

Q5SN Series

7.5 and 10 Ton Packaged Electric Heat Pump Units

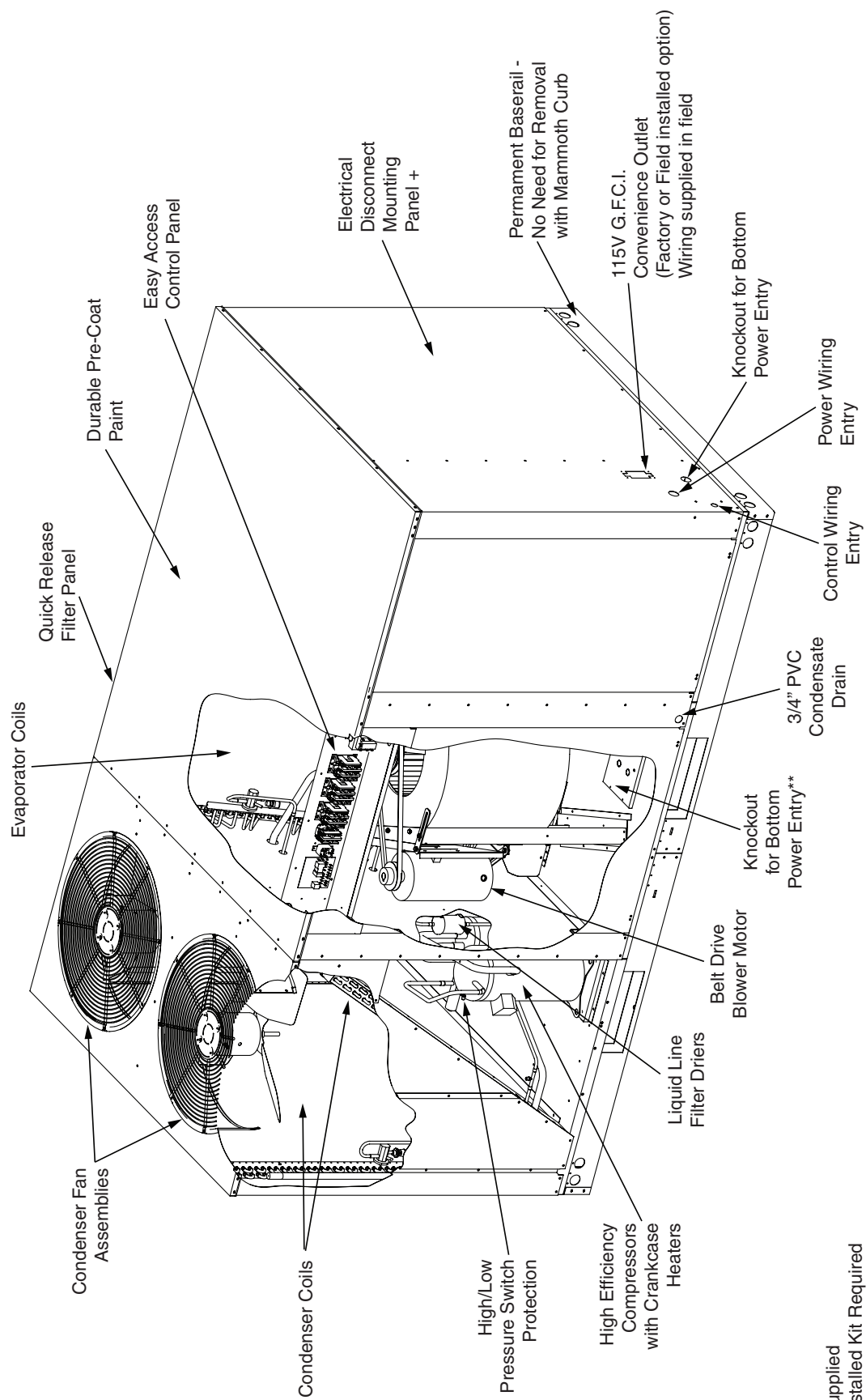
Commercial Systems Meet or Exceed ASHRAE 90.1

These 7½ and 10 ton units are designed specifically for retrofit applications and compatibility with most standard footprints. They take less time to install and retrofit, making the contractor's job more profitable. 7½ and 10 ton units offer flexibility in the replacement market by utilizing a database of major manufacturer's unit footprints and offers roof curb transitions to meet virtually any configuration. This unit is compliant with the 2001 requirements of ASHRAE 90.1.



FEATURES AND BENEFITS

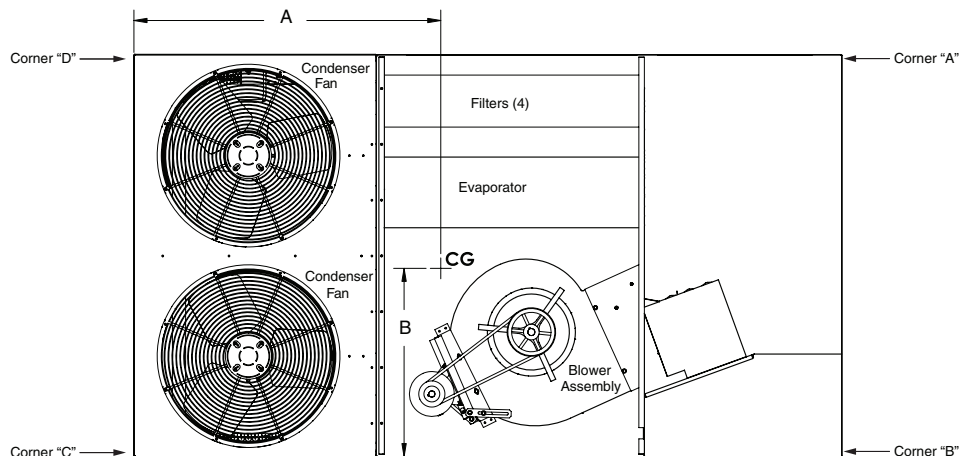
- **Convertible Air Delivery**
Easily converts to horizontal airflow with kit.
- **Compatibility**
Fits most standard rooftop applications — can be easily adapted for exceptions. Footprint database available for cross-reference.
- **Mesh Hail Guard**
Will never rust and protects the coil from hail.
- **Fully Insulated Bottom Pan**
Helps ensure quiet operation and prevents condensation.
- **Quick-Release Filter Access Panels**
Requires no special servicing tools.
- **20-Gauge Precoated Paint**
Promotes corrosion resistance and long life.
- **Two-Stage Cooling**
Offers cooling ranges from 45,000/90,000 to 57,000/115,000 Btu/h. Dual refrigeration circuits.
- **Permanent Baserail System**
Designed for full perimeter support of unit in slab mount applications.
- **For Easy Service**
Hi/low service ports allow quick access without disrupting operation.
- **Hi/low pressure switches**
Ensure long compressor life. Proven, industry standard components for service and availability.
- **Suction Accumulator**
protection from liquid flood back and future compressor failures.
- **Time / Temperature Defrost**
a reliable, industry standard control offers various time settings to meet any type climate.
- **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.
- **Commercial Warranty**
1 year limited parts
5 year compressor



