

240 SERIES

Unit Heater



Applications

- Factories
- Shipping and Receiving Areas
- Garages
- Storage Areas
- Mechanical Rooms
- Warehouses
- Pump Houses
- Workshops
- Service Areas in Air Handling Units

The 240 Series unit heater is available in 50 standard models with ratings up to 50 KW at voltages of 208, 240, 277, and 480 single or three-phase. They are available with a wide variety of factory built-in or field-installed options.

Temperature Control: Single-stage or two-stage control with built-in or remote-mounted thermostats are available on all heaters.

Control Options: Available as factory built-in or field-installed to meet job specifications.

Custom KW's: Custom KW's are available up to 50 KW.

Discharge Direction: Heater can be mounted for horizontal or vertical discharge using an optional universal wall/ceiling mounting bracket or with field-furnished threaded rods for ceiling mounting.

Color Options: The standard color is camel. Six optional colors are available: grey, yellow, red, white, blue or textured beige. Heaters may also be supplied with unpainted corrosion resistant galvanized steel. See back cover for color samples.

Standard Construction Features

Heating Elements - Industrial grade, 0.475" diameter steel sheath with brazed copper plated steel fins and epoxy sealed ends. Draw-thru airflow design pulls air across the heating elements to ensure cool element operation and even air distribution resulting in long element life.

Housing - Heating elements and motor are enclosed in a heavy gauge galvanized steel cabinet with a durable polyester powder coat finish.

Outlet Grille - Individually adjustable louvers are provided to direct airflow. A protective outlet fan guard is provided to prevent insertion of foreign objects.

Fan Motor - Permanently lubricated and thermally protected motor.

Built-in Controls - All units include an automatic reset thermal cutout that will de-energize the heater if an overtemperature condition occurs. A manual

reset thermal cutout, in addition to an automatic reset thermal cutout, is standard on heaters 10 KW and above. A fan relay is provided to allow the elements to heat up before fan startup and purges the heater of residual heat after shutdown. A 24-volt transformer and disconnecting contactor are provided on most heaters. Single-phase heaters rated at 5 KW or less have line voltage controls; 24-volt control and contactor are available. Power fusing is standard on all heaters rated over 48 amps.

Mounting - Universal horizontal or vertical discharge. Optional diffusers are available for vertical discharge. An Anemostat diffuser can be used to provide draft-free air movement at lower mounting heights. For higher mounting heights, radial diffuser with adjustable fins can be used to increase floor coverage or adjusted for a vertical down blast of air.

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Factory Built-in Options

Code	Description
Consult Factory	Custom KW - CONSULT FACTORY
D	Power disconnect switch
F	Fusing under 48 Amps, not available on heaters 3 to 10 KW
M	Manual Reset Cutout (In addition to automatic cutout) on heaters up to 10KW
P (1)	"Heater On" Pilot Light
R1	Built-in 24V transformer and contactor for 3 to 5 KW, single phase heaters.
R2 (1) (2)	120V Transformer to replace 24V Transformer, fused secondary and grounded
S1	Summer Fan Switch
S2 (1)	Summer Fan Switch - Remote Pilot Duty
T	Built-in Thermostat - 1 - Stage
	Built-in Thermostat - 2 - Stage (Option 'X' required)
V1*	Anemostat (Cone) Diffuser
V2	Radial Diffuser
X (2)	2-Stage Control

* consult factory for lead times

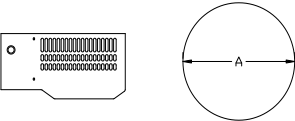
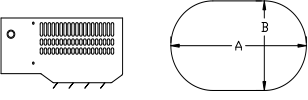
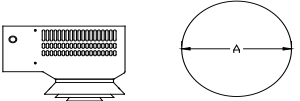
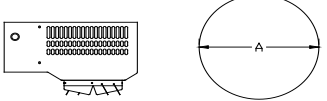
- (1) When specifying Option 'P' (pilot light) or Option 'S2' (remote fan switch) or Option 'R2' (120V control) with 3 kW to 5 kW single phase heaters, Option 'R1' must be also specified.
- (2) Option 'R2' (120V control) and Option 'X' (2-stage control) cannot be combined on heaters rated up to 5 kW.
- (3) When specifying these options with single-phase heaters up to 5 kW, Option 'R1' must also be specified.
- (4) When specifying this option, with any heater, option 'R2' must also be specified.

