

Q6SP Series Rev A

7.5 and 10 Ton Packaged Electric Heat Pump Units 11.0 EER

Commercial Systems Meet or Exceed ASHRAE 90.1 - 2010

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.

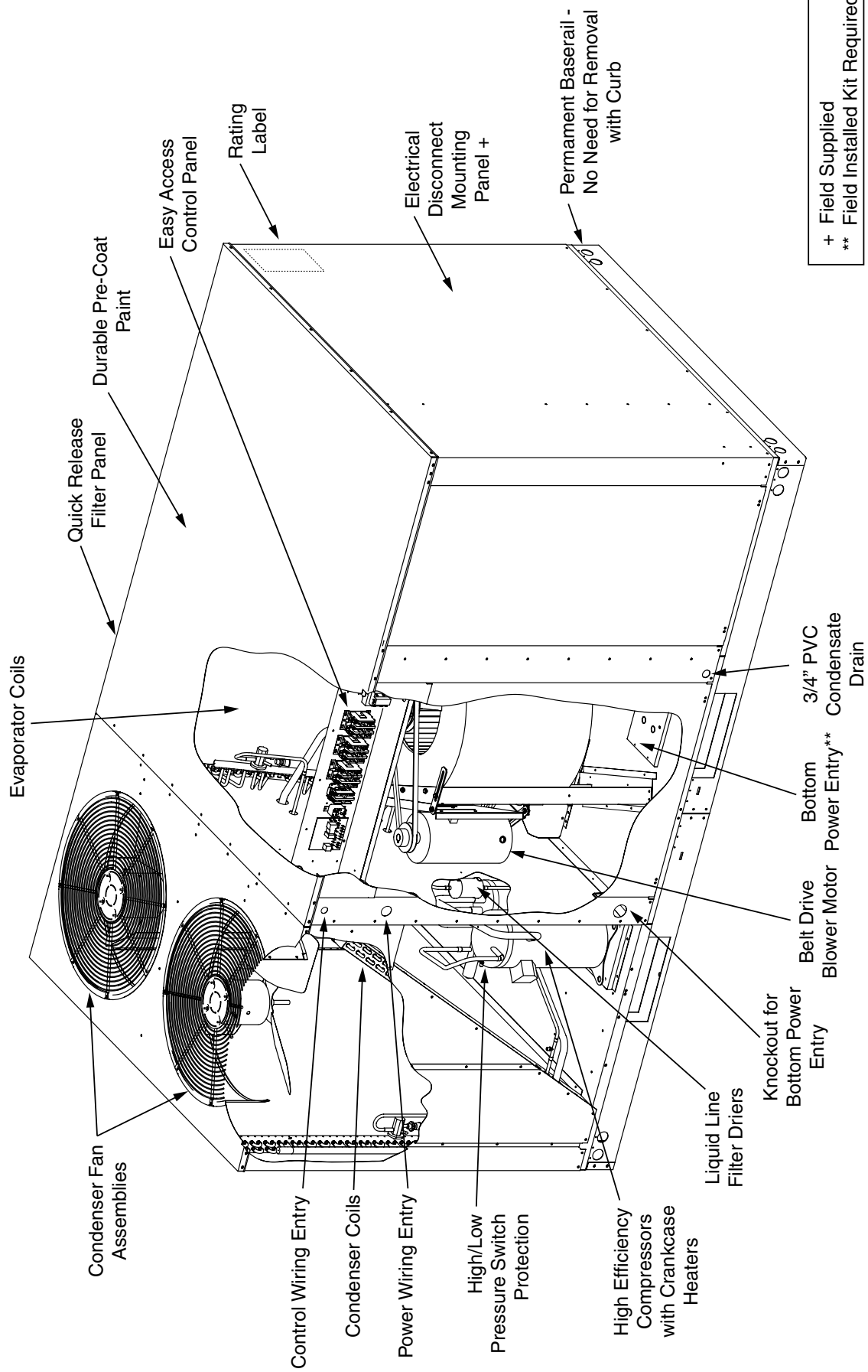


WARRANTY

- 1 year limited parts
- 5 year compressor

FEATURES and BENEFITS

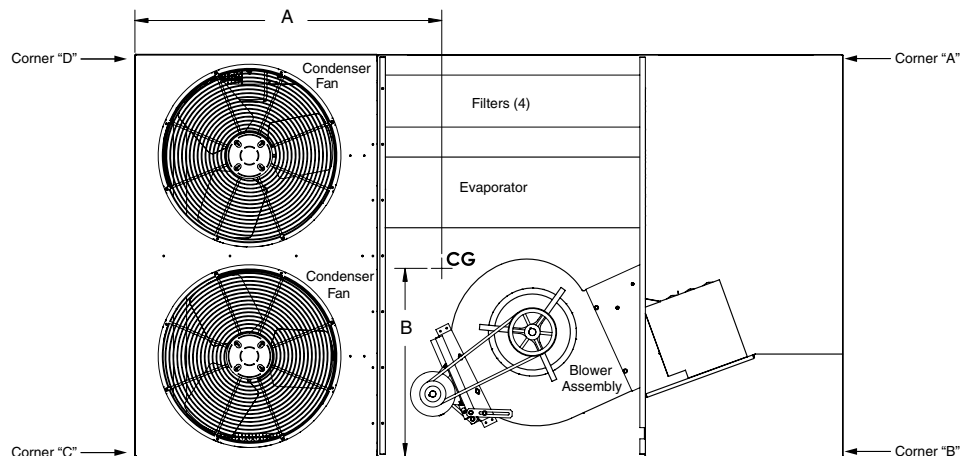
- **Quality Compressor:** State of the art scroll compressor is standard equipment.
- **7 ½ & 10 Ton Feature Two-Stage Cooling**
- **Optional Electric Heat:** Field installed 9 – 35 KW
- **Hi/Low Pressure Switches:** Ensure long compressor life. Featuring manual reset high pressure control.
- **Copper Tube / Aluminum Fin Coils:** Both indoor and outdoor coils are designed to optimize heat transfer, minimize size and cost, and increase durability and reliability.
- **Mesh Hail Guard:** A guard that will never rust and protects the units coil from being damaged.
- **For Easy Service** Hi/low service ports allow quick access without disrupting operation.
- **Time/Temperature Defrost:** A reliable, industry standard control offers various time settings to meet any type climate.
- **5 Minute Restart Time Delay:** When the units shuts down, a five minute delay keeps the unit from restarting, eliminating the highest cause for compressor failure.
- **Permanently Lubricated Condenser Fan Motor:** A heavy duty PSC motor with ball bearings for long lasting reliability and quiet operation. Requires no maintenance and is completely protected from rain and snow.
- **75 VA Transformer:** Includes 4 Amp circuit breaker to protect low voltage circuit.
- **Bi-flow Liquid Line Filter Driers:** Factory installed for convenience.
- **Suction Accumulator:** Protections from liquid flood back and future compressor failures.
- **Crankcase Heater:** Helps prevent damaging flooded starts in the compressor.
- **Freeze Protection Thermostats:** provide reliable compressor operation.
- **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.
- **Convertible Air Delivery with Kit:** Easily converts to horizontal airflow with side panel including duct flange and bottom close off panels.
- **Quick-Release Filter Access Panels** Requires no special servicing tools.
- **Fully Insulated Bottom Pan** Helps ensure quiet operation and prevents condensation.
- **Removable Top Grille Assembly:** Allows ease of service to the fan motor.
- **Full Perimeter Base rail** System Base rails have rigging holes and do not need to be removed for curb applications. Base rails have fork truck slots on three sides.
- **Durable, Attractive Cabinet:** Designed using 20 gauge 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.
- **Compatibility Fits most standard rooftop applications** — can be easily adapted for exceptions. Footprint database available for cross-reference at <http://www.rooftopsystems.com> under the "Adapter Quote" tab.



