

TECHNICAL SPECIFICATIONS

S5BP Series

Split System Air Conditioner

**7 1/2 and 10 Ton rated at
11.2 EER and 11.5 IEER
R-410A Refrigerant**

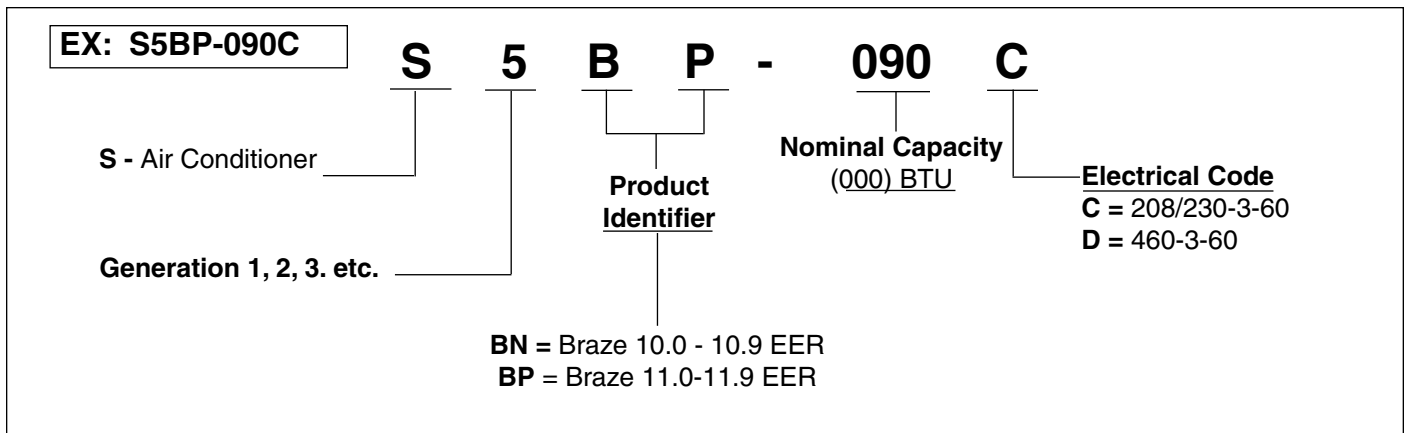
The S5BP Series of air conditioners offers exceptional performance. The unit, when combined with our air handlers, offers a line of quality, split system cooling equipment. Units are ideally sized for slab or rooftop mounting in light commercial applications.



FEATURES and BENEFITS

- **Quality Compressor:** State of the art scroll compressor is standard equipment providing single stage operation.
- **Hi/Low Pressure Switches:** Ensure long compressor life. Featuring auto reset.
- **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 to the fan motor.
- **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:** Field installed for convenience.
- **Suction Accumulator and Crankcase Heater:** Protection from liquid floodback and future compressor failures.

