



Marley
 Engineered Products
 An **SPX** Company

SERVICE REFERENCE

SALES REFERENCE **5200-2473-000**

161-057948-002

DATE **MAY, 2002**

**INSTALLATION, OPERATION
 RENEWAL PARTS IDENTIFICATION**

**W Series (Model B)
 Corrosion Resistant Heater**



Model	Electrical Data (60 Hz)					Approx. Air Temp. Rise (°F)	Approx. Air Velocity (Ft./Min.)	Air Volume (CFM)	Horizontal Air Throw (Ft.)	Approx. Net. Wt. (Lbs.)							
	Volts	kW	Phase	Amps	BTU												
W20011BTLS	120	2.0	1	16.7	6,824	21	430	405	12.5	56							
W20081BTLS	208		1	9.6													
W20041BTLS	240		1	8.3													
W30011BTLS	120	3.0	1	25.0	10,236	31	430	405	12.5	56							
W30081BTLS	208		1	14.4													
W30041BTLS	240		1	12.5													
W30071BTLS	277		1	10.8													
W50081BTLS	208	5.0	1	24.0	17,060	40	430	405	12.5	68							
W50041BTLS	240		1	20.8													
W50071BTLS	277		1	18.1													
W500481BTLS	480		1	10.4													
W50083BTLS	208		3	13.9													
W50043BTLS	240		3	12.0													
W500483BTLS	480		3	6.0													
W50063BTLS	575		3	5.0													
W75081BTLS	208		7.5	1							36.1	25,590	40	590	600	20	68
W75041BTLS	240			1							31.3						
W75071BTLS	277	1		27.1													
W750481BTLS	480	1		15.6													
W75083BTLS	208	3		20.8													
W75043BTLS	240	3		18.1													
W750483BTLS	480	3		9.0													
W75063BTLS	575	3		7.5													
W100041BTLS	240	10.0	1	41.7	34,120	24	850	1300	45	78							
W100071BTLS	277		1	36.1													
W1000481BTLS	480		1	20.8													
W100083BTLS	208		3	27.8													
W100043BTLS	240		3	24.1													
W1000483BTLS	480		3	12.0													
W100063BTLS	575		3	10.1													
W125071BTLS	277	12.5	1	45.1	42,650	30	850	1300	45	78							
W1250481BTLS	480		1	26.0													
W125083BTLS	208		3	34.7													
W125043BTLS	240		3	30.1													
W1250483BTLS	480		3	15.1													
W125063BTLS	575		3	12.6													
W1500481BTLS	480	15.0	1	31.3	51,180	36	850	1300	45	78							
W150083BTLS	208		3	41.7													
W150043BTLS	240		3	36.1													
W1500483BTLS	480		3	18.1													
W150063BTLS	575		3	15.1													
W200083BTLS	240	19.5	3	47.0	66,534												
W200043BTLS	480	20.0	1	41.7	68,240	48	850	1300	45	78							
W2000483BTLS	480		3	24.1													
W200063BTLS	575		3	20.1													
W2500483BTLS	480	25.0	3	30.1	85,300	44	740	1800	48	90							
W250063BTLS	575		3	25.1													
W3000483BTLS	480	30.0	3	36.1	102,360	52	740	1800	48	90							
W300063BTLS	575		3	30.2													
W3500483BTLS	480	35.0	3	42.1	119,420	62	740	1800	48	90							
W350063BTLS	575		3	35.2													
W3900483BTLS	480	39.0	3	47.0	133,068	68	740	1800	48	90							
W390063BTLS	575		3	39.2													

SAVE THESE INSTRUCTIONS

WARNING

Failure to understand and follow these instructions and the "WARNING" notes therein may result in serious personal injury from electrical shock, or from the heater failing due to faulty installation.

⚠ WARNING

This heater is not intended for use in hazardous atmospheres where flammable vapors, gases, liquids, or other combustible atmospheres are present as defined in the National Electrical Code. Failure to comply can result in explosion or fire.

⚠ WARNING

ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing heater. Failure to do so could result in personal injury or property damage. Heater must be installed by a qualified person in accordance with the National Electrical Code, NFPA 70.

⚠ WARNING

ELECTRIC SHOCK HAZARD. Any installation involving electric heaters must be performed by a qualified person and must be effectively grounded in accordance with the National Electrical Code to eliminate shock hazard.

