

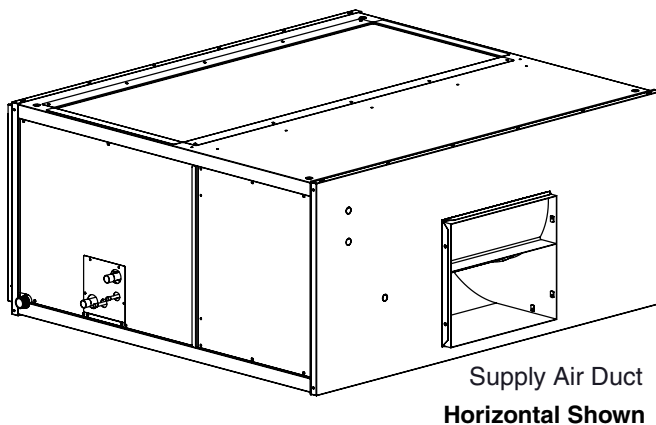
## TECHNICAL SPECIFICATIONS

# B4SM Series

### Air Handler R-22 Refrigerant

#### 7-1/2 and 10 Ton Light Commercial System

Shipped for horizontal applications field convertible to vertical applications



### WARRANTY

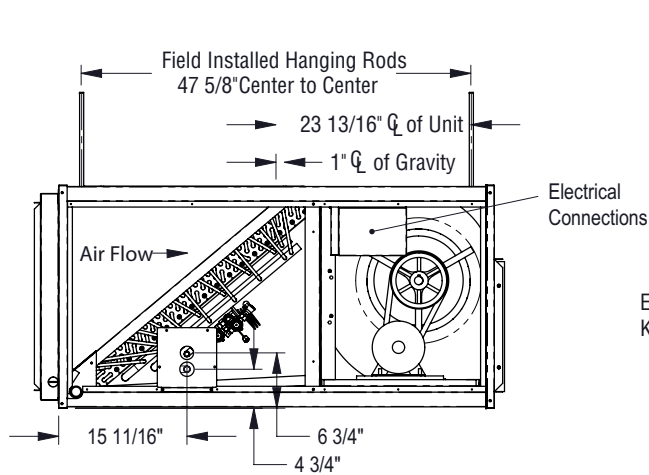
– 1 Year Limited Parts.

### FEATURES and BENEFITS

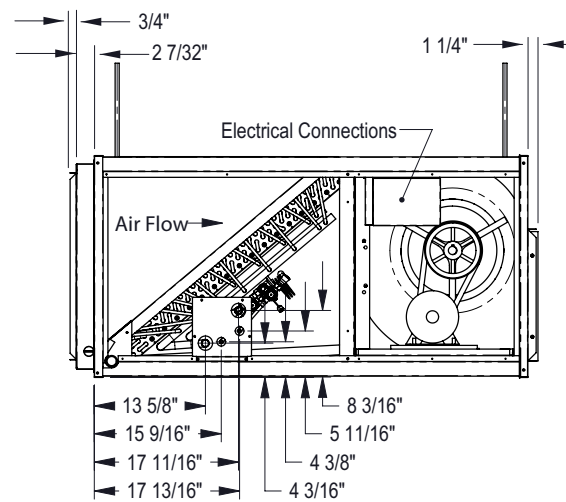
- **Cabinet:** Fabricated of heavy gauge, pre-painted Polyurethane coated galvanized steel. Horizontal mounting hardware is standard on all models, just add the 1/2" diameter threaded rod. Removable access panels are provided on both sides of the cabinet for maintenance and service. All cabinets shall have minimum 3/4" supply and return flanges.
- **Motor:** Motors are 2 HP and operate at 1725 RPM (60 Hz) or 1425 RPM (50 Hz) single or three phase are available. The adjustable motor mount allows easy belt tensioning adjustment. A variable pitch motor pulley allows balancing of the system to the desired CFM. All motors are factory installed and wired and three phase motors are wired for 460V operation.
- **Blowers:** All blowers are heavy duty, double inlet, resiliently mounted, with ball bearings, forward curved blade, and of centrifugal type. The blower wheel is dynamically balanced for smooth and quiet operation. Blowers shall be belt driven with field adjustable pulleys to permit variations in static pressure and air requirements.

