

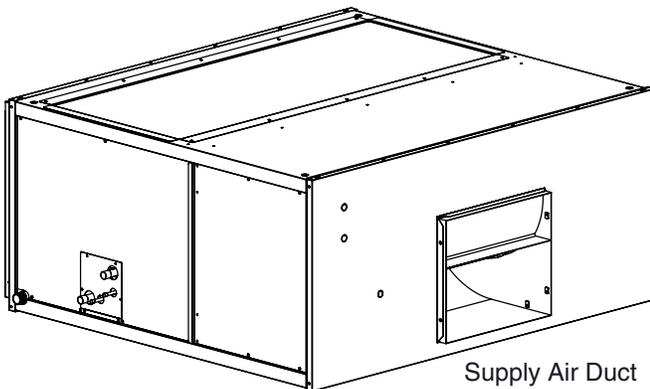
TECHNICAL SPECIFICATIONS

B4SM Series

Air Handler
R-22 Refrigerant
(Export Only)

7-1/2 and 10 Ton
Light Commercial System

Shipped for horizontal applications field convertible to vertical applications



Supply Air Duct
Horizontal Shown

WARRANTY

– 1 Year Limited Parts.

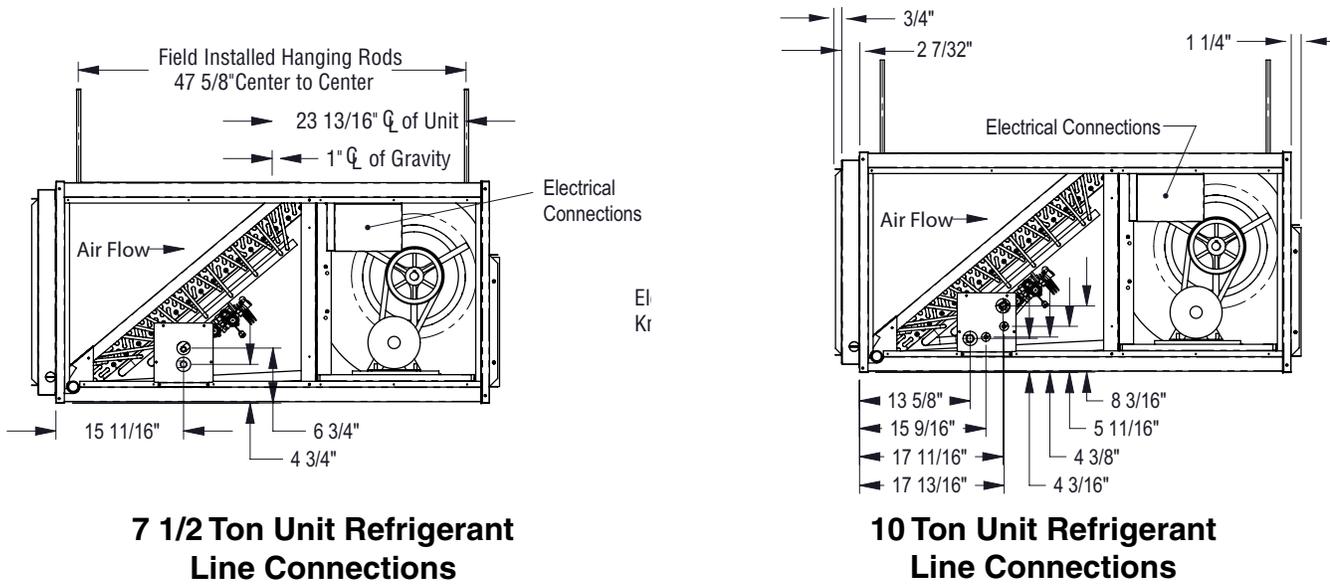
FEATURES and BENEFITS

- **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 1425 RPM (50 Hz) three phase. 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. Three phase motors are wired for 380V/420V operation.
- **Blowers:** All blowers are heavy duty, double inlet, resiliently mounted, with ball bearings, forward curved