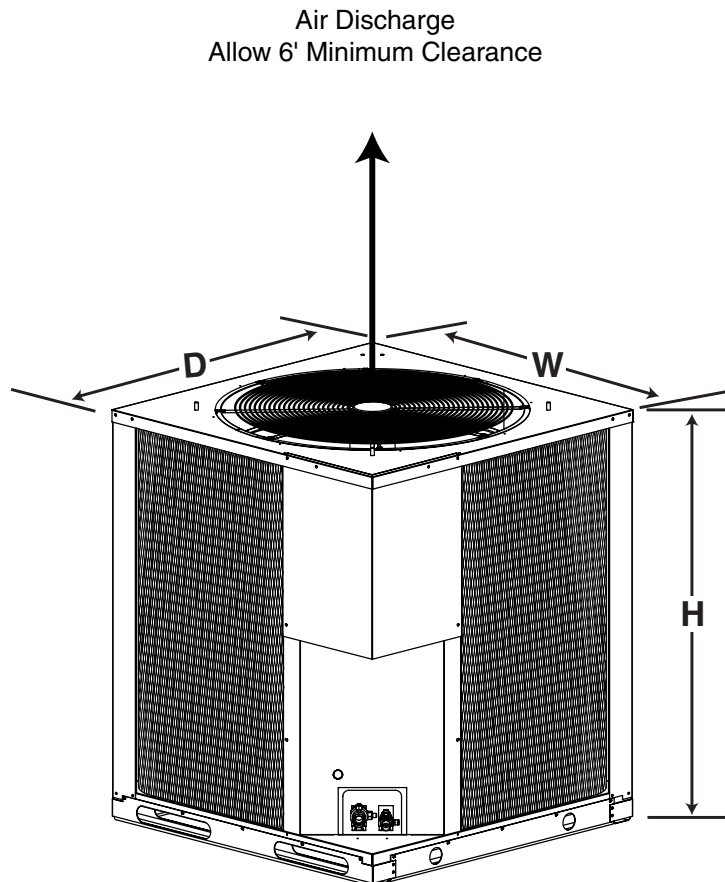
MODEL IDENTIFICATION CODES



DIMENSIONS (Inches)

AIR CONDITIONER OUTDOOR SECTION

Model Number S5BP-	Unit Weights (Lbs.)		Height -H-	Width -W-	Depth -D-	Shipping Height
	Without Packaging	Shipping Weight	All dimensions in inches			
090C	386	420	44 1/4	37 1/2	37 1/2	50
090D	386	420	44 1/4	37 1/2	37 1/2	50
120C	423	457	52 1/4	37 1/2	37 1/2	58
120D	423	457	52 1/4	37 1/2	37 1/2	58



PHYSICAL AND ELECTRICAL SPECIFICATIONS / OUTDOOR UNITS

High Efficiency — Three Phase

Model Number S5BP-	090C 208-230V	090D 460V	120C 208-230V	120D 460V
PERFORMANCE DATA				
Gross Cooling Capacity (95°F) Btuh	92,400	92,400	121,700	121,700
¹ Net Cooling Capacity - Btuh	90,000	90,000	117,000	117,000
¹ A.R.I. Rated Airflow - C.F.M.	3,000	3,000	4,000	4,000
² Cooling - Efficiency E.E.R. (Btu/Watt)	11.20	11.20	11.20	11.20
³ Cooling - Efficiency I.E.E.R.	11.50	11.50	11.50	11.50
ELECTRICAL RATINGS				
Volts / Phase / Hz.	208-230 / 3 / 60	460 / 3 / 60	208-230 / 3 / 60	460 / 3 / 60
Operating Voltage	187-253	414-506	187-253	414-506
Unit Rated Ampacity	28.3	13.9	33.4	18.4
Minimum Circuit Ampacity (MCA)	34.6	17.0	40.9	22.6
⁴ Max. Overcurrent Protection (MOP)	50	25	70	35
Compressor Data:	1 ea.	1 ea.	1 ea.	1 ea.
Compressor (Scroll)	ZP83KCE-TF5	ZP83KCE-TFD	ZP103KCE-TF5	ZP103KCE-TFD
Volts / Phase / Hz.	208-230 / 3 / 60	460 / 3 / 60	208-230 / 3 / 60	460 / 3 / 60
Rated Load Amps (RLA)	25.0	12.2	30.1	16.7
Lock Rotor Amps (LRA)	164	100	225	114
Outdoor Fan Assembly:	1 ea.	1 ea.	1 ea.	1 ea.
Volts / Phase / Hz.	208-230 / 1 / 60	460 / 1 / 60	208-230 / 1 / 60	460 / 1 / 60
Motor - HP / RPM	3/4 - 875	3/4 - 875	3/4 - 875	3/4 - 875
Motor Amps	3.3	1.7	3.3	1.7
Fan Blade - Diameter / Pitch / # Blades	30" / 22 / 3	30" / 22 / 3	30" / 26 / 3	30" / 26 / 3
RPM / CFM (Max. - Total)	850 - 7,200	850 - 7,200	850 - 8,000	850 - 8,000
PHYSICAL DATA & REFRIGERANT SPECS				
Outdoor Coil Assembly:	1 ea.	1 ea.	1 ea.	1 ea.
Area (Ft. ²)	31.94	31.94	38.33	38.33
Rows - FPI	2 - 16	2 - 16	2 - 18	2 - 18
Tube Diameter	3/8" OD	3/8" OD	3/8" OD	3/8" OD
Refrigerant Suction Line - Length / OD	0 - 75 Ft. / 1-1/8"	0 - 75 Ft. / 1-1/8"	0 - 100 Ft. / 1-3/8" ⁽⁶⁾	0 - 100 Ft. / 1-3/8" ⁽⁶⁾
	76 - 100 Ft. / 1-3/8" ⁽⁶⁾	76 - 100 Ft. / 1-3/8" ⁽⁶⁾		
Refrigerant Liquid Line - Length / OD	5/8" OD	5/8" OD	5/8" OD	5/8" OD
Refrigerant Charge	R410A	R410A	R410A	R410A
Factory Holding Charge - oz	90	90	90	90
⁵ Total System with 25' Line Set	416	416	520	520
High Pressure Switch (PSIG)	Cut Out: 650 +/- 15 Cut In: 460 +/- 15			
Loss of Charge Pressure Switch (PSIG)	Cut Out: 5 +/- 5 Cut In: 20 +/- 5			
Net Unit Weight - Lbs. (No Packaging)	386	386	423	423
Approximate Shipping Weight - Lbs.	420	420	457	457