- **Blower Bearings:** Sealed ball bearings are utilized on both sides of the blower wheel.
- **Coils:** All coils are constructed using 3/8" OD seamless copper tubing mechanically expanded to highly efficient aluminum fins to maximize heat transfer. All coils are leak tested at 400 PSIG minimum air pressure. 7 1/2 ton model is a single refrigeration circuit, whereas the 10 ton model is dual circuited. Both models have factory installed expansion valves approved for straight cool or heat pump operation. High and low refrigerant connections are provided through a close-off plate on the motor side of the unit.
- **Drain pans:** are coated for corrosion protection. A 3/4 inch MPT drain connection is located on both sides of cabinet. A minimum of a 2" trap is required.
- **Nitrogen holding charge:** All coils are shipped from factory with a dry Nitrogen holding charge. This assures leak free operation prior to installation.
- **Electrical:** Power wiring exits the unit in convenient location for mounting a field supplied junction box. A low voltage terminal block is provide to make connections for air conditioning or heat pump operation.
- **Insulation:** The entire interior of the cabinet is insulated with a Tuf-skin thermal insulation. This insulation can handle the abuse of maintenance and cleaning practices listed by NAIMA (North American Manufacturers Association). The insulation meets the requirements of;
  - ASTM C1071 - 05e1 Standard Specification for Fibrous Glass Duct Lining Insulation (Thermal and Sound Absorbing Material)
  - ASTM E84 - 08a Standard Test Method for Surface Burning Characteristics of Building Materials
  - ASTM G21 - 96(2002) Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi
  - Approved for use as insulation in an air stream per UL 723 and UL-181
  - NFPA 90a - Standard for the Installation of Air-Conditioning and Ventilating Systems
- **Filters:** 18" x 24" x 1" permanent filters are provided as standard in all 7 1/2 and 10 ton models. Filter rack is easily accessible from either side of cabinet and can be converted to 2" permanent filters, if desired. Note: No tools are required in order to access the filters. If converting to disposable pleated filters use only 2" filters.
- **Listing:** All standard motors are UL and CSA approved. All air handlers shall be rated in accordance with ARI 340/360 and certified to UL 1995, CAN/CSA C22.2, No. 236