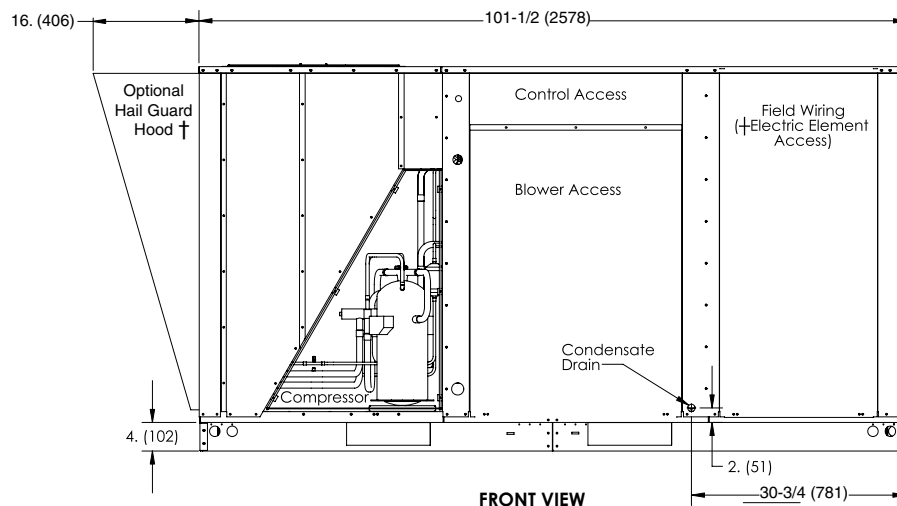
+ Field Supplied
 ** Field Installed Kit Required

Q6SP-090 AND 120 SERIES – PHYSICAL DATA

Dimensions shown in inches (mm)

