MODINE MEW1 Series Corrosion Resistant Washdown Unit Heater Owner's Manual

Contents

MODINE MEW1 Series Corrosion Resistant Washdown Unit Heater

Specifications:

- **Model:** MEW1 Series
- **Heater Voltage:** 208V, 240V, 480V, 600V
- **Phase:** 1, 3
- **Hertz:** 60
- **Heater Kilowatts:**
  - 030 – 3 kW
  - 050 – 5 kW
  - 075 – 7.5 kW
  - 100 – 10 kW
  - 150 – 15 kW
  - 200 – 20 kW
  - 250 – 25 kW
  - 300 – 30 kW
  - 390 – 39 kW

Product Usage Instructions

A. Heater Maintenance Checklist

A.1 Period:

1. Clean Finned Tubes, Discharge Grille, Motor, Inlet Grille, and Fan as required during the heating season.

A.2 Annual:

1. Perform an Electrical Check before the heating season by inspecting all terminal connections and conductors. Tighten loose connections and replace conductors with damaged insulation. Inspect contactor contacts and

replace if needed. Replace damaged seals on watertight fittings.

B. Important Notices

C. Installation

- **C.1 Location:** Choose a suitable location for installation.
- **C.2 Mounting:** Mount the heater according to the guidelines provided.
- **C.3 Electrical:** Follow the electrical wiring instructions for proper installation.

D. Operation

- **D.1 General:** Follow the operation instructions provided in the manual.

E. Repair & Replacement

- **E.1 Heating Elements:** Refer to the manual for instructions on replacing heating elements.
- **E.2 Fan:** Instructions for fan replacement can be found in the manual.
- **E.3 Temperature High-Limit:** Guidelines for managing temperature high-limit are detailed in the manual.

F. Parts List

G. Technical Data

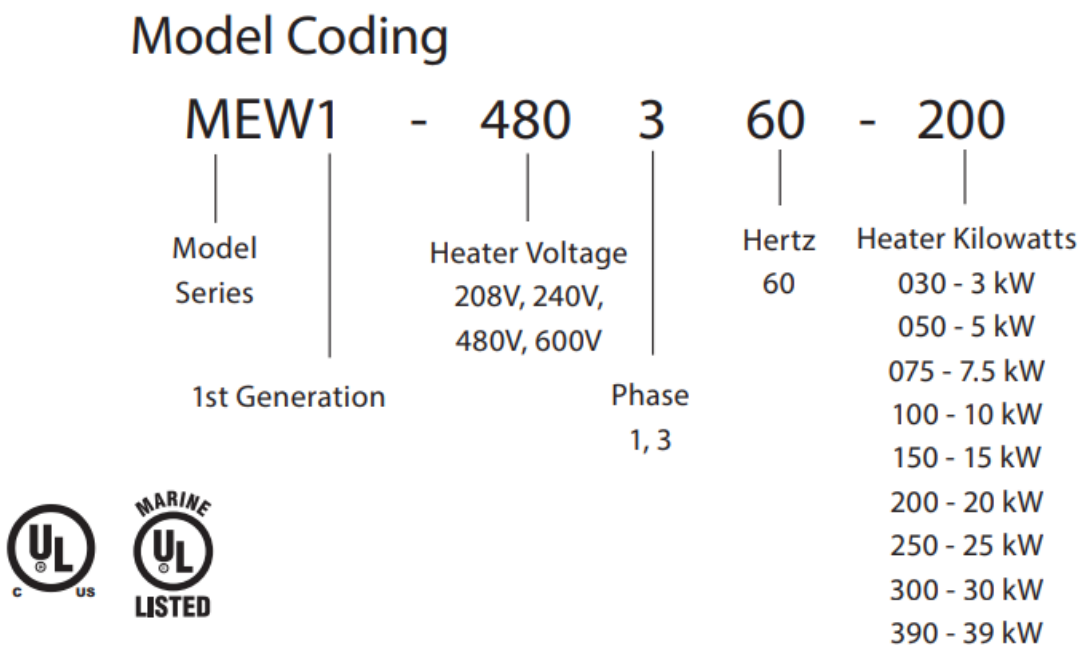
H. General Specifications

FAQ:

- **Q: Who should service the heater?**
  A: The heater should only be serviced by qualified personnel with heating equipment experience.
- **Q: What should be done before performing maintenance?**
  A: Lock the switch in the OFF (open) position and/or tag the switch to prevent unexpected power application.

WARNING! Read all instructions before installing or using the heater. Please adhere to instructions published in this manual. Failure to do so may be dangerous and may void certain provisions of your warranty.

MEW1 Series
Owner’s Manual
Installation, Operation, & Maintenance Instructions



A. HEATER MAINTENANCE CHECKLIST

WARNING. Heater should only be serviced by qualified personnel with heating equipment experience. Lock the switch in the “OFF” (open) position and/or tag the switch to prevent unexpected power application.

Heater Model Date of Maintenance
Date of Maintenance Maintenance Done By

A.1 Period (before and as required during heating season)

Clean

- Finned Tubes
- Discharge Grille
- Motor
- Inlet Grille
- Fan

A.2 Annual

1. Electrical Check (before heating season)
    - All terminal connections and conductors. Tighten loose connections. Conductors with damaged insulation must be replaced.
    - I nspect contactor contacts. If badly pitted, burned or welded shut, replace with factory supplied contactor.
    - All watertight fittings. Replace damaged seals with factory supplied seals.
    - Electrical resistance on all load side legs. Reading should be balanced (± 5%).

      WARNING. Disconnect heater from power supply at integral disconnect or fuse box before

opening enclosures or servicing heater. Lock the switch in the “OFF” (open) position and/or tag the switch to prevent unexpected power application. This heater should only be serviced by qualified personnel with electrical heating equipment experience.

WARNING. Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.

2. Seals & Motor Check
    - All watertight seals for condition and tightness
    - Motor for smooth, quiet operation
3. Mechanical Check
    - Check for leakage inside the control enclosure. The electrical enclosure should be dry inside.
    - Check enclosure seal. Seal should be free of nicks and cuts.
    - Check motor shaft bearing play. Replace motor if play is excessive, or if motor does not run quietly and smoothly. Bearings are permanently lubricated.
    - Check fan. Replace immediately if cracked or damaged.
    - Check high-limit bulb and capillary. Replace immediately if damaged.
    - Check tightness of all hardware. All fasteners must be tight.
    - Turn heater on for a minimum of five minutes. Check for warm air exiting heater through discharge grille.

IMPORTANT NOTICES

WARNING. Read and adhere to the following. Failure to do so may result in severe or fatal injury.

WARNING. Heater is not to be used in hazardous atmospheres where flammable vapors, gases, liquids or other combustible atmospheres are present.

