

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

# CITY OF PORTLAND

## BUILDING DEPARTMENT

### PERMIT

Permit Number: 090468

Please Read Application And Notes, If Any, Attached

This is to certify that TRUSIANI ANNAMARIE & JUL J/S Building Studio  
has permission to Install Mammoth Air Conditioning Unit  
AT 585 CONGRESS ST City of Portland 037-E002001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is lath or other closed-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

#### OTHER REQUIRED APPROVALS

Fire Dept. CAPT. R. Lantieri  
Health Dept. \_\_\_\_\_  
Appeal Board \_\_\_\_\_  
Other \_\_\_\_\_  
Department Name

[Signature]  
Director - Building & Inspection Services

**PENALTY FOR REMOVING THIS CARD**

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 09-0468	Issue Date: 6/2/09	CBL: 037 E002001
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Location of Construction: 585 CONGRESS ST	Owner Name: TRUSIANI ANNAMARIE & PAU	Owner Address: 585 1/2 CONGRESS ST	Phone: 207-272-0972
Business Name:	Contractor Name: Smart Tech Building Solutions	Contractor Address: Portland	Phone: 2078385248
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	Zone: B-3

Past Use: Commercial/Pauls Food Center	Proposed Use: Commercial/Pauls Food Center - Install Mammoth Air Conditioning Unit	Permit Fee: \$320.00	Cost of Work: \$30,000.00	CEO District: 1
		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied * See Conditions	INSPECTION: Use Group: M Type: 5B IRB-2009	

Proposed Project Description: Install Mammoth Air Conditioning Unit	Signature: (KG)	Signature: [Signature]
PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)		
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied		
Signature:		Date:

Permit Taken By: lmd	Date Applied For: 05/15/2009	<b>Zoning Approval</b>	
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<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building permits do not include plumbing, septic or electrical work.</p> <p>3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..</p>	<p><b>Special Zone or Reviews</b></p> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan  Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/>	<p><b>Zoning Appeal</b></p> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied	<p><b>Historic Preservation</b></p> <input type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied
	Date: [Signature] 6/2/09	Date:	Date:

**CERTIFICATION**

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

\_\_\_\_\_  
SIGNATURE OF APPLICANT ADDRESS DATE PHONE

\_\_\_\_\_  
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHONE

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

<b>Permit No:</b> 09-0468	<b>Date Applied For:</b> 05/15/2009	<b>CBL:</b> 037 E002001
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<b>Location of Construction:</b> 585 CONGRESS ST	<b>Owner Name:</b> TRUSIANI ANNAMARIE & PAU	<b>Owner Address:</b> 585 1/2 CONGRESS ST	<b>Phone:</b> 207-272-0972
<b>Business Name:</b>	<b>Contractor Name:</b> Smart Tech Building Solutions	<b>Contractor Address:</b> Portland	<b>Phone:</b> (207) 838-5248
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> HVAC	

<b>Proposed Use:</b> Commercial/Pauls Food Center - Install Mammoth Air Conditioning Unit	<b>Proposed Project Description:</b> Install Mammoth Air Conditioning Unit
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**Dept:** Zoning      **Status:** Approved with Conditions      **Reviewer:** Marge Schmuckal      **Approval Date:** 05/18/2009

**Note:** **Ok to Issue:**

- 1) All maximum sound requirements of the B-3 Zone SHALL NOT be exceeded. Between 9:00 pm to 7:00 am the noise levels shall not exceed 55 dBAs. Between 7:00 am to 9:00 pm the noise levels shall not exceed 60 dBAs.  
  
Maximum noise levels are STRICTLY enforced.
- 2) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

**Dept:** Building      **Status:** Approved with Conditions      **Reviewer:** Chris Hanson      **Approval Date:** 06/02/2009

**Note:** **Ok to Issue:**

- 1) Installation shall comply with 2003 International Mechanical Code with smoke/fire dampers as required and penetrations protected per IBC Section 712.
- 2) All penetrations through rated assemblies must be protected by an approved firestop system installed in accordance with ASTM 814 or UL 1479, per IBC 2003 Section 712.
- 3) The appliance shall be installed in accordance with the IMC 2003 and NFPA 211.
- 4) Separate permits are required for any electrical, plumbing, sprinkler, fire alarm or HVAC or exhaust systems. Separate plans may need to be submitted for approval as a part of this process.
- 5) ANY exterior work requires separate review and approval thru Historic Preservation

**Dept:** Fire      **Status:** Approved with Conditions      **Reviewer:** Capt Keith Gautreau      **Approval Date:** 05/27/2009

**Note:** **Ok to Issue:**

- 1) Install shall comply with NFPA 90A.
- 2) Install shall comply with all manufacture's specifications.



FILL IN AND SIGN WITH INK

# APPLICATION FOR PERMIT HEATING OR POWER EQUIPMENT

037.E-002

To the INSPECTOR OF BUILDINGS, PORTLAND, ME.

The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Location / CBL 585 Congress St Use of Building Food Center Date 5/15/09  
Name and address of owner of appliance Paul's Food Center 585 Congress St

Installer's name and address Smart-Tech Building Solutions  
Telephone 207 838-5248  
207 272-0972

Location of appliance: Loading dock Area

- Basement
- Attic
- Floor
- Roof

Type of Fuel: None

- Gas
- Oil
- Solid

Appliance Name: Mammoth

U.L. Approved  Yes  No MAY 15 2009

Will appliance be installed in accordance with the manufacture's installation instructions?  Yes  No

IF NO Explain: \_\_\_\_\_

The Type of License of Installer:

- Master Plumber # \_\_\_\_\_
- Solid Fuel # \_\_\_\_\_
- Oil # \_\_\_\_\_
- Gas # \_\_\_\_\_
- Other Air conditioning  
UNIVERSAL # 049 400665

Type of Chimney:

- Masonry Lined  
Factory built \_\_\_\_\_
- Metal  
Factory Built U.L. Listing # \_\_\_\_\_
- Direct Vent  
Type \_\_\_\_\_ UL# \_\_\_\_\_

Type of Fuel Tank

- Oil
- Gas

Size of Tank \_\_\_\_\_

Number of Tanks \_\_\_\_\_

Distance from Tank to Center of Flame \_\_\_\_\_ feet.

Cost of Work: \$ 30,000

Permit Fee: \$ \_\_\_\_\_

Approved

Approved with Conditions

Fire: \_\_\_\_\_  
Ele.: \_\_\_\_\_  
Bldg.: \_\_\_\_\_

See attached letter or requirement

[Signature]  
Inspector's Signature

6/2/09  
Date Approved

Signature of Installer Kevin Sawyer

White - Inspection    Yellow - File    Pink - Applicant's    Gold - Assessor's Copy

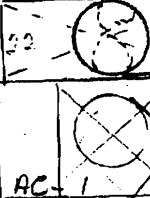
CONTACT → KEVIN SAWYER 838-5248

Forest Ave

53x23  
22" Duct Pass

→ A.