Note: Net capacity includes indoor blower motor heat deduction. Gross capacity does not include indoor blower motor heat deduction.

¹ Certified in accordance with A.R.I. Standard 340/360 at 95° F Outdoor DB and 80° F db/67° F wb evaporator entering air at minimum external duct static pressures allowed by the standard.

² E.E.R. - Energy Efficiency Ratio. E.E.R. is determined @ 95° F Outdoor DB & 80° F DB / 67° F WB Air Indoor

³ I.E.E.R. - Integrated Energy Efficiency Ratio. Certified in accordance with A.R.I. Standard 340/360.

⁴ Delay Fuse or HACR Type Circuit Breakers can be used.

⁵ Add / Subtract 9.0 oz. of refrigerant per 5 feet change in length from original 25 Ft. lineset total system charge.

⁶ Requires a 1-3/8" to 1-1/8" reducer line to unit.

ACCESSORIES - Condensing Unit

Low Ambient Kit - 920463 — 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.

High Efficiency — Three Phase

Outdoor Unit Model Number	Indoor Unit Model Number	BTUH	EER	SCFM
S5BP-090C	B5SM-090	90,000	11.2	3000
S5BP-090D	B5SM-090	90,000	11.2	3000
S5BP-120C	B5SM-120	117,000	11.2	4000
S5BP-120D	B5SM-120	117,000	11.2	4000

See current AHRI Directory for certified combinations and ratings.

EXPANDED RATINGS - COOLING OPERATION - S5BP-090* SERIES

Single Stage Operation (One Compressor)