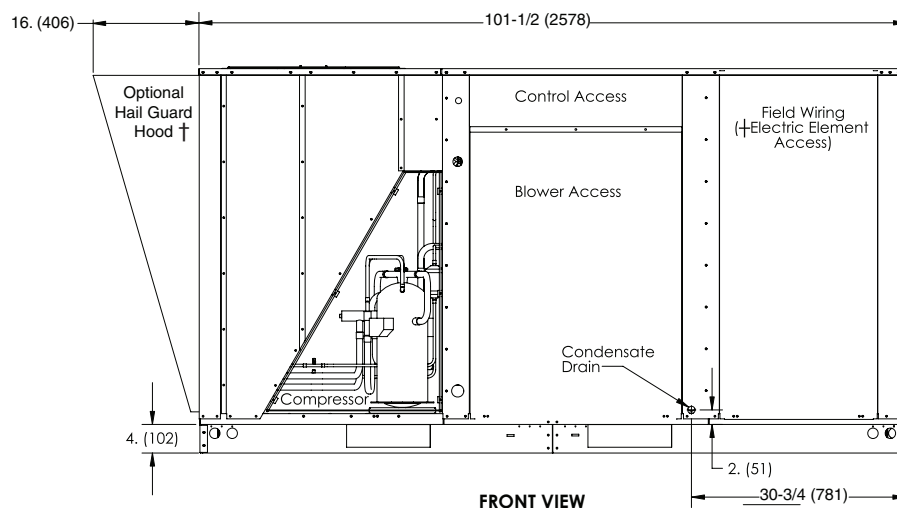
+ Field Supplied
 ** Field Installed Kit Required

Q5SN-090 AND 120 SERIES – PHYSICAL DATA

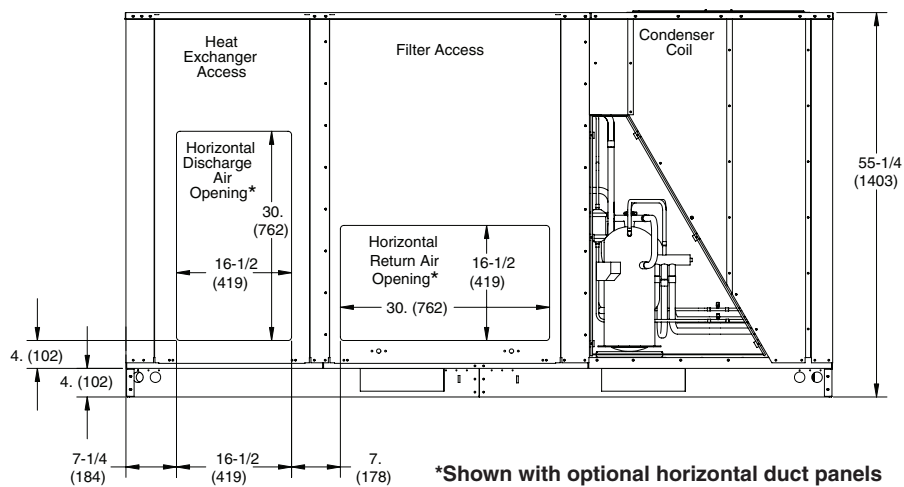
Dimensions shown in inches (mm)



TOP VIEW



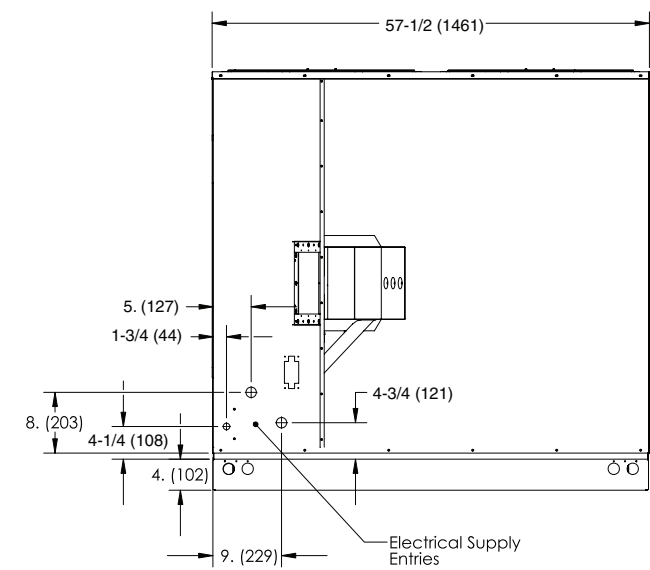
FRONT VIEW



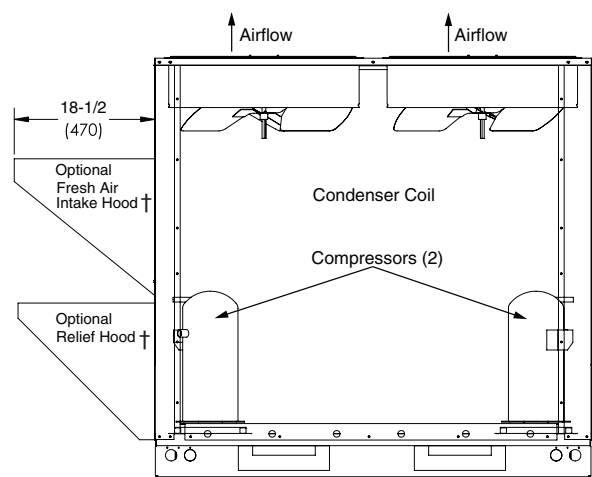
*Shown with optional horizontal duct panels
† Field Installed Kit