## PHYSICAL DATA - B4SM – HORIZONTAL (AS SHIPPED)

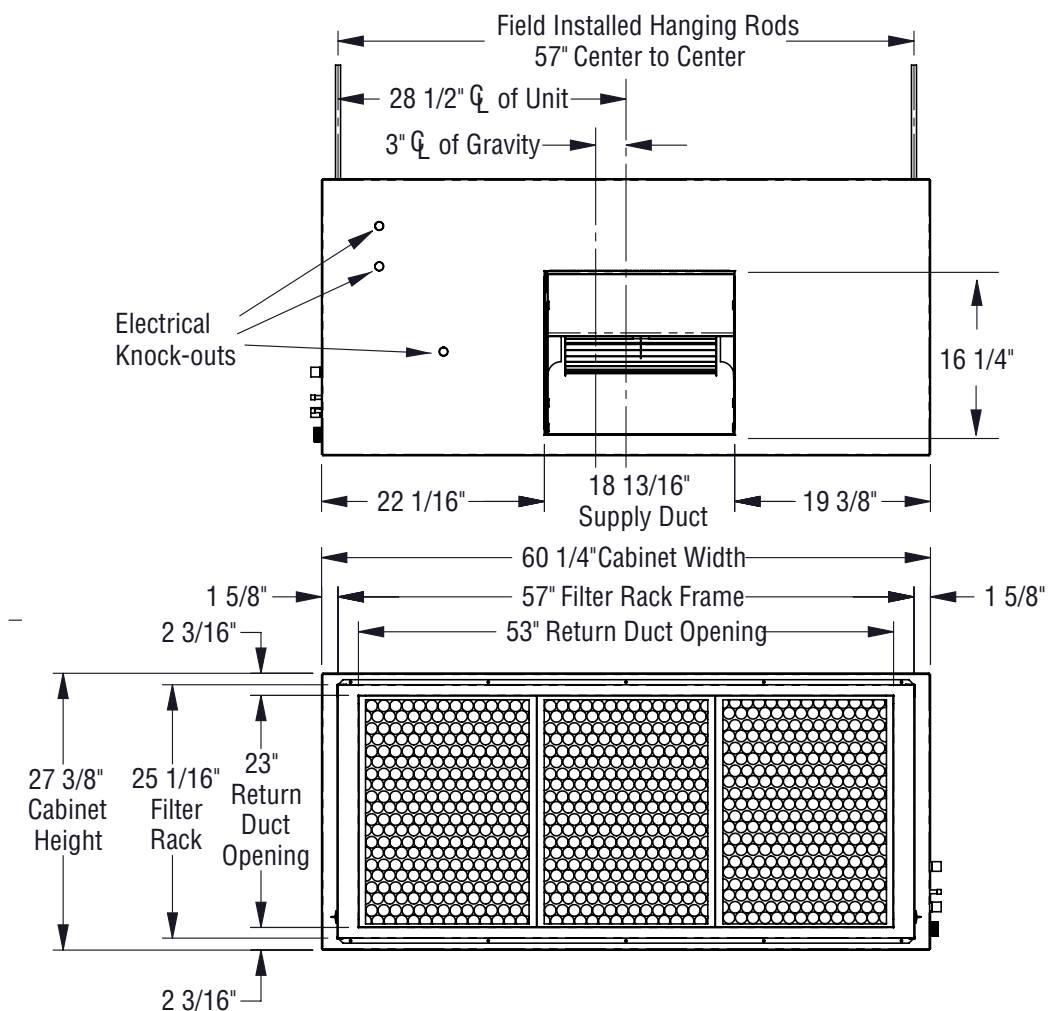


**7 1/2 Ton Unit Refrigerant  
Line Connections**

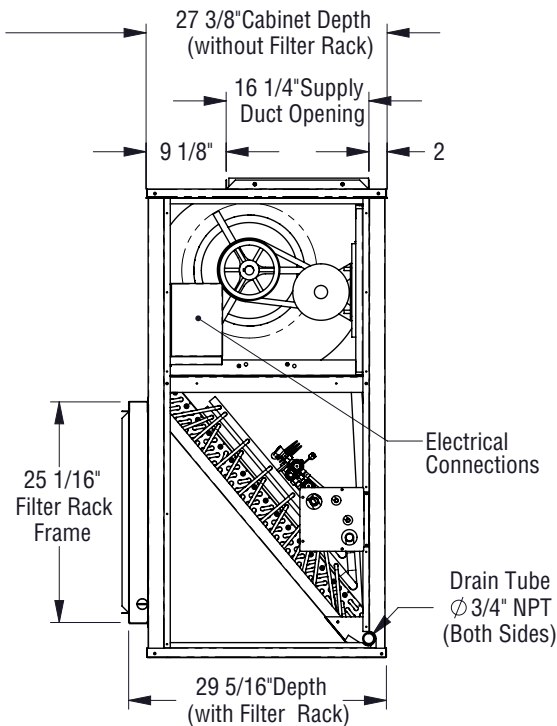


**10 Ton Unit Refrigerant  
Line Connections**

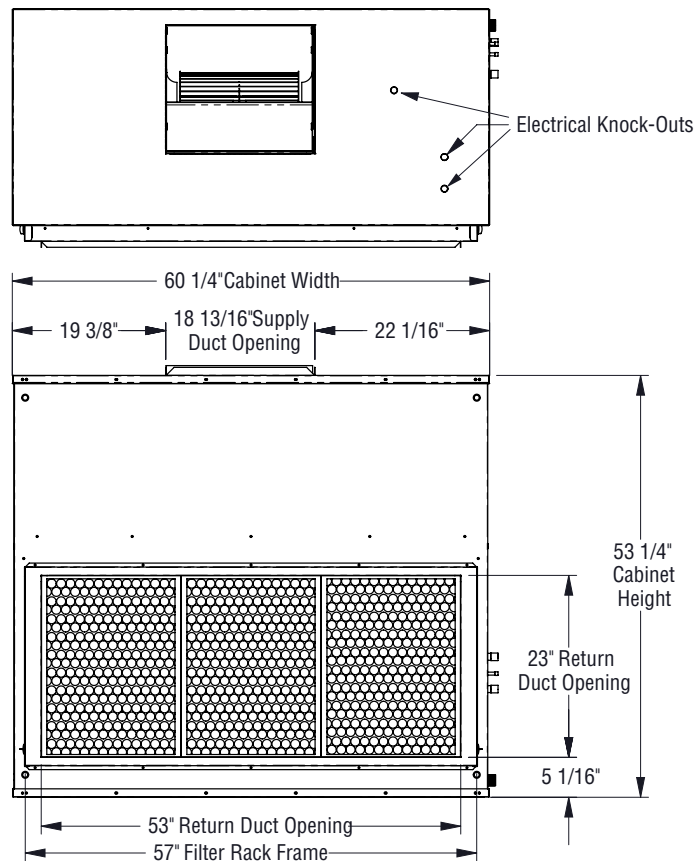
## B4SM Horizontal Installation Unit Shown with Doors Removed