Do not mount mercury type thermostat directly on unit. Vibration could cause heater to malfunction.

The heater must be mounted at least 7' above the floor to avoid accidental contact with the heating elements or fan blade which could cause injury.

Keep at least 5' clearance in front of the heater. Refer to Figure 1 for side, top, and back clearance requirements.

The ceiling mounting structure and the anchoring provisions must be of sufficient strength to support the combined weight of the heater and mounting bracket.

The wall or mounting surface and the anchoring provisions must be capable of supporting the combined weight of the heater and the mounting brackets cantilevered from the mounting surface.

Fan blade rotation must be checked. If airflow is not moving out through the louvers, interchange any two of the three customer power leads on three-phase units only.

GENERAL

Heater Location Instructions:

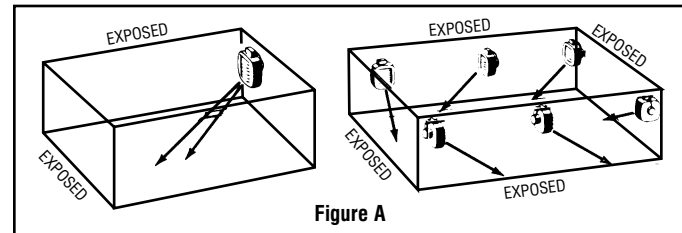
Arrange units so their discharge air streams:

- are subjected to minimum interference from columns, machinery and partitions.
- wipe exposed walls without blowing directly at them.
- are directed away from room occupants in comfort heating.
- are directed along the windward side when installed in a building exposed to a prevailing wind.

Locate thermostat on interior partition walls or posts away from cold drafts, internal heat sources, and away from heater discharge air streams.

Small rooms can be heated by one unit heater. Where two walls are exposed, the heater should be mounted as shown in Figure A.

Large rooms require multi-unit installations. Number and capacity of units will be determined by volume of building and square feet of floor area to be heated. Arrange units to provide perimeter air circulation where each unit supports the air stream from another.



MOUNTING

NOTICE — These heaters are designed for wall and ceiling mount. Other modes of mounting voids factory warranty.

1. Height above floor

- In areas where ceiling height is more than 12 feet, recommended mounting height is approximately 10 feet to underside of heater.
- For ceiling heights of 12 feet or less, maximum mounting height is determined by use of the mounting bracket offered for these heaters. Minimum spacing to ceiling is 9". (See Figure 1.)

C. In either case the minimum mounting height is 7 feet from floor to bottom of heater. (Figure 1)

2. Spacing to adjacent walls (See Figure 1).

- Rear of case to back wall 8" minimum.
 - Side of case to side wall 8" minimum.
- If two or more units are operated in the same enclosed space, their discharges should be directed to aid in development of mass air movement for uniform heat dispersal.
 - Controlling thermostats to individual heaters should be mounted at shoulder height in inside walls or columns.

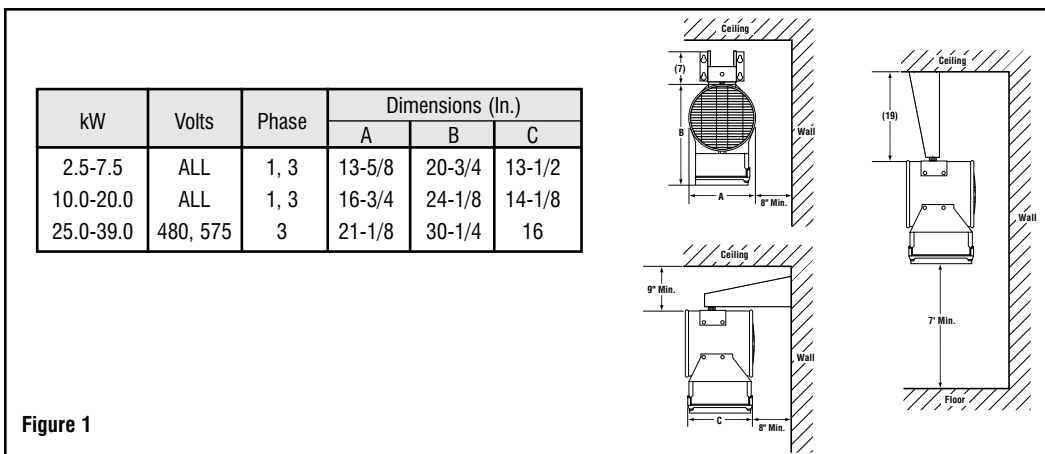


Figure 1

WIRING

Note: All electrical wiring must be done according to National Electrical and local codes by a qualified person.

