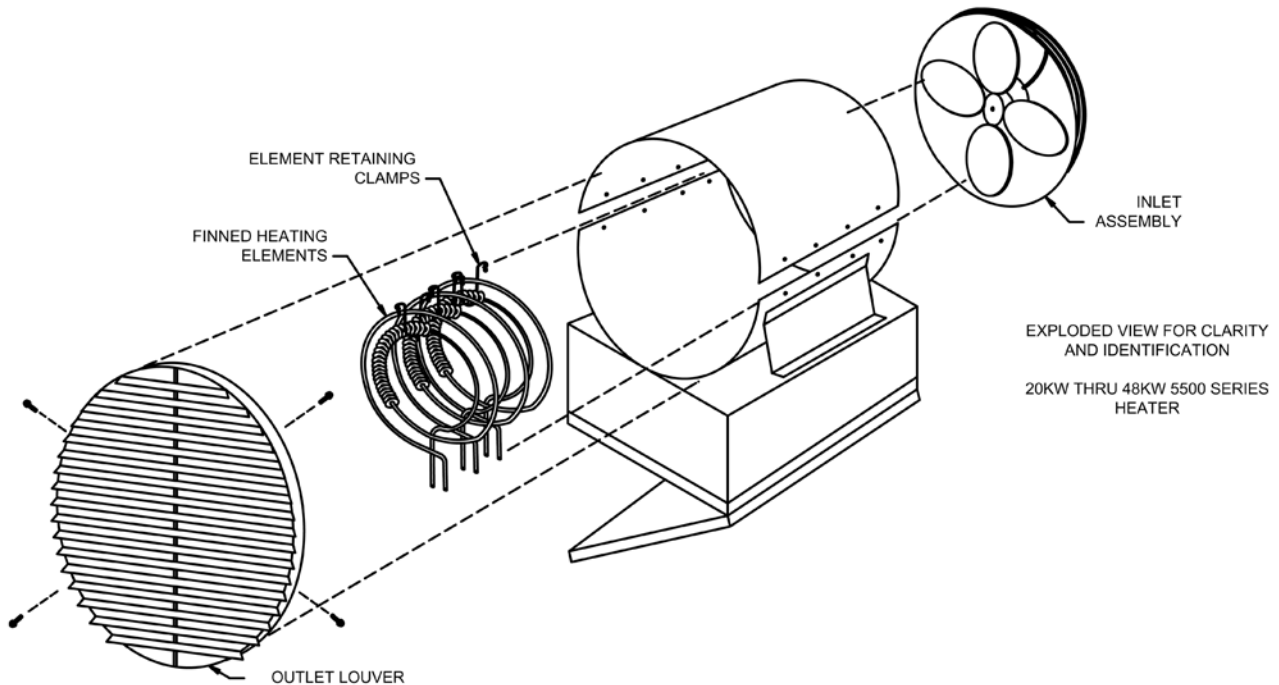
Part No.	Description
54909-001	Stemco Auto Reset Limit
60046-013	Thermostat (TPI)
29712-001	Fan Delay Relay
58027-036	Contactora
60719-VAR	Transformer
43506-001	Fan / Heat Switch
29963-001	Disconnect Switch
54936-001	Fan Blade 10" (3.3 KW - 7.5 KW ONLY)
51347-001	Fan Blade 12" (10 KW - 15 KW ONLY)
54934-003	Motor, 600V
56825-002	Motor, 208-240V
56825-003	Motor, 480V
71056-VAR	Heating Element
42708-002	Silicone Bulkhead Washer



PARTS REPLACEMENT LIST

5500 / WD SERIES - FOR 20 KW - 48 KW UNITS

Part No.	Description
54909-001	Stemco Auto Reset Limit
60046-013	Thermostat (TPI)
29712-001	Fan Delay Relay
58027-036	Contactora
60719-VAR	Transformer
43506-001	Fan / Heat Switch
29963-VAR	Disconnect Switch
51412-001	Fan Blade 14" (20 KW ONLY)
57115-001	Fan Blade 16" (48 KW ONLY)
54935-003	Motor, 600V
54935-001	Motor, 208-240V
54935-002	Motor, 480V
71056-VAR	Heating Element
42719-001	Limit Control Capillary Clips
71056-VAR	Element (Rear) with Bracket
42708-002	Silicone Bulkhead Washer



LIMITED WARRANTY

Products manufactured by TPI Corporation are warranted to the original consumer to be free from defects in material and workmanship for twelve (12) months from the original purchase date.

The TPI limited warranty does not cover products that have been modified outside of our factory, damage or failure caused by acts of God, abuse, misuse, connected to or placed on other than rated voltage, abnormal usage, fault, installation, failure to follow suggested maintenance procedures enclosed with the product, improper maintenance or any repairs other than those provided by an authorized TPI service center.

There are no obligations or liabilities on the part of the Corporation for consequential damages arising out of or in connection with the use or performance of the product or other indirect damages with respect to loss of property, revenues, profit, costs of removal installation, or reinstallation.

All implied warranties with respect to TPI products, including implied warranties for merchantability and implied warranties for fitness, are limited in duration to twelve (12) months from original date of purchase, except those products or parts of products which are warranted for long periods. On such products or parts of products all implied warranties for merchantability and fitness are limited to the duration of the extended warranty period thereon.

Some states do not allow the exclusions or limitation of incidental or consequential damages and some states do not allow limitations on how long an implied warranty lasts. The above exclusions or limitations may not apply to you.

During the warranty period, TPI Corporation will, at its sole option, repair or replace any defective parts or products returned, freight prepaid, to the TPI Corporation factory or such other locations as TPI Corporation may designate. Returned products must be packaged carefully and TPI Corporation shall not be responsible for damage in transit.

When returning parts, the owner must provide the model number of the product and nature of difficulty being experienced. This warranty does not obligate TPI Corporation to bear the cost of labor in replacing any assembly, unit or component part thereof, nor does the company assume any liability for secondary charges, expenses for installing or removal, freight or damages. There will be charges rendered for product repairs made after the warranty period has expired. Proof of purchase, including date, must accompany request for in-warranty service. In any event, TPI Corporation's maximum liability shall not in any case exceed the list price for the product claimed to be defective. This warranty gives to you specific legal rights and you may have other rights, which may vary from state to state. For the name of your nearest authorized TPI Corporation service center, please write to TPI Corporation, P.O. Box 4973, Johnson City, TN 37602.

Heating Products Warranty Coverage	
Elements in 198 Series Portable	Life of heater
Elements in Baseboards	10 Years
All Other Heating Products	1 Year
Thermostats and Controls	2 Years

Ventilation Products Warranty Coverage	
Series HD or HDH Fans	5 Years
Series UHP or IHP Fans	3 Years
All other Ventilation Products	1 Year



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