**PHYSICAL DATA - B4SM – VERTICAL (OPTIONAL POSITION)**



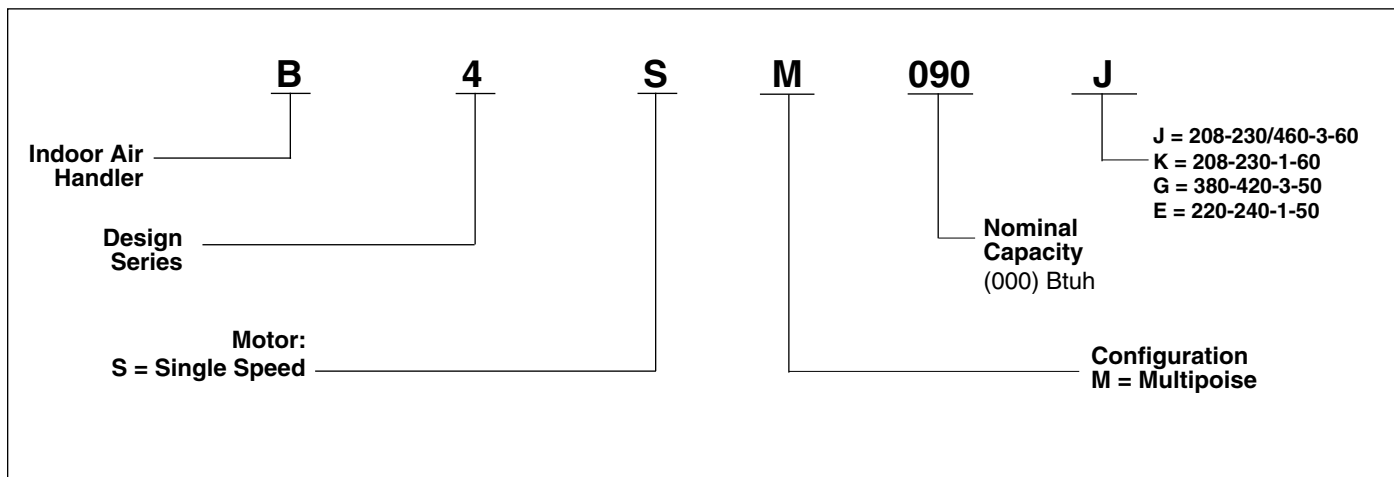
**B4SM Vertical Installation**  
Unit Shown With Doors Removed