Return  
Branch  
Determine  
Size

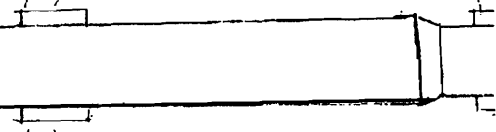
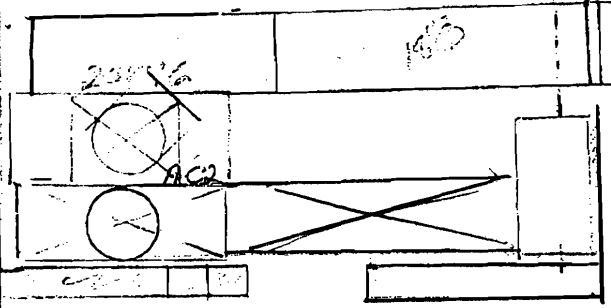


37"

18" φ

OKley Need  
8-12x8 Trimmer

PAUL



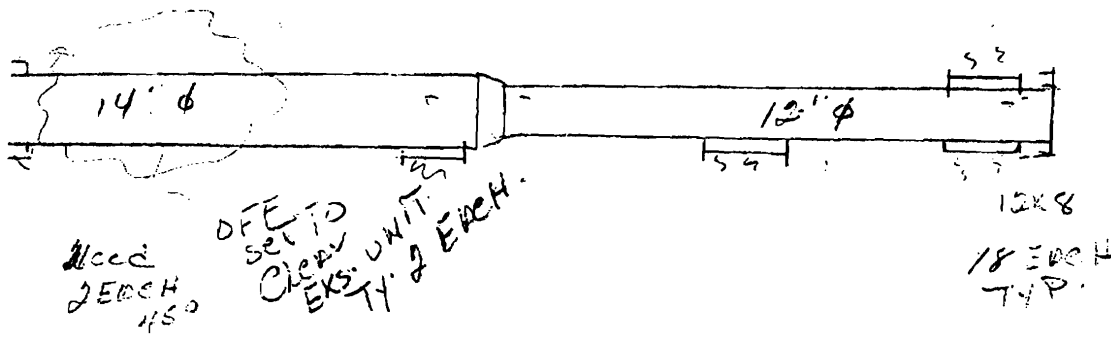
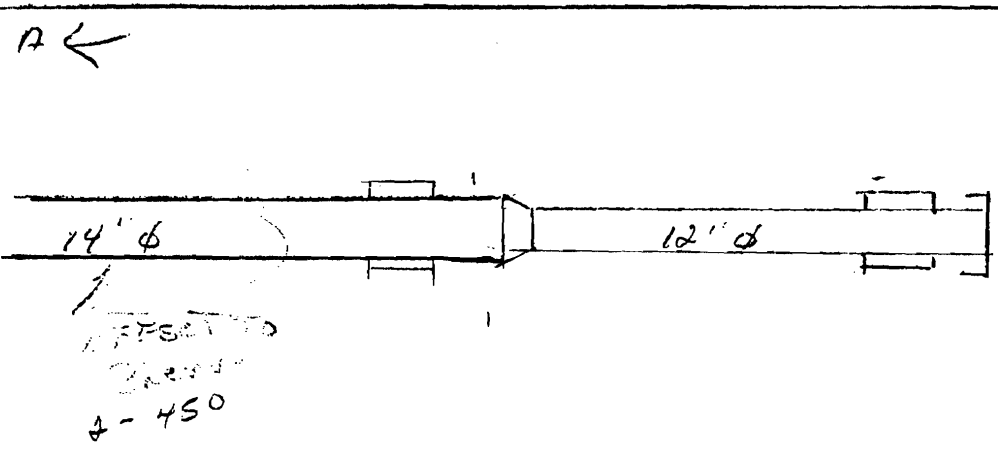
50 ft

Duct To be Exposed & uninsulated.  
Duct will be Hung from structural  
wood members

Enclosed Alley way Between Paul's Food & Eastland Hotel

Phase BOF 3

← Congress ST →

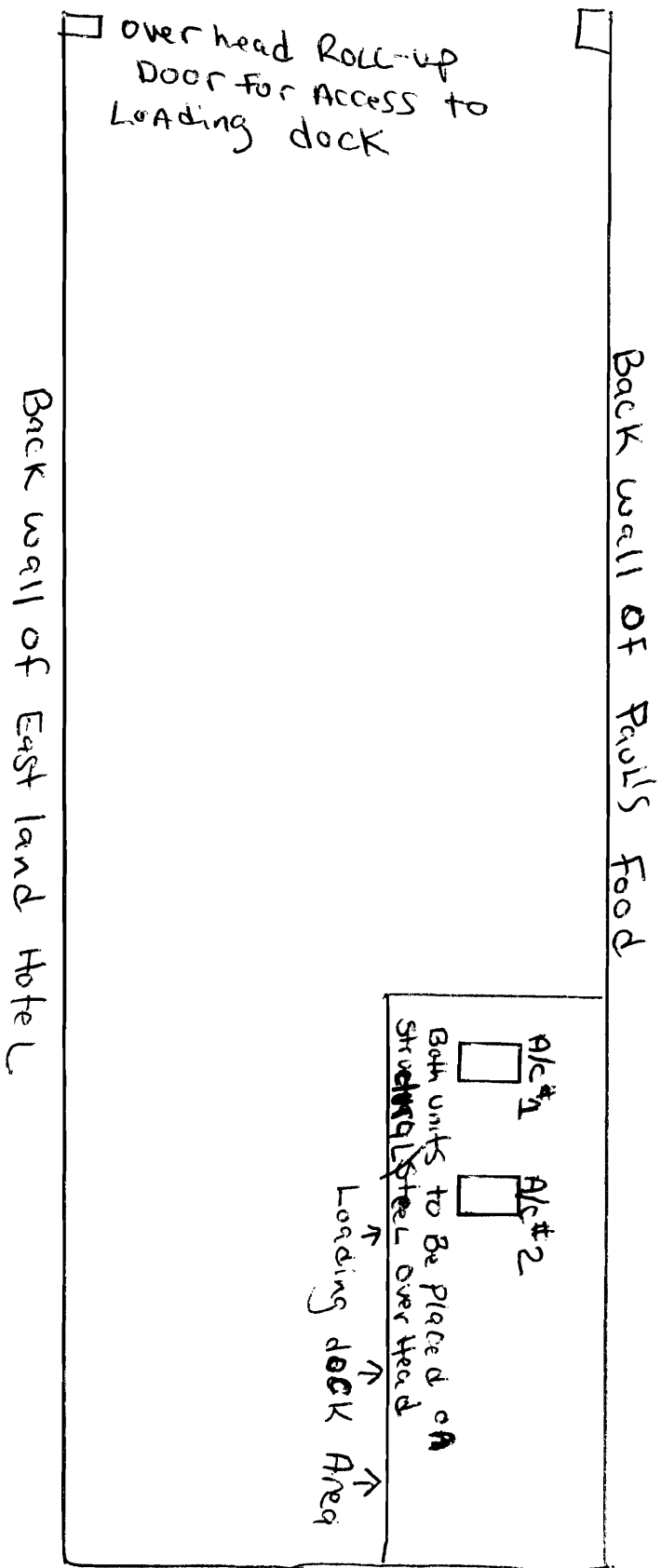


CASH Registers

100 FT

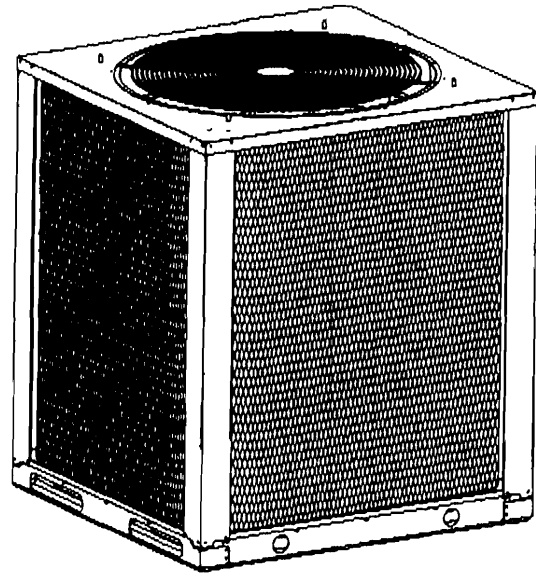
Forest Ave

Congress



**S3BN Series**  
**Split System Air Conditioner**  
**10.3 EER Commercial System**  
**7½ and 10 Ton Capacity**  
**R-22 Refrigerant**

The S3BN Series of air conditioners offers exceptional performance from a small, compact package. The unit, when combined with our air handlers, offers a line of quality, split system cooling equipment. The S3BN is rated at 10.3 EER when matched with our air handler. Units are ideally sized for slab or rooftop mounting in light commercial applications.