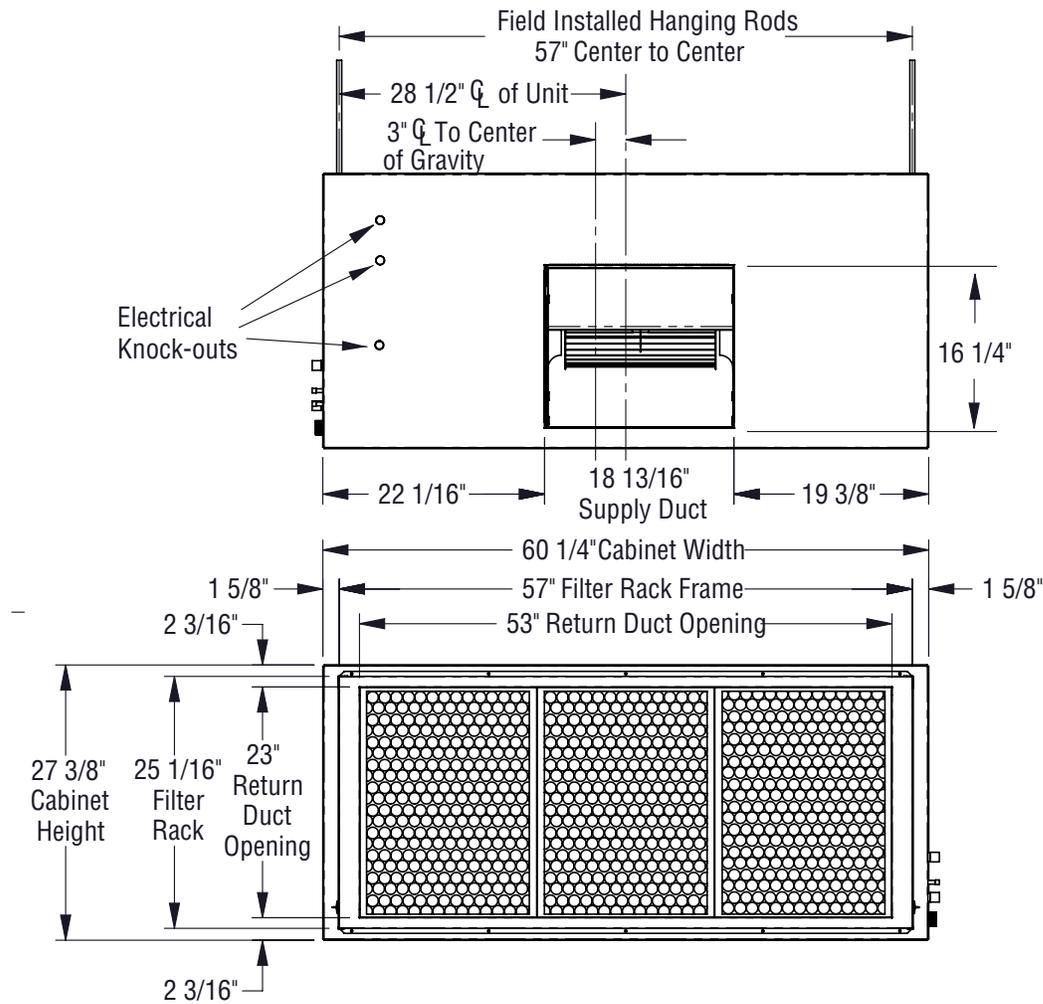
blade, and of centrifugal type. The blower wheel is dynamically balanced for smooth and quiet operation. Blowers shall be belt driven with field adjustable pulleys to permit variations in static pressure and air requirements.

- **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 550 PSIG (3,740 kPa) minimum air pressure. 7½ 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" (5.1 cm) 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 provided 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 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.

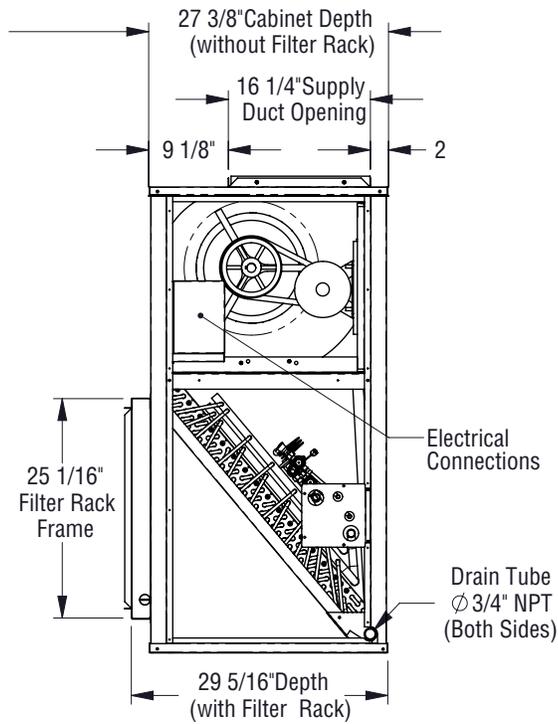
PHYSICAL DATA - B4SM – HORIZONTAL (AS SHIPPED)