## SPECIFICATIONS

	Specifications and Ratings	B4SM-090G	B4SM-090J	B4SM-090K	B4SM-090E	B4SM-120G	B4SM-120J	B4SM-120K
Performance Data	Nom. Cooling BTU/H	7 1/2 Tons				10 Tons		
Electrical Data	Voltage-Phase-Hz.	380-3-50	208-230/460-3-60	208/230-1-60	220/240-1-50	380-3-50	208-230/460-3-60	208/230-1-60
	Max. Fuse (Amps)	15	15	25-20	30	15	15	25-20
	Min. Circuit Ampacity	4.3	8.3-8.3/4.1	14.1-12.5	19.4	4.3	8.3-8.3/4.1	14.1-12.5
Evaporator Coil Data	Evaporator Coil							
	Face Area (Sq. Ft.)	12.3				12.3		
	Rows/Fins Per Inch	13				14		
	Refrig. Control	TXV				TXV		
	No. Circuits	1				2		
	Liquid Line Size O.D.	3/4"				(2) 3/8"		
	Suction Line Size O.D.	7/8"				(2) 7/8"		
	Tubes: O.D. Material	3/8" OD				3/8" OD		
Evaporator Blower	Condensate Drain No. FPT (1 Required)	3/4"				3/4"		
	Evaporator Blower - Type	Forward Curve Centrifugal - Dual Inlet				Forward Curve Centrifugal - Dual Inlet		
	(Qty) Dia. X Width Wheel	(1) 15 x 15				(1) 15 x 15		
	Blower Drive RPM - Standard	Belt/ 592				Belt/ 790		
	Motor-HP RPM	2	2	2	1.5	2	2	2
Physical Data	FLA	3.4	6.6-6.6/3.3	11.3-10.0	15.5	3.4	6.6-6.6/3.3	11.3-10.0
	Filter - Type Permanent	1" (Factory Installed) Convertible to 2"				1" (Factory Installed) Convertible to 2"		
	Number of Filters	3				3		
	Sizes (Inches)	18 x 24				18 x 24		
	Unit Weight (LBS.)	400				425		
	Shipping Weight (LBS.)	555				580		
	Supply Duct	18 13/16 x 16 1/4						
Return Duct	53 x 23							

## MODEL IDENTIFICATION CODE



## BLOWER PERFORMANCE - B4SM 60 HZ. SERIES

Model	Motor Sheave Position	External Static Pressures (Inches Water Column)																											
		0.2			0.3			0.4			0.5			0.6			0.7			0.8			0.9			1.0			
B4SM-090 (2HP) 60 Hz		CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	
	Fully Closed	4182	666	1.28	3961	667	1.20	3706	668	1.11	3436	669	1.03	3081	669	0.93	2738	672	0.83										
	1 Turn Open	3867	629	1.09	3638	630	1.01	3366	631	0.95	3055	632	0.85	2672	633	0.77													
	2 Turns Open *	3268	592	0.82	3074	593	0.80	2783	593	0.74	2490	594	0.68	2052	597	0.59													
	3 Turns Open	3283	554	0.79	2966	555	0.72	2619	555	0.65	2203	555	0.57																
	4 Turns Open	2611	486	0.57	2355	487	0.53																						

Model	Motor Sheave Position	External Static Pressures (Inches Water Column)																										
		0.2			0.3			0.4			0.5			0.6			0.7			0.8			0.9			1.0		
B4SM-120 (2HP) 60 Hz		CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw
	Fully Closed				4789	868	2.12	4640	868	2.00	4442	870	1.95	4208	873	1.87	4025	876	1.77	3875	877	1.68	3497	879	1.59	3207	882	1.49
	1 Turn Open	4707	822	1.92	4547	824	1.85	4416	826	1.77	4223	827	1.68	3996	829	1.60	3816	693	1.51	3565	625	1.20	3330	837	1.28	3051	839	1.19
	2 Turns Open *	4410	779	1.63	4258	780	1.56	4071	784	1.50	3867	786	1.45	3632	787	1.31	3396	790	1.23	3092	792	1.13	2826	794	1.01			
	3 Turns Open	3896	708	1.17	3776	724	1.20	3587	731	1.16	3408	736	1.10	3151	740	1.02	2899	743	0.94									
	4 Turns Open	2873	522	0.53	2785	534	0.54																					