**FEATURES and BENEFITS**

- **Quality Compressor** - State of the art scroll compressor is standard equipment.
- **HI/Low Pressure Switches** - Ensure long compressor life.
- **Durable, Attractive Cabinet** - Designed using galvanized steel with a polyester urethane finish. The 950 hour salt spray finish is 1.5 mil thick and resists corrosion 50% better than comparable units.
- **Copper Tube / Aluminum Fin Coils** - Both indoor and outdoor coils are designed to optimize heat transfer, minimize size and cost, and increase durability and reliability.
- **Permanently Lubricated Motor** - A heavy duty PSC motor for long lasting reliability and quiet operation. Requires no maintenance and is completely protected from rain and snow.
- **Full Service Valves** - These brass valves are easily accessible and simplify servicing of the refrigeration system.
- **Plastic Mesh Hail Guard** - A guard that will never rust and protects the units coil from being damaged.
- **Removable Top Grille Assembly** - Allows ease of service from the top without disconnecting fan motor leads.
- **Raised Base** - The sturdy base keeps the bottom of the coil out of harms way and allows water from rain to flow away from the unit.
- **Five Minute Restart Time Delay** - When the unit shuts down, a five minute delay keeps the unit from restarting, eliminating the highest cause for compressor failure.
- **Easy Compressor and Control Access** - Designed to make servicing easier for the contractor, access panels are provided to all controls and the compressor from the side of the unit.
- **1 Year Limited All Parts Warranty, 5 Year Parts Coverage on Compressor** - Proven to be a major benefit to the end user.
- **90 VA Transformer** - Includes 4 Amp circuit breaker to protect low voltage circuit.
- **Liquid Line Filter Drier** - Factory installed for convenience.
- **Suction Accumulator and Crankcase Heater** - Protection from liquid floodback and future compressor failures.



## PHYSICAL AND ELECTRICAL SPECIFICATIONS / OUTDOOR UNITS

### 10.3 EER —High Efficiency — Three Phase

Model No. S3BN-		090C	090W	120C	120W	
Electrical Data	Volts-Phase-Hz	208/230-3-60	460-3-60 380/420-3-50	208/230-3-60	460-3-60 380/420-3-50	
	Voltage Range (Min-Max)	187-253	414-506	187-253	414-506	
	Total Amps	32.1	16.4	33.4	17.2	
	Min Circuit Ampacity	41.4	21.7	43	22.7	
	Delay Fuse Max. (1)	60	35	70	35	
	Wire Size/Max Length (AWG 60°C Cu)	4/100	8/100	4/100	8/100	
	Wire Size/Max Length (AWG 75°C Cu)	6/100	8/100	4/100	8/100	
Component Data	Coil	Area (ft <sup>2</sup> )	31.94	31.94	31.94	31.94
		Rows-FPI	2-16	2-16	2-18	2-18
		Tube Dia.	3/8" OD	3/8" OD	3/8" OD	3/8" OD
	Fan Motor	Volts-Phase-Hz	208/230-3-60	460-3-60 380/420-3-50	208/230-3-60	460-3-60 380/420-3-50
		Qty	1	1	1	1
		Horsepower	3/4	3/4	3/4	3/4
		Full Load Amps	3.3	1.7	3.3	1.7
	Fan Blade	Dia./Pitch/#Blades	30/19/3	30/19/3	30/26/3	30/26/3
		RPM/CFM (Max-Total)	825/7500	825/7500	825/8500	825/8500
	Compressor Data	Volts-Phase-Hz	208/230-3-60	460-3-60	208/230-3-60	460-3-60
		Qty./Type	1 / Scroll	1 / Scroll	1 / Scroll	1 / Scroll
		FLA	28.8	14.7	30.1	15.5
		LRA	195	95	225	114
		Stages/Percent	1 / 100	1 / 100	1 / 100	1 / 100
	Crankcase Heater Qty./Type	1 / Band	1 / Band	1 / Band	1 / Band	
Refrigerant Suction Line-Length/O.D.		0 - 15 ft.	1 1/8"	1 1/8"	1 1/8"	1 1/8"
(Liq. Line All Lengths - 5/8" O.D.)		16 - 25 ft	1 3/8" (3)	1 3/8" (3)	1 3/8" (3)	1 3/8" (3)
Circuits (Qty) - 1		26 - 75 ft.	1 3/8" (3)	1 3/8" (3)	1 3/8" (3)	1 3/8" (3)
Refrigerant Charge	Holding Charge	56	56	76	76	
	Total System with 15' Line Set (2)	294	294	430	430	
Weight		Net	395	395	405	405
Approximate (lbs.)		Ship	407	407	417	417

- (1) HACR Type Circuit Breakers may be used.
- (2) Add 9.0 oz. of refrigerant per 5 feet of additional line set.
- (3) Requires a 1-3/8" to 1-1/8" reducer line to unit.

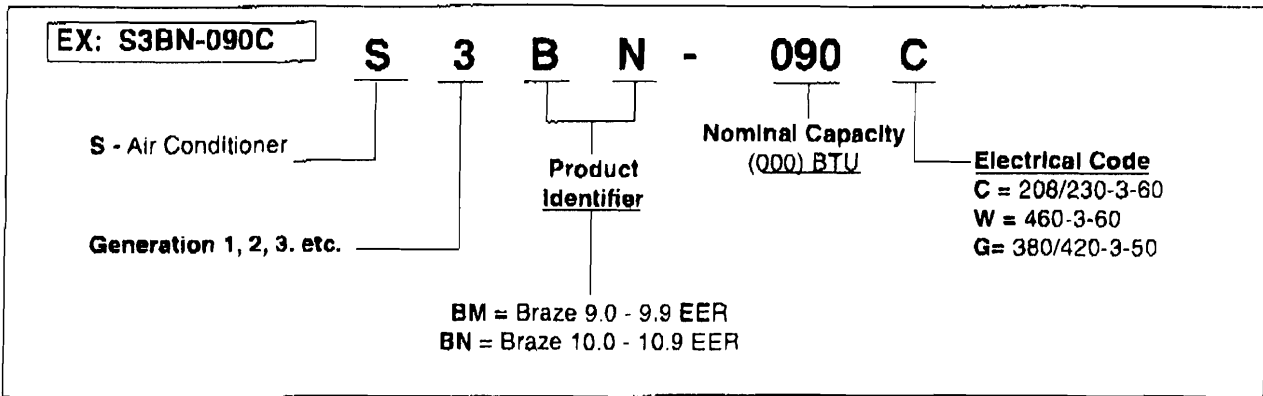
### ACCESSORIES - Condensing Unit

**Low Ambient Kit - 913549A** — Maintains system pressures during low ambient conditions.

COPPER WIRE SIZE — AWG (1% Voltage Drop)				
Supply Wire Length-Feet				Supply Circuit Ampacity
200	150	100	50	
6	8	10	14	15
4	6	8	12	20
4	6	8	10	25
4	4	6	10	30
3	4	6	8	35
3	4	6	8	40
2	3	4	6	45
2	3	4	6	50
2	3	4	6	55
1	2	3	4	60

Wire Size based on N.E.C. for 60° type copper conductors.