REAR VIEW

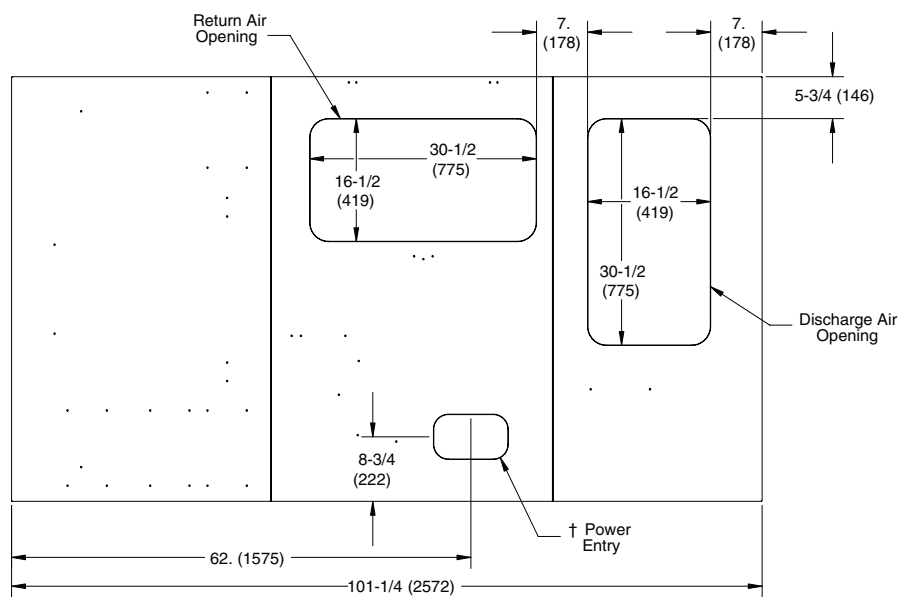
Q5SN-090 AND 120 SERIES – PHYSICAL DATA continued
Dimensions shown in inches (mm)



HEAT EXCHANGER END



CONDENSER END



BOTTOM PAN TOP VIEW

Model No.	Unit Weight ‡		Shipping Weight		Center of Gravity Inches (mm)		Corner Weights								Unit Height	
	Lbs.	Kg.	Lbs.	Kg.	A	B	A		B		C		D		without Baserails	with Baserails
Q5SN-090(C,D)	1065	484	1205	548	45 (1143)	27 (686)	218	99	255	116	320	145	273	124	51 (1295)	55-1/4 (1409)
Q5SN-120(C,D)	1130	514	1270	577	44 (1118)	27 (686)	226	103	264	120	345	157	295	134		

‡ Unit weight without packaging or field installed accessories.
 † Field Installed Kit

SPECIFICATIONS AND ELECTRICAL DATA

Model Q5SN-	090C	090D	120C	120D
Performance Data				
Gross Cooling Capacity (High) - BTUH	94,000	94,000	120,800	120,800
¹ Net Cooling Capacity (High) - BTUH	90,000	90,000	115,000	115,000
¹ Net Cooling Capacity (Low) - BTUH	46,800	46,800	59,800	59,800
A.R.I. Rated Airflow - CFM	3,375	3,375	4,000	4,000
² E.E.R. - Cooling Efficiency (Btu/Watt)	10.50	10.50	10.10	10.10
³ I.P.L.V.	10.80	10.80	10.20	10.20
Gross Heating Capacity (Low) - BTUH	85,000	85,000	106,000	106,000
Gross Heating Capacity (High) - BTUH	45,000	45,000	57,000	57,000
A.R.I. Rated Airflow - CFM	3,375	3,375	4,000	4,000
⁴ C.O.P. - Heating Efficiency	3.2	3.2	3.2	3.2
Electrical Rating - 60 Hz.	w/ Factory Standard Blower Drive			
Phase	3	3	3	3
Operating Voltage	187-253	414-506	187-253	414-506
Maximum Rated Ampacity	37.4	18.8	45.2	21.9
Minimum Circuit Ampacity (MCA)	41.0	20.6	49.5	24.0
Max. Overcurrent Protection (MOP)	50	25	60	30
Electrical Rating - 60 Hz.	w/ Factory High Static Blower Drive			
Phase	3	3	3	3
Operating Voltage	187-253	414-506	187-253	414-506
Maximum Rated Ampacity	39.4	19.7	48.1	23.4
Minimum Circuit Ampacity (MCA)	43.0	21.5	52.4	25.5
Max. Overcurrent Protection (MOP)	50	25	60	30
Compressor Data	2 ea.	2 ea.	2 ea.	2 ea.
Compressors (Scrolls)	ZR45KC	ZR45KC	ZR57KC	ZR57KC
Volts	208/230	460	208/230	460
Rated Load Amps	14.3	7.2	17.2	8.3
Lock Rotor Amps	91	46	124	62
Indoor Blower - Belt Drive				
(Qty.) - Wheel Diameter	(1) - 15 x 15	(1) - 15 x 15	(1) - 15 x 15	(1) - 15 x 15
Standard Blower Drive Motor - HP / RPM	1.5 / 1725	1.5 / 1725	2 / 1725	2 / 1725
Standard Blower Drive Motor - Amps	4.2	2.0	6.2	2.9
Blower RPM Range	665 - 840		695 - 948	
High Static Blower Drive Motor - HP / RPM	2 / 1725	2 / 1725	3 / 1725	3 / 1725
High Static Blower Drive Motor - Amps	6.2	2.9	9.1	4.4
Blower RPM Range	908 - 1100		944 - 1160	
Outdoor Fan Data	2 ea.	2 ea.	2 ea.	2 ea.
Motor - HP / RPM	1/3 - 1075	1/3 - 1075	1/3 - 1075	1/3 - 1075
Motor Amps (ea.)	2.3	1.2	2.3	1.2
Fan Diameter / CFM	24" / 8200	24" / 8200	24" / 8200	24" / 8200
Refrigerant Charge - oz. (R-22)				
Stage 1 Circuit	200	200	230	230
Stage 2 Circuit	200	200	230	230
High Pressure Switch (PSIG)	Stage 1 - 425 +/- 10 Auto Reset			
	Stage 2 - 425 +/- 10 Manual Reset			
Loss of Charge Switch (PSIG)	Cut Out: 5 +/- 5			
	Cut In: 20 +/- 5			
Freeze Protection Thermostats	Opens (oF): 28 +/- 5			
	Closes (oF): 57 +/- 6			
Filters				
Style	Disposable - 2" Pleated			
Size (Qty.)	16" x 25" x 2" (4)			