\* Denotes Factory Adjustable Sheave Setting

Bold Indicates Factory Recommended Blower Operating Range

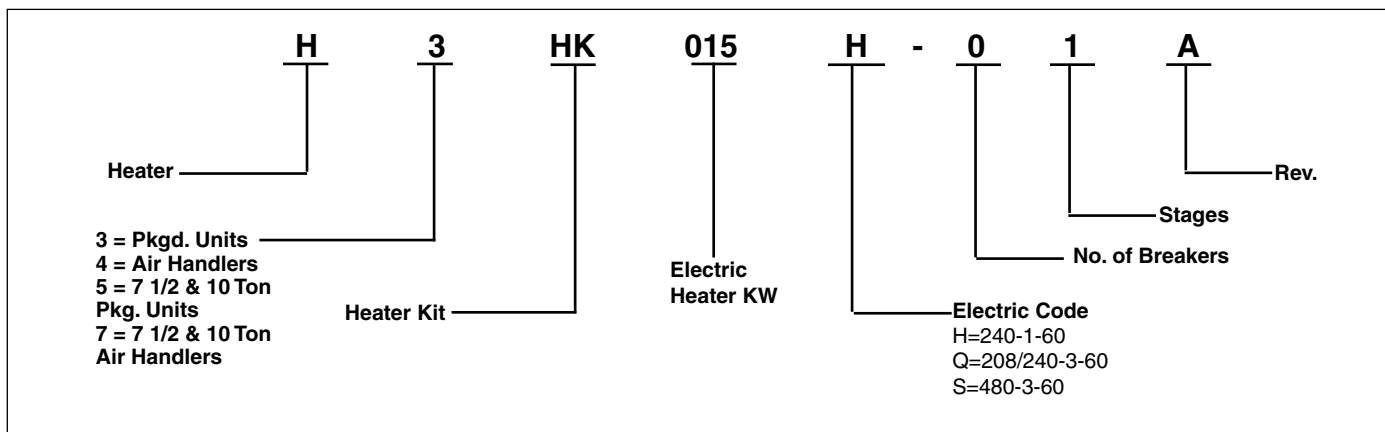
Shaded Area -Not Recommended for Operation

Values based on dry coils and do not include filter losses

## COMPONENT STATIC PRESSURE

Model	Nominal	Filter	
B4SM	CFM	Size	Resistance " W.C.
090	2200	18 x 24 (1")	0.03
	2600		0.04
	3000		0.05
	3400		0.07
	3800		0.08
	4200		0.09
120	3000	18 x 24 (1")	0.05
	3400		0.07
	3800		0.08
	4200		0.09
	4600		0.11
	5000		0.13