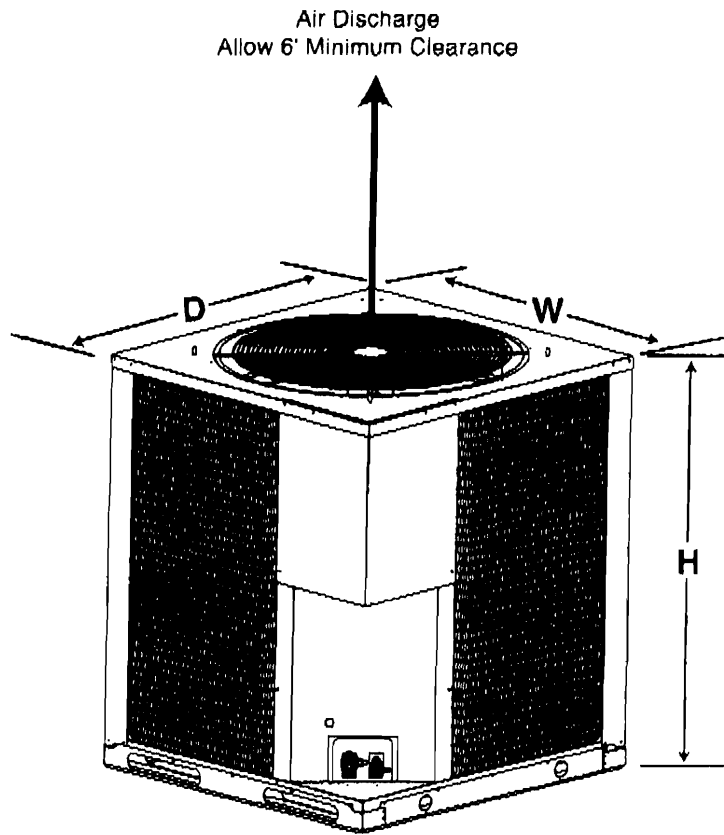
**MODEL IDENTIFICATION CODES**



**DIMENSIONS (Inches)**

**AIR CONDITIONER OUTDOOR SECTION**

S3BN-	090	120
Height	44-1/4	44-1/4
Width	37-1/2	37-1/2
Depth	37-1/2	37-1/2
Shipping Height	50	50



O'Fallon, MO

**NORDYNE**



**ELECTRIC DATA TABLE**

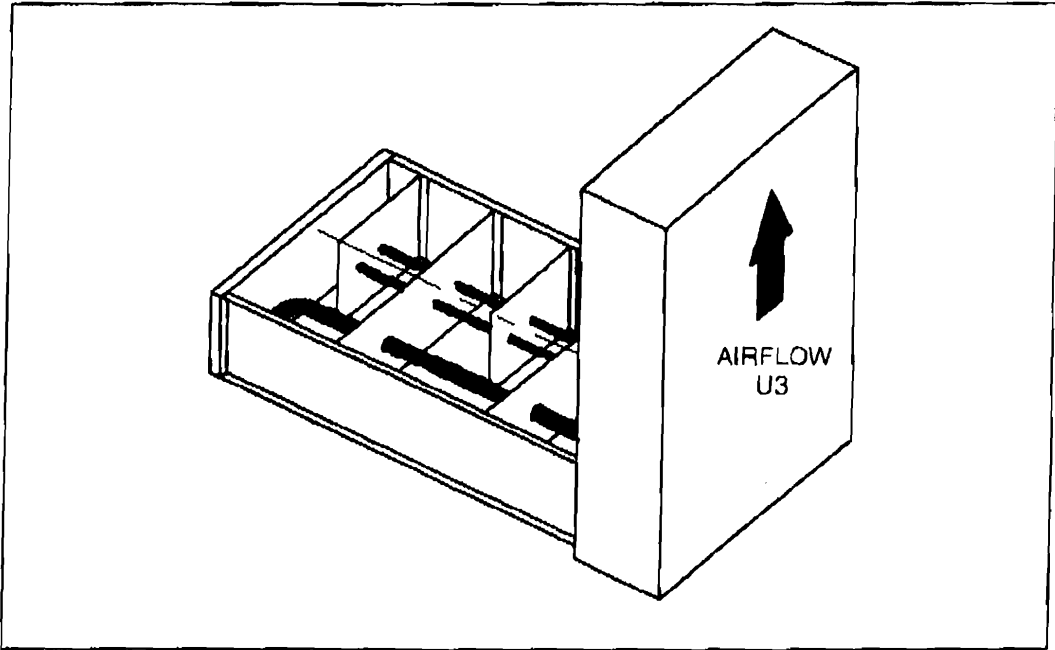
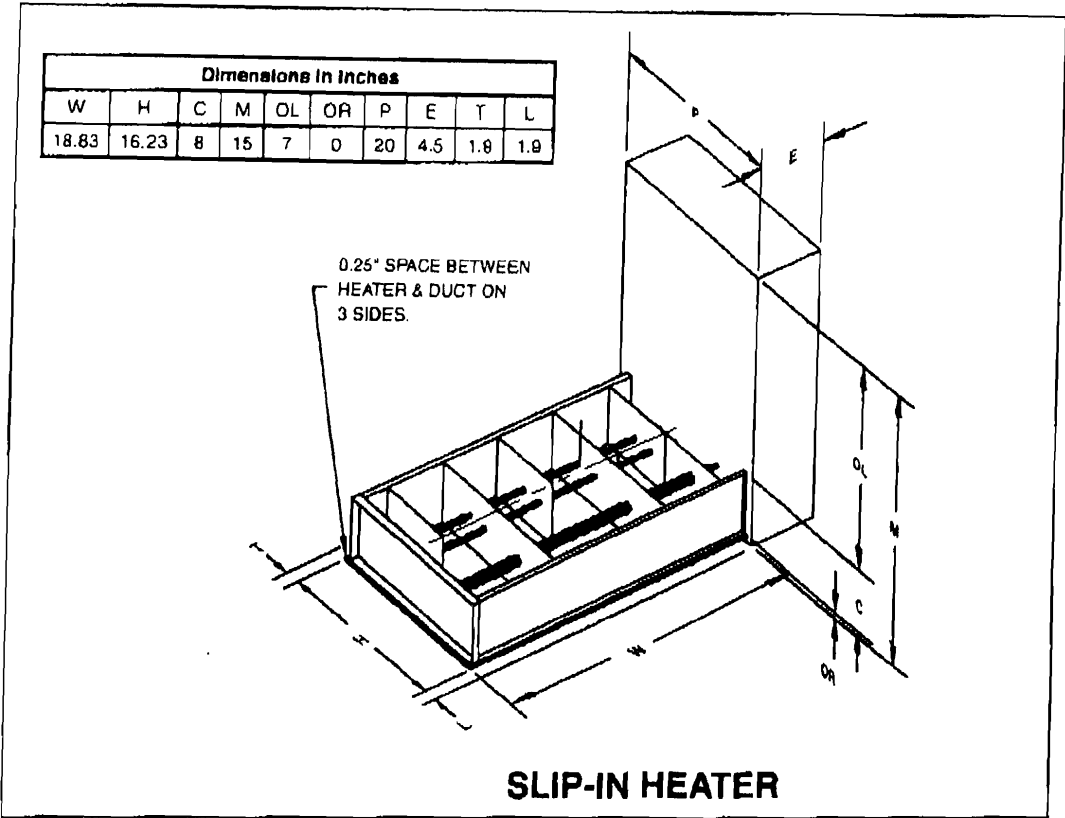
**B4SM - 60 HZ**

Model Number	Phase	Voltage	Heater Installed Norm. KW	Single Supply Circuit Option					Multiple Circuit											
				Minimum Circuit Amp.	Rec. Wire Gage	Rec. Wire Gage	Rec. Wire Gage	Maximum Over-current Rating *	Circuit A (Heater Only)				Circuit B (Blower Only)							
					(60°C Cu)	(75°C Cu)	(90°C Cu)		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 *		
B4SM	3	208	0	8.3	14	14	14	15	-	-	-	-	-	-	-	-	-	-	-	-
	3	208	7.4	34.0	8	8	8	35	25.7	10	10	10	30	8.3	14	14	14	15		
	3	208	12	49.9	6	8	8	50	41.7	6	8	8	45	8.3	14	14	14	15		
	3	208	19.5	76.0	3	4	4	80	67.7	4	4	6	70	8.3	14	14	14	15		
B4SM	3	208	27	102.0	1	2	3	110	93.8	2	3	4	100	8.3	14	14	14	15		
	3	240	0	8.3	14	14	14	15	-	-	-	-	-	-	-	-	-	-	-	
	3	240	9.9	38.1	8	8	8	40	29.8	10	10	10	30	8.3	14	14	14	15		
	3	240	16	56.4	4	6	6	60	48.2	6	8	8	50	8.3	14	14	14	15		
B4SM	3	240	26	86.5	2	3	4	90	78.3	3	4	4	80	8.3	14	14	14	15		
	3	240	36	116.6	0	1	2	125	108.4	1	2	3	110	8.3	14	14	14	15		
	3	480	0	4.1	14	14	14	15	-	-	-	-	-	-	-	-	-	-		
	3	480	9.9	19.0	12	12	12	20	14.9	14	14	14	15	4.1	14	14	14	15		
B4SM	3	480	16	28.2	10	10	10	30	24.1	10	10	10	25	4.1	14	14	14	15		
	3	480	26	43.3	6	8	8	45	39.1	8	8	8	40	4.1	14	14	14	15		
	3	480	36	58.3	4	6	6	60	54.2	6	6	8	60	4.1	14	14	14	15		

Before purchasing this appliance, determine energy cost and efficiency information available from your retailer. Specifications and illustrations subject to change without notice and without incurring obligations. Printed in U.S.A.