Footnotes:

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 pressure.

² E.E.R. - Energy Efficiency Ratio

³ I.P.L.V. - Integrated Part Load Value

⁴ C.O.P. - Coefficient of Performance

Table 6. Specifications and Electrical Data

Q5SN-090C COOLING (With One Compressor Operating)

CFM	O.D.T		65°F			75°F			85°F			95°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.
3000	75	62	48.7	23.6	3.70	47.1	23.9	3.98	45.4	23.8	4.29	43.6	23.9	4.65
	75	67	48.7	25.0	3.70	47.1	24.7	3.98	45.4	24.3	4.29	43.6	23.9	4.65
	75	72	48.7	33.8	3.70	47.1	33.2	3.97	45.4	32.5	4.28	43.6	31.8	4.64
	80	62	48.7	28.4	3.70	47.1	28.3	3.98	45.4	28.2	4.30	43.5	28.3	4.66
	80	67	48.7	20.6	3.70	47.1	21.3	3.98	45.4	22.1	4.29	43.6	22.4	4.65
	80	72	48.7	26.0	3.70	47.1	25.6	3.97	45.4	25.2	4.29	43.6	24.8	4.65
	85	62	48.7	33.8	3.70	47.1	33.7	3.98	45.4	33.4	4.30	43.5	33.0	4.66
	85	67	48.7	25.0	3.70	47.1	25.2	3.98	45.4	25.3	4.30	43.5	25.3	4.66
	85	72	48.7	20.1	3.70	47.1	19.5	3.98	45.4	18.9	4.29	43.6	18.2	4.65
3375	75	62	49.6	28.1	3.72	47.9	28.2	4.00	46.2	28.3	4.31	44.3	28.4	4.67
	75	67	49.6	27.0	3.72	48.0	26.7	4.00	46.2	26.3	4.31	44.3	25.9	4.67
	75	72	49.6	38.5	3.72	48.0	35.3	3.99	46.2	34.6	4.30	44.4	33.9	4.66
	80	62	49.6	33.7	3.72	47.9	33.3	4.00	46.2	33.2	4.32	44.3	32.9	4.68
	80	67	49.6	25.7	3.72	48.0	26.2	4.00	46.2	26.6	4.31	44.3	27.9	4.67
	80	72	49.6	28.0	3.72	48.0	27.6	4.00	46.2	27.2	4.31	44.4	26.8	4.67
	85	62	49.6	37.1	3.73	47.9	36.6	4.00	46.1	36.2	4.32	44.3	35.6	4.68
	85	67	49.6	30.5	3.72	47.9	30.4	4.00	46.2	30.2	4.32	44.3	29.9	4.68
	85	72	49.6	22.5	3.72	48.0	21.9	4.00	46.2	21.6	4.31	44.3	21.7	4.67
3750	75	62	50.3	32.2	3.74	48.6	32.5	4.02	46.8	32.5	4.33	44.9	33.1	4.69
	75	67	50.4	29.0	3.74	48.7	28.6	4.01	46.9	28.2	4.32	45.0	27.8	4.68
	75	72	50.4	38.1	3.74	48.7	37.4	4.01	46.9	36.7	4.32	45.0	35.9	4.67
	80	62	50.3	38.4	3.74	48.6	38.3	4.02	46.8	37.7	4.33	44.9	37.3	4.70
	80	67	50.3	30.3	3.74	48.6	31.0	4.01	46.8	31.7	4.33	44.9	32.3	4.69
	80	72	50.4	30.0	3.74	48.7	29.6	4.01	46.9	29.2	4.32	45.0	28.7	4.68
	85	62	50.3	40.0	3.74	48.6	39.6	4.02	46.8	38.8	4.34	44.9	38.0	4.70
	85	67	50.3	36.1	3.74	48.6	36.1	4.02	46.8	35.6	4.33	44.9	35.3	4.69
	85	72	50.3	26.0	3.74	48.7	26.2	4.01	46.8	26.6	4.33	44.9	26.5	4.69

Q5SN-090C COOLING (With Two Compressors Operating)