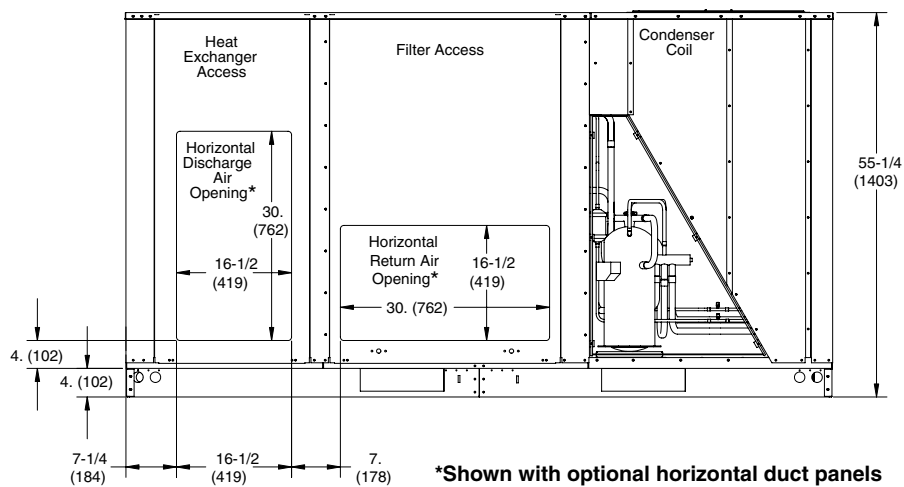


TOP VIEW



FRONT VIEW

FRONT VIEW

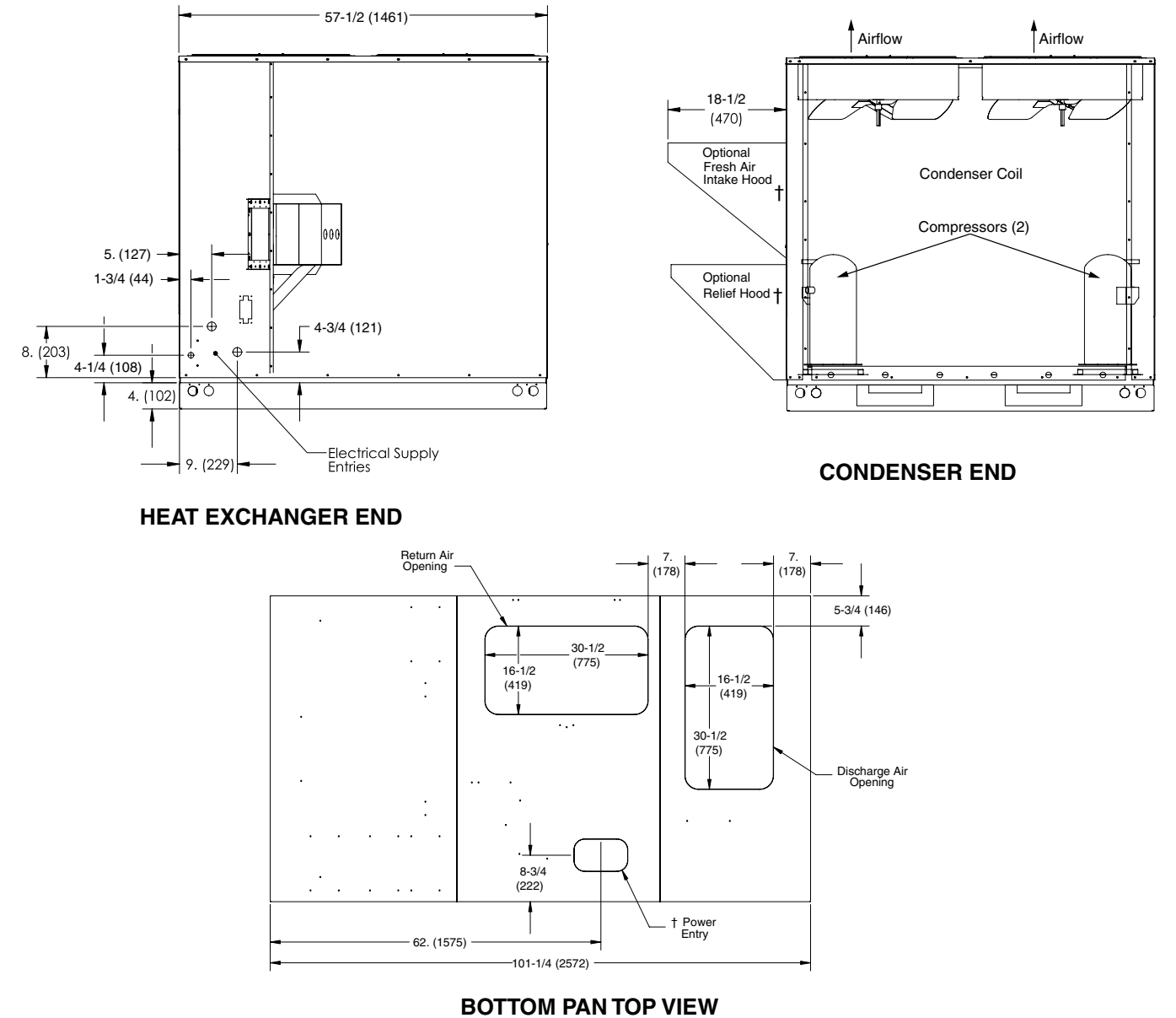


*Shown with optional horizontal duct panels
† Field Installed Kit

REAR VIEW

Q6SP-090 AND 120 SERIES – PHYSICAL DATA continued

Dimensions shown in inches (mm)



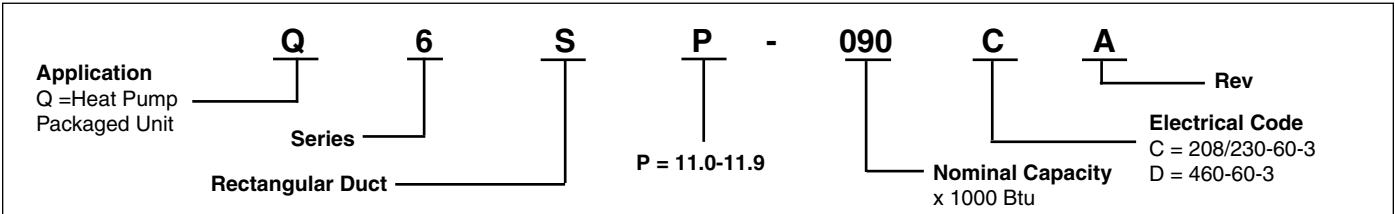
	Unit Weight ‡		Shipping Weight		Center of Gravity Inches (mm)		Corner Weights								Unit Height*	
							A		B		C		D		Vertical Duct Applications	Horizontal Duct Applications
	Lbs.	Kg.	Lbs.	Kg.	A	B	Lbs.	Kg.	Lbs.	Kg.	Lbs.	Kg.	Lbs.	Kg.		
Q6SP-090(C,D)	1065	484	1205	548	45 (1143)	27 (686)	218	99	255	116	320	145	273	124	51 (1296)	55-1/4 (1409)
Q6SP-120(C,D)	1130	514	1270	577	44 (1118)	27 (686)	226	103	264	120	345	157	295	134		

* Baserrails are not intended to be removed. Information provided is total unit height for Horizontal duct applications or height dimension added to selected roof curb height for Vertical duct applications.

‡ Unit weight without packaging or field installed accessories.

† Field Installed Kit

MODEL IDENTIFICATION CODE



SPECIFICATIONS AND ELECTRICAL DATA

Model Q6SP-	090(C/D)a	120(C/D)a
Nominal Capacity (tons)	7.5	10
Performance Data 1,2,3		
Gross Cooling Capacity (Btuh)	92,800	125,000
Net Cooling Capacity (Btuh)	90,000	120,000
E.E.R. - Cooling Efficiency (Btuh/Watt)	11.0	11.0
IEER - Part load Efficiency	12.5	11.5
Rated Heating Capacity @ 47 F (Btuh)	85,000	114,000
Rated COP @ 47 F	3.30	3.30
Rated Heating Capacity @ 17 F (Btuh)	47,000	66,000
Rated COP @ 17 F	2.25	2.25
Rated Airflow - CFM	3,000	3,850
Compressor Data		
Compressor(s) Type (quantity)	Scroll (2)	Scroll (2)
Number of refrigeration circuits	2	2
Unit Capacity Steps (%)	50/50	50/50
Crankcase Heaters	Yes	Yes
POE Oil Charge (Ea.)	42 Oz.	42 Oz.
Refrigerant Charge (R-410a)		
Stage 1 Circuit	13 lb. 4 Oz.	14 lb. 4 Oz.
Stage 2 Circuit	13 lb. 4 Oz.	14 lb. 4 Oz.
System Pressure Switches		
Manual High Pressure Switch (PSIG)	Cut Out: 650 +/- 10	
Loss of Charge Switch (PSIG)	Cut Out: 5 +/- 5, Cut In: 20 +/- 5	
Outdoor Fan Data		
Fan Diameter / Total Nominal CFM	24" / 8200	24" / 8200
Motor - HP / RPM	1/3 - 1075	1/3 - 1075
Quantity	2	2
Outdoor Coil Data		
Rows / fpi	2 / 18	2 / 18
Type	Cu Tube/Al Fin	Cu Tube/Al Fin
Total Face Area (sq ft)	34.0	34.0
Expansion Device	Fixed Orifice	Fixed Orifice
Defrost Sensor	Opens (°F): 68 +/- 5, Closes (°F): 30 +/- 5	
Indoor Coil Data		
Rows / fpi	3 / 14	4 / 14
Type	Cu Tube/Al Fin	Cu Tube/Al Fin
Total Face Area (sq ft)	11.3	11.3
Expansion Device	TXV	TXV
Freeze Protection Thermostat	Yes	Yes
Indoor Blower Data		
Blower Type	Centrifugal	Centrifugal
(Qty.) - Wheel Diameter	(1) - 15 x 15	(1) - 15 x 15
Drive Type	Belt	Belt
Standard Blower Drive Motor 4		
Motor - Hp / RPM	1 / 1725	1.5 / 1750
Speeds	1	1
Frame Size	143T	143T
NEMA Efficiency	Premium Eff.	Premium Eff.
Blower RPM Range	513 - 748	599 - 816
Blower ESP Range (in-WC)	0.1 - 0.9	0.1 - 1.0
Installed Filters		
Style	Disposable - 2" Pleated	
Size[inches] (Qty.)	16x25 (4)	16x25 (4)
Sound Rating dBA (5)	89	89