550C-0808 (Replaces 550C-0707)

**DIMENSIONS - HEATER KIT**



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

**EXPANDED RATINGS WITH B5BM**

**S3BN-090\* with B5BM-T48K (Twin)**

O.D.T			85°F			95°F			105°F			115°F		
CFM	E.D.B.	E.W.B.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.
2500	80	62	81.9	72.3	7.61	79.2	70.7	8.29	76.2	68.9	9.07	72.8	66.9	9.95
	80	67	89.0	63.1	7.72	86.2	60.5	8.41	83.0	57.3	9.19	79.4	55.5	10.07
	80	72	96.1	53.9	7.85	93.1	52.4	8.53	89.6	50.8	9.31	85.8	48.9	10.22
	75	63	81.5	62.9	7.61	78.8	61.3	8.29	75.7	59.6	9.07	72.3	57.6	9.95
3000	80	62	85.9	77.2	7.67	83.0	75.5	8.35	79.8	73.6	9.13	76.1	71.5	10.01
	80	67	92.3	67.8	7.78	89.0	65.1	8.46	85.9	60.2	9.24	82.1	58.4	10.12
	80	72	99.6	56.9	7.91	96.4	55.4	8.59	92.7	53.7	9.37	88.7	51.8	10.26
	75	63	84.7	67.7	7.66	81.8	66.1	8.34	78.6	64.3	9.12	75.0	62.2	10.00
3500	80	62	88.7	82.4	7.72	85.6	80.6	8.40	82.3	81.4	9.18	78.5	77.7	10.06
	80	67	94.9	71.0	7.83	91.8	67.7	8.51	88.3	64.4	9.29	84.3	62.6	10.17
	80	72	102.2	59.7	7.96	98.9	58.1	8.64	95.1	56.4	9.42	90.8	54.4	10.30
	75	63	87.1	72.2	7.70	84.1	70.5	8.38	80.8	68.6	9.16	77.0	66.5	10.03

**S3BN-120\* with B5BM-T60K (Twin)**

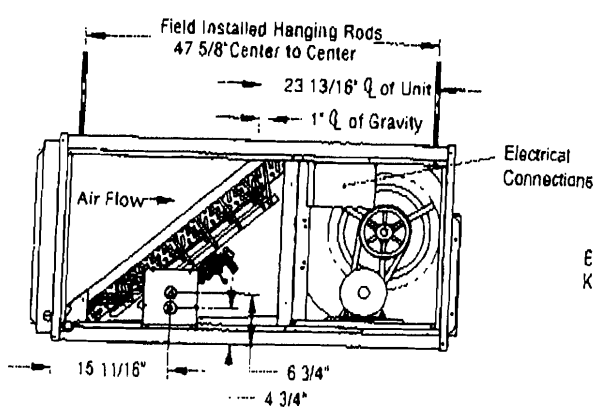
O.D.T			85°F			95°F			105°F			115°F		
CFM	E.D.B.	E.W.B.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.
3250	80	62	101.3	93.6	9.36	97.8	91.5	10.16	94.0	89.3	11.05	90.0	86.9	12.09
	80	67	109.6	82.2	9.52	105.9	78.7	10.32	101.9	74.3	11.22	97.5	72.2	12.26
	80	72	118.8	69.1	9.70	114.6	67.2	10.50	110.2	65.1	11.40	105.4	62.9	12.42
	75	63	100.4	82.8	9.35	97.8	79.9	10.14	93.6	78.7	11.06	88.8	77.4	12.07
3750	80	62	104.4	100.0	9.42	100.8	97.7	10.22	96.8	95.3	11.11	92.6	91.7	12.12
	80	67	112.7	87.6	9.59	108.0	84.0	10.38	104.5	77.2	11.28	99.9	75.2	12.29
	80	72	121.7	72.5	9.77	117.4	70.5	10.56	112.8	68.4	11.46	107.9	66.2	12.48
	75	63	103.7	88.6	9.42	99.4	87.5	10.19	94.8	86.1	11.05	89.9	84.5	11.99
4250	80	62	107.1	105.6	9.47	103.3	102.3	10.27	99.3	98.3	11.17	95.3	94.4	12.16
	80	67	115.1	91.0	9.63	110.9	86.5	10.42	106.5	82.1	11.32	101.8	80.0	12.32
	80	72	124.1	75.7	9.81	119.7	73.7	10.61	114.9	71.5	11.51	109.8	69.2	12.53
	75	63	104.9	95.6	9.41	100.6	94.0	10.18	96.0	92.0	11.05	90.0	87.4	11.96