⚠ WARNING

ELECTRIC SHOCK HAZARD. Any installation involving electric heaters must be performed by a qualified person and must be effectively grounded in accordance with the National Electrical Code to eliminate shock hazard.

1. Connect heater according to the voltage and frequency specified on the nameplate.
2. Heaters are not provided with a control switch and may be controlled by a wall-mounted thermostat.
3. All units are provided with control and power terminal blocks for customer's connection.
4. Protection against overheating is provided by an internal automatic thermal cutout (manual reset cutout optional) which opens the electric circuit if the normal air-flow is restricted or stopped. Cutout automatically energizes heater on removal of the obstruction. If optional manual reset is tripped, determine cause before re-energizing.

⚠ WARNING

The system designer is responsible for the safety of this equipment and should install adequate back-up controls and safety devices with their electric heating equipment. Where the consequences of failure could result in personal injury or property damage, back-up controls are essential.

5. Heaters rated 5kW - 40kW are equipped with fan delay control. This control continues fan operation for a short time after elements are de-energized to dissipate residual heat.

Standard Equipment

- **Built-in Thermostat** (bulb and capillary type) for automatic temperature control. The thermostat controls the heating elements and fan simultaneously to achieve set temperature.

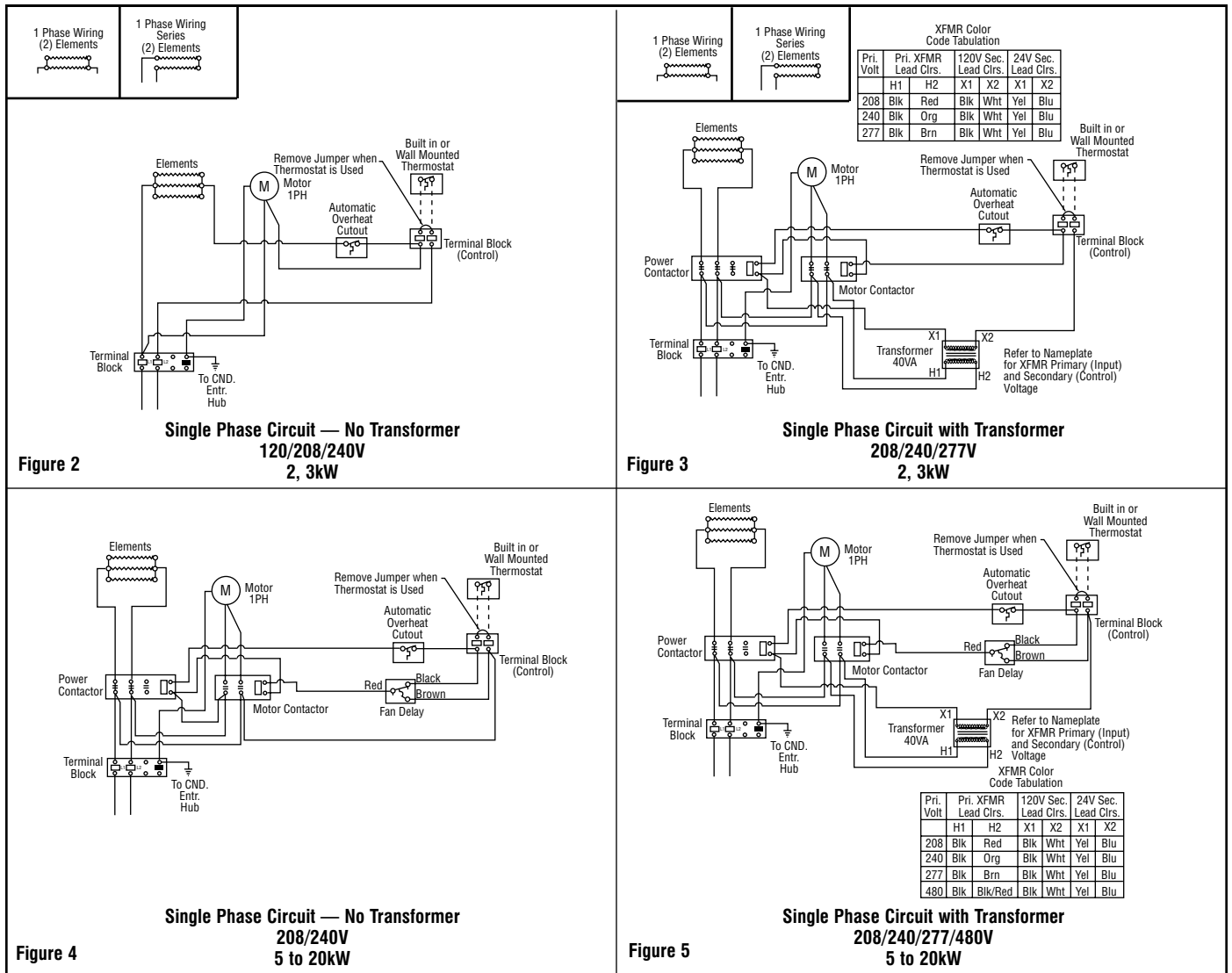
The Low setting of the thermostat is approximately 55°F and the Hi setting is approximately 105°F.