CFM	O.D.T		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.
3000	75	62	92.2	67.9	7.69	88.6	66.4	8.41	84.9	64.9	9.24	80.9	63.3	10.19
	75	67	92.3	67.9	7.68	88.7	66.4	8.40	85.0	64.9	9.22	81.0	63.3	10.16
	75	72	92.3	67.9	7.67	88.8	66.5	8.38	85.1	65.0	9.19	81.2	63.4	10.12
	80	62	92.2	67.9	7.69	88.6	67.1	8.42	84.8	67.0	9.26	80.8	65.1	10.22
	80	67	92.2	67.9	7.69	88.6	66.4	8.41	84.9	64.9	9.24	80.9	63.3	10.19
	80	72	92.3	67.9	7.68	88.7	66.4	8.39	85.0	64.9	9.22	81.0	63.3	10.16
	85	62	92.2	67.8	7.70	88.5	67.1	8.43	84.7	66.1	9.27	80.7	64.7	10.23
	85	67	92.2	67.9	7.69	88.6	66.4	8.42	84.8	64.9	9.25	80.8	63.3	10.21
	85	72	92.2	67.9	7.68	88.6	66.4	8.41	84.9	64.9	9.23	80.9	63.3	10.18
3375	75	62	93.8	72.3	7.73	90.1	70.8	8.45	86.2	69.2	9.28	82.1	67.5	10.23
	75	67	93.8	72.3	7.72	90.2	70.8	8.44	86.3	69.2	9.26	82.3	67.6	10.20
	75	72	93.9	72.3	7.71	90.2	70.8	8.42	86.4	69.3	9.23	82.4	67.7	10.16
	80	62	93.7	72.2	7.74	90.0	72.2	8.46	86.1	71.3	9.30	82.0	70.2	10.26
	80	67	93.8	72.3	7.73	90.1	70.8	8.45	86.2	69.2	9.28	82.2	67.5	10.23
	80	72	93.8	72.3	7.72	90.2	70.8	8.44	86.3	69.2	9.26	82.3	67.6	10.20
	85	62	93.7	73.2	7.74	90.0	72.1	8.47	86.1	70.9	9.31	82.0	69.4	10.28
	85	67	93.7	72.2	7.73	90.1	70.8	8.46	86.2	69.2	9.30	82.1	67.5	10.25
	85	72	93.8	72.3	7.73	90.1	70.8	8.45	86.3	69.2	9.28	82.2	67.6	10.22
3750	75	62	95.1	76.5	7.77	91.3	75.0	8.49	87.4	73.4	9.32	83.2	71.6	10.27
	75	67	95.1	76.5	7.75	91.4	75.0	8.47	87.5	73.4	9.30	83.4	71.7	10.23
	75	72	95.2	76.6	7.74	91.5	75.0	8.46	87.6	73.4	9.27	83.5	71.8	10.20
	80	62	95.0	77.3	7.77	91.3	76.5	8.50	87.3	76.2	9.34	83.1	74.3	10.29
	80	67	95.1	76.5	7.76	91.3	75.0	8.49	87.4	73.4	9.32	83.2	71.6	10.26
	80	72	95.1	76.5	7.75	91.4	75.0	8.47	87.5	73.4	9.29	83.4	71.7	10.23
	85	62	95.0	78.5	7.78	91.2	77.2	8.51	87.2	75.6	9.35	83.0	73.9	10.31
	85	67	95.1	76.5	7.77	91.3	75.0	8.50	87.3	73.3	9.33	83.2	71.6	10.29
	85	72	95.1	76.5	7.76	91.3	75.0	8.48	87.4	73.4	9.31	83.3	71.6	10.26

T.C.- Total net cooling capacity (mbtuh).

S.C.- Sensible cooling capacity (mbtuh).

Q5SN-120C COOLING (With One Compressor Operating)

O.D.T			65°F			75°F			85°F			95°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.
3600	75	62	56.1	28.9	5.80	54.5	29.2	6.10	52.4	28.9	6.45	50.1	28.9	6.85
	75	67	60.7	21.8	5.89	59.0	21.4	6.18	56.8	20.9	6.53	54.4	20.3	6.94
	75	72	68.0	24.1	6.03	66.2	23.5	6.32	64.1	22.8	6.67	61.5	22.0	7.08
	80	62	56.7	42.3	5.79	55.1	42.1	6.09	53.1	41.7	6.44	50.8	41.4	6.85
	80	67	61.3	23.9	5.88	59.6	24.8	6.18	57.6	25.7	6.53	55.2	26.0	6.94
	80	72	66.1	21.7	5.97	64.4	21.3	6.27	62.2	20.9	6.61	59.6	20.3	7.02
	85	62	58.0	55.1	5.80	56.6	54.5	6.10	54.9	53.4	6.46	53.0	51.9	6.88
	85	67	61.9	37.2	5.88	60.3	37.5	6.17	58.1	37.5	6.52	55.7	37.4	6.93
	85	72	66.8	21.2	5.97	65.2	20.5	6.26	63.0	19.7	6.61	60.4	18.9	7.02
4000	75	62	57.3	33.9	5.82	55.6	34.0	6.12	53.5	33.9	6.47	51.2	33.8	6.87
	75	67	61.7	23.0	5.91	60.0	22.6	6.20	57.8	22.1	6.55	55.4	21.5	6.96
	75	72	69.0	28.1	6.05	67.3	24.2	6.34	65.0	23.4	6.69	62.4	22.6	7.10
	80	62	58.0	48.8	5.82	56.4	48.3	6.12	54.4	47.9	6.47	52.1	47.1	6.88
	80	67	62.5	29.8	5.91	60.8	30.4	6.20	58.7	30.9	6.55	56.2	32.4	6.96
	80	72	67.1	22.9	5.99	65.5	22.5	6.29	63.2	22.0	6.63	60.6	21.5	7.04
	85	62	60.1	58.4	5.84	58.7	57.4	6.14	57.0	56.2	6.50	55.0	54.4	6.92
	85	67	63.1	44.3	5.90	61.5	44.3	6.19	59.4	44.0	6.55	56.9	43.5	6.95
	85	72	68.0	23.7	5.99	66.3	23.0	6.28	64.1	22.6	6.63	61.5	22.9	7.05
4400	75	62	58.2	38.3	5.84	56.5	38.6	6.13	54.4	38.4	6.49	52.0	38.9	6.89
	75	67	62.6	24.2	5.92	60.9	23.8	6.22	58.7	23.2	6.57	56.1	22.6	6.97
	75	72	69.8	25.3	6.06	68.0	24.7	6.35	65.7	24.0	6.70	62.9	23.2	7.11
	80	62	59.2	54.5	5.84	57.6	54.2	6.14	55.6	53.1	6.49	53.2	52.2	6.90
	80	67	63.5	35.0	5.92	61.8	36.0	6.22	59.6	36.8	6.57	57.1	37.5	6.97
	80	72	68.1	24.1	6.01	66.4	23.7	6.30	64.1	23.2	6.65	61.5	22.6	7.06
	85	62	62.0	61.3	5.88	60.5	60.3	6.18	58.7	58.5	6.53	56.6	56.5	6.95
	85	67	64.3	51.7	5.92	62.6	51.8	6.22	60.5	51.1	6.57	58.0	50.6	6.98
	85	72	69.0	27.8	6.01	67.3	28.2	6.30	65.0	28.8	6.65	62.4	28.8	7.06