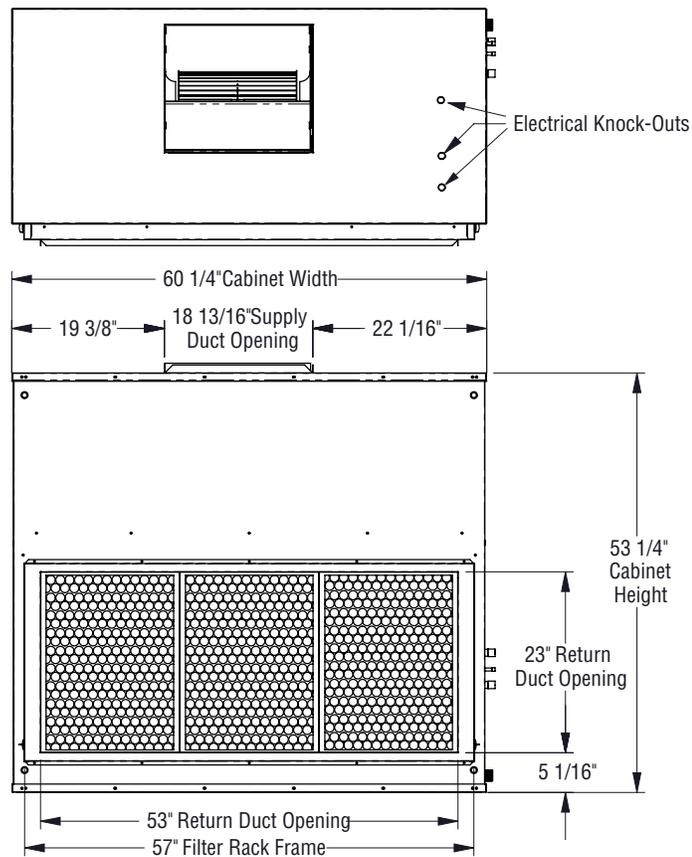
**B4SM Horizontal Installation
Unit Shown with Doors Removed**



PHYSICAL DATA - B4SM – VERTICAL (OPTIONAL POSITION)



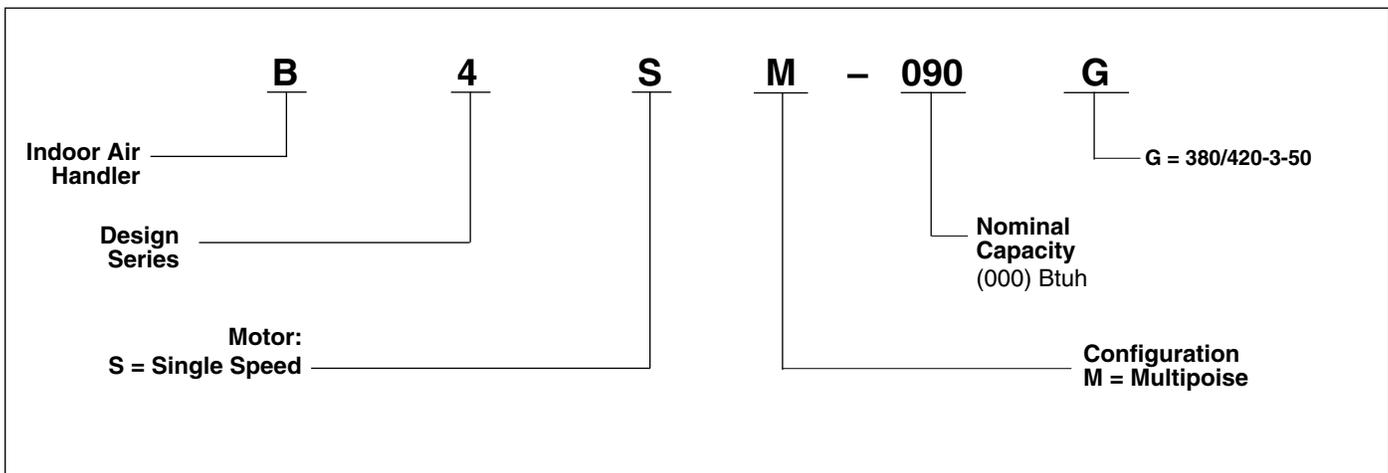
B4SM Vertical Installation
Unit Shown With Doors Removed