Notes:

- 1) Certified in accordance with AHRI Standard 340/360 at the rated airflow shown and the minimum external static duct pressure allowed by the standard. ARI Rating for units with dual voltages are shown at highest rated unit voltage.
- 2) E.E.R. - Energy Efficiency Ratio: The EER and Net Capacity is determined @ 95°F Outdoor DB and with air entering the evaporator at 80°F DB / 67°F WB
- 3) IEER - Intergrated Energy Efficiency Ratio: a measure of merit for part load performance of the unit.
- 4) Refer to Alternate Accessory Drive Table for other available motor/drive kits
- 5) For the application of outdoor power data, refer to AHRI standard 275-2009

Q6SP rev A 7.5 TON EXPANDED RATINGS, COOLING MODE

Single Stage Operation - 60 Hz

O.D.T			55 °F			65 °F			75 °F			85 °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
2825 CFM	75	62	51.3	37.3	4.24	48.6	36.3	4.37	44.8	34.5	4.61	39.8	31.8	4.98
		67	56.3	29.1	4.29	53.7	28.1	4.42	49.8	26.3	4.67	44.9	23.6	5.03
		72	61.9	20.1	4.35	59.3	19.0	4.48	55.4	17.2	4.73	50.4	14.5	5.09
	80	62	50.6	42.1	3.37	47.9	41.1	3.50	44.1	39.3	3.75	39.1	36.6	4.11
		67	54.9	35.2	3.42	52.2	34.2	3.55	48.4	32.3	3.79	43.4	29.7	4.16
		72	59.6	27.5	3.47	57.0	26.4	3.60	53.1	24.6	3.84	48.1	21.9	4.21
3000 CFM	75	62	52.3	38.9	5.08	49.6	37.9	5.21	45.8	36.1	5.46	40.8	33.4	5.82
		67	57.3	30.7	5.13	54.6	29.7	5.26	50.8	27.9	5.51	45.8	25.2	5.87
		72	62.9	21.7	5.19	60.2	20.6	5.32	56.4	18.8	5.57	51.4	16.1	5.93
	80	62	51.6	43.7	4.21	48.9	42.7	4.34	45.1	40.9	4.59	40.1	38.2	4.95
		67	55.8	36.8	4.26	53.2	35.8	4.39	49.3	33.9	4.64	44.4	31.3	5.00
		72	60.6	29.1	4.31	57.9	28.0	4.44	54.1	26.2	4.69	49.1	23.5	5.05
3188 CFM	75	62	51.3	39.3	4.44	48.6	38.3	4.57	44.8	36.5	4.82	39.8	33.8	5.18
		67	56.4	31.1	4.50	53.7	30.1	4.63	49.9	28.3	4.87	44.9	25.6	5.24
		72	61.9	22.0	4.56	59.3	21.0	4.69	55.5	19.2	4.93	50.5	16.5	5.29
	80	62	50.6	44.1	3.58	47.9	43.1	3.71	44.1	41.3	3.96	39.1	38.6	4.32
		67	54.9	37.2	3.62	52.2	36.2	3.75	48.4	34.3	4.00	43.4	31.6	4.36
		72	59.6	29.4	3.67	57.0	28.4	3.80	53.2	26.6	4.05	48.2	23.9	4.41

Two Stage Operation - 60 Hz

O.D.T			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
2825 CFM	75	62	84.8	68.1	7.38	78.8	65.6	8.10	71.5	62.4	8.90	62.6	58.5	9.80
		67	94.7	52.2	7.43	88.8	49.7	8.14	81.4	46.5	8.95	72.6	42.6	9.84
		72	105.8	34.6	7.48	99.9	32.1	8.19	92.5	28.9	9.00	83.7	25.0	9.89
	80	62	86.1	80.4	7.39	80.2	77.9	8.10	72.8	72.8	8.91	64.0	64.0	9.81
		67	94.6	66.9	7.43	88.6	64.4	8.14	81.3	61.2	8.95	72.4	57.3	9.84
		72	104.0	51.9	7.47	98.1	49.4	8.18	90.7	46.2	8.99	81.8	42.3	9.88
3000 CFM	75	62	86.2	70.6	7.42	80.2	68.1	8.14	72.8	64.8	8.94	64.0	60.9	9.84
		67	96.1	54.7	7.47	90.2	52.2	8.18	82.8	48.9	8.99	74.0	45.0	9.88
		72	107.2	37.0	7.52	101.3	34.5	8.23	93.9	31.3	9.04	85.0	27.4	9.93
	80	62	87.5	82.8	7.43	81.6	80.3	8.14	74.2	74.2	8.95	65.3	65.3	9.85
		67	96.0	69.4	7.47	90.0	66.9	8.18	82.6	63.7	8.99	73.8	59.8	9.88
		72	105.4	54.4	7.51	99.5	51.9	8.22	92.1	48.6	9.03	83.2	44.7	9.92
3188 CFM	75	62	86.3	72.4	7.46	80.3	69.9	8.18	73.0	66.7	8.98	64.1	62.8	9.88
		67	96.3	56.5	7.51	90.3	54.0	8.22	82.9	50.8	9.03	74.1	46.9	9.92
		72	107.3	38.9	7.56	101.4	36.4	8.27	94.0	33.2	9.08	85.2	29.3	9.97
	80	62	87.6	84.7	7.47	81.7	81.7	8.19	74.3	74.3	8.99	65.5	65.5	9.89
		67	96.1	71.3	7.51	90.1	68.8	8.22	82.8	65.6	9.03	73.9	61.6	9.92
		72	105.5	56.2	7.55	99.6	53.7	8.27	92.2	50.5	9.07	83.4	46.6	9.97