1. Read and follow all instructions in this manual.
2. Heater is to be connected and serviced only by a qualified electrician.
3. Installation and wiring of the heater must adhere to all applicable codes.
4. Before opening any enclosures, disconnect the heater from the power supply. Lock the switch in the “OFF” position and/or tag the switch to prevent unexpected power application.
5. Do not operate heater with the high-limit disconnected from the control circuit.
6. Do not operate heater if bulb or capillary of high-limit is damaged.
7. Do not operate the heater in atmosphere corrosive to type 304 stainless steel.
8. Use factory replacement parts only.
9. Maximum ambient operating temperature is 40°C (104°F).
10. Type 4X conduits must be used for field connection in order to maintain watertightness of the enclosure.
11. Do not operate the heater with the louvers deformed from their factory preset positions.
    WARNING. Elements get hot during operation. Contact can cause burns.
    WARNING. To prevent risk of fire, install heater according to minimum clearances stated in Figure 1 below.
12. Wash with water pressure less than 70 psi.
13. Complies with U.S. Coast Guard regulations only when indicated on heater data plate and when the discharge grille directs airflow downward.
14. If there are any questions or concerns regarding the heater, please refer to contact info on warranty page.

WARNING. Heater is not to be used in hazardous atmospheres where flammable vapors, gases, liquids or other combustible atmospheres are present. Failure to do so can result in equipment explosion that can cause property damage, fatal personal injury, or death. Failure to follow this instruction manual, including but not limited to installation procedure, operation procedure, and maintenance requirement may results in equipment explosion, fire, and/or bodily harm.

INSTALLATION GENERAL GUIDE FOR INSTALLATION AND WIRING

All applicable codes must be adhered to. For optimum performance, the heater should be installed as follows:

C.1 Location

1. Ensure there are no obs tructions that may impede the heater's air inlet or discharge (see Table 2 for minimum clearances).
2. Ensure the air discharge is not directed at a thermostat.
3. Ensure the air discharge is not directed towards areas of heat loss, such as windows.
4. Ensure the air discharge is directed along and at a slight angle toward exterior walls.
5. If equipment freeze protection is important, direct air discharge at equipment while maintaining minimum clearances.

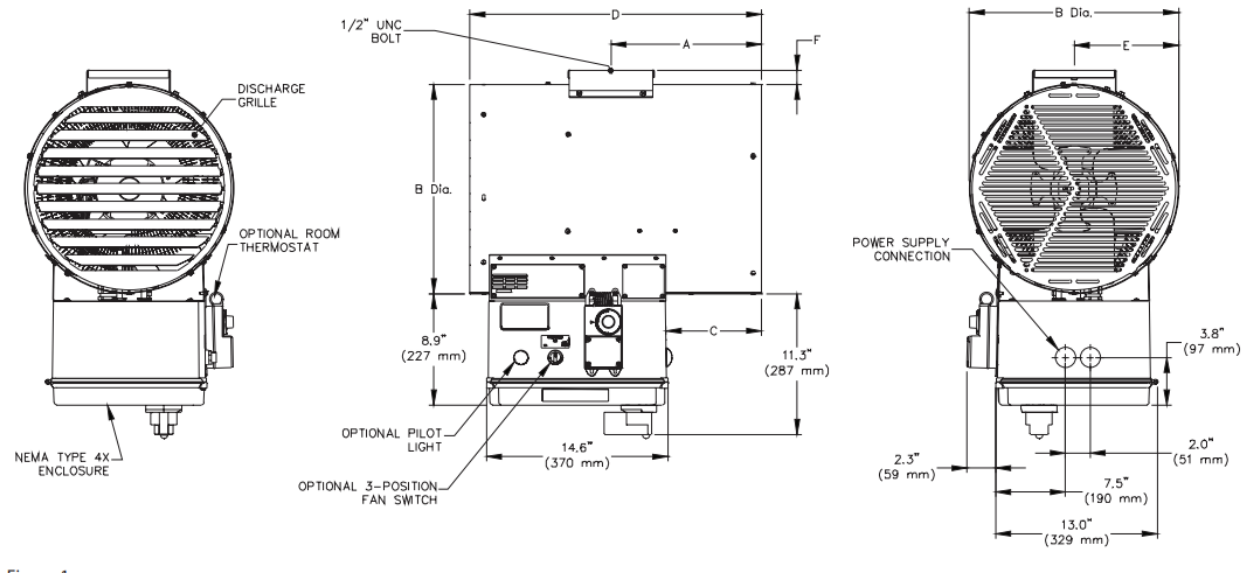


Figure 1
Table 1 – Heater Dimensions

DIMENSIONS	A	B	C	D	E	F
3 to 10 kW	318 mm (12.5”)	325 mm (12.8”)	216 mm (8.5”)	620 mm (24.4”)	162.5 mm (6.4”)	23 mm (0.9”)
15 and 20 kW	307 mm (12.1”)	425 mm (16.7”)	190 mm (7.5”)	595 mm (23.4”)	212.5 mm (8.4”)	30 mm (1.2”)
25 to 39 kW	307 mm (12.1”)	525 mm (20.7”)	190 mm (7.5”)	595 mm (23.4”)	262.5 mm (10.3”)	32 mm (1.3”)

Table 2 – Installation Minimum Clearances

Minimum clearances for service and airflow:	
Front	1829 mm (72”)
Back	152 mm (6”)
Right Side	254 mm (10”)
Left Side	25 mm (1”)
Top	203 mm (8”)
Bottom	1829 mm (72”)

C.2 Mounting

1. The heater must be permanently mounted with the control box at the bottom.
2. The mounting surface must be strong enough to:
    - Support the heater’s weight.
    - Provide sufficient stiffness to prevent excessive vibration.
    - Withstand harsh situations such as transportable installations.
    - The single bolt mounting is not designed in contemplation of high dynamic loads that can occur during transportation. For heaters that are to be installed prior to transportation it is recommended that temporary blocking or strapping be used to limit movement of the heater with respect to the mounting structure. Inspection of the mounting bolt for correct tensioning is also recommended after arrival at site to ensure no loosening has occurred in transportation.
3. Install the heater at least 6 ft (1.8 m) from the floor.
4. Install the bracket (see Figure 2 – 5 for installation instructions).
    - Orient the heater to its final position before tightening all hardware.
    - In higher vibration installations use of a removable thread locking compound such as Loctite® 243 Blue Threadlocker is recommended.
    - Correct tensioning of the mounting bolt will include full compression of the split lock washer and

inspection for correct thread engagement. The mounting bolt/nut should be torqued to 65 – 75 ft-lbs.

- Ensure that all safety pins are installed in the bolt(s) and clevis pin(s).

5. Louvered discharge grille can be rotated in 45° increments. Heater only complies with U.S. Coast Guard regulations when the grille is installed such that the airflow is directed downward.
6. For maximum tilt angles, see Figure 2. For maximum mounting height, see general specifications table on page 13.