# EXPANDED RATINGS WITH B4SM (continued)

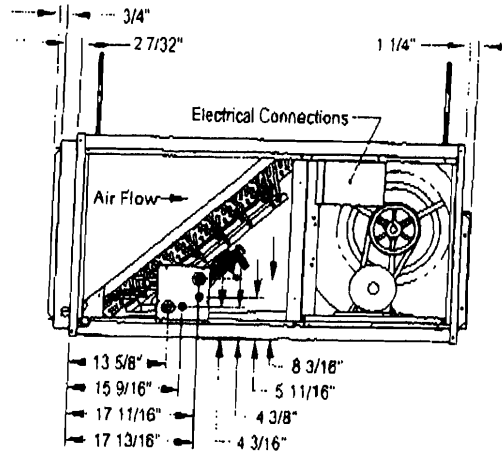
S3BN-120\* with B4SM-120\*

CFM	O.D.T		85°F			75°F			85°F			85°F			105°F			115°F		
	E.D.B.	E.W.B.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.
3250	75	62	106.6	83.4	8.03	103.7	81.8	8.65	100.4	80.8	9.35	97.8	78.0	10.14	83.6	76.8	11.06	88.8	75.6	12.07
	75	67	115.8	64.6	8.19	112.5	63.2	8.82	109.0	61.5	9.53	106.2	60.4	10.32	101.2	58.3	11.22	96.8	55.8	12.25
	75	72	128.2	56.5	8.42	124.9	55.1	9.05	121.0	53.4	9.76	116.8	51.6	10.66	112.3	49.7	11.47	107.4	47.7	12.48
	80	62	107.4	95.0	8.03	104.5	93.4	8.66	101.3	91.6	9.36	97.8	89.8	10.18	101.9	76.1	11.22	97.5	73.9	12.26
	80	67	116.1	83.4	8.19	113.2	81.8	8.82	109.7	80.1	9.52	105.9	78.2	10.32	94.0	87.4	11.06	90.0	85.1	12.09
	80	72	125.8	70.0	8.37	122.4	68.4	8.99	118.7	66.7	9.70	114.6	64.9	10.50	110.2	62.9	11.40	105.4	60.8	12.42
	85	62	108.2	102.2	8.03	105.4	100.4	8.66	102.3	98.4	9.37	97.8	98.8	10.18	94.5	93.5	11.04	91.1	90.2	12.10
	85	67	116.5	96.5	8.18	113.5	94.9	8.81	110.0	93.1	9.62	106.3	91.2	10.31	102.6	87.7	11.23	98.3	85.6	12.24
	85	72	127.0	105.2	8.39	123.2	103.0	8.99	119.4	101.1	9.70	115.3	99.0	10.60	110.9	94.8	11.41	106.2	92.6	12.43
3750	75	62	109.6	88.8	8.08	106.6	87.2	8.71	103.7	86.5	9.42	99.4	85.5	10.19	94.8	84.2	11.05	89.9	82.7	11.99
	75	67	118.8	73.8	8.25	115.6	72.0	8.88	111.8	70.3	9.58	107.9	68.3	10.38	103.7	66.3	11.28	99.1	64.1	12.29
	75	72	131.4	58.2	8.48	127.9	56.7	9.11	123.9	55.0	9.82	119.4	53.2	10.62	114.7	51.3	11.52	108.6	49.3	12.53
	80	62	110.8	101.6	8.09	107.8	99.8	8.72	104.4	97.9	9.42	100.8	95.7	10.22	104.5	81.3	11.26	98.9	79.1	12.29
	80	67	119.4	88.8	8.25	116.4	87.2	8.88	112.7	85.4	9.69	108.0	83.4	10.38	96.8	93.4	11.11	92.6	90.8	12.12
	80	72	129.1	73.4	8.43	125.6	71.8	9.05	121.7	70.1	9.77	117.4	68.2	10.56	112.8	66.2	11.46	107.8	64.0	12.48
	85	62	110.8	110.0	8.09	108.0	106.9	8.71	105.2	104.1	9.42	102.1	101.1	10.23	98.9	97.9	11.15	95.3	94.4	12.18
	85	67	120.7	101.9	8.26	117.5	100.3	8.89	113.8	98.4	9.59	109.8	96.4	10.39	105.5	94.2	11.29	100.9	91.8	12.29
	85	72	130.6	89.5	8.44	126.5	86.9	9.06	122.6	85.1	9.77	118.2	83.2	10.57	113.7	81.1	11.47	108.7	78.9	12.49
4250	75	62	112.1	94.1	8.13	109.0	92.4	8.75	104.9	93.5	9.41	100.6	92.0	10.16	96.0	90.1	11.05	90.0	85.6	11.98
	75	67	121.4	76.9	8.30	118.1	75.3	8.92	114.3	73.5	9.63	110.1	71.5	10.42	105.7	69.4	11.32	101.0	67.2	12.32
	75	72	133.8	59.7	8.53	130.2	58.2	9.16	126.0	56.5	9.87	121.4	54.7	10.66	116.3	52.7	11.55	111.0	50.6	12.56
	80	62	113.7	107.4	8.14	110.6	105.6	8.77	107.1	103.4	9.47	103.3	101.0	10.27	99.3	98.3	11.17	94.4	93.5	12.16
	80	67	122.0	93.9	8.29	116.9	92.3	8.92	115.1	90.4	9.63	110.9	88.4	10.42	106.5	86.3	11.32	101.8	84.0	12.32
	80	72	131.8	76.6	8.48	128.2	75.0	9.10	124.1	73.3	9.81	119.7	71.3	10.61	114.9	69.2	11.51	109.8	67.0	12.53
	85	62	114.8	113.6	8.15	112.2	111.1	8.79	109.3	108.2	9.50	106.1	105.0	10.31	102.6	101.6	11.23	98.9	97.9	12.26
	85	67	123.6	108.1	8.31	120.2	106.4	8.94	116.4	104.4	9.64	112.3	102.3	10.44	107.8	99.9	11.34	103.1	97.4	12.36
	85	72	133.3	94.6	8.49	129.1	92.0	9.11	125.0	90.1	9.82	120.6	88.2	10.61	115.8	86.0	11.52	110.7	83.8	12.53

**PHYSICAL DATA - B4SM - HORIZONTAL (AS SHIPPED)**

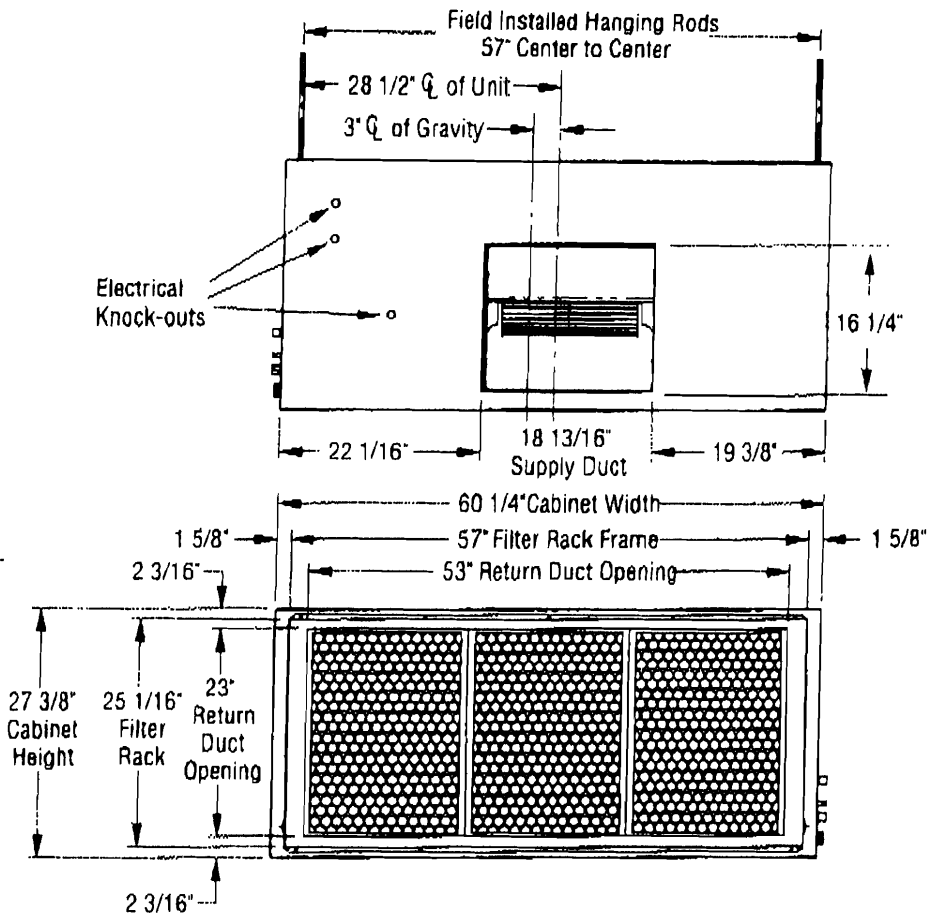


**7 1/2 Ton Unit Refrigerant  
Line Connections**



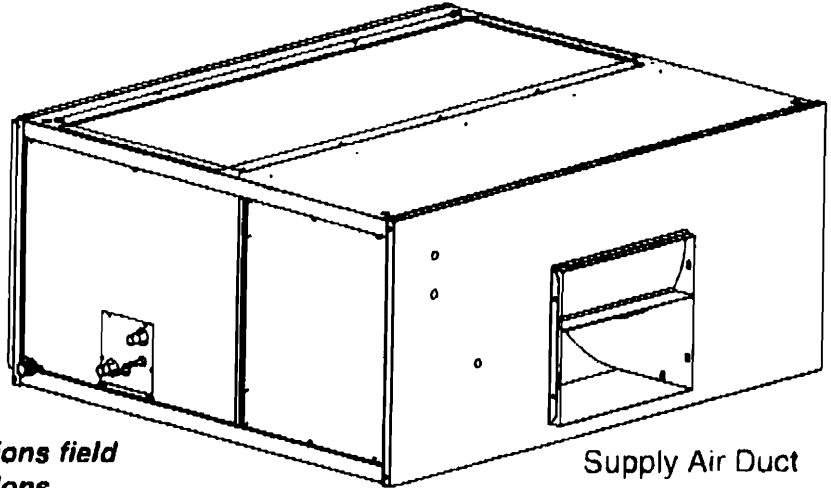
**10 Ton Unit Refrigerant  
Line Connections**