Q5SN-120C COOLING (With Two Compressors Operating)

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.
3600	75	62	108.7	86.0	10.48	104.3	83.7	11.31	99.6	81.4	12.26	93.8	78.5	13.34
	75	67	117.6	69.4	10.67	112.8	67.3	11.49	107.7	65.0	12.43	101.1	62.1	13.55
	75	72	131.3	52.1	10.95	126.1	50.2	11.78	120.2	48.2	12.75	112.8	45.6	13.92
	80	62	110.1	102.2	10.50	105.6	100.0	11.32	101.0	97.9	12.26	95.5	93.5	13.40
	80	67	118.9	85.7	10.68	114.1	83.6	11.50	109.0	81.3	12.45	102.5	78.3	13.60
	80	72	128.2	68.9	10.87	123.1	66.9	11.70	117.4	64.6	12.66	110.3	61.8	13.82
	85	62	114.0	112.9	10.56	110.2	109.4	11.40	106.1	105.5	12.36	100.9	100.5	13.51
	85	67	119.9	102.1	10.68	115.2	99.9	11.51	110.2	97.5	12.46	103.7	94.4	13.63
	85	72	129.4	85.2	10.88	124.4	83.1	11.71	118.8	80.8	12.68	111.7	77.9	13.85
4000	75	62	110.8	90.6	10.53	106.3	88.3	11.35	101.4	85.9	12.28	95.4	82.8	13.41
	75	67	119.6	72.4	10.71	114.7	70.2	11.53	109.4	67.9	12.47	102.6	64.8	13.63
	75	72	133.1	53.4	10.99	127.8	51.6	11.82	121.7	49.4	12.79	113.8	46.8	13.95
	80	62	112.6	108.0	10.55	108.2	105.8	11.37	103.3	103.0	12.31	98.1	98.1	13.46
	80	67	121.1	90.4	10.72	116.0	88.0	11.49	110.9	85.8	12.49	104.0	82.6	13.66
	80	72	130.2	71.8	10.91	125.0	69.8	11.74	119.2	67.4	12.71	111.8	64.5	13.87
	85	62	118.0	117.1	10.64	114.0	113.4	11.48	109.7	109.3	12.45	104.1	103.8	13.65
	85	67	122.3	108.3	10.73	117.5	106.1	11.56	112.4	103.5	12.51	105.7	100.1	13.67
	85	72	131.6	89.8	10.92	126.5	87.7	11.76	120.6	85.3	12.72	113.3	82.3	13.90
4400	75	62	112.7	95.2	10.57	108.0	92.8	11.39	103.0	90.2	12.32	96.8	87.0	13.45
	75	67	121.2	75.2	10.74	116.2	73.0	11.57	110.8	70.6	12.51	103.8	67.5	13.67
	75	72	134.3	54.7	11.02	128.9	52.8	11.85	122.5	50.6	12.81	114.5	48.0	13.97
	80	62	115.2	112.8	10.60	110.5	110.0	11.43	106.2	106.2	12.38	100.7	100.7	13.52
	80	67	122.8	94.8	10.76	117.8	92.6	11.58	112.5	90.2	12.53	105.5	87.0	13.68
	80	72	131.9	74.6	10.95	126.6	72.5	11.78	120.6	70.1	12.74	113.1	67.1	13.91
	85	62	121.5	121.0	10.71	117.3	117.0	11.56	112.8	112.6	12.52	107.0	106.8	13.71
	85	67	124.4	114.3	10.78	119.6	111.8	11.61	114.3	109.0	12.56	107.7	104.9	13.73
	85	72	133.4	94.2	10.96	128.2	92.1	11.80	122.2	89.6	12.77	114.8	86.6	13.94

T.C.- Total net cooling capacity (mbtuh).

S.C.- Sensible cooling capacity (mbtuh).

EXPANDED HEATING PERFORMANCE

Q5SN - 090 (*) (with two compressors operating)

OUTDOOR TEMPERATURE (Deg. F)																			
CFM	Indoor T. Deg.F	10			17			20			30			40			47		
		MBH	COP	kW	MBH	COP	kW	MBH	COP	kW	MBH	COP	kW	MBH	COP	kW	MBH	COP	kW
3000	60	37.9	1.83	6.08	46.8	2.16	6.34	50.6	2.30	6.45	63.4	2.72	6.83	76.2	3.10	7.21	85.1	3.34	7.47
	70	36.7	1.60	6.73	45.6	1.92	6.98	49.4	2.04	7.09	62.1	2.45	7.44	74.8	2.82	7.79	83.7	3.05	8.04
	80	36.3	1.44	7.41	45.0	1.72	7.66	48.8	1.84	7.77	61.3	2.21	8.13	73.8	2.55	8.49	82.5	2.77	8.74
3375	60	38.6	1.88	6.01	47.7	2.24	6.25	51.5	2.38	6.35	64.5	2.83	6.69	77.5	3.23	7.02	86.6	3.50	7.26
	70	37.5	1.66	6.63	46.5	1.99	6.85	50.3	2.13	6.94	63.2	2.55	7.26	76.0	2.94	7.57	85.0	3.2	7.79
	80	36.9	1.48	7.32	45.8	1.78	7.53	49.6	1.91	7.62	62.2	2.30	7.93	74.9	2.67	8.23	83.8	2.91	8.44
3750	60	38.9	1.90	6.00	48.1	2.27	6.22	52.1	2.42	6.32	65.3	2.89	6.63	78.5	3.31	6.95	87.7	3.59	7.17
	70	38.4	1.69	6.65	47.4	2.03	6.84	51.3	2.17	6.92	64.2	2.62	7.19	77.1	3.03	7.47	86.1	3.30	7.66
	80	37.6	1.51	7.32	46.6	1.82	7.49	50.4	1.95	7.57	63.2	2.37	7.82	76.0	2.76	8.07	84.9	3.02	8.25