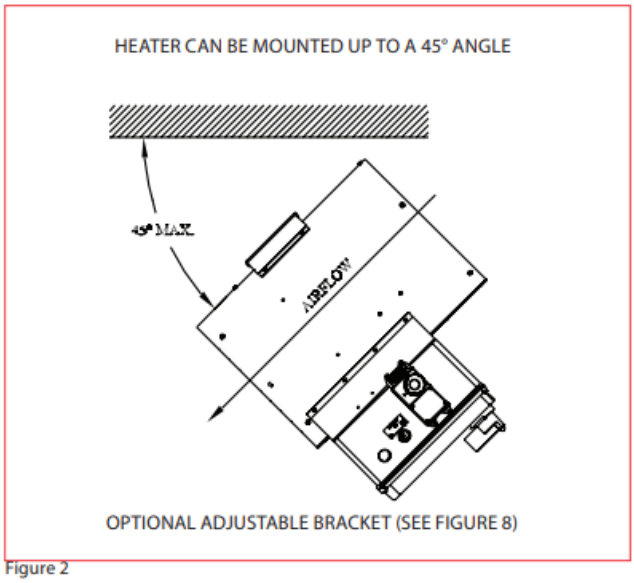


Figure 2

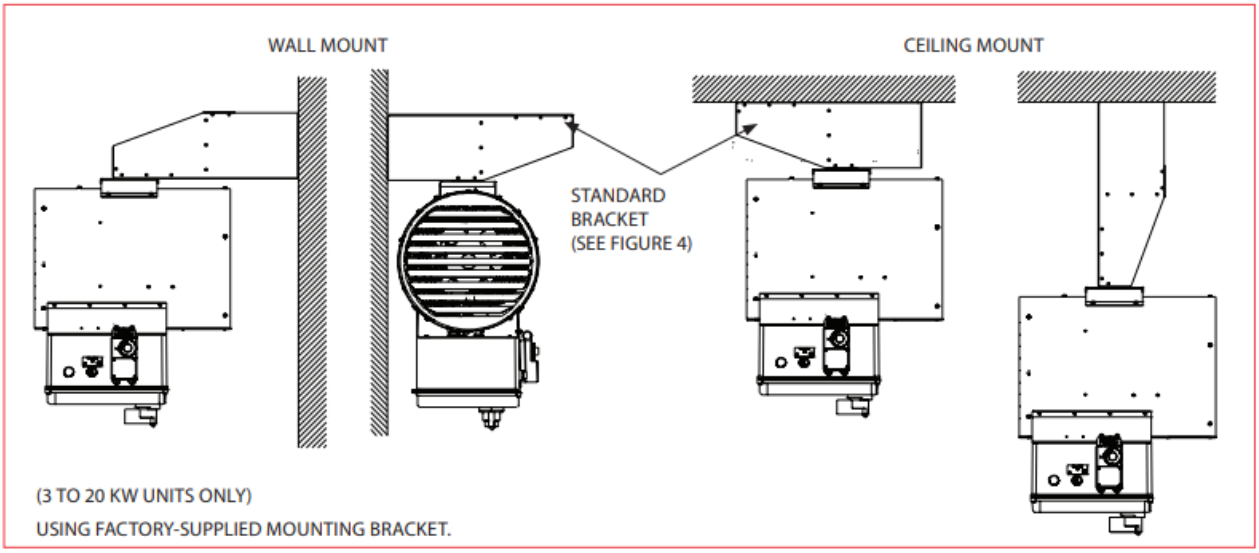


Figure 3

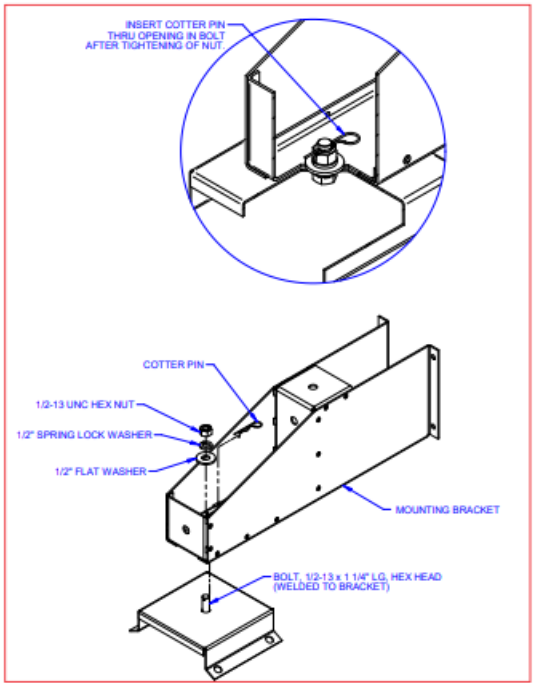


Figure 4

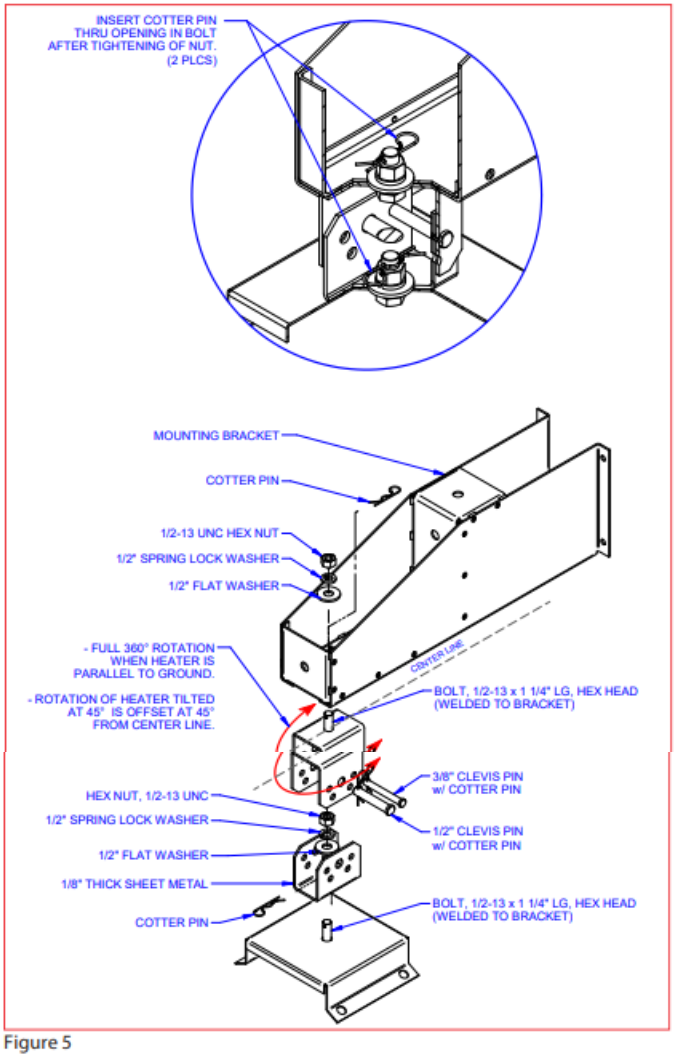


Figure 5

C.3 Electrical

WARNING. Disconnect heater from power supply before installation of the heater. Lock the switch in the “OFF” (open) position and/or tag the switch to prevent unexpected power application. Installation and wiring of the heater must adhere to all application codes.

