

WD Series Corrosion Resistant Heater

Installation, Operation & Maintenance Instructions

Specifications

Model Number	KW	Volts	Phase	Output BTU/HR	Heater Amps	Motor Volts	Motor Phase	Motor Amps	Temp Rise	CFM	Ship Weight lbs (kg)
WD02112A	2	120	1	6,824	16.7	120	1	1.554	9	700	60 (27.2)
WD02812A	2	208	1	6,824	9.6	208	1	0.896	9	700	60 (27.2)
WD02212A	2	240	1	6,824	8.3	240	1	0.777	9	700	60 (27.2)
WD03112A	3	120	1	10,236	25.0	120	1	1.554	14	700	60 (27.2)
WD03812A	3	208	1	10,236	14.4	208	1	0.896	14	700	60 (27.2)
WD03212A	3	240	1	10,236	12.5	240	1	0.777	14	700	60 (27.2)
WD03712A	3	277	1	10,236	10.8	277	1	0.673	14	700	60 (27.2)
WD03832A	3	208	3	10,236	8.3	208	1	0.896	14	700	60 (27.2)
WD03232A	3	240	3	10,236	7.2	240	1	0.777	14	700	60 (27.2)
WD03432A	3	480	3	10,236	3.6	480	1	0.388	14	700	60 (27.2)
WD05812A	5	208	1	17,060	24.0	208	1	0.896	23	700	60 (27.2)
WD05212A	5	240	1	17,060	20.8	240	1	0.777	23	700	60 (27.2)
WD05712A	5	277	1	17,060	18.1	277	1	0.673	23	700	60 (27.2)
WD05412A	5	480	1	17,060	10.4	480	1	0.388	23	700	60 (27.2)
WD05832A	5	208	3	17,060	13.9	208	1	0.896	23	700	60 (27.2)
WD05232A	5	240	3	17,060	12.0	240	1	0.777	23	700	60 (27.2)
WD05432A	5	480	3	17,060	6.0	480	1	0.388	23	700	60 (27.2)
WD05632A	5	600	3	17,060	7.2	240	1	1.8	23	1450	75 (34)
WD07812A	7.5	208	1	25,590	36.1	208	1	0.896	34	700	60 (27.2)
WD07212A	7.5	240	1	25,590	31.3	240	1	0.777	34	700	60 (27.2)
WD07712A	7.5	277	1	25,590	27.1	277	1	0.673	34	700	60 (27.2)
WD07412A	7.5	480	1	25,590	15.6	480	1	0.388	34	700	60 (27.2)
WD07832A	7.5	208	3	25,590	20.8	208	1	0.896	34	700	60 (27.2)
WD07232A	7.5	240	3	25,590	18.0	240	1	0.777	34	700	60 (27.2)
WD07432A	7.5	480	3	25,590	9.0	480	1	0.388	34	700	60 (27.2)
WD07632A	7.5	600	3	25,590	7.2	240	1	1.8	34	1450	75 (34)
WD10212A	10	240	1	34,120	41.7	240	1	0.777	22	1450	60 (27.2)
WD10712A	10	277	1	34,120	36.1	277	1	0.673	22	1450	60 (27.2)
WD10412A	10	480	1	34,120	20.8	480	1	0.388	22	1450	60 (27.2)
WD10832A	10	208	3	34,120	27.8	208	1	0.896	22	1450	60 (27.2)
WD10232A	10	240	3	34,120	24.1	240	1	0.777	22	1450	60 (27.2)
WD10432A	10	480	3	34,120	12.0	480	1	0.388	22	1450	60 (27.2)
WD10632A	10	600	3	34,120	9.6	240	1	1.8	33	2400	75 (34)
WD12812A	12.5	208	1	42,650	60.1	208	1	1.793	27	1450	60 (27.2)
WD12212A	12.5	240	1	42,650	52.1	240	1	1.554	27	1450	60 (27.2)
WD12832A	12.5	208	3	42,650	34.7	208	1	1.793	27	1450	60 (27.2)
WD12232A	12.5	240	3	42,650	30.1	240	1	1.554	27	1450	60 (27.2)
WD12432A	12.5	480	3	42,650	15.0	480	1	0.777	27	1450	60 (27.2)
WD12632A	12.5	600	3	42,650	12.0	240	1	1.8	27	2400	75 (34)
WD15812A	15	208	1	51,180	72.1	208	1	1.793	20	2400	110 (49.9)
WD15212A	15	240	1	51,180	62.5	240	1	1.554	20	2400	110 (49.9)
WD15412A	15	480	1	51,180	31.3	480	1	0.777	20	2400	110 (49.9)
WD15832A	15	208	3	51,180	41.6	208	1	1.793	20	2400	110 (49.9)
WD15232A	15	240	3	51,180	36.1	240	1	1.554	20	2400	110 (49.9)
WD15432A	15	480	3	51,180	18.0	480	1	0.777	20	2400	110 (49.9)
WD15632A	15	600	3	51,180	14.5	240	1	1.8	20	2400	125 (56.6)
WD20412A	20	480	1	68,240	41.7	480	1	0.777	26	2400	120 (54.4)
WD20232A	20	240	3	68,240	48.1	240	1	1.554	26	2400	120 (54.4)
WD20432A	20	480	3	68,240	24.1	480	1	0.777	26	2400	120 (54.4)
WD20632A	20	600	3	68,240	19.3	240	1	1.8	26	2400	135 (61.2)
WD25832A	25	208	3	85,300	69.4	208	1	1.793	33	2400	120 (54.4)
WD25232A	25	240	3	85,300	60.1	240	1	1.554	33	2400	120 (54.4)
WD25432A	25	480	3	85,300	30.1	480	1	0.777	33	2400	120 (54.4)
WD25632A	25	600	3	85,300	24.1	240	1	1.8	33	2400	135 (61.2)
WD30832A	30	208	3	102,360	83.3	208	1	1.793	39	2400	120 (54.4)
WD30232A	30	240	3	102,360	72.2	240	1	1.554	39	2400	120 (54.4)
WD30432A	30	480	3	102,360	36.1	480	1	0.777	39	2400	120 (54.4)
WD30632A	30	600	3	102,360	28.9	240	1	1.8	39	2400	135 (61.2)
WD39432A	39	480	3	133,068	46.9	480	1	0.777	51	2400	120 (54.4)
WD39632A	39	600	3	133,068	37.6	240	1	1.8	51	2400	135 (61.2)