- Notes: 1)T.C. = total (Net) cooling in kBtuh; S.C. = Sensible Cooling in kBtuh; kW = Kilowatts
2)Ratings are based on the Factory Standard blower drive combination
3)For 208-230V Units, the ratings shown reflect 230V operation
4)Bolded Values indicate AHRI rating points
5)Energy Efficiency Ratio (EER) = T.C./kW

Q6SP rev A 10 TON EXPANDED RATINGS, COOLING MODE

Single Stage Operation - 60 Hz

O.D.T			55 °F			65 °F			75 °F			85 °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
3600 CFM	75	62	66.3	49.4	4.95	60.4	45.2	5.20	55.0	42.0	5.55	50.0	39.8	6.02
		67	74.3	38.9	5.02	68.4	34.7	5.27	63.0	31.5	5.63	58.0	29.4	6.09
		72	83.2	27.3	5.11	77.3	23.1	5.35	71.9	19.9	5.71	66.9	17.7	6.17
	80	62	68.6	57.3	4.80	62.8	53.1	5.05	57.4	49.9	5.40	52.3	47.7	5.87
		67	75.4	48.4	4.86	69.6	44.2	5.11	64.1	41.0	5.46	59.1	38.8	5.93
		72	83.0	38.5	4.93	77.1	34.3	5.18	71.7	31.1	5.53	66.7	28.9	6.00
3850 CFM	75	62	68.0	50.7	5.23	62.1	46.5	5.48	56.7	43.3	5.83	51.7	41.1	6.30
		67	76.0	40.2	5.31	70.1	36.0	5.55	64.7	32.8	5.91	59.7	30.7	6.37
		72	84.8	28.6	5.39	79.0	24.4	5.63	73.6	21.2	5.99	68.5	19.0	6.46
	80	62	70.3	58.6	5.08	64.5	54.4	5.33	59.0	51.2	5.68	54.0	49.0	6.15
		67	77.1	49.7	5.14	71.3	45.5	5.39	65.8	42.3	5.75	60.8	40.1	6.21
		72	84.7	39.8	5.21	78.8	35.6	5.46	73.4	32.4	5.81	68.4	30.2	6.28
4100 CFM	75	62	67.7	51.8	5.31	61.8	47.6	5.56	56.4	44.4	5.91	51.4	42.3	6.38
		67	75.7	41.4	5.38	69.8	37.1	5.63	64.4	34.0	5.99	59.4	31.8	6.45
		72	84.6	29.7	5.46	78.7	25.5	5.71	73.3	22.3	6.07	68.3	20.2	6.53
	80	62	70.0	59.7	5.16	64.2	55.5	5.40	58.8	52.3	5.76	53.7	50.2	6.23
		67	76.8	50.9	5.22	71.0	46.6	5.47	65.5	43.5	5.82	60.5	41.3	6.29
		72	84.4	41.0	5.29	78.5	36.7	5.54	73.1	33.5	5.89	68.1	31.4	6.36

Two Stage Operation - 60 Hz

O.D.T			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
3600 CFM	75	62	113.3	90.5	9.59	104.3	86.7	10.58	94.8	82.6	11.70	84.8	78.2	12.94
		67	127.6	69.2	9.74	118.5	65.4	10.74	109.0	61.4	11.85	99.1	57.0	13.09
		72	143.4	45.6	9.92	134.4	41.8	10.91	124.9	37.8	12.03	114.9	33.4	13.27
	80	62	115.0	106.2	9.63	105.9	102.5	10.62	96.4	96.4	11.74	86.4	86.4	12.98
		67	127.1	88.2	9.76	118.0	84.5	10.76	108.5	80.4	11.87	98.5	76.0	13.12
		72	140.6	68.1	9.91	131.5	64.3	10.90	122.0	60.3	12.02	112.0	55.9	13.26
3850 CFM	75	62	115.3	93.3	9.73	106.2	89.5	10.72	96.7	85.4	11.84	86.7	81.1	13.08
		67	129.5	72.0	9.89	120.5	68.2	10.88	111.0	64.2	12.00	101.0	59.8	13.24
		72	145.4	48.4	10.06	136.3	44.7	11.05	126.8	40.6	12.17	116.9	36.2	13.41
	80	62	116.9	109.0	9.78	107.9	105.3	10.77	98.4	98.4	11.89	88.4	88.4	13.13
		67	129.0	91.0	9.91	120.0	87.3	10.90	110.5	83.2	12.02	100.5	78.8	13.26
		72	142.5	70.9	10.06	133.5	67.2	11.05	124.0	63.1	12.17	114.0	58.7	13.41
4100 CFM	75	62	115.2	96.8	9.91	106.2	93.1	10.90	96.6	89.0	12.02	86.7	84.6	13.26
		67	129.5	75.6	10.06	120.4	71.8	11.06	110.9	67.7	12.17	101.0	63.3	13.41
		72	145.3	52.0	10.24	136.3	48.2	11.23	126.8	44.1	12.35	116.8	39.8	13.59
	80	62	116.9	112.6	9.95	107.8	107.8	10.94	98.3	98.3	12.06	88.3	88.3	13.30
		67	129.0	94.6	10.08	119.9	90.8	11.08	110.4	86.7	12.19	100.4	82.4	13.43
		72	142.5	74.5	10.23	133.4	70.7	11.22	123.9	66.6	12.34	113.9	62.3	13.58

- Notes:
- 1)T.C. = total (Net) cooling in kBtuh; S.C. = Sensible Cooling in kBtuh; kW = Kilowatts
 - 2)Ratings are based on the Factory Standard blower drive combination
 - 3)For 208-230V Units, the ratings shown reflect 230V operation
 - 4)**Bolded** Values indicate AHRI rating points
 - 5)Energy Efficiency Ratio (EER) = T.C./kW