O.D.T			65°F			75°F			85°F			95°F			105°F			115°F		
CFM	E.D.B.	E.W.B.	T.C.	S.C.	kW	T.C.	S.C.	kW	T.C.	S.C.	kW	T.C.	S.C.	kW	T.C.	S.C.	kW	T.C.	S.C.	kW
2750	75	62	95.8	69.5	6.08	92.5	68.1	6.67	87.8	65.5	7.22	82.0	62.3	7.88	77.6	60.6	8.73	72.7	58.1	9.83
		67	103.4	55.2	6.14	100.2	54.2	6.73	95.4	52.3	7.29	89.5	49.7	7.95	85.3	47.9	8.80	80.2	45.7	9.89
		72	111.9	40.3	6.16	108.8	39.4	6.75	104.0	37.9	7.31	98.1	36.1	7.98	93.9	34.7	8.82	88.8	33.0	9.91
	80	62	94.4	80.8	6.01	90.4	77.8	6.55	85.9	74.7	7.05	80.9	72.0	7.77	75.4	69.3	8.60	69.3	66.0	9.59
		67	103.0	68.6	6.20	100.5	6.8	6.54	95.6	65.9	7.15	89.7	62.9	7.80	85.5	61.0	8.62	80.2	58.1	9.81
		72	111.5	55.4	6.30	107.4	53.7	6.64	102.9	51.7	7.23	97.9	49.3	7.87	92.4	46.9	8.67	86.3	44.2	9.85
3000	75	62	97.1	72.0	6.45	92.7	69.6	6.87	88.0	66.8	7.43	82.4	63.7	8.09	77.9	61.5	8.94	73.5	60.0	9.89
		67	104.7	57.7	6.53	100.3	56.2	6.95	95.5	53.9	7.51	90.3	51.5	8.17	85.3	49.5	9.02	81.1	47.7	9.96
		72	113.2	43.4	6.55	108.9	41.9	6.97	104.1	40.3	7.53	98.9	38.5	8.19	93.9	36.8	9.04	89.6	35.4	9.98
	80	62	95.7	83.5	6.13	91.7	81.2	6.60	87.2	78.5	7.21	82.2	76.4	7.87	76.7	73.6	8.72	70.6	69.5	9.69
		67	103.8	70.7	6.29	100.5	69.5	6.81	95.7	66.8	7.42	90.0	64.5	8.01	85.6	62.2	8.87	79.5	60.0	10.00
		72	113.1	58.2	6.39	109.1	56.3	6.92	104.6	54.2	7.53	99.5	51.8	8.22	94.0	49.1	8.97	88.0	46.3	10.06
3250	75	62	98.0	74.5	6.50	93.5	72.0	6.91	88.6	69.1	7.48	82.7	65.4	8.13	78.5	63.6	8.99	74.1	61.9	9.95
		67	105.5	60.1	6.63	101.0	58.4	7.05	96.2	56.4	7.61	90.3	53.6	8.27	86.0	51.8	9.12	81.6	49.7	10.09
		72	114.1	45.9	6.65	109.6	44.3	7.07	104.8	42.5	7.63	98.9	40.3	8.30	94.6	38.8	9.14	90.2	37.3	10.10
	80	62	96.5	86.1	6.23	92.6	84.3	6.75	88.1	81.9	7.31	83.1	78.9	7.97	77.6	75.2	8.82	71.5	71.5	9.79
		67	105.2	73.7	6.36	101.7	72.2	6.86	96.9	70.7	7.47	91.0	68.3	8.12	86.8	66.4	8.92	80.5	62.8	10.11
		72	114.3	60.9	6.46	110.2	58.9	6.96	105.7	56.7	7.57	100.7	54.2	8.20	95.2	51.3	9.03	89.1	48.1	10.15

Notes:

- 1) T.C. = Total (Net) Cooling Capacity, S.C. = Sensible Cooling Capacity, kW = Kilowatts
- 2) Expanded Ratings are based on 230 Volt - 60 Hz operation
- 3) Bolded Values indicate ARI rating point
- 4) Energy Efficiency Ratio (EER) = T.C. / kW

EXPANDED RATINGS WITH B5SM (continued)