Q5SN - 120 (*) (with two compressors operating)

OUTDOOR TEMPERATURE (Deg. F)																			
CFM	Indoor T. Deg.F	10			17			20			30			40			47		
		MBH	COP	kW	MBH	COP	kW	MBH	COP	kW	MBH	COP	kW	MBH	COP	kW	MBH	COP	kW
3600	60	51.7	1.86	8.17	62.2	2.17	8.41	66.7	2.30	8.51	81.6	2.70	8.86	96.5	3.08	9.20	107.0	3.32	9.44
	70	50.3	1.61	9.14	60.8	1.91	9.34	65.2	2.03	9.43	80.2	2.42	9.71	95.1	2.79	10.00	105.5	3.03	10.20
	80	50.0	1.45	10.14	60.3	1.71	10.33	64.7	1.82	10.41	79.4	2.18	10.67	94.2	2.52	10.94	104.5	2.75	11.13
4000	60	52.7	1.93	7.99	63.3	2.26	8.20	67.8	2.40	8.29	82.9	2.83	8.59	98.0	3.23	8.89	108.6	3.50	9.10
	70	51.4	1.69	8.89	61.9	2.00	9.07	66.4	2.13	9.14	81.4	2.55	9.38	96.5	2.94	9.63	107.0	3.2	9.80
	80	50.7	1.50	9.91	61.2	1.78	10.05	65.6	1.90	10.11	80.5	2.29	10.31	95.4	2.66	10.51	105.9	2.92	10.65
4400	60	53.0	1.96	7.91	63.7	2.31	8.10	68.4	2.45	8.19	83.7	2.90	8.46	99.1	3.33	8.74	109.9	3.61	8.93
	70	52.5	1.74	8.85	63.0	2.06	8.99	67.6	2.19	9.04	82.6	2.62	9.24	97.7	3.04	9.43	108.2	3.32	9.56
	80	51.7	1.54	9.82	62.2	1.84	9.92	66.7	1.96	9.96	81.6	2.37	10.10	96.6	2.77	10.24	107.1	3.04	10.33

Downflow Configuration

Q5SN-090 Series Blower Performance

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	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Q5SN-090 (1.5 HP)	Fully Closed	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	CFM RPM Kw	CFM RPM Kw	CFM RPM Kw	CFM RPM Kw	CFM RPM Kw	CFM RPM Kw	CFM RPM Kw	CFM RPM Kw
	1 Turn Open																		
	2 Turns Open																		
	3 Turns Open																		
	* 4 Turns Open																		
	5 Turns Open																		
Low																			
Static																			
Drive																			
Kit																			

Model	Motor Sheave Position	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
		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	CFM RPM Kw
Q5SN-090 (2 HP)	Fully Closed											
	1 Turn Open											
	2 Turns Open											
	3 Turns Open											
	4 Turns Open											
	5 Turns Open											
High												
Static												
Drive												
Kit												

NOTES: * Denotes Factory sheave setting.
 Boldface type indicates factory recommended blower operating range.
 Values include losses for air filters, unit casing, and dry evaporator coil.
 Deduct 250 C.F.M. from values shown for units equipped with electric heat.
 Values can be approximated for 1/2 turn increments by interpolating between lines.
 See Accessory Performance Data table for additional static pressure information.

Low Static Drive Components = 1VP44 Motor Sheave, BK 95 Blower Pulley, and B-52 belt.
 High Static Drive Components = 1VP50 Motor Sheave, BK 80 Blower Pulley, and B-52 belt.

Q5SN-120 Series Blower Performance

Downflow Configuration

Model	Motor Sheave Position	External Static Pressures (Inches Water Column)																							
		0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1.00					
		CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw
Q5SN-120 (2 HP) Low Static Drive Kit	Fully Closed																								
	1 Turn Open																								
	2 Turns Open																								
	3 Turns Open	4791	820	2.14	4667	823	2.04	4490	826	1.98	4317	830	1.88	4127	833	1.79	3936	835	1.70	3722	837	1.58	3507	838	1.47
	* 4 Turns Open	4525	780	1.82	4368	783	1.76	4183	785	1.68	3975	788	1.61	3785	790	1.52	3594	792	1.44						
	5 Turns Open	4235	739.4	1.53	4034	741	1.46	3847	743	1.39	3645	745	1.32	3415	747	1.23									
	6 Turns Open	3931	694.4	1.30	3730	695.9	1.26	3506	698	1.17															
Model	Motor Sheave Position	1.0		1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9					
		CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw	CFM	RPM	Kw
Q5SN-120 (3 HP) High Static Drive Kit	Fully Closed																								
	1 Turn Open																								
	2 Turns Open																								
	3 Turns Open																								
	4 Turns Open	4724	1023	2.90	4583	1026	2.80	4368	1029	2.69	4161	1032	2.56	3954	1035	2.42	3757	1037	2.30	3559	1039	2.18			
	5 Turns Open	4397	986	2.54	4186	988	2.40	3969	990	2.29	3723	993	2.14	3476	995	1.99									
	6 Turns Open	3973	943.5	2.14	3754	946.3	2.03	3479	949	1.87															

NOTES: * Denotes Factory sheave setting.

Boldface type indicates factory recommended blower operating range.

Values include losses for air filters, unit casing, and dry evaporator coil.

Deduct 250 C.F.M. from values shown for units equipped with electric heat.

Values can be approximated for 1/2 turn increments by interpolating between lines.

See Accessory Performance Data table for additional static pressure information.

Low Static Drive Components = 1VP40 Motor Sheave, BK 75 Blower Pulley, and B-49 belt.

High Static Drive Components = 1VP50 Motor Sheave, BK 75 Blower Pulley, and B-51 belt.