EXPANDED HEATING PERFORMANCE

Q6SP - 090 (*) Series rev A

2 - Stage Heating		OUTDOOR TEMPERATURE (°F)																															
SCFM	E.D.B. (°F)	10				17				20				30				40				47				50				60			
		H.C.	COP	kW		H.C.	COP	kW		H.C.	COP	kW		H.C.	COP	kW		H.C.	COP	kW		H.C.	COP	kW		H.C.	COP	kW		H.C.	COP	kW	
2825	60	42.1	2.20	5.62		51.0	2.64	5.66		54.8	2.78	5.78		67.4	3.28	6.03		80.1	3.57	6.59		88.9	3.67	7.11		92.7	3.69	7.37		105.4	3.88	7.97	
	70	43.1	2.05	6.17		52.0	2.46	6.21		55.9	2.62	6.26		68.6	3.06	6.58		81.4	3.35	7.13		90.3	3.46	7.66		94.1	3.49	7.92		106.9	3.51	8.93	
	80	38.2	1.68	6.67		47.4	2.07	6.71		51.3	2.23	6.76		64.4	2.67	7.08		77.5	2.98	7.63		86.6	3.11	8.16		90.6	3.16	8.42		103.6	3.22	9.43	
3000	60	43.1	2.21	5.71		52.0	2.67	5.71		55.9	2.85	5.75		68.6	3.35	6.01		81.4	3.67	6.50		89.3	3.73	7.03		94.1	3.82	7.22		106.9	3.83	8.17	
	70	38.2	1.79	6.10		47.0	2.25	6.13		51.3	2.39	6.29		64.4	3.05	6.56		77.5	3.22	7.05		85.0	3.30	7.55		90.6	3.42	7.77		104.5	3.53	8.69	
	80	33.4	1.45	6.76		42.8	1.85	6.76		46.8	2.02	6.79		60.2	2.50	7.06		73.6	2.86	7.55		83.0	3.01	8.08		87.0	3.08	8.27		100.4	3.19	9.22	
3188	60	36.9	1.83	5.90		45.7	2.28	5.89		49.5	2.45	5.92		62.2	2.95	6.18		74.8	3.30	6.66		83.7	3.44	7.13		87.5	3.48	7.37		100.1	3.53	8.31	
	70	37.6	1.71	6.45		46.6	2.12	6.44		50.4	2.29	6.47		63.3	2.76	6.72		76.1	3.10	7.21		85.2	3.25	7.68		89.0	3.30	7.92		101.9	3.37	8.86	
	80	35.5	1.50	6.95		44.7	1.89	6.94		48.6	2.04	6.97		61.7	2.51	7.22		74.9	2.85	7.71		84.1	3.01	8.18		88.0	3.07	8.42		101.1	3.17	9.36	

Q6SP - 120 (*) Series rev A

2 - Stage Heating		OUTDOOR TEMPERATURE (°F)																							
SCFM	E.D.B. (°F)	10		17		20		30		40		47		50		60									
		H.C.	COP	H.C.	COP	H.C.	COP	H.C.	COP	H.C.	COP	H.C.	COP	H.C.	COP	H.C.	COP								
3600	60	60.9	2.26	7.90	71.4	2.61	8.03	75.9	2.76	8.06	91.0	3.16	8.45	106.1	3.49	8.92	116.7	3.67	9.33	121.2	3.73	9.53	136.3	3.98	10.04
	70	56.9	1.96	8.52	66.7	2.26	8.67	70.9	2.39	8.71	84.9	2.73	9.13	98.9	3.01	9.64	108.8	3.17	10.07	113.0	3.22	10.28	127.0	3.44	10.82
	80	53.3	1.71	9.13	62.0	1.96	9.31	65.8	2.06	9.36	78.2	2.34	9.81	90.7	2.57	10.35	99.4	2.70	10.81	103.1	2.74	11.02	115.5	2.92	11.60
3850	60	59.0	2.19	7.90	70.3	2.57	8.02	75.1	2.72	8.09	91.2	3.18	8.40	107.4	3.56	8.85	118.7	3.78	9.25	123.5	3.84	9.44	139.6	4.03	10.16
	70	56.5	1.95	8.52	66.0	2.25	8.65	72.1	2.42	8.73	87.8	2.83	9.08	103.4	3.17	9.57	114.0	3.30	9.99	119.0	3.43	10.19	134.6	3.60	10.94
	80	53.5	1.72	9.13	64.4	2.03	9.29	69.0	2.16	9.38	84.5	2.54	9.76	100.0	2.85	10.28	110.9	3.03	10.72	115.5	3.10	10.93	131.0	3.28	11.72
4100	60	49.2	1.76	8.21	62.4	2.20	8.32	68.0	2.38	8.40	86.9	2.92	8.72	105.7	3.38	9.18	118.9	3.64	9.58	124.5	3.74	9.77	143.4	4.01	10.49
	70	52.9	1.76	8.82	64.9	2.12	8.96	70.1	2.27	9.04	87.3	2.72	9.40	104.5	3.10	9.89	116.6	3.32	10.31	121.8	3.40	10.52	139.0	3.62	11.27
	80	53.2	1.65	9.43	64.7	1.98	9.60	69.6	2.11	9.69	85.9	2.50	10.08	102.3	2.83	10.60	113.7	3.02	11.05	118.6	3.09	11.26	135.0	3.28	12.06

Notes: 1) H.C. = Heating Capacity in kBtu/h; COP = Coefficient of Performance; kW = Kilowatts
 2) Ratings are based on the Factory Standard blower drive combination
 3) For 208-230V Units, the ratings shown reflect 230V operation
 4) Bolded Values indicate AHRI rating points

Q6SP-090 rev A Series Blower Performance

Factory Standard: 1Hp Down-flow Performance Chart

External Unit Static (in-Wg)	Operating @ 230 or 460 Volts	Adjustable Motor Sheave Setting										
		Fully Closed	1/2 Turn Open	1 Turn Open	1.5 Turns Open	2 Turns Open	2.5 Turns Open	3 Turns Open	3.5 Turns Open ‡	4 Turns Open	4.5 Turns Open	5 Turns Open
0.1	CFM							3780	3612	3444	3268	3092
	RPM							602	580	558	536	513
	kW							0.92	0.83	0.75	0.69	0.63
0.2	CFM						3717	3545	3361	3177	2979	2781
	RPM						624	604	583	561	538	515
	kW						0.96	0.86	0.77	0.69	0.63	0.57
0.3	CFM					3644	3465	3286	3077	2867	2635	2402
	RPM					648	627	606	585	564	541	518
	kW					0.99	0.89	0.79	0.70	0.62	0.56	0.50
0.4	CFM				3542	3356	3156	2956	2726	2495	2212	
	RPM				672	651	630	609	588	566	544	
	kW				1.01	0.90	0.81	0.71	0.63	0.54	0.48	
0.5	CFM			3487	3270	3053	2834	2615	2321			
	RPM			697	675	653	632	611	590			
	kW			1.05	0.93	0.82	0.73	0.63	0.54			
0.6	CFM		3412	3181	2945	2709	2428					
	RPM		717	698	677	656	635					
	kW		1.07	0.95	0.84	0.74	0.64					
0.7	CFM		3131	2849	2557	2264						
	RPM		719	704	682	659						
	kW		0.97	0.85	0.74	0.63						
0.8	CFM	3003	2783									
	RPM	744	721									
	kW	0.99	0.87									
0.9	CFM	2631	2337									
	RPM	748	723									
	kW	0.87	0.74									

‡ Indicates Factory Sheave Setting

Values includes losses for: Unit Casing, 2" Disposable (Pleated) Filters & Dry Evaporator Coil

When utilized with H5HK Heater kits, not all operational points shown may be available for use.