## MODEL IDENTIFICATION CODE



## 3 PHASE ELECTRIC HEAT KITS

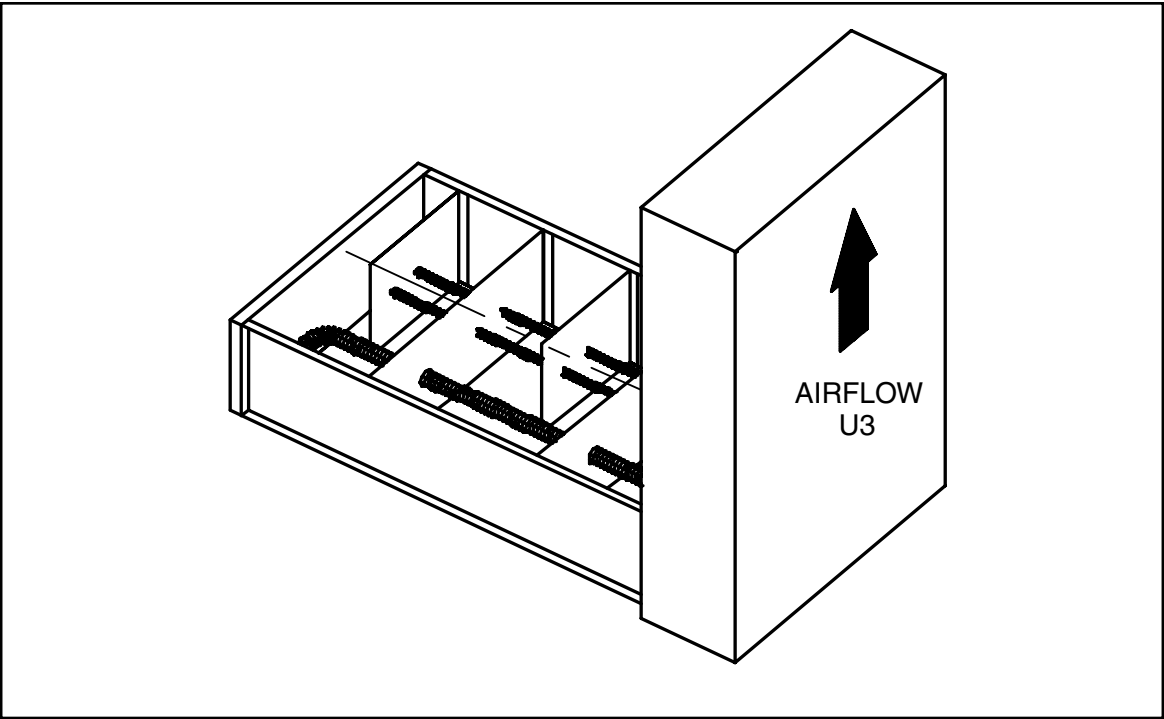
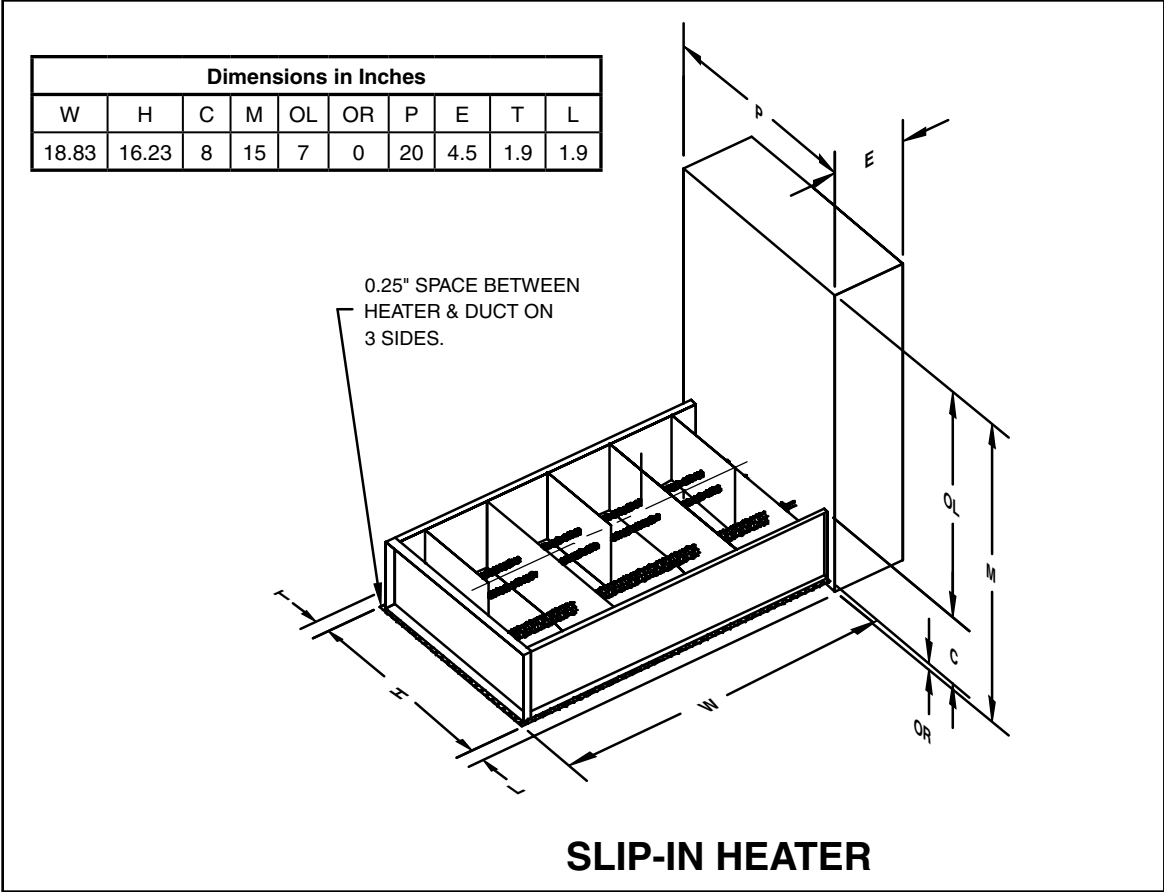
SKU	MODEL
559428	H7HK010Q-01
559429	H7HK010S-01
559430	H7HK016Q-01
559431	H7HK016S-01
559432	H7HK026Q-01
559433	H7HK026S-01
559434	H7HK036Q-01
559435	H7HK036S-01