Field-Installed Options

(shipped loose for field installation into heater)

Catalog Number	Description
1024155	Anemostat (Cone) Diffuser up to 5 kW
1024156	Anemostat (Cone) Diffuser over 5 kW up to 20 kW
1024157	Anemostat (Cone) Diffuser over 20 kW
1024152	Radial Diffuser up to 5 kW
1024153	Radial Diffuser over 5 kW up to 20 kW
1024154	Radial Diffuser over 20 kW
1023941	Horizontal Dust Shield up to 10 kW
1024059	Horizontal Dust Shield over 20 kW up to 20 kW
1024060	Horizontal Dust Shield over 20 kW
1024162	Disconnect Switch, 600V, Three-Pole, 32 Amp
1024163	Disconnect Switch, 600V, Three-Pole, 64 Amp
1024164	Disconnect Switch, 600V, Three-Pole, 80 Amp
1024166	Built-in Thermostat - 1 - Stage
1024167	Built-in Thermostat - 2 - Stage (Option 'X' required)
1024168 (1)(3)	Heater On Pilot Light (24V)
1024169 (2)(4)	Heater On Pilot Light (120V)
1024170	Summer Fan Switch - Built-in up to 277V
1024171	Summer Fan Switch - Built-in, over 277V
1024172 (1)(3)	Summer Fan Switch - Remote, 24V Control

Vertical Mounting Air Pattern Table

Description	Used on	Max Mtg. Height ft. (m)	A ft (m)	B ft (m)
WITHOUT DIFFUSER For a straight downward air pattern, directional louvers can be removed in order to maximize airflow. 	up to 5 kW over 5 up to 10 kW over 10 up to 20 kW over 20 up to 50 kW	10 (3.0) 15 (4.6) 20 (6.1) 25 (7.6)	17 (5.2) 28 (8.5) 38 (11.6) 68 (20.7)	— — — —
DIRECTIONAL LOUVERS (standard) Provides a directional (straight line) airflow which results in a rectangular air pattern. Louvers can be adjusted through a 35 degree range of motion 	up to 5 kW over 5 up to 10 kW over 10 up to 20 kW over 20 up to 50 kW	10 (3.0) 15 (4.6) 20 (6.1) 25 (7.6)	22 (6.7) 40 (12.2) 53 (16.2) 85 (25.9)	12 (3.7) 20 (6.1) 27 (8.2) 45 (13.7)
ANEMOSTAT DIFFUSER Ideal for low mounting heights. Fabricated using 3 diverging hollow cones which disperse heat to the floor area at a minimum velocity for comfort. 	up to 5 kW over 5 up to 10 kW over 10 up to 20 kW over 20 up to 50 kW	9 (2.7) 13 (4.0) 17 (5.2) 21 (6.4)	17 (5.2) 29 (8.8) 40 (12.2) 68 (20.7)	— — — —
RADIAL DIFFUSER Ideal for high ceiling mounting. Louvers can be adjusted to direct airflow straight down when fully open to 45 degrees in a radial pattern which increases floor coverage by approximately 20%. 	OPEN up to 5 kW over 5 up to 10 kW over 10 up to 20 kW over 20 up to 50 kW	10 (3.0) 15 (4.6) 20 (6.1) 25 (7.6)	20 (6.1) 30 (9.1) 38 (11.6) 65 (19.8)	— — — —
	45° up to 5 kW over 5 up to 10 kW over 10 up to 20 kW over 20 up to 50 kW	9 (2.7) 11 (3.4) 15 (4.5) 18 (5.5)	24 (7.3) 36 (11.0) 46 (14.0) 78 (23.8)	— — — —