- **Heat-Cool switch** (heater on, heater off, fan only) to permit air flow with or without energizing the heating elements. The switch is accessible from outside the NEMA 4X enclosure.
- **A pilot light** to indicate when heating elements are energized.

Optional Equipment

- **Internal Fusing**
- **Manual reset cutout**
- **Disconnect Switch**

WIRING DIAGRAMS



WIRING DIAGRAMS

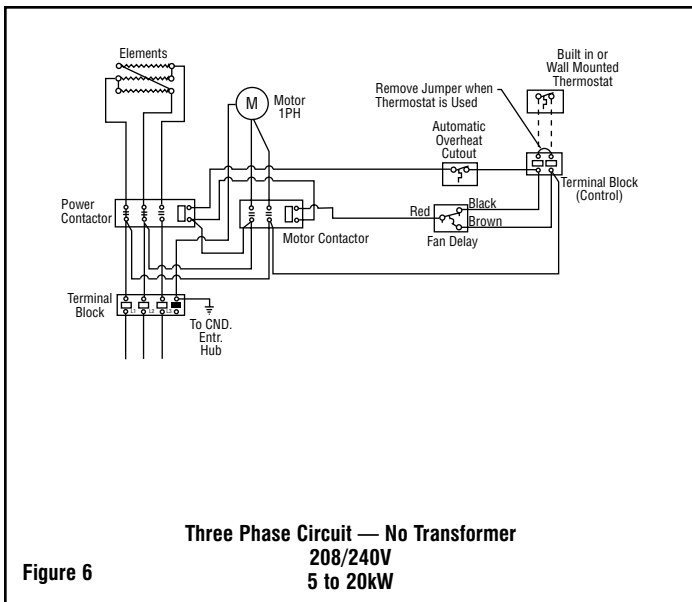


Figure 6

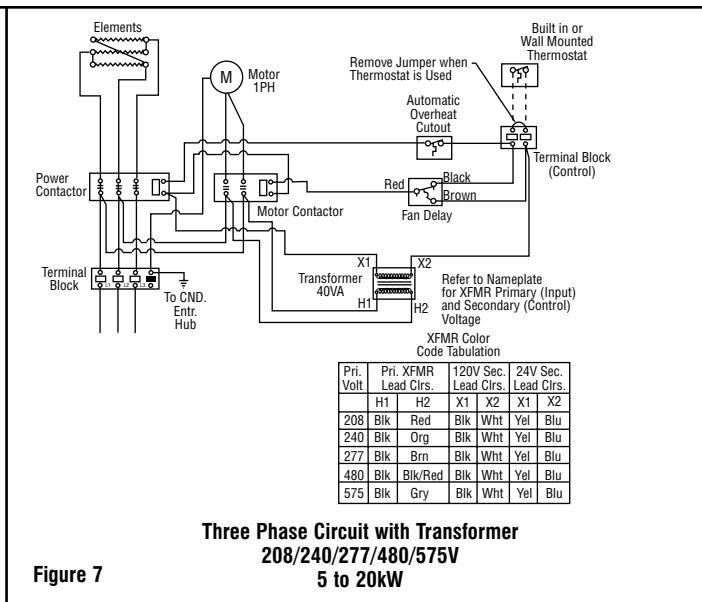


Figure 7

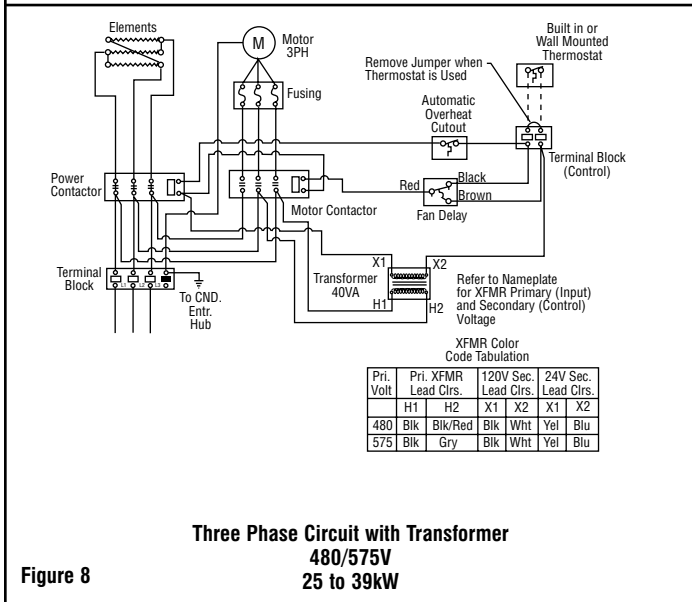


Figure 8

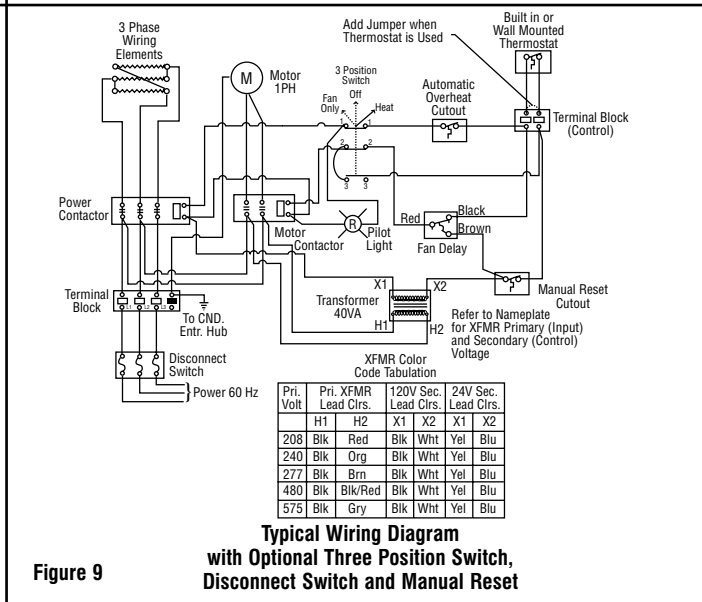


Figure 9

OPERATION

With proper installation this heater will provide efficient and dependable service. Please read the following guidelines to ensure reliable operation.

1. Do not allow objects such as fabric or other combustible materials to restrict the airflow through the heater.
2. Heater should not be operated unattended unless adequate controls and safety devices have been installed.
3. The ambient operating temperature limits are -20° F to 104° F (-29° C to 40° C).

⚠ WARNING

Fire hazard. To prevent personal injury or property damage, do not operate heater near combustible objects, restrict airflow or use for purposes other than described.