C.3.1 General

1. Use only copper conductors and approved Type 4X wiring methods during installation. Refer to the “Technical Data” table and heater data plate for conductor rating.
2. External overcurrent protection is required. Refer to the “Technical Data” table and heater data plate for voltage, amperage, and frequency. Supply voltage is to be within 10% of the data plate voltage.

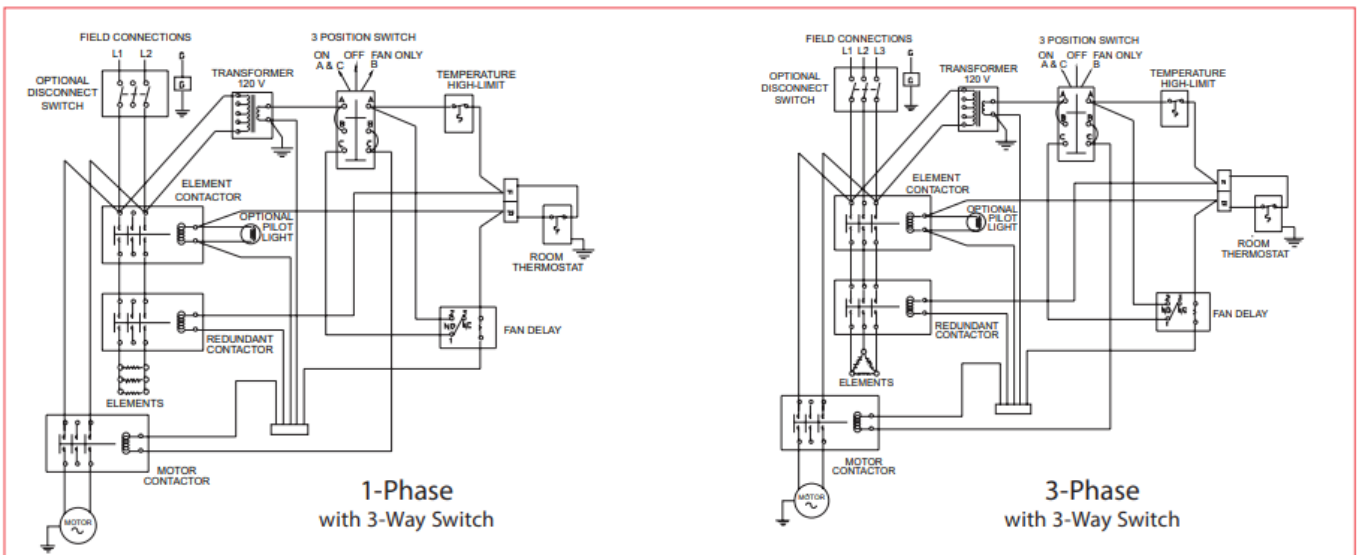
C.3.2 Field Warning

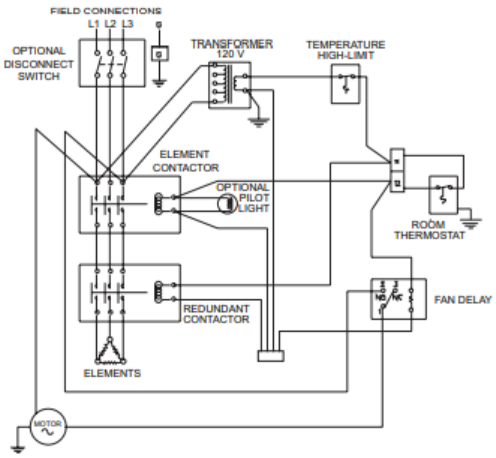
1. Heater is supplied with an enclosure that has 2 standard 3/4” trade size conduit openings to accommodate the line conductors or external thermostat connection.
2. Heater may be supplied with a factory-installed built-in room thermostat. On heaters not supplied with this option, a remote thermostat is required. Connect the remote thermostat conductors to the terminal block marked T1, T2 and Ground. Any thermostat used with this heater must be:
    - Listed or Approved
    - Type 4X rated*, and
    - Rated at 120 volt minimum and 5 amp minimum.
    - An appropriate Type 4X rated room thermostat is available from the factory.

C. 3.3 Final Inspection

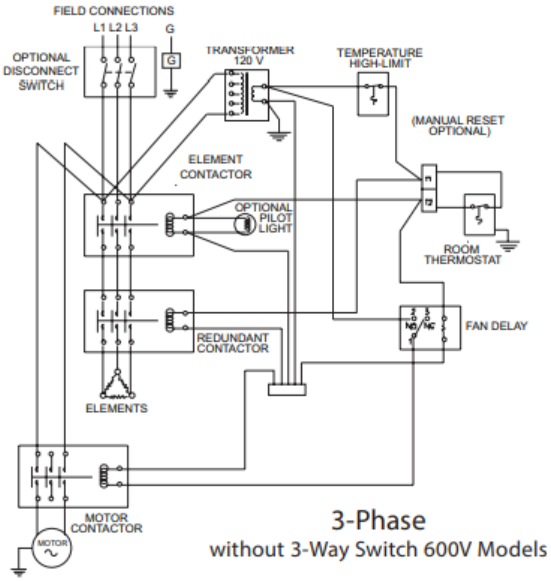
1. Before application of electrical power:
    - Check that all connections are secured and comply with the applicable code requirements.
    - Confirm that the supply voltage is compatible with the data plate specifications.
    - Remove any foreign objects from the heater.
    - Ensure all external fittings and enclosure covers are secured.
    - Ensure that the fan rotates freely.
    - If equipped, ensure manual reset high-limit has been reset.

Figure 6 – Wiring Schematics

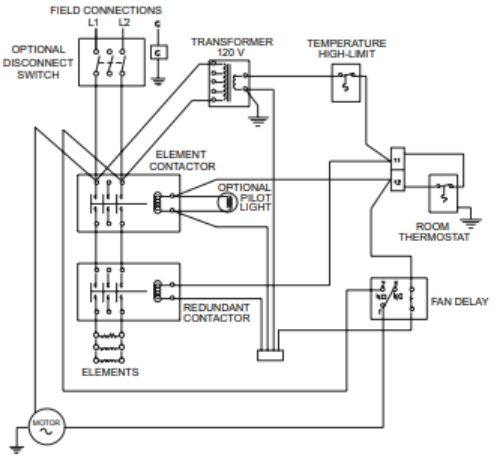




3-Phase
without 3-Way Switch, 208V, 240V, 480V Models



3-Phase
without 3-Way Switch 600V Models



1-Phase
without 3-Way Switch

OPERATION

D.1 General

1. To operate heater, ensure power supply is properly connected as specified in the wiring schematic (see figure 6 on page 8).
2. Ensure the thermostat controlling the heater is set above the ambient temperature.
3. If the heater is provided with the optional door interlocking disconnect switch, ensure the switch is in the “ON” position.
4. If the heater is provided with the optional 3-position fan switch, ensure the switch is in the “ON” position. Note: If the switch is in the “FAN ONLY” position, only the fan will energize, not the elements.
5. If the heater is provided with the optional pilot light, the light will illuminate only when the elements are energized.
6. The heater is provided with a fan delay relay. The fan will energize approximately 20 seconds after the elements are energized. The fan will remain
   in operation for approximately 2 minutes after the thermostat de-energizes the elements. If the 3- position fan switch is turned to the “OFF” position, the fan will de-energize immediately.