NOTE: Heaters over 48 amps require supplemental fusing.

SAVE THESE INSTRUCTIONS

IMPORTANT INSTRUCTIONS



WARNING



WHEN USING ELECTRIC APPLIANCES, BASIC PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND INJURY TO PERSONS, INCLUDING THE FOLLOWING:

1. Read all instructions before installing or using this heater.
2. This heater is a commercial/industrial product not intended for use in a residential setting.
3. This heater has hot and arcing or sparking parts inside and is not intended for use in hazardous atmospheres where flammable vapors, gases, liquids or other combustible atmospheres as defined in the National Electrical Code are used or stored. Failure to comply can result in explosion or fire.
4. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, etc. and curtains at least 3 feet (0.9 m) from the front of the heater.
5. Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.

6. Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by a reputable electrician before using.
7. Do not use outdoors.
8. To disconnect heater, turn controls to OFF, and turn OFF power to heater circuit at main disconnect panel.
9. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock, fire, or damage to the heater.
10. To prevent a possible fire, do not block air intake or exhaust in any manner.
11. 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.
12. When installing, see INSTALLATION INSTRUCTIONS for additional warnings and precautions.
13. For safe and efficient operation, and to extend the life of your heater, keep your heater clean - See MAINTENANCE INSTRUCTIONS.

NOT FOR RESIDENTIAL USE.

INSTALLATION INSTRUCTIONS



WARNING



To prevent a possible fire, injury to persons or damage to the heater, adhere to the following:

Important Note: This heater must be installed by a qualified person.

1. Disconnect all power coming to heater at main service panel before wiring or servicing.
2. All wiring procedures and connections must be in accordance with the National and Local Codes having jurisdiction and the heater must be grounded.

CAUTION: All electrical conduit and fittings must be listed for watertight applications to maintain the NEMA 4X enclosure classification to prevent hose-directed water from entering electrical box.

3. Verify the power supply voltage coming to heater matches the ratings as shown on the heater nameplate.

CAUTION: ENERGIZING HEATER AT A VOLTAGE GREATER THAN THE VOLTAGE PRINTED ON THE NAMEPLATE WILL DAMAGE THE HEATER AND VOID THE WARRANTY AND COULD CAUSE A FIRE.

4. To reduce the risk of fire, do not store or use gasoline or other flammable vapors and liquids in the vicinity of the heater.
5. The ceiling or wall mounting structure and the anchoring provisions must be of sufficient strength to support the combined weight of the heater and mounting bracket. See Specifications for total weight.
6. Heater must be mounted for horizontal air flow only. The heater must be mounted at least 7' (2134 mm) above the floor to avoid accidental contact with the fan blade which could cause injury.
7. Keep at least 5' (1524 mm) clearance in front of the heater. Refer to Figure 2 for side, top and back clearance requirements.
8. Do not mount mercury type thermostat directly on unit. Vibration could cause heater to malfunction.
9. Outlet grille is factory formed with louvers set at a 45° angle. This is the minimum angle allowable to avoid potential overheating. Louvers may be opened up to 90° if desired to allow for better air throw by bending each louver outward. See Figure 3.