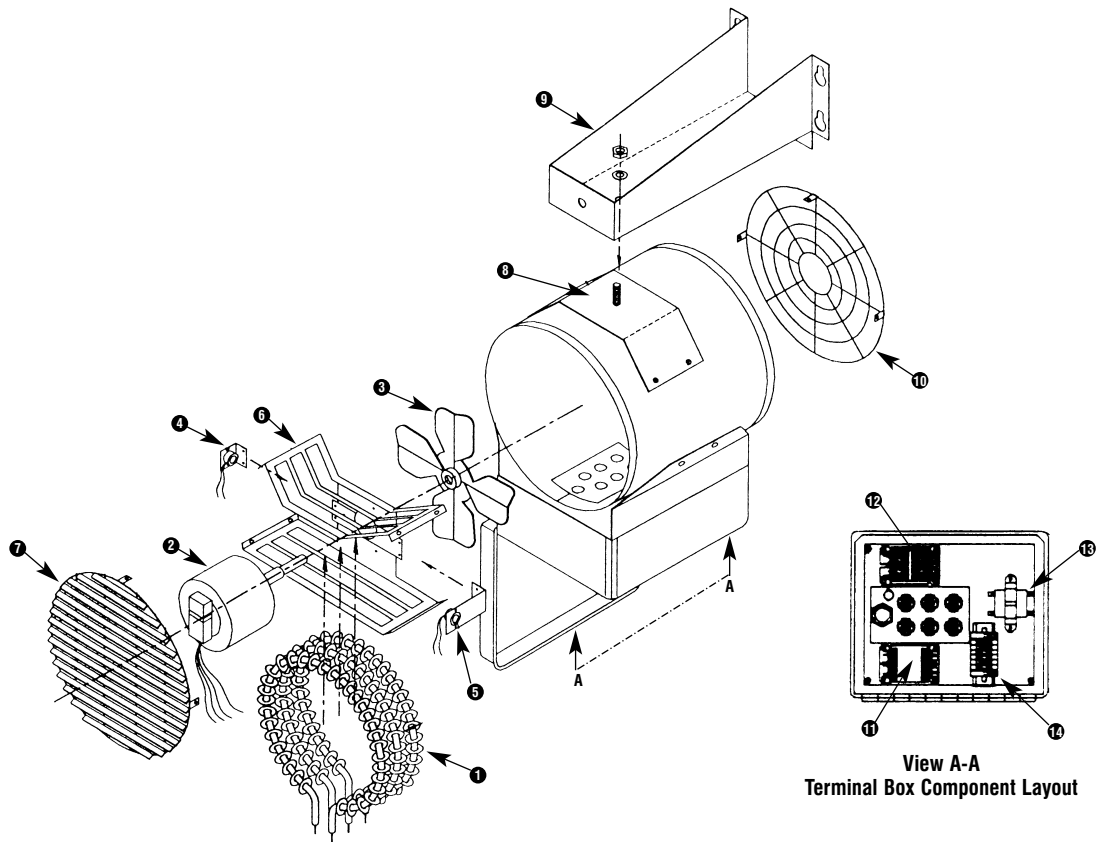
MAINTENANCE

⚠ WARNING

ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing heater. Failure to do so could result in personal injury or property damage.

1. Turn off heater and allow to cool before performing these maintenance procedures.
2. Fan motors in these heaters are provided with sealed ball bearings, factory lubricated, requiring no further lubrication under normal service conditions.
3. Vacuum or hose off heater with water (at city pressure) before activating for next heating season to remove accumulated dust or lint which otherwise may smoke or incinerate on initial heat up.

RENEWAL PARTS IDENTIFICATION



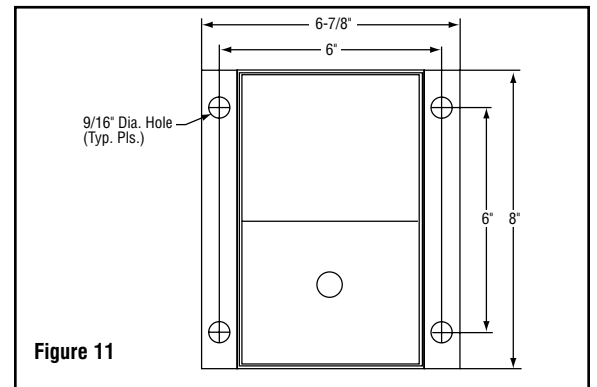
Common Parts

Description	Part Number
5 Fan Delay	300-058056-001
13 Terminal Block - Assembly	303-073538-003 (for qty., contact factory)
7 Louver (2-7.5 kW)	182-047073-035
(10-20 kW)	182-047073-025
(25-39 kW)	182-047073-028
10 Grille (2-7.5 kW)	134-027038-007
(10-20 kW)	134-027038-008
(25-39 kW)	134-027038-005
8 Bracket (2-7.5 kW)	027-303577-001
Hardware (10-20 kW)	027-303577-003
Not Included (25-39 kW)	027-058044-001
9 Universal Mount	027-056945-002