7. During normal operation, the high-limit control should not cycle the heater ON and OFF. If cycling occurs, check to see if there is an airflow blockage. If there are no obstructions, the heater must be examined by qualified personnel to determine the cause of the high-limit cycling.
8. The heater is moisture resistant and can be externally washed down with low pressure water. High pressure washing or direct internal pressure washing of the heater may result in damage or failure. (Refer to Important Notices Section).

REPAIR & REPLACEMENT

WARNING. Disconnect heater from power supply before installation of the heater. Lock the switch in the “OFF” (open) position and/or tag the switch to prevent unexpected power application. The heater should only be serviced by qualified personnel with electrical heating equipment experience.

NOTE: ONLY USE FACTORY-SUPPLIED REPLACEMENT PARTS OF THE SAME SPECIFICATION. FOLLOW STEP BY STEP INSTRUCTIONS SUPPLIED IN HEATING ELEMENT REPLACEMENT PARTS PACKAGE.

E.1 Heating Elements

1. Disconnect all wires connected to the element terminals and remove all bus bars. Remove discharge grille from heater. If equipped, remove element brackets from heater.
2. Remove elements, noting their proper placement.
3. Install factory-supplied replacement elements such that the smallest loop of the spiral element is closest to the discharge end of the heater (see Figure 7).
4. Ensure that the element gaskets are in place and in good condition.
5. Tighten the element bushing nuts until the gaskets are snug between the bushing shoulders and enclosure.
6. Compress the gaskets by turning the nuts 1 to 1-1/4 additional turns.
7. Check that the elements are not in contact with the cabinet or each other.
8. Reinstall all bus bars, wires, brackets, and discharge grille.

E.2 Fan

1. Remove inlet grille from heater. Remove the three screws securing the fan to the fan hub attached to the motor.
2. Replace fan with factory-supplied fan. Install the fan such that the “spider” of the fan (see Figure 8) faces the outside of the heater (i.e., facing away from the motor). The spider should be visible from the rear of the heater (as shown in Figure 8).

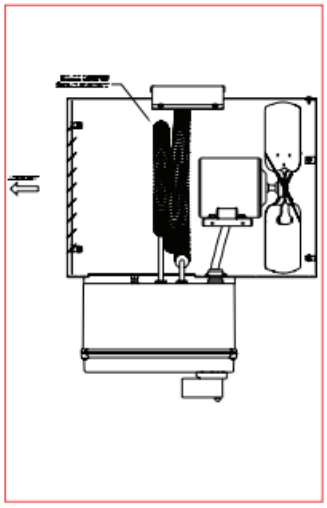


Figure 7

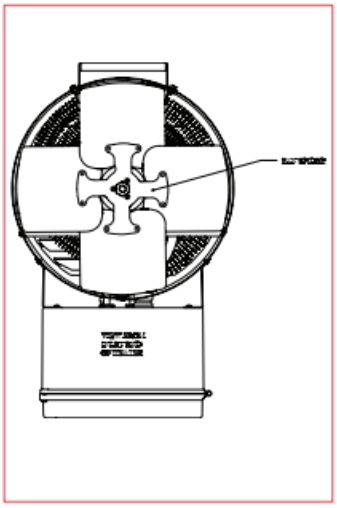


Figure 8

E.3 Temperture High-Limit

1. Remove discharge grille from heater. Remove clips securing bulb and capillary to cabinet.
2. Inside electrical enclosure, remove lock nut from high-limit compression fitting and remove fitting from enclosure.
3. Remove compression nut from the fitting (see Figure 9). Remove seal from fitting. Remove fitting from capillary.
4. Remove high-limit switch from the enclosure.
   Replace high-limit with factory-supplied replacement high-limit.
5. Reinstall high-limit switch to bracket in the control enclosure.
6. Slip capillary sleeve over capillary. Note: For 25 to 39 kW heaters, the sleeve must be cut to 8.25 in. (210 mm). For 15 and 20 kW heaters, the sleeve must be cut to 14.125 in. (360 mm). For 3 to 10 kW heaters, sleeve does not have to be cut to length.
7. Slide lock nut over bulb and capillary. Insert bulb and capillary through the enclosure opening.
8. Place compression fitting body over capillary. Install seal on capillary and insert seal into body of fitting (see Figure 9).
9. Loosely install top nut onto compression seal body. Secure fitting to enclosure with lock nut on the inside of the enclosure. Tighten lock nut to ensure watertight seal.
10. Reinstall the bulb and capillary using the original clips. Ensure the bulb is in the same position as the previous high limit. The bulb tip should be 3.94 in. (100 mm) from the discharge edge of the cabinet.
11. Tighten top nut on compression seal.