General

Heater Location Instructions:

Arrange units so their discharge air streams:

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

If not provided with internal thermostat, locate remote thermostat on interior partition walls or posts away from cold drafts, internal heat sources and away from heater discharge air streams.

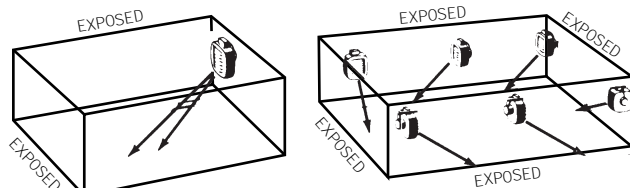


Figure 1

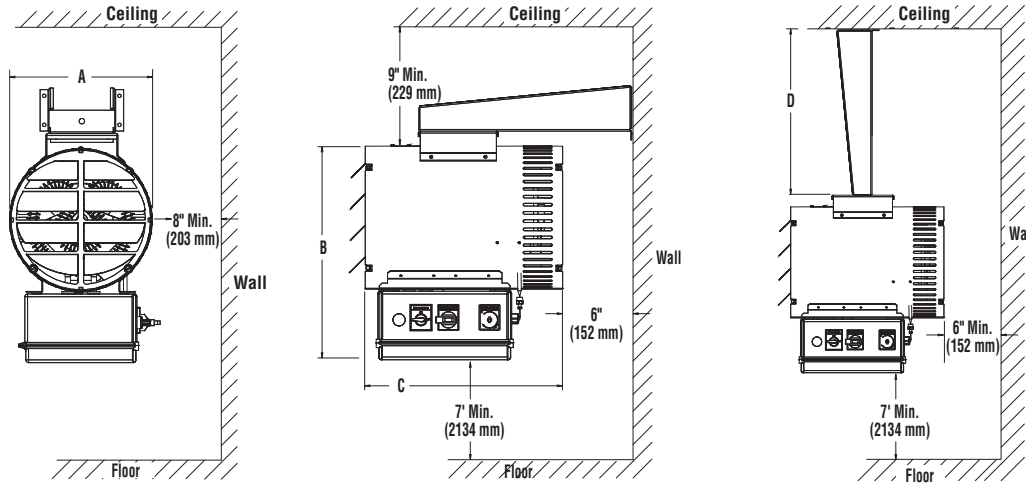


Figure 2

kW	Dimensions Inches (mm)			
	A	B	C	D
2-10	13 (330)	19.5 (495)	18 (457)	19.5 (495)
12.5-39.0	20 (508)	31 (787)	27 (686)	24.2 (615)

Small rooms can be heated by one unit heater. Where two walls are exposed, the heater should be mounted as shown in Figure 1.

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 Heaters with supplied Universal Mounting Bracket

NOTICE — These heaters are designed for wall and ceiling mounting with horizontal air discharge only. Other modes of mounting voids factory warranty.

- Height above floor
 - In areas where ceiling height is more than 12 feet (3658 mm), recommended mounting height is approximately 10 feet (3048 mm) to underside of heater.
 - For ceiling heights of 12 feet (3658 mm) or less, maximum mounting height is determined by use of the mounting bracket offered for these heaters. Minimum spacing to ceiling is 9" (229 mm). (See Figure 2.)
 - In either case the minimum mounting height is 7 feet (2134 mm) from floor to bottom of heater. (Figure 2)
- Spacing to adjacent walls (See Figure 2).
 - Rear of case to back wall 6" (152mm) minimum.
 - Side of case to side wall 8" (203 mm) minimum.

NOTE: If two or more units are operated in the same enclosed air space, their discharges should be directed to aid in development of mass air movement for uniform heat dispersal.

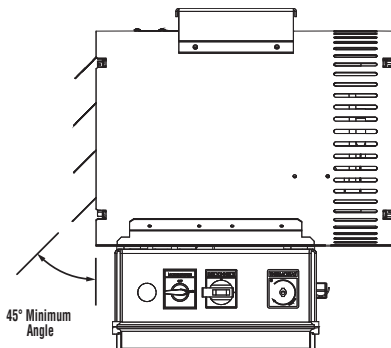


Figure 3 - Louver Adjustment

Wiring

Refer to wiring diagram included with the unit.

The wiring diagram can be found on the inside of the door to the wiring compartment. Should you have any questions, please contact Technical Service at 615-834-4044. Have your model number found on the name plate for reference.

CAUTION ⚠

ALL ELECTRICAL CONDUIT AND FITTINGS MUST BE LISTED FOR WATERTIGHT APPLICATIONS TO MAINTAIN THE NEMA 4X ENCLOSURE CLASSIFICATION TO PREVENT HOSE DIRECTED WATER FROM ENTERING ELECTRICAL BOX.