Optional Accessories

Description	Part Number
Optional Manual Reset	300-055213-002
Fuse Block - End Section	129-048475-001*
Fuse Block - Contact Section	129-048473-001* (3)
Fuse Motor (25-39 kW)	128-027590-008* (3)
Pilot Light 24V	213-304688-001
Pilot Light 120V	213-304688-002
Pilot Light 240V	213-304688-003
3 Position Switch	292-304687-001
Thermostat	300-026604-001
Disconnect Switch	190-303704-026

NOTE: Number in parentheses () indicates quantity required.
* Where Required.



Controls

Description	Part Number
12 Contactor — Power (24V, 1-3P)	072-304551-002
11 Contactor — Motor (24V, 1-3P)	072-304551-001
12 Contactor — Power (120V, 1-3P)	072-304551-008
11 Contactor — Motor (120V, 1-3P)	072-304551-007
14 Transformer 208/240/480V Primary 120V Secondary	315-304252-001
208/240/480V Primary 24 Secondary	315-304252-002
277/575V Primary 120V Secondary	315-304252-003
277/575V Primary 24V Secondary	315-304252-004 (277V) 315-304252-005 (575V)

RENEWAL PARTS IDENTIFICATION

Model	V	kW	Phase	Motor		① Element	② Motor	③ Fan	④ Auto Cutout	Wiring Diagram Figure
				Volts	Phase					
W20011TLS W22081TLS W20041TLS	120 208 240	2.0	1	115 208 230	1	118-074083-001 (2) 118-074083-002 (2) 118-074083-001 (2)	193-302667-002	112-027709-011	300-027676-001	4 3 3
W30011TLS W30081TLS W30041TLS W30071TLS	120 208 240 277	3.0	1	115 208 230 277	1	118-074083-004 (2) 118-074083-005 (2) 118-074083-004 (2) 118-074083-006 (2)	193-302667-002	112-027709-011	300-027676-001	4 3 3 3
W50081TLS W50041TLS W50071TLS W500481TLS	208 240 277 480	5.0	1 1	208 230 277 480	1	118-074083-007 (3) 118-074083-008 (3) 118-074083-009 (3) 118-074083-010 (3)	193-302667-002 193-302667-003	112-027709-011	300-027676-001	5 5 5 5
W50083TLS W50043TLS W500483TLS W50063TLS	208 240 480 575	5.0	3	208 230 480 575	1	118-074083-007 (3) 118-074083-008 (3) 118-074083-010 (3) 118-074083-011 (3)	193-302667-002 193-302667-002 193-302667-003 193-302667-007	112-027709-011	300-027676-001	7 7 7 7
W75081TLS W75041TLS W75071TLS W750481TLS W75083TLS W75043TLS W750483TLS W75063TLS	208 240 277 480 208 240 480 575	7.5	1 3	208 230 277 480 208 230 480 575	1	118-074083-012 (3) 118-074083-013 (3) 118-074083-014 (3) 118-074083-015 (3) 118-074083-012 (3) 118-074083-013 (3) 118-074083-015 (3) 118-074083-016 (3)	193-302667-002 193-302667-002 193-302667-002 193-302667-003 193-302667-002 193-302667-002 193-302667-003 193-302667-007	112-027709-015	300-027676-003	5 5 5 5 7 7 7 7
W100041TLS W100071TLS W1000481TLS W100083TLS W100043TLS W1000473TLS W100063TLS	240 277 480 208 240 480 575	10.0	1 3	230 277 480 208 230 480 575	1	118-074084-001 (3) 118-074084-002 (3) 118-074084-003 (3) 118-074084-001 (3) 118-074084-001 (3) 118-074084-003 (3) 118-074084-005 (3)	193-302667-002 193-302667-002 193-302667-003 193-302667-002 193-302667-002 193-302667-003 193-302667-007	112-027709-016	300-027676-004	5 5 5 7 7 7 7
W125071TLS W1250481TLS W125083TLS W125043TLS W1250483TLS W125063TLS	277 480 208 240 480 575	12.5	1 3	277 480 208 230 480 575	1	118-074084-008 (3) 118-074084-009 (3) 118-074084-006 (3) 118-074084-007 (3) 118-074084-009 (3) 118-074084-010 (3)	193-302667-002 193-302667-003 193-302667-002 193-302667-002 193-302667-003 193-302667-007	112-027709-016	300-027676-004	5 5 7 7 7 7
W1500481TLS W150083TLS W150043TLS W1500483TLS W150063TLS	480 208 240 480 575	15.0	1 3	480 208 230 480 575	1	118-074085-003 (3) 118-074085-001 (3) 118-074085-002 (3) 118-074085-003 (3) 118-074085-004 (3)	193-302667-003 193-302667-002 193-302667-002 193-302667-003 193-302667-007	112-027709-016	300-027676-004	5 7 7 7 7
W200041TLS W2000481TLS W2000483TLS W20063TLS	240 480 480 575	19.5 20.0	3 1 3	230 480 480 575	1	118-074085-005 (3) 118-074085-006 (3) 118-074085-006 (3) 118-074085-007 (3)	193-302667-002 193-302667-003 193-302667-003 193-302667-007	112-027709-016	300-027676-004	7 5 7 7
W2500483TLS W250063TLS	480 575	25.0	3	460 575	3	118-056965-002 (3) 118-056965-007 (3)	193-302667-005 193-056988-005	112-027568-001	300-027676-004	8 8
W3000483TLS W300063TLS	480 575	30.0	3	460 575	3	118-056965-001 (3) 118-056965-010 (3)	193-302667-005 193-056988-005	112-027568-001	300-027676-004	8 8
W3500483TLS W350063TLS	480 575	35.0	3	460 575	3	118-056965-005 (3) 118-056965-011 (3)	193-302667-005 193-056988-005	112-027568-001	300-027676-004	8 8
W3900483TLS W390063TLS	480 575	39.0	3	460 575	3	118-056965-004 (3) 118-056965-008 (3)	193-302667-005 193-056988-005	112-027568-001	300-027676-004	8 8