Heater Listing

KW	Volts	Ph	Total Amps*	Approx. Air Temperature Rise °F (°C)	2-Stage Control	Std. Control Voltage	Unit Size	Catalog Number (2)
2.5	208	1	12.30	27 (15)	1B	208	1	HX-240-U1025C
	240	1	10.7		1B	240	1	HX-240-U1025J
	277	1	9.40		1B	277	1	HX-240-U1026N
3.3	208	1	16.17	27 (15)	1B	208	1	HX-240-U1033C
	240	1	14.05		1B	240	1	HX-240-U1033J
	277	1	12.21		1B	277	1	HX-240-U1033N
3.7	480	3	4.66		1A	24	1	HX-240-U1037U
	208	3	10.85		1A	24	1	HX-240-U1038D
3.8	240	3	9.44		1A	24	1	HX-240-U1038K
	5	208	1	24.34	46 (26)	1B	208	1
240		1	21.13	1B		240	1	HX-240-U1050J
277		1	18.35	1B		277	1	HX-240-U1050N
208		3	14.18	1A		24	1	HX-240-U1050D
240		3	12.33	1A		24	1	HX-240-U1050K
480		3	6.22	1A		24	1	HX-240-U1050U
6.7	208	1	32.91	37 (21)	1B	24	2	HX-240-U2067C
	240	1	28.62		1B	24	2	HX-240-U2067J
	277	1	24.79		1B	24	2	HX-240-U2067N
7.5	208	1	36.80		1B	24	2	HX-240-U2075C
	240	1	32.00		1B	24	2	HX-240-U2075J
	208	3	21.52		1A	24	2	HX-240-U2075D
	240	3	18.74		1A	24	2	HX-240-U2075K
	480	3	9.39		1A	24	2	HX-240-U2075U
9.9	208	1	48.30		1B	24	2	HX-240-U2099C
10	240	1	42.37	49 (27)	1B	24	2	HX-240-U2100J
	277	1	36.70		1B	24	2	HX-240-U2100N
	208	3	28.46		1A	24	2	HX-240-U2100D
	240	3	24.76		1A	24	2	HX-240-U2100K
	480	3	12.40		1A	24	2	HX-240-U2100U
13.2	277	1	48.35	52 (29)	1B	24	3	HX-240-U3132N
13.3	208	1	64.79		Standard	24	3	HX-240-U3133C-X (1)
	240	1	56.27		Standard	24	3	HX-240-U3133J-X
15	208	3	42.48		1B	24	3	HX-240-U3150D
	240	3	36.93		1B	24	3	HX-240-U3150K
	480	3	18.44		1B	24	3	HX-240-U3150U
19.9	208	1	96.52	60 (33)	Standard	24	3	HX-240-U3199C-X (1)
	240	3	48.72		1B	24	3	HX-240-U3199K
20	240	1	84.18		Standard	24	3	HX-240-U3200J-X (1)
	277	1	72.90		Standard	24	3	HX-240-U3200N-X (1)
	208	3	56.36		Standard	24	3	HX-240-U3200D-X
	480	3	24.46		1B	24	3	HX-240-U3200U
25	208	3	70.90	49 (27)	Standard	24	4	HX-240-U4250D-X
	240	3	61.64		Standard	24	4	HX-240-U4250K-X
	480	3	30.77		1B	24	4	HX-240-U4250U
33.3	208	3	93.93		Standard	24	4	HX-240-U4333D-X
	240	3	81.61		Standard	24	4	HX-240-U4333K-X
	480	3	40.75		1B	24	4	HX-240-U4333U
37.5	208	3	105.59	61 (34)	Standard	24	4	HX-240-U4375D-X
	240	3	91.71		Standard	24	4	HX-240-U4375K-X
	480	3	45.80		1A	24	4	HX-240-U4375U
49.8	208	3	139.73	68 (38)	Standard	24	4	HX-240-U4498D-X
50	240	3	121.8		Standard	24	4	HX-240-U4500K-X
	480	3	60.84		Standard	24	4	HX-240-U4500U-X

*Total Amps = Heating element amps and motor amps.

1. Disconnect switch unavailable

2. All Standard heaters are supplied with 24V transformer and contactor except up to 5 KW single phase units. Optional low voltage transformer and contactor are available for these heaters, see Factory Built-in Option 'R1'.