EXPANDED RATINGS - COOLING OPERATION - S5BP-120* SERIES

O.D.T			65°F			75°F			85°F			95°F			105°F			115°F		
CFM	E.D.B.	E.W.B.	T.C.	S.C.	kW	T.C.	S.C.	kW	T.C.	S.C.	kW	T.C.	S.C.	kW	T.C.	S.C.	kW	T.C.	S.C.	kW
3750	75	62	125.6	92.2	7.94	118.4	86.9	8.71	112.6	83.6	9.50	106.5	80.3	10.25	99.9	76.8	11.25	94.2	75.4	12.20
		67	136.1	71.9	8.11	128.6	69.7	8.89	122.3	67.3	9.67	115.7	64.8	10.48	108.9	63.1	11.39	104.5	62.0	12.48
		72	147.9	43.7	8.27	140.3	43.6	8.98	134.4	43.5	9.70	127.8	43.4	10.55	120.6	43.3	11.55	115.2	43.2	12.75
	80	62	123.5	109.3	7.92	118.3	106.9	8.61	112.2	104.1	9.37	105.8	101.1	10.20	99.2	96.9	11.20	93.2	92.1	12.25
		67	134.8	91.1	8.13	129.9	89.1	8.83	123.9	86.8	9.57	117.3	84.5	10.41	110.2	81.5	11.41	103.0	78.7	12.47
		72	147.6	67.5	8.34	141.0	65.8	9.04	134.4	64.5	9.80	127.7	63.9	10.70	120.9	62.9	11.65	113.1	61.1	12.70
4000	75	62	128.1	92.7	7.99	120.1	89.1	8.73	114.2	85.5	9.54	107.5	83.0	10.32	101.9	81.0	11.28	95.7	79.3	12.27
		67	140.2	72.2	8.13	133.1	70.1	8.92	126.7	68.0	9.70	119.3	66.0	10.50	113.1	64.5	11.41	106.1	63.5	12.54
		72	152.0	44.5	8.34	145.1	45.0	9.07	138.2	45.6	9.80	131.4	46.0	10.70	124.4	46.1	11.70	117.8	46.5	12.90
	80	62	123.3	110.6	8.09	118.9	107.8	8.72	113.3	105.3	9.45	107.1	101.5	10.30	100.5	97.2	11.31	93.4	92.9	12.41
		67	136.5	94.0	8.26	130.8	92.2	8.90	124.8	89.9	9.65	117.4	86.4	10.48	110.7	84.2	11.51	103.2	81.3	12.66
		72	148.8	69.9	8.44	141.8	69.2	9.12	135.1	68.5	9.90	128.4	67.4	10.78	121.7	66.6	11.75	113.8	66.0	12.85
4250	75	62	129.9	93.7	8.12	123.6	91.6	8.81	117.5	89.6	9.59	111.4	87.1	10.38	105.5	85.7	11.31	100.0	84.0	12.42
		67	144.7	73.8	8.33	138.9	71.8	9.04	132.4	70.5	9.85	125.3	69.0	10.65	119.0	68.0	11.60	110.3	66.9	12.70
		72	157.1	46.9	8.52	150.3	47.8	9.18	144.1	48.5	9.95	136.7	48.9	10.85	129.9	49.1	11.83	121.7	49.3	12.97
	80	62	124.3	111.9	8.19	119.3	108.6	8.82	113.7	105.9	9.57	107.5	102.2	10.43	100.8	97.7	11.42	93.9	93.5	12.55
		67	137.3	96.8	8.36	131.5	93.4	9.00	125.5	91.6	9.75	118.9	89.2	10.61	111.8	85.5	11.61	103.5	84.0	12.77
		72	150.1	76.6	8.55	142.6	75.6	9.20	135.8	74.7	10.00	129.0	73.5	10.86	122.3	72.2	11.86	114.9	70.1	13.04

Notes:

- 1) T.C. = Total (Net) Cooling Capacity, S.C. = Sensible Cooling Capacity, kW = Kilowatts
- 2) Expanded Ratings are based on 230 Volt - 60 Hz operation
- 3) Bold values indicate certified ARI rating point.
- 4) Energy Efficiency Ratio (EER) = T.C. / kW

†Required POE Oil Charge for S5 and T5 Commercial Splits:

Lineset Length (ft): -090 Units	0 - 25' None	26' - 75' 3 oz.	76' - 125' 4 oz.	>125' 1 oz. / 50ft
Lineset Length (ft): -120 Units	0 - 25' None	26' - 85' None	86' - 130' 1 oz.	>130' 1 oz. / 45ft

†Accounts for oil charge required to meet compressor requirements only. Additional oil may be required due to line-set configuration to account for bends and riser traps.

*For computation of the oil charge required, the lineset length is measured in "Actual" feet.



GENERAL TERMS OF LIMITED WARRANTY

Nortek Global HVAC LLC will furnish a replacement for any part of this product which fails in normal use and service within the terms and conditions of the warranty.

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

Before purchasing this appliance, read important 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 (EE/2015)