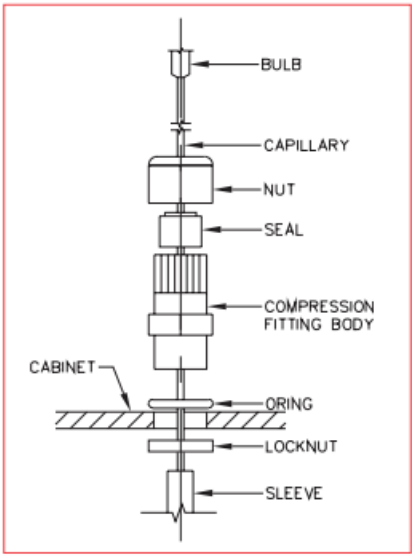


Figure 9

PARTS LIST

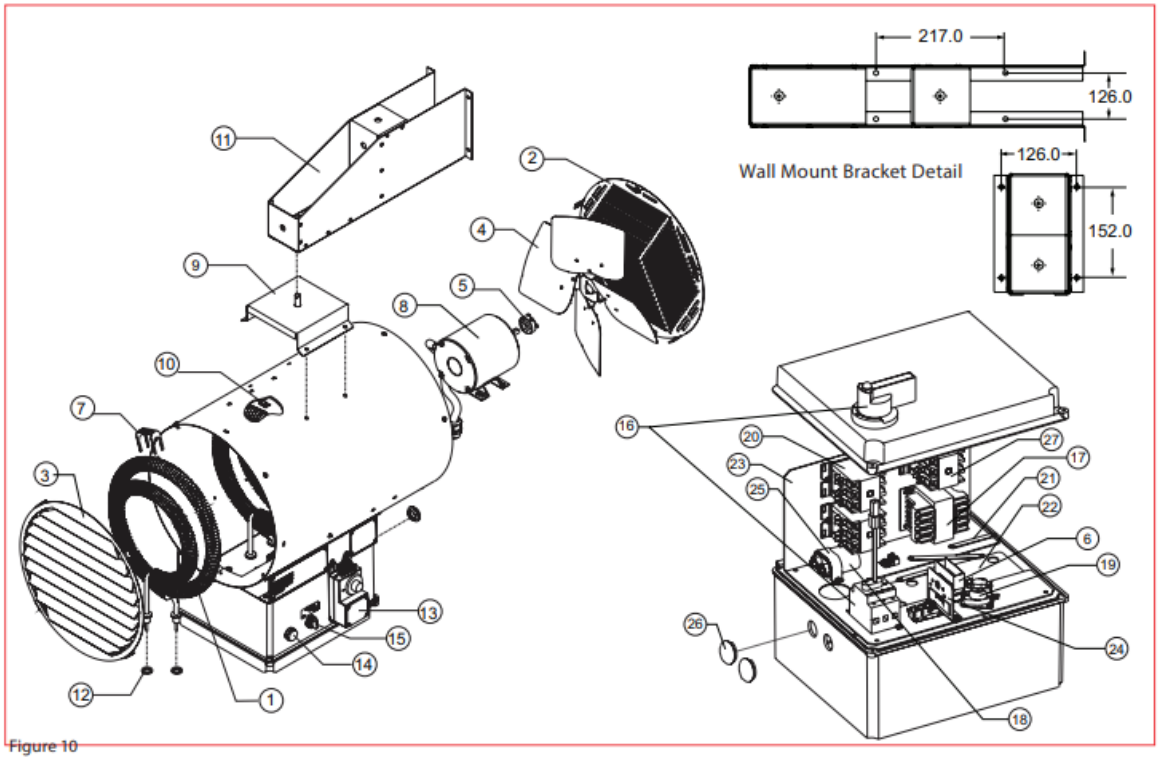


Figure 10

Item #	Description			3 k W	5 k W	7.5 k W	10 k W	15 k W	20 k W	25 k W	30 k W	35 k W	39 k W
		208V	Stainless Steel	8365	7747	7752	7758	7761	–	–	–	–	–

1	Elements	240V	Stainless Steel	8366	7748	7753	7759	7762	–	–	–	–	–
		480V	Stainless Steel	8367	7751	7756	7760	7763	7764	8357	8358	8359	8360
		600V	Stainless Steel	8368	8369	8370	8371	8372	8373	8361	8362	8363	8364
2	Inlet Grille			7485				7484		8251			
3	Discharge Grille			7487				7486		8252			
4	Fan Blade			7522				7523		8304			
5	Fan Hub			7519									
6	High-Limit Kit		Auto Reset	7740									
			Manual Reset	7741									
7	Element Bracket			N/A				7589					
8	Motor Kit		208-480 V	7742									
			600V	8302									
9	Attachment Bracket			7490									
10	High-Limit Clip			7656									
11	Mounting Bracket			7501									
12	Element Gasket			7579									
13	Built-in Thermostat Kit			7743									
14	Pilot Light Kit			7744									

15	3-Position Fan Switch		7745
16	Disconnect Switch Kit		7746
17	Transformer	208-480 V	7478
		600V	8260
18	Motor Capacitor		7502
19	Fan Delay Relay		7470
20	Contactors	40 Amp	3618
		75 Amp	3619
21	Bus Bars	1ø	7475
		3ø Short	7476
		3ø Long	7477
22	Element Plate		7488
23	Controls Bracket		7493
24	Hi-Limit Switch Bracket		7654
25	Capacitor Bracket		7492
26	Knock-out Plugs		7639
27	Contactor (Motor)		3618

TECHNICAL DATA

Model	Heater Watts (kW)	Volts (V)	Phase	Line Amps (Amps)	Air Temperature Rise		BTU/HR
					(°C)	(°F)	
MEW1-208160-030	3	208	1	17.4	7.5	13.5	10250

MEW1-240160-030	3	240	1	15.5	7.5	13.5	10250
MEW1-208360-030	3	208	3	11.3	7.5	13.5	10250
MEW1-240360-030	3	240	3	10.2	7.5	13.5	10250
MEW1-480360-030	3	480	3	5.1	7.5	13.5	10250
MEW1-600360-030	3	600	3	3.9	7.5	13.5	10250
MEW1-208160-050	5	208	1	27.0	12.5	22.5	17050
MEW1-240160-050	5	240	1	23.8	12.5	22.5	17050
MEW1-208360-050	5	208	3	16.9	12.5	22.5	17050
MEW1-240360-050	5	240	3	15.0	12.5	22.5	17050
MEW1-480360-050	5	480	3	7.5	12.5	22.5	17050
MEW1-600360-050	5	600	3	5.8	12.5	22.5	17050
MEW1-208160-075	7.5	208	1	39.1	18.8	33.8	25600
MEW1-240160-075	7.5	240	1	34.3	18.8	33.8	25600
MEW1-208360-075	7.5	208	3	23.8	18.8	33.8	25600
MEW1-240360-075	7.5	240	3	21.0	18.8	33.8	25600
MEW1-480360-075	7.5	480	3	10.5	18.8	33.8	25600
MEW1-600360-075	7.5	600	3	8.2	18.8	33.8	25600
MEW1-240160-100	10	240	1	44.7	25.0	45.0	34100
MEW1-208360-100	10	208	3	30.8	25.0	45.0	34100
MEW1-240360-100	10	240	3	27.1	25.0	45.0	34100
MEW1-480360-100	10	480	3	13.5	25.0	45.0	34100

MEW1-600360-100	10	600	3	10.6	25.0	45.0	34100
MEW1-208360-150	15	208	3	44.6	18.1	32.6	51200
MEW1-240360-150	15	240	3	39.1	18.1	32.6	51200
MEW1-480360-150	15	480	3	19.5	18.1	32.6	51200
MEW1-600360-150	15	600	3	15.4	18.1	32.6	51200
MEW1-480360-200	20	480	3	25.6	24.2	43.6	68250
MEW1-600360-200	20	600	3	20.3	24.2	43.6	68250
MEW1-480360-250	25	480	3	31.6	20.9	37.5	85300
MEW1-600360-250	25	600	3	25.1	20.9	37.5	85300
MEW1-480360-300	30	480	3	37.6	25.0	45.1	102350
MEW1-600360-300	30	600	3	29.9	25.0	45.1	102350
MEW1-480360-350	35	480	3	43.6	29.2	52.6	119400
MEW1-600360-350	35	600	3	34.7	29.2	52.6	119400
MEW1-480360-390	39	480	3	48.0	32.5	58.6	133100
MEW1-600360-390	39	600	3	38.5	32.5	58.6	133100