2-stage heaters can be field wired as single stage.

1A = Optional 2-stage control, unbalanced (option X)

1B = Optional 2-stage control, balanced (option X).

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Remote Thermostat Selection Chart

KW	Catalog Number	Volts	Ph	1-Stage Line Voltage	1-Stage Low Voltage (b)	2-Stage Low Voltage (b)
2.5	240-U1025C	208	1	1007014	1006998 (a)	1007030 (a)
	240-U1025J	240	1	1007014	1006998 (a)	1007030 (a)
	240-U1025U	277	1	1007014	1006998 (a)	1007030 (a)
3.3	HX-240-U1033C	208	1	1007014	1006998 (a)	1007030 (a)
	HX-240-U1033J	240	1	1007014	1006998 (a)	1007030 (a)
	HX-240-U1033N	277	1	1007014	1006998 (a)	1007030 (a)
3.7	HX-240-U1037U	480	3	NA	1006998	1007030
3.8	HX-240-U1038D	208	3	NA	1006998	1007030
	HX-240-U1038K	240	3	NA	1006998	1007030
5	HX-240-U1050C	208	1	NA	1006998 (a)	1007030 (a)
	HX-240-U1050J	240	1	1007014	1006998 (a)	1007030 (a)
	HX-240-U1050N	277	1	1007014	1006998 (a)	1007030 (a)
All Other 240 Series Heaters				NA	1006998	1007030

(a) Add option 'R1' for 24V control on these units.

(b) Option 'R2' is unavailable with any HEATREX supplied remote low voltage thermostats.

Mounting Brackets

Catalog Number	Description
1024149	Universal wall & ceiling mounting bracket up to 10 KW
1024150	Universal wall & ceiling mounting bracket over 10 KW up to 20 KW
1024151	Universal wall & ceiling mounting bracket over 20 KW

Finish/Color Options

Code	Finish	Color
None	Polyester Powder Coat	Camel
A0		Grey
A1		Yellow
A2		Red
A3		White
A4		Blue
A5	Steel (unpainted)	Galvanized
A7	Polyester Powder Coat	Beige

Airflows, Weights and Air Throw

Unit Size	CFM	Installed Weight lb (kg)	Max. Air Throw ft. (m)
1	350	25 (11.3)	15 (4.6)
2	650	40 (18.1)	18 (5.5)
3	1500	55 (25)	41 (12.5)
4	3100	155 (70.3)	62 (18.9)

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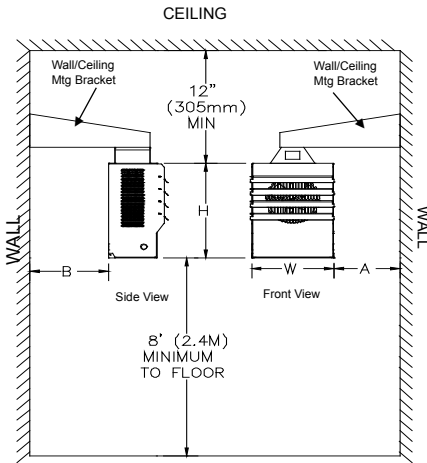