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



## B4SM Series

**Air Handler**  
**R-22 Refrigerant**  
**7-1/2 and 10 Ton**  
**Light Commercial System**



Supply Air Duct  
Horizontal Shown

**Shipped for horizontal applications field  
convertable to vertical applications**

### Features and Benefits

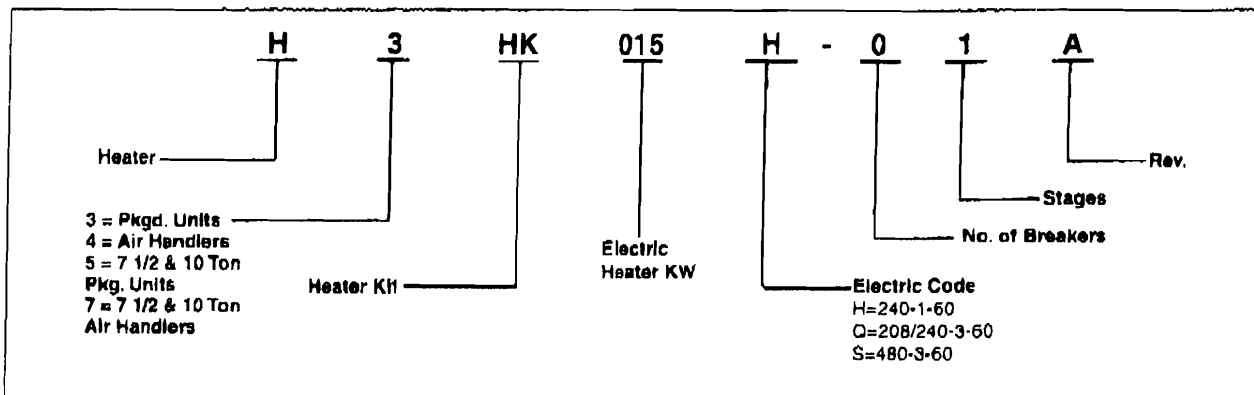
- **Cabinet** — Fabricated of heavy gauge, pre-painted Polyurethane coated galvanized steel. Horizontal mounting hardware is standard on all models, just add the 1/2" diameter threaded rod. Removable access panels are provided on both sides of the cabinet for maintenance and service. All cabinets shall 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
- **Warranty** — 1 Year Limited Parts.



### 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 240 or 460.
- 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.

## 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								
		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) 60 Hz	Fully Closed	4193	860	1.28	3981	867	1.20	3706	868	1.11	3436	869	1.03	3081	869	0.83	2738	872	0.83															
	1 Turn Open	3867	829	1.09	3638	830	1.01	3366	831	0.95	3055	832	0.85	2672	833	0.77																		
	2 Turns Open	3268	592	0.82	3074	593	0.80	2783	593	0.74	2490	594	0.66	2052	597	0.58																		
	3 Turns Open	3283	554	0.79	2966	555	0.72	2819	555	0.65	2203	558	0.57																					
	4 Turns Open	2811	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											
		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) 60 Hz	Fully Closed	4778	860	2.12	4640	868	2.00	4442	870	1.95	4208	873	1.87	4025	876	1.77	3875	877	1.68	3487	879	1.59	3207	882	1.49												
	1 Turn Open	4707	822	1.92	4547	824	1.85	4416	829	1.77	4223	827	1.68	3996	829	1.60	3816	833	1.51	3565	825	1.20	3330	837	1.28	3051	839	1.19									
	2 Turns Open	4410	779	1.83	4258	780	1.56	4071	784	1.50	3867	786	1.45	3632	787	1.31	3396	790	1.23	3092	792	1.13	2824	794	1.07												
	3 Turns Open	3888	708	1.17	3776	724	1.20	3587	731	1.16	3408	736	1.10	3151	740	1.02	2889	745	0.94																		
	4 Turns Open	2875	622	0.99	2783	554	0.54																														

\* Denotes Factory Adjustable Sheave Setting

Bold Indicates Factory Recommended Blower Operating Range

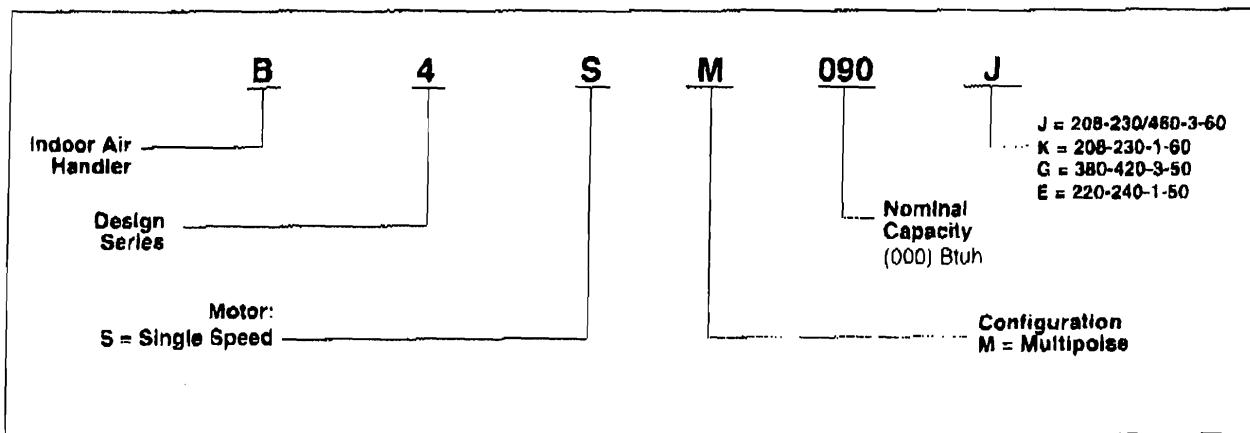
Shaded Area - Not Recommended for Operation

Values based on dry coils and do not include filter losses

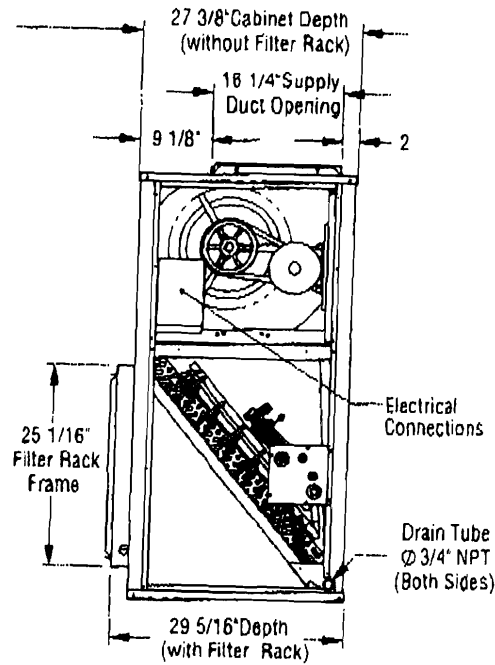
# SPECIFICATIONS

	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			
	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	
Electrical Data	Max. Fuse (Amps)	15	15	25-20	30	15	15	25-20	
	Min. Circuit Ampacity	4.3	6.3-6.3/4.1	14.1-12.5	19.4	4.3	8.3-8.3/4.1	14.1-12.5	
	Evaporator Coil								
Evaporator Coil Data	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			
	Condensate Drain No. FPT (1 Required)	3/4"				3/4"			
Evaporator Blower	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	Belit/ 592				Belit/ 790			
	Motor-HP RPM	2	2	2	1.5	2	2	2	
	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	
Physical Data	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								