Refer to the H5HK Installation Instructions to determine the minimum airflow requirements of the applicable heater assembly.

Deduct 250 Cfm for electric heater kit

Factory Standard: 1Hp Horizontal Performance Chart

External Unit Static (in-Wg)	Operating @ 230 or 460 Volts	Adjustable Motor Sheave Setting										
		Fully Closed	1/2 Turn Open	1 Turn Open	1.5 Turns Open	2 Turns Open	2.5 Turns Open	3 Turns Open	3.5 Turns Open ‡	4 Turns Open	4.5 Turns Open	5 Turns Open
0.1	CFM								3638	3456	3288	3119
	RPM								579	556	535	514
	kW								0.86	0.77	0.69	0.61
0.2	CFM						3720	3548	3354	3160	2975	2789
	RPM						626	603	581	558	537	516
	kW						0.97	0.87	0.78	0.69	0.62	0.55
0.3	CFM					3623	3441	3259	3049	2839	2635	2430
	RPM					651	628	605	583	560	540	519
	kW					1.00	0.89	0.79	0.71	0.63	0.55	0.48
0.4	CFM				3550	3352	3147	2942	2710	2478	2231	
	RPM				671	654	631	607	585	563	542	
	kW				1.03	0.92	0.82	0.72	0.64	0.56	0.48	
0.5	CFM			3482	3280	3077	2833	2589	2270			
	RPM			690	673	656	633	609	536			
	kW			1.06	0.94	0.83	0.73	0.64	0.55			
0.6	CFM			3192	2964	2735	2421					
	RPM			692	676	659	635					
	kW			0.96	0.85	0.74	0.64					
0.7	CFM		3148	2879	2566	2253						
	RPM		719	694	678	661						
	kW		0.99	0.86	0.75	0.63						
0.8	CFM	3108	2808	2509								
	RPM	744	721	696								
	kW	1.04	0.89	0.76								
0.9	CFM	2712	2312									
	RPM	747	723									
	kW	0.92	0.75									

‡ Indicates Factory Sheave Setting for Pre-configured Units

Values includes losses for: Unit Casing, 2" Disposable (Pleated) Filters & Dry Evaporator Coil

When utilized with H5HK Heater kits, not all operational points shown may be available for use. Refer to the H5HK Installation Instructions to determine the minimum airflow requirements of the applicable heater assembly.

Deduct 250 Cfm for electric heater kit

Q6SP-120 rev A Series Blower Performance

Factory Standard: 1.5Hp Down-flow Performance Chart

External Unit Static (in-Wg)	Operating @ 230 or 460 Volts	Adjustable Motor Sheave Setting												
		Fully Closed	1/2 Turn Open	1 Turn Open	1.5 Turns Open	2 Turns Open	2.5 Turns Open ‡	3 Turns Open	3.5 Turns Open	4 Turns Open	4.5 Turns Open	5 Turns Open	5.5 Turns Open	6 Turns Open
0.1	CFM							4468	4349	4230	4086	3942	3804	3665
	RPM							706	689	672	653	633	616	599
	kW							1.54	1.43	1.32	1.23	1.14	1.04	0.93
0.2	CFM						4412	4244	4124	4003	3847	3690	3546	3402
	RPM						725	708	691	674	655	635	618	601
	kW						1.58	1.44	1.34	1.24	1.15	1.06	0.96	0.86
0.3	CFM						4192	4042	3888	3733	3589	3445	3287	3129
	RPM						727	710	693	676	657	637	620	603
	kW						1.49	1.36	1.26	1.15	1.07	0.99	0.89	0.78
0.4	CFM					4106	3951	3796	3631	3466	3316	3165	2993	
	RPM					745	729	712	695	678	659	639	623	
	kW					1.51	1.39	1.27	1.17	1.08	0.99	0.91	0.81	
0.5	CFM				3998	3871	3706	3540	3368	3196	3017			
	RPM				761	747	731	714	697	680	661			
	kW				1.51	1.42	1.30	1.18	1.09	0.99	0.90			
0.6	CFM		4016	3903	3760	3616	3428	3240	3052					
	RPM		791	777	763	749	733	716	700					
	kW		1.59	1.49	1.41	1.32	1.20	1.09	0.98					
0.7	CFM	3903	3801	3693	3512	3330	3118							
	RPM	806	793	779	766	752	736							
	kW	1.59	1.48	1.39	1.31	1.23	1.10							
0.8	CFM	3654	3542	3406	3214	3022								
	RPM	808	795	781	768	754								
	kW	1.49	1.38	1.27	1.19	1.11								
0.9	CFM	3356	3232	3074										
	RPM	810	797	783										
	kW	1.36	1.26	1.15										

‡ Indicates Factory Sheave Setting

Values includes losses for: Unit Casing, 2" Disposable (Pleated) Filters & Dry Evaporator Coil

When utilized with H5HK Heater kits, not all operational points shown may be available for use. Refer to the H5HK Installation Instructions to determine the minimum airflow requirements of the applicable heater assembly.