GENERAL SPECIFICATIONS

Nominal kW		3	5	7.5	10	15
Fan Diameter	in. (mm)	12 (305)	12 (305)	12 (305)	12 (305)	16 (406)
Air Delivery	CFM (m3/hr)	700 (1190)	700 (1190)	700 (1190)	700 (1190)	1450 (2460)
Approx. Air Velocity	ft/min (m/s)	785 (4.0)	785 (4.0)	785 (4.0)	785 (4.0)	950 (4.8)
Horizontal Throw	ft. (m)	22 (6.7)	22 (6.7)	22 (6.7)	22 (6.7)	35 (10.7)
Max. Mounting Height*	(ft.)	8.5	8.5	8.5	8.5	11.5
horizontal (to underside)	(m)	2.6	2.6	2.6	2.6	3.5
Max. Mounting Height*	(ft.)	12.8	12.8	12.8	12.8	18.0
45° decline (to underside)	(m)	3.9	3.9	3.9	3.9	5.5
Min. Mounting Height	(ft.)	6.0	6.0	6.0	6.0	6.0
	(m)	1.8	1.8	1.8	1.8	1.8
Net Weight	lbs. (kg)	75.0 (34.1)	75.0 (34.1)	75.0 (34.1)	75.0 (34.1)	90.0 (40.9)
Shipping Weight	lbs. (kg)	125.0 (56.8)	125.0 (56.8)	125.0 (56.8)	125.0 (56.8)	140.0 (63.6)

Nominal kW		20	25	30	35	39
Fan Diameter	in. (mm)	16 (406)	20 (508)	20 (508)	20 (508)	20 (508)
Air Delivery	CFM (m3/hr)	1450 (2460)	2100 (3570)	2100 (3570)	2100 (3570)	2100 (3570)
Approx. Air Velocity	ft/min (m/s)	950 (4.8)	900 (4.6)	900 (4.6)	900 (4.6)	900 (4.6)
Horizontal Throw	ft. (m)	35 (10.7)	44 (13.4)	44 (13.4)	44 (13.4)	44 (13.4)
Max. Mounting Height*	(ft.)	11.5	12.3	12.3	12.3	12.3
horizontal (to underside)	(m)	3.5	3.7	3.7	3.7	3.7
Max. Mounting Height*	(ft.)	18.0	18.8	18.8	18.8	18.8
45° decline (to underside)	(m)	5.5	5.7	5.7	5.7	5.7
Min. Mounting Height	(ft.)	6.0	6.0	6.0	6.0	6.0
	(m)	1.8	1.8	1.8	1.8	1.8
Net Weight	lbs. (kg)	90.0 (40.9)	130 (59.1)	130 (59.1)	130 (59.1)	130 (59.1)
Shipping Weight	lbs. (kg)	140 (63.6)	180 (81.8)	180 (81.8)	180 (81.8)	180 (81.8)

- **NOTE:** *Maximum mounting height to ensure warm air reaches the floor.
- **Storage:** -45°C to 60°C (-49°F to 140°F)
- **Operating**: -45°C to 40°C (-49°F to 104°F)

WARRANTY

Heating and Indoor Air Quality Products

This Warranty (the “Warranty”) shall apply to Products (as defined below) sold by Modine Manufacturing Company, a Wisconsin corporation (“Seller”) to you (“Buyer”).
Seller hereby warrants that during the Applicable Warranty Period (as defined below) its Products shall be free from defects in material and factory workmanship under normal use and service, subject to the EXCLUSIONS described below and according to the terms outlined in this Warranty.

If Seller receives written notice of a breach of this Warranty prior to the end of the Applicable Warranty Period (which such notice shall include the model and serial numbers of the Product, as well as the date and a reasonably detailed description of the Product’s alleged failure), Buyer shall with Seller’s prior written approval, return the applicable Product or component thereof to Seller with shipping charges prepaid; if upon examination by Seller such Product or component thereof is disclosed to have been defective, then Seller will, without charge to Buyer, at Seller’s option, either repair the Product, replace defective parts in the Product, or offer an entire replacement unit of the Product; provided that the warranty period for a Product that has been repaired or provided with replacement parts shall not extend beyond the original Applicable Warranty Period, nor shall any replacement parts provided for a Product be under any warranty beyond the original Applicable Warranty Period for the Product; similarly, if Seller provides an entire replacement unit of the Product, the warranty period for the

replacement unit is limited to the remainder of the original Applicable Warranty Period. Seller shall have no responsibility for installation, service, field labor, shipping, handling, or other costs or charges, except as expressly provided in this Warranty. Buyer shall have no remedy hereunder for any defective part returned without proper written authorization from Seller, as described above.

For purposes of this Warranty and subject to the exclusions described below, the term “Products” shall mean parts or equipment manufactured by Seller, sold to Buyer pursuant to a purchase contract between Buyer and Seller (most often initiated by a purchase order issued by Buyer and accepted by Seller), and expressly described in such contract. The term “Products” shall not include third-party parts or equipment furnished by Seller, except that, to the extent assignable, Seller will assign to Buyer the benefits (together with all limitations and exclusions) of the third-party manufacturer’s warranty for such parts or equipment.

This Warranty extends only to the original purchase contract between Buyer and Seller and is nontransferable, except that this Warranty may be assigned to an Authorized End User (as defined below). All replaced parts or equipment shall become Seller’s property. For purposes of this Warranty, the term “Applicable Warranty Period” shall mean the warranty period set forth in the table below for each type or class of Product described on the table; provided that, when the Product is to be used as a component part of equipment manufactured by Buyer, the Applicable Warranty Period shall be limited to one (1) year after the date of shipment from Seller, notwithstanding anything in the table below to the contrary.

For purposes of this Warranty, the term “Authorized End User” shall mean any third party that purchases the Product directly or indirectly from Buyer for the Authorized End User’s own use upon the first installation of the Product and not for resale.

BUYER HEREBY ACKNOWLEDGES THAT ITS REMEDIES FOR BREACH OF THIS WARRANTY, EXCLUSIVE OF ALL OTHER REMEDIES PROVIDED BY LAW, ARE LIMITED AS DESCRIBED ABOVE.

EXCLUSIONS AND LIMITATIONS: This Warranty is subject to the following exclusions and limitations:
The term “Products” shall not include and this Warranty shall not apply to any of the following items: refrigerant gas, belts, filters, fuses and other items consumed or worn out by normal wear and tear.