FIG. 1 HORIZONTAL WALL MOUNTING WITH MOUNTING ARM

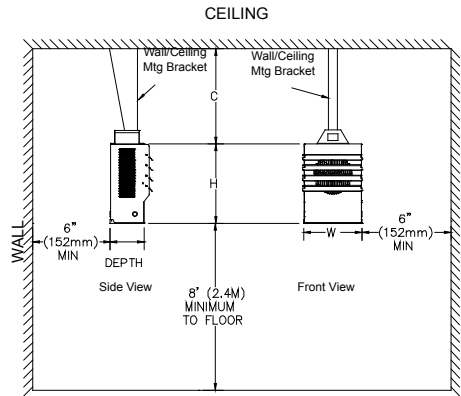


FIG. 2 HORIZONTAL CEILING MOUNT WITH MTG ARM

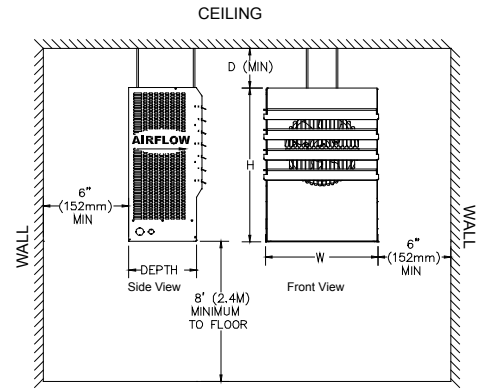


FIG. 3 HORIZONTAL CEILING MOUNT WITH THREADED ROD

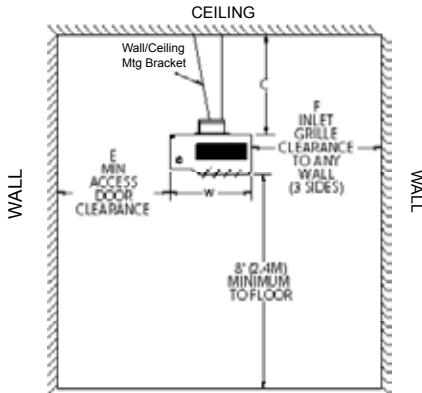


FIG. 4 VERTICAL CEILING MOUNT WITH MTG ARM

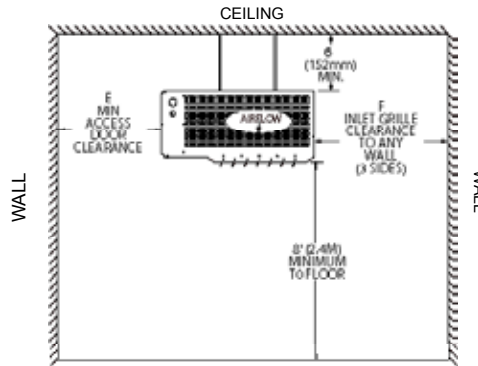


FIG. 5 VERTICAL CEILING MOUNT WITH THREADED ROD

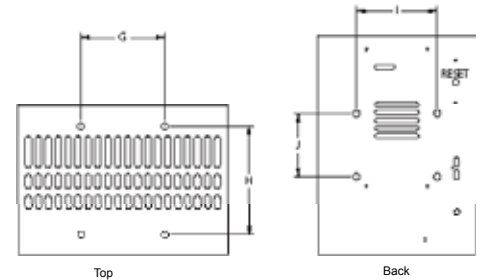


FIG. 6 THREADED ROD (3/8 - 16) ATTACHMENT POINT DIMENSIONS

Heater Dimensions

KW	W In. (mm)	H In. (mm)	Depth In. (mm)	A In. (mm)	B In. (mm)	C In. (mm)	D In. (mm)	E In. (mm)	F In. (mm)	G In. (mm)	H In. (mm)	I In. (mm)	J In. (mm)
up to 5	12.875 (327)	17.750 (450)	7.625 (194)	8 (203)	11.188 (284)	18 (457)	10 (254)	8 (203)	16 (406)	5 (127)	6.44 (164)	6.44 (164)	5 (127)
5.1 to 10	16.875 (429)	24.250 (616)	7.625 (194)	6 (152)	9.313 (237)	18 (457)	10 (254)	8 (203)	16 (406)	5 (127)	6.44 (164)	6.44 (164)	5 (127)
10.1 to 20	16.875 (429)	24.250 (616)	11.375 (289)	6 (152)	9.313 (237)	18 (457)	12 (305)	12 (305)	32 (813)	5 (127)	10.13 (257)	5 (127)	10.13 (257)
20.1 to 50	26.937 (684)	35.500 (902)	15.625 (397)	9.281 (236)	14.937 (380)	13 (330)	12 (305)	16 (406)	32 (813)	7 (178)	12.92 (328)	7 (178)	12.92 (328)

Application

Small rooms may only require one unit heater (FIG #7) while other may require multiple unit heaters for proper perimeter circulation (FIG #8).