NOTE: Number in parentheses () indicates quantity required.

LIMITED WARRANTY

All products manufactured by Marley Electric Heating are warranted against defects in workmanship and materials for one year from date of installation. This warranty does not apply to damage from accident, misuse, or alteration; nor where the connected voltage is more than 5% above the nameplate voltage; nor to equipment improperly installed or wired or maintained in violation of the product's installation instructions. All claims for warranty work must be accompanied by proof of the date of installation.

The customer shall be responsible for all costs incurred in the removal or reinstallation of products, including labor costs, and shipping costs incurred to return products to Marley Electric Heating Service Center. Within the limitations of this warranty, inoperative units should be returned to the nearest Marley authorized service center or the Marley Electric Heating Service Center, and we will repair or replace, at our option, at no charge to you with return freight paid by Marley. It is agreed that such repair or replacement is the exclusive remedy available from Marley Electric Heating.

THE ABOVE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. AND ALL

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE AFORESAID EXPRESSED WARRANTIES ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS AGREEMENT. MARLEY ELECTRIC HEATING SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES ARISING WITH RESPECT TO THE PRODUCT, WHETHER BASED UPON NEGLIGENCE, TORT, STRICT LIABILITY, OR CONTRACT.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state.

For the address of your nearest authorized service center, contact Marley Electric Heating in Bennettsville, SC, at 1-800-642-4328. Merchandise returned to the factory must be accompanied by a return authorization and service identification tag, both available from Marley Electric Heating. When requesting return authorization, include all catalog numbers shown on the products.

How to order repair parts:

In order to obtain any needed repair or replacement parts, warranty service or technical information, please contact the Marley Electric Heating Service Center toll-free by calling 1-800-642-HEAT.

When ordering replacement parts, always give the information listed as follows:

1. The Part Number
2. The Model Number
3. The Part Description
4. Date of Manufacture



Marley
Engineered Products

An **SPX** Company

470 Beauty Spot Road, E
Bennettsville, SC 29550 USA

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5200-2473-000