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

IMPORTANT NOTE - Installation Screw Lug Torque: During transportation it is possible screw lug connections can loosen. After installation, before power is turned on to the heater, check all screw lug connections for tightness to a recommended minimum torque of 35 in-lbs. (3.9 N-m). A tool is included for tightening lugs in hard to reach locations

⚠ 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.

- Connect heater according to the voltage and frequency specified on the nameplate.
- All units are provided with control and power terminal blocks for customer's connection.
- 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.

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

⚠ WARNING ⚠

FAN BLADE ROTATION MUST BE CHECKED. IF AIRFLOW IS NOT MOVING OUT THROUGH THE OUTLET GRILLE, INTERCHANGE ANY TWO OF THE THREE INCOMING SUPPLY POWER LEADS ON THREE-PHASE UNITS ONLY.

Optional 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 Lo setting of the thermostat is approximately 40°F and the Hi setting is approximately 90°F.
- **Mode 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.
- **Pilot Light** to indicate when heating elements are energized.
- **Internal Fusing**
- **Manual Reset Limit**
- **ON/OFF Switch**
- For wiring diagram containing options, see label on inside cover of terminal box.

OPERATING INSTRUCTIONS

1. Heater must be properly installed before operation.
2. To check out the installation, turn the Mode Switch to the OFF position. Turn power ON to the heater at the main disconnect panel and check to see that the heater is not operating. If it is operating, disconnect power and check wiring.
3. Rotate built-in (or remote mounted) thermostat clockwise to the highest heat setting. With Heat-Cool Switch in OFF position, heater should not operate.
4. Turn Heat-Cool Selector Switch to the Fan Only position. The fan should come on and operate with no heat.
5. Turn Heat-Cool Selector Switch to the Heat position. The fan and heater should come on producing heat.
6. The heater should be allowed to operate with the thermostat at max or high heat until room temperature reaches the desired level. The thermostat should then be rotated counter-clockwise until the heater elements turn off (an audible click). This should set the thermostat to cycle the heater on and off to maintain the ambient temperature. Fine adjustments may need to be made to obtain the desired room ambient. Slight rotating of the thermostat in the clockwise direction will increase the room ambient while rotation in the counter-clockwise direction will lower the room ambient. If remote thermostat is provided, follow the instructions provided with thermostat

NOTE: A built in fan delay will cause the fan to run after the elements turn off to dissipate residual heat.

NOTE: If a Disconnect Switch option is provided, this switch will be accessible from the outside of the control box and will be marked ON and OFF accordingly. In the OFF position, the heater will not operate.

NOTE: If a Manual-Reset Cutout option is provided, the RESET button will be marked and accessible on the control panel. This safety control will operate only if the heater overheats.

⚠ WARNING ⚠

DO NOT TAMPER WITH OR BYPASS ANY SAFETY LIMITS INSIDE HEATER.

MAINTENANCE INSTRUCTIONS

It is important to keep this heater clean. Your heater will give you years of service and comfort with only minimum care. To assure efficient operation follow the simple instructions below.

⚠ WARNING ⚠

ALL SERVICING BEYOND SIMPLE CLEANING THAT REQUIRES DISASSEMBLY SHOULD BE PERFORMED BY QUALIFIED SERVICE PERSONNEL.

⚠ WARNING ⚠

TO REDUCE RISK OF FIRE AND ELECTRIC SHOCK OR INJURY, DISCONNECT ALL POWER COMING TO HEATER AT MAIN SERVICE PANEL AND CHECK THAT THE ELEMENT IS COOL BEFORE SERVICING OR PERFORMING MAINTENANCE.

User Cleaning Instructions:

1. Turn off power to heater and allow elements to cool.
2. 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.
3. Return power to heater and check to make sure it is operating properly.

Maintenance Cleaning Instructions:

(To be performed only by Qualified Service Personnel)

At least annually, the heater should be cleaned and serviced by a qualified service person to assure safe and efficient operation. This should include as necessary, vacuuming dust and debris from the elements and fan, and check all screw lug connections for tightness to a recommended minimum torque of 35 in-lbs. (3.9 N-m) using the included tool(s) for hard to reach lugs if necessary. After completing the cleaning and servicing, the heater should be fully reassembled and checked for proper operation.

IMPORTANT NOTE: For heaters used in a hose down application, it is recommended that periodically after the heater has been hosed down (with power off at panel) the wiring enclosure cover be opened and the interior inspected for water penetration. If water is discovered, the heater must be repaired by a qualified electrician to assure the seals are properly installed.

During each cleaning, all seals should be inspected for damage as it is critical that they maintain a water tight seal. If damage is discovered (such as tears or cracking), they should be replaced or repaired with an appropriate silicone sealant.