SPECIFICATIONS

	Specifications and Ratings	B4SM-090G	B4SM-120G
Performance Data	Nom. Cooling BTU/H	7 1/2 Tons	10 Tons
Electrical Data	Voltage-Phase-Hz.	380-3-50	380-3-50
	Max. Over-Current Protection	15	15
	Min. Circuit Ampacity	4.3	4.3
Evaporator Coil Data	Evaporator Coil	3 row	4 row
	Type	Tube & Fin	Tube & Fin
	Face Area (Sq. Ft.)	12.3	12.3
	Rows/Fins Per Inch	13	14
	Refrig. Control	TXV	TXV
	No. Refrig. Circuits	1	2
	Liquid Line Size O.D.	3/4"	(2) 3/8"
	Suction Line Size O.D.	7/8"	(2) 7/8"
	Condensate Drain Connections one - 3/4" MPT fitting is required one - 3/4" MPT Plug is included	3/4" - FPT	3/4" - FPT
Blower Data	Evaporator Blower - Type	Forward Curve Centrifugal Dual Inlet	Forward Curve Centrifugal Dual Inlet
	Dia. x Width Wheel	15 x 15	15 x 15
	Blower Drive RPM - Standard	Belt/ 592	Belt/ 790
	Motor-HP (RPM)	2 (1425)	2 (1425)
	FLA	3.4	3.4
	SF	1.15	1.15
Physical Data	Filter - (Factory Installed)	1" (Permanent) Convertible to 2"	1" (Permanent) 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 50 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								
		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						
B4SM-090 (2Hp) 50Hz 380V	Fully Closed	3868	637	1.20	3620	638	1.20	3322	640	1.11	3021	642	0.92	2694	644	0.94	2194	646	0.83															
	1 Turn Open	3689	612	0.93	3394	614	0.86	3100	615	0.79	2750	617	0.70	2335	619	0.61																		
	2 Turns Open*	3427	580	0.80	3132	582	0.72	2794	584	0.64	2388	586	0.56																					
	3 Turns Open	2955	515	0.70	2571	526	0.54	2323	542	0.50	1792	552	0.41																					
	4 Turns Open	2227	449	0.40	1783	464	0.40																											

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											
		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	CFM	RPM	Kw						
B4SM-120 (2Hp) 50Hz 380V	Fully Closed	4808	811	2.13	4610	812	2.09	4454	815	2.00	4274	816	1.93	4074	818	1.86	3856	820	1.78	3608	822	1.67	3316	824	1.56	3037	827	1.45									
	1 Turn Open	4553	779	1.90	4379	779	1.83	4182	781	1.77	3997	782	1.69	3769	784	1.61	3519	786	1.50	3254	788	1.44	2960	791	1.33	2632	792	1.25									
	2 Turns Open*	4306	746	1.77	4123	744	1.70	3917	746	1.61	3693	748	1.54	3456	749	1.47	3200	751	1.37	2831	753	1.26	2497	755	1.18												
	3 Turns Open	3966	705	1.50	3769	707	1.43	3550	708	1.37	3322	710	1.30	3037	712	1.22	2698	714	1.14	2340	715	1.06															
	4 Turns Open	3544	643	1.20	3339	649	1.20	3151	655	1.17	2919	664	1.12	2613	670	1.05	2261	674	1.05																		

* Denotes Factory Adjustable Sheave Setting
Bold Indicates Factory Recommended Blower Operating Range
Italic Gray -Not Recommended for Operation
 Static pressure includes dry coil, unit casing and 1" permanent filter losses.

COMPONENT STATIC PRESSURE

Model	Nominal	Filter	
		Size	Resistance (in-Wg)
B4SM	2200		0.03
	2600		0.04
	3000	18 x 24 (1" Permanent)	0.05
	3400		0.07
	3800		0.08
	4200		0.09
-120	3000	18 x 24 (1" Permanent)	0.05
	3400		0.07
	3800		0.08
	4200		0.09
	5000		0.13

WET COIL CORRECTION DATA FOR B4SM SERIES UNITS

7.5 Ton		10 Ton	
3 Row Coil @ 13 fpi		4 Row Coil @ 14 fpi	
Unit SCFM	P (in-Wg) for Wet Coil	Unit SCFM	P (in-Wg) for Wet Coil
2250	0.017	3000	0.180
2400	0.018	3250	0.194
2625	0.019	3500	0.207
2825	0.020	3750	0.220
3000	0.021	4000	0.234
3190	0.022	4250	0.247
3375	0.023	4500	0.261

Values are approximated for use at all adjustable sheave settings

ELECTRICAL DATA TABLE

Model Number	Nominal Electric Supply	Voltage Range		Compressor			Outdoor motor		Outdoor Circuit		Transformer	
		Min	Max	Model	RLA	LRA	Hp	FLA	MCA	MOP	Secondary	VA
S4BM	380-420/3/50											
-090G		360	440	ZR108KC	15.5	111	1	2.4	21.8	35	24 V	75
-120G			506	ZR144KC	19.9	118	1	2.4	27.3	45		

Notes:
 FLA = Full Load Amps
 MCA = Minimum Circuit Ampacity
 RLA = Rated Load Amps
 MOP = Maximum Over-Current Protection
 LRA = Locked Rotor Amps



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

Specifications and illustrations subject to change without notice and without incurring obligations. Printed in U.S.A (06/2010)

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