Q = 208/240 Volt  
S = 460 Volt

## FEATURES AND BENEFITS - H7HK

- These are 3 phase heaters and mount in the supply duct external to the air handler.
- They are available in 10, 16, 26, and 36 kW with voltages of 208/240 or 480.
- All are set up for single stage operation.
- These are full featured UL listed heaters with line voltage contactors, 24 volt auto reset limit, line voltage manual reset limits, low and high voltage terminal blocks, and an air flow switch.

**DIMENSIONS - HEATER KIT**



**Must be installed 12" minimum distance from the air handler blower outlet**

# ELECTRIC DATA TABLE

## B4SM - 60 HZ

Heater Kit Model Number	Heater Kit SKU Number	Applied Voltage	Heater Installed Nom. KW	Single Supply Circuit Option					Multiple Circuit									
				Minimum Circuit Amp.	Rec. Wire Gage (60°C Cu)	Rec. Wire Gage (75°C Cu)	Rec. Wire Gage (90°C Cu)	Maximum Over-current Rating	Circuit A (Heater Only)					Circuit B (Blower Only)				
									Minimum Circuit Amp.	Rec. Wire Gage (60°C Cu)	Rec. Wire Gage (75°C Cu)	Rec. Wire Gage (90°C Cu)	Maximum Over-current Rating	Minimum Circuit Amp.	Rec. Wire Gage (60°C Cu)	Rec. Wire Gage (75°C Cu)	Rec. Wire Gage (90°C Cu)	Maximum Over-current Rating
N/A	N/A	208	0	8.3	14	14	14	15	-	-	-	-	-	-	-	-	-	-
H7HK010Q-01	559428	208	7.4	34.0	8	8	8	35	25.7	10	10	10	30	8.3	14	14	14	15
H7HK016Q-01	559430	208	12	49.9	6	8	8	50	41.7	6	8	8	45	8.3	14	14	14	15
H7HK026Q-01	559432	208	19.5	76.0	3	4	4	80	67.7	4	4	6	70	8.3	14	14	14	15
H7HK036Q-01	559434	208	27	102.0	1	2	3	110	93.8	2	3	4	100	8.3	14	14	14	15
N/A	N/A	240	0	8.3	14	14	14	15	-	-	-	-	-	-	-	-	-	-
H7HK010Q-01	559428	240	9.9	38.1	8	8	8	40	29.8	10	10	10	30	8.3	14	14	14	15
H7HK016Q-01	559430	240	16	56.4	4	6	6	60	48.2	6	8	8	50	8.3	14	14	14	15
H7HK026Q-01	559432	240	26	86.5	2	3	4	90	78.3	3	4	4	80	8.3	14	14	14	15
H7HK036Q-01	559434	240	36	116.6	0	1	2	125	108.4	1	2	3	110	8.3	14	14	14	15
N/A	N/A	480	0	4.1	14	14	14	15	-	-	-	-	-	-	-	-	-	-
H7HK010S-01	559429	480	9.9	19.0	12	12	12	20	14.9	14	14	14	15	4.1	14	14	14	15
H7HK016S-01	559431	480	16	28.2	10	10	10	30	24.1	10	10	10	25	4.1	14	14	14	15
H7HK026S-01	559433	480	26	43.3	6	8	8	45	39.1	8	8	8	40	4.1	14	14	14	15
H7HK036S-01	559435	480	36	58.3	4	6	6	60	54.2	6	6	8	60	4.1	14	14	14	15



### GENERAL TERMS OF LIMITED WARRANTY

NORDYNE will furnish a replacement for any part of this product which fails in normal use and service within the first year of installation, in accordance with the terms of the warranty.

For complete details of the Limited Warranty, including applicable terms and conditions, see your local installer or contact the NORDYNE warranty department for a copy.

**NORDYNE**  
COMPLETE COMFORT. GENUINE VALUE.

8000 Phoenix Parkway | O'Fallon, MO 63368-3827

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550C-1209 (Replaces 550C-0808)