In addition, this Warranty shall not apply to:

1. Products or components thereof that are damaged or adversely affected by conditions beyond Seller’s control, including but not limited to polluted or contaminated or foreign matter contained in the air or water utilized for heat exchanger (condenser) cooling or if the failure of the part is caused by improper air or water supply, or improper or incorrect sizing of power supply;
2. Any Products or components thereof which have been repaired or altered outside the factory of Seller in any way,
   or otherwise subject to unauthorized repairs or alterations, so as, in the judgment of Seller, to affect the Product’s durability or performance;
3. Materials or labor of any kind not furnished by Seller, or any charges for any such labor or materials, whether such labor, materials or charges thereon are due to replacement of parts, adjustments, repairs, or any other work done by any party other than Seller;
4. Labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of either defective or replacement parts;
5. Any Products removed from their original location for reinstallation in another location;
6. Any Products or components thereof which have been operated, maintained, or serviced contrary to Seller’s written installation, operation, and/or servicing instructions or owner’s manual;
7. Damages resulting from operation with an inadequate or interrupted supply of air or water;

8. Any Products or components thereof which have been subjected to misuse, negligence, faulty installation, improper servicing, accident, excessive thermal shock, excessive humidity, physical damage, impact, abrasion, improper operation, or other operating conditions in excess of or contrary to those for which such equipment was designed;
9. With respect to gas-fired or oil-fired units, any Products or components thereof if the input to the Product exceeds the rated input (as indicated on the Product's serial plate) by more than five percent (5%);
10. Any Products or components thereof which, in the judgment of Seller, have been installed in a corrosive atmosphere, marine, or coastal application, subjected to corrosive fluids or gases, or damaged or adversely affected by the effects of the physical or chemical properties of water or steam or other liquids or gases used in the Products or any component thereof;
11. Damage or failure to start resulting from improper voltage conditions, blown fuses, open circuit breakers, or other inadequacy or interruption of electrical service or fuel supply; or
12. Any Products or components thereof from which the serial number has been altered, defaced or removed.

BUYER AGREES THAT THE WARRANTIES AND REMEDIES DESCRIBED HEREIN ARE THE ONLY WARRANTIES AND REMEDIES PROVIDED BY SELLER WITH RESPECT TO THE PRODUCTS AND TO THE MAXIMUM EXTENT PERMITTED UNDER APPLICABLE LAW SHALL BE IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES AND REMEDIES WHATSOEVER, EITHER EXPRESS OR IMPLIED, WHETHER ARISING FROM LAW, COURSE OF DEALING, USAGE OF TRADE, OR OTHERWISE, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT, EACH OF WHICH SELLER HEREBY EXPRESSLY DISCLAIMS. S

ELLER NEITHER ASSUMES (NOR HAS AUTHORIZED ANY PERSON TO ASSUME) ANY OTHER WARRANTY OR LIABILITY IN CONNECTION WITH ANY PRODUCTS. REPRESENTATIONS AND CONDITIONS, EXPRESS OR IMPLIED BY STATUTE, TRADE USAGE, OR OTHERWISE, ARE EXCLUDED AND WILL NOT APPLY TO THE PRODUCTS UNDER THIS WARRANTY, EXCEPT FOR WARRANTIES WHICH BY LAW CANNOT BE EXCLUDED

OR LIMITED. Without limiting the foregoing, Seller makes no and specifically disclaims all representations and/or warranties that the Products will detect the presence of, or eliminate, prevent, treat, or mitigate the spread, transmission, or outbreak of any pathogen, disease, virus, or other contagion, including but not limited to COVID 19.

BUYER AGREES THAT IN NO EVENT WILL SELLER BE LIABLE FOR COSTS OF PROCESSING, LOST REVENUES OR PROFITS, INJURY TO GOODWILL, OR ANY OTHER SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES OF ANY KIND RESULTING FROM THE PURCHASE OF THE PRODUCTS, OR FROM BUYER'S USE OF ANY PRODUCT, WHETHER ARISING FROM BREACH OF WARRANTY, NONCONFORMITY TO ORDERED SPECIFICATIONS, DELAY IN DELIVERY, OR ANY OTHER LOSS SUSTAINED BY THE BUYER.

OPTIONAL SUPPLEMENTAL WARRANTY

Buyer may purchase from Seller a supplemental warranty with respect to Products which shall extend the Applicable Warranty Period as set forth in the express terms and conditions described in the supplemental warranty agreement. Such supplemental warranty terms may include an additional four (4) years on certain compressors, an additional five (5) years "all parts" warranty, an additional four (4) or nine (9) years on certain heat exchangers, and/or such additional supplemental warranty terms as Seller chooses to make available to its customers from time to time.

COMPONENT	APPLICABLE MODELS		APPLICABLE WARRANTY PERIOD (WHICHEVER OCCURS FIRST)	
			Time from Date of First Beneficial Use by Buyer or Authorized End User	Time from Date of Shipment from Seller
Heat Exchangers and/or Coils	Gas Fired Unit Heaters with Tubular Style Heat Exchangers (e.g. HD, HDS, PTS, BTS, etc.)	Aluminized or Stainless Steel	10 YEARS	126 MONTHS
	Gas Fired Unit Heaters with Clam-Shell Style Heat Exchangers (e.g. PDP, BDP, etc.)	Aluminized Steel (not in high-humidity applications)	10 YEARS (must be Stainless Steel in high-humidity applications)	126 MONTHS
		Aluminized Steel (in high-humidity applications)	1 YEAR	18 MONTHS
		Stainless Steel	10 YEARS	126 MONTHS
	Low Intensity Infrared Units		5 YEARS	66 MONTHS
	Indoor and Outdoor Duct Furnaces and System Units, Steam/Hot Water Units, Oil-Fired Units, Electric Units, Cassettes, Vertical Unit Ventilators, Geothermal Units		1 YEAR	18 MONTHS
Burners and Elements	Low Intensity Infrared Units		2 YEARS	30 MONTHS
	High Intensity Infrared and Electric Infrared Units		1 YEAR	18 MONTHS
Compressors	Condensing Units for Cassettes		5 YEARS	66 MONTHS
	Vertical Unit Ventilators, Geothermal Units		1 YEAR	18 MONTHS
Sheet Metal Parts	All Products		1 YEAR	18 MONTHS
Components excluding Heat Exchangers, Coils, Condensers, Burners, Sheet Metal	All Products		2 YEARS	30 MONTHS

As Modine Manufacturing Company has a continuous product improvement program, it reserves the right to change design and specifications without notice.

- Modine Manufacturing Company 1500 DeKoven Avenue Racine, WI 53403
- Phone: 1.800.828.4328 (HEAT) www.modinehvac.com

Documents / Resources

	**MODINE MEW1 Series Corrosion Resistant Washdown Unit Heater** [pdf] Owner's Manual MEW1 Series, MEW1 Series Corrosion Resistant Washdown Unit Heater, Corrosion Resistant Washdown Unit Heater, Resistant Washdown Unit Heater, Washdown Unit Heater, Heater

References

- **User Manual**