Electric Heat Table

Model Number Q5SN	Nominal Electrical Supply	Voltage Range		Compressors (2) Ea.		Outdoor Motor	Blower Drive System	Indoor Motor	Single Circuit				Single Circuit			
		Min.	Max.	FLA	LRA	FLA		FLA	Min. Circuit Ampacity				Max. Circuit Ampacity			
									0 kw	9 kw	18 kw	35 kw	0 kw	9 kw	18 kw	35 kw
-090C	208-230/60/3	187	253	14.3	91	2.3	LSD	4.2	41.0	53.8	79.1	131.4	50	60	80	150
							HSD	6.2	43.0	55.8	81.1	133.4	50	60	90	150
-090D	460/60/3	414	506	7.2	46	1.2	LSD	2.0	20.6	-	40.5	65.8	25	-	45	70
							HSD	2.9	21.5	-	41.4	66.7	25	-	45	70
-120C	208-230/60/3	187	253	17.2	124	2.3	LSD	6.2	49.5	59.4	84.7	137.1	60	70	90	150
							HSD	9.1	52.4	62.3	87.6	140.0	60	70	90	150
-120D	460/60/3	414	506	8.3	61.8	1.2	LSD	2.9	24.0	-	42.8	68.1	30	-	45	70
							HSD	4.4	25.5	-	44.3	69.6	30	-	45	70

Notes: FLA = Full Load Amps; LRA = Lock Rotor Amps; LSD = Low Static Drive; HSD = High Static Drive.

Accessory Performance Data

Model No.	Air Volume (CFM)	Total Resistance (inches water column)								
		Wet Evaporator Coil	Downflow Economizer	Horizontal Economizer	Step Down Diffuser System				Flush Mount Diffuser System	Throw Feet*
					2 Ends Open	2 Ends Open w/1 Side Open	2 Ends Open w/2 Sides Open	Throw Feet*		
Q5SN-090	2600	0.12	0.30	0.04	0.20	0.20	0.15	24-29	0.17	19-24
	2800	0.14	0.35	0.04	0.25	0.25	0.20	25-30	0.20	20-28
	3000	0.16	0.40	0.04	0.30	0.30	0.25	27-33	0.25	21-29
	3200	0.18	0.45	0.05	0.40	0.38	0.30	28-35	0.31	22-29
	3400	0.20	0.50	0.05	0.50	0.46	0.40	30-37	0.37	22-30
	3600	0.22	0.55	0.05	0.60	0.55	0.50	32-39	0.43	23-31

Model No.	Air Volume (CFM)	Total Resistance (inches water column)								
		Wet Evaporator Coil	Downflow Economizer	Horizontal Economizer	Step Down Diffuser System				Flush Mount Diffuser System	Throw Feet*
					2 Ends Open	2 Ends Open w/1 Side Open	2 Ends Open w/2 Sides Open	Throw Feet*		
Q5SN-120	3600	0.12	0.20	0.04	0.35	0.25	0.20	25-33	0.17	22-29
	3800	0.13	0.22	0.04	0.40	0.30	0.25	27-35	0.18	22-30
	4000	0.14	0.24	0.04	0.45	0.35	0.30	29-37	0.21	24-33
	4200	0.16	0.27	0.05	0.50	0.40	0.35	32-40	0.24	26-35
	4400	0.18	0.30	0.05	0.55	0.45	0.40	34-42	0.27	28-37
	4600	0.20	0.33	0.05	0.60	0.50	0.45	36-44	0.30	30-39

Bold italicized numbers indicate factory blower setting.

* The distance the air from the grille travels from the diffuser before it slows down to 50 ft. per minute. All sides open.

ACCESSORIES

NORDYNE Part#	Description	Q5SN -090	Q5SN -120
547881	Horizontal Supply & Return Kit	X	X
547860	Hinged Roof Curb 8" High - K/D	X	X
547861	Hinged Roof Curb 14" High - K/D	X	X
547862	Hinged Roof Curb 18" High - K/D	X	X
547863	Hinged Roof Curb 24" High - K/D	X	X
547874	0-35% Manual Outside Air Damper	X	X
547865	0-35% Motorized Damper - Only (Requires 547874 Panel Kit)	X	X
547848	CO2 Sensor for economizer control - 4-9v dc	X	X
559374	Economizer - Modulating w/ Relief, Adapts Horizontal	X	X
920233	Sensor, Enthalpy, C7400A (For Economizer Differential Enthalpy Control)	X	X
547876	Power Exhaust - Prop (208/230v/3ph), Adapts Horizontal		X
547877	Power Exhaust - Prop (460v/3ph), Adapts Horizontal		X
547878	18" x 28" Supply & Return Transition		X
547879	18" x 28" Flush Mount Concentric Diffuser		X
547880	18" x 28" Step Down Concentric Diffuser		X
547869	20" Supply & Return Transition Round	X	
547870	20" Flush Mount Concentric Diffuser Round	X	
547871	20" Step Down Concentric Diffuser Round	X	
558857	Hooded Hail Guard	X	X
547892	Duct Smoke Detector Photo Elect.	X	X
547893	Duct Smoke Detector, Remote Multi-signal control SSK 451	X	X
547894	Smoke Detector Sampling Tube ST3, 2-4 ft.	X	X
547895	Smoke Detector Sampling Tube ST5, 4-8 ft.	X	X
917163	Low Ambient Kit	X	X
917454	Bottom Power Entry Kit	X	X
917423A	H5HK009Q-01 9KW, 208/240V, 3Ø	X	X
920616	H5HK009S-01	X	X
917424A	H5HK018Q-11 18KW, 208/240V, 3Ø	X	X
920615	H5HK030S-01	X	X
920614	H5HK030Q-22	X	X
917425A	H5HK035Q-22 35KW, 208/240V, 3Ø	X	X
917426A	H5HK018S-01 18KW, 480V, 3Ø	X	X
917427A	H5HK035S-01 35KW, 480V, 3Ø	X	X
917468	3 Pole Dual Circuit Adaptor Kit	X	X
920619	Thermostat-3 Stage Heat/2 Stage Cool (requires "O" & "B" terminals)	X	X