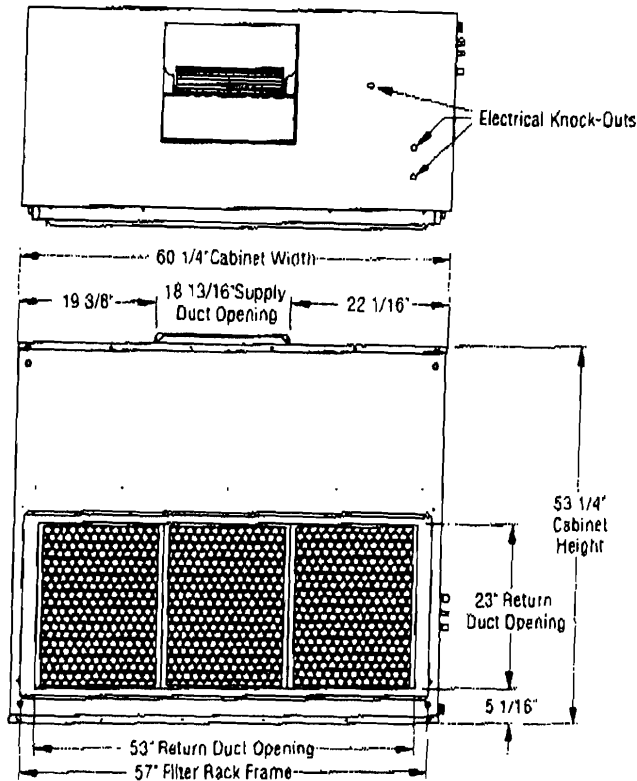
## MODEL IDENTIFICATION CODE



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



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



**10.3 EER — High Efficiency — Three Phase**

Outdoor Unit Model Number	Indoor Unit Model Number	BTUH	EER	SCFM
S3BN-090C	B4SM-090	90000	10.3	3000
S3BN-090C	B5BM-T48K (2)	89000	10.3	1500 (ea)
S3BN-090W	B4SM-090	90000	10.3	3000
S3BN-090W	B5BM-T48K (2)	89000	10.3	1500 (ea)
S3BN-120C	B4SM-120	108000	10.3	3750
S3BN-120C	B5BM-T60K (2)	108000	10.3	1875 (ea)
S3BN-120W	B4SM-120	108000	10.3	3750
S3BN-120W	B5BM-T60K (2)	108000	10.3	1875 (ea)

See current ARI Directory for certified combinations and ratings.

**EXPANDED RATINGS WITH B4SM**

S3BN-090\* with B4SM-090\*

CFM	O.D.T		65°F			75°F			85°F			95°F			105°F			115°F		
	E.D.B.	E.W.B.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.	T.C.	S.C.	K.W.
2500	75	62	86.0	64.7	6.48	83.9	63.4	7.01	81.5	62.1	7.61	78.8	60.5	8.29	75.7	58.8	8.07	72.3	56.9	9.95
	75	67	93.0	51.1	6.80	90.8	50.0	7.12	88.3	48.8	7.72	85.4	47.4	8.40	82.2	45.9	9.18	78.5	44.1	10.06
	75	72	104.1	48.0	6.80	101.8	45.0	7.31	99.1	43.8	7.91	96.0	42.4	8.59	92.4	40.8	9.37	88.4	39.1	10.26
	80	62	86.6	73.3	6.49	84.3	72.8	7.01	81.9	71.4	7.61	79.2	69.9	8.29	83.0	59.0	9.19	79.4	57.2	10.07
	80	67	93.6	64.7	6.81	91.4	63.5	7.13	89.1	62.2	7.72	86.2	60.7	8.41	76.2	68.1	9.07	72.8	66.2	9.95
	80	72	101.1	55.2	6.73	98.8	54.2	7.25	96.1	52.9	7.85	93.1	51.5	8.53	89.8	49.9	9.31	85.8	48.1	10.22
	85	62	87.3	78.5	6.48	85.2	77.3	7.01	82.8	75.9	7.61	80.2	74.4	8.30	77.2	72.6	9.06	73.9	70.5	9.96
	85	67	94.1	74.0	6.80	91.9	72.9	7.13	89.4	71.5	7.72	86.6	70.0	8.41	83.4	68.3	9.19	79.8	66.4	10.07
	85	72	101.8	80.1	6.74	99.7	79.0	7.26	97.0	77.6	7.86	94.0	75.9	8.54	90.5	74.1	9.32	86.7	72.2	10.21
3000	75	62	89.4	69.5	6.54	87.2	68.3	7.06	84.7	66.9	7.66	81.8	65.3	8.34	78.8	63.5	9.12	75.0	61.5	10.00
	75	67	96.6	58.5	6.66	94.3	57.3	7.18	91.6	56.0	7.78	88.5	54.4	8.48	85.1	52.7	9.24	81.3	50.8	10.11
	75	72	107.8	47.8	6.86	105.2	46.5	7.37	102.2	45.3	7.97	98.9	43.9	8.65	95.0	42.3	9.43	90.7	40.8	10.31
	80	62	90.4	78.0	6.55	87.7	79.3	7.06	85.9	76.4	7.67	83.0	74.7	8.35	85.9	63.6	9.24	82.1	61.5	10.12
	80	67	97.2	69.5	6.87	95.0	68.3	7.19	92.3	66.9	7.78	89.0	65.3	8.46	79.8	72.8	9.13	78.1	70.7	10.01
	80	72	104.9	58.3	6.80	102.4	57.2	7.32	99.6	55.9	7.91	96.4	54.4	8.59	92.7	52.8	9.37	88.7	50.9	10.26
	85	62	91.3	85.0	6.58	89.2	83.7	7.08	86.7	85.9	7.68	83.9	80.2	8.38	80.2	77.0	9.13	76.5	75.8	10.01
	85	67	97.8	80.4	6.67	95.5	79.2	7.19	92.9	77.8	7.78	89.9	76.3	8.47	86.5	74.5	9.25	82.7	72.5	10.13
	85	72	105.6	69.2	6.81	103.2	68.1	7.32	100.4	66.8	7.92	97.4	65.3	8.60	93.8	63.8	9.39	89.7	81.7	10.25
3500	75	62	82.0	74.1	6.58	89.7	72.8	7.10	87.1	71.3	7.70	84.1	69.6	8.38	80.8	67.8	9.16	77.0	65.7	10.03
	75	67	99.3	61.4	6.71	96.9	60.2	7.23	94.1	58.8	7.82	90.9	57.2	8.50	87.3	55.4	9.28	83.3	53.5	10.15
	75	72	109.9	48.9	6.90	107.4	47.9	7.41	104.2	46.6	8.00	100.6	45.2	8.68	96.4	43.6	9.45	91.6	41.8	10.32
	80	62	93.1	85.5	6.60	91.3	83.0	7.12	88.7	81.5	7.72	85.6	79.7	8.40	82.3	77.7	9.18	78.5	75.3	10.08
	80	67	100.0	73.9	6.72	97.6	72.7	7.23	94.9	71.2	7.83	91.8	69.6	8.51	88.3	67.9	9.29	84.3	65.9	10.17
	80	72	107.7	61.1	6.85	105.2	60.0	7.37	102.2	58.6	7.96	98.9	57.1	8.64	95.1	55.4	9.42	90.8	53.5	10.30
	85	62	94.2	93.4	6.82	92.2	87.4	7.11	88.4	87.5	7.71	86.0	86.0	8.40	83.2	82.3	9.19	80.1	79.3	10.08
	85	67	100.6	86.5	6.72	98.2	85.2	7.24	95.8	83.8	7.83	93.3	80.1	8.53	89.8	78.4	9.31	85.7	76.3	10.21
	85	72	108.4	73.5	6.86	106.0	72.4	7.37	103.3	71.1	7.97	99.9	69.5	8.65	96.1	87.8	9.43	91.9	85.8	10.32