Deduct 250 Cfm for electric heater kit

Factory Standard: 1.5Hp Horizontal Performance Chart

External Unit Static (in-Wg)	Operating @ 230 or 460 Volts	Adjustable Motor Sheave Setting												
		Fully Closed	1/2 Turn Open	1 Turn Open	1.5 Turns Open	2 Turns Open	2.5 Turns Open ‡	3 Turns Open	3.5 Turns Open	4 Turns Open	4.5 Turns Open	5 Turns Open	5.5 Turns Open	6 Turns Open
0.1	CFM								4425	4303	4157	4011	3878	3745
	RPM								688	671	653	635	617	599
	kW								1.44	1.33	1.23	1.12	1.04	0.95
0.2	CFM							4366	4227	4087	3951	3815	3665	3515
	RPM							707	690	672	655	637	619	601
	kW							1.48	1.36	1.25	1.15	1.05	0.97	0.88
0.3	CFM						4278	4137	3994	3850	3694	3537	3369	3201
	RPM						725	709	692	674	656	638	620	602
	kW						1.50	1.39	1.28	1.17	1.07	0.98	0.89	0.80
0.4	CFM					4198	4061	3923	3763	3602	3425	3248	3071	
	RPM					743	727	711	694	676	658	640	623	
	kW					1.52	1.41	1.30	1.19	1.09	0.99	0.89	0.81	
0.5	CFM					3969	3816	3662	3490	3318	3127			
	RPM					746	729	712	695	677	660			
	kW					1.44	1.32	1.20	1.10	0.99	0.89			
0.6	CFM				3851	3719	3543	3366	3181	2996				
	RPM				764	749	732	714	698	681				
	kW				1.44	1.33	1.22	1.11	1.00	0.90				
0.7	CFM			3749	3594	3438	3232	3026						
	RPM			781	767	752	734	716						
	kW			1.44	1.33	1.22	1.11	1.00						
0.8	CFM		3614	3487	3298	3109								
	RPM		795	785	771	756								
	kW		1.44	1.34	1.22	1.10								
0.9	CFM	3515	3352	3184	2946									
	RPM	813	801	789	773									
	kW	1.43	1.32	1.21	1.09									
1.0	CFM	3218	2993											
	RPM	816	805											
	kW	1.31	1.18											

‡ Indicates Factory Sheave Setting for Pre-configured Units

Values includes losses for: Unit Casing, 2" Disposable (Pleated) Filters & Dry Evaporator Coil

When utilized with H5HK Heater kits, not all operational points shown may be available for use. Refer to the H5HK Installation Instructions to determine the minimum airflow requirements of the applicable heater assembly.

Deduct 250 Cfm for electric heater kit

ELECTRICAL DATA

Model Number Q6SP- (See Notes 2 & 3)	Nominal Unit Voltage (See Note 1)	High Static Kit #	Compressors			Outdoor motors (2) ea.	Indoor Motor (See Note 4)		Total Unit RLA	Unit Only Circuit	
			Qty	RLA	LRA	FLA	Hp	FLA	RLA	MCA	MOP
Factory Unit Electrical Data											
-090Ca	208 - 230 V	Factory Std.	2 ea.	13.1	83.1	2.3	1	3.2 - 3.1	34.1	37 - 37	50 - 50
-090Da	460 V		2 ea.	6.1	41	1.2		1.5	16.1	18	20
-120Ca	208 - 230 V	Factory Std.	2 ea.	15.6	110	2.3	1.5	4.4 - 4.2	40.3	44 - 44	50 - 50
-120Da	460 V		2 ea.	7.8	52	1.2		2.1	20.1	22	25
Medium & High Static Drive Electrical Data											
-090Ca	208 - 230 V	921646	2 ea.	13.1	83.1	2.3	1.5	4.4 - 4.2	35.3	39 - 38	50 - 50
-090Da	460 V		2 ea.	6.1	41	1.2		2.1	16.7	18	20
-090Ca	208 - 230 V	921647	2 ea.	13.1	83.1	2.3	2	6.0 - 5.8	36.9	40 - 40	50 - 50
-090Da	460 V		2 ea.	6.1	41	1.2		2.9	17.5	19	25
-120Ca	208 - 230 V	921645	2 ea.	15.6	110	2.3	2	6.0 - 5.8	41.9	46 - 46	60 - 60
-120Da	460 V		2 ea.	7.8	52	1.2		2.9	20.9	23	30

Table 2a. Q6SP Electrical Data - Multiple Supply Circuits / Unit Only

H5HK Heater Kit Model # (See Note 6)	Electric Heat Kit (Field Installed with Multiple Circuit Kit # 917468) Electrical Data Table - Heater ONLY					
	Nominal Heater kW	Line Voltage	Actual Heater kW	Heater Amps (Line)	Heater Only Circuit	
					MCA	MOP
009Q-01	9	208 / 240	6.76 / 9.0	18.76 / 21.65	23.5 / 27.1	25 / 30
018Q-11	18	208 / 240	13.07 / 17.4	36.28 / 41.86	45.3 / 52.3	50 / 60
030Q-22	30	208 / 240	21.63 / 28.80	60.0 / 69.3	75.1 / 86.6	80 / 90
035Q-22	35	208 / 240	26.1 / 34.8	72.55 / 83.72	90.7 / 104.6	100 / 110
009S-01	9	480	9.9	11.91	14.9	15
018S-01	18	480	18	21.65	27.1	30
030S-01	30	480	28.8	34.64	43.3	45
035S-01	35	480	34.8	41.86	52.3	60

Table 2b. H5HK Electrical Data - Multiple Supply Circuits

NOTES:

- 1) To achieve the rated unit performance, unit voltage should be within 2% of nominal.
- 2) For C series units:
Nominal Unit Input Voltage = 208-230 Volt, 60 Hertz, 3 Phase
Minimum allowed unit voltage = 187V
Maximum allowed voltage = 253V
- 3) For D series units:
Nominal Unit Input Voltage = 460 Volt, 60 Hertz, 3 Phase
Minimum allowed unit voltage = 414V
Maximum allowed voltage = 506V
- 4) Indoor Motors meet 2010 DOE requirements (Premium Efficient)
- 5) Refer to High Static Drive Kit Installation Instructions for additional information
- 6) Refer to H5HK Kit Installation Instructions for additional information
- 7) FLA = Full Load Amps
MCA = Minimum Circuit Ampacity
RLA = Rated Load Amps
MOP = Maximum Over-Current Protection
LRA = Locked Rotor Amps
- 8) Refer to table 3 for single circuit MCA/MOP data

Electrical Data – Single Supply Circuits

Model Number Q6SP-	Nominal Unit Voltage	High Static Kit #	Single Circuit (Unit + Heater Kit) See Note							
			MCA				MOP			
			9 kW	18 kW	30 kW	35 kW	9 kW	18 kW	30 kW	35 kW
Factory Unit Electrical Data										
-090Ca	208 - 230 V	Factory Std.	48 - 51	69.5 - 77	99.2 - 111	115 - 129	50 - 60	70 - 80	100 - 125	125 - 150
-090Da	460 V		27	39	54.8	64	30	40	60	70
-120Ca	208 - 230 V	Factory Std.	52 - 56	74 - 81	104 - 115	119 - 133	60 - 60	80 - 90	110 - 125	125 - 150
-120Da	460 V		29.1	42	58	67	30	45	60	70
Medium & High Static Drive Electrical Data										
-090Ca	208 - 230 V	921646	49 - 53	71 - 78	100 - 112	116 - 130	50 - 60	80 - 80	110 - 125	125 - 150
-090Da	460 V		27	39.2	56	64.4	30	40	60	70
-090Ca	208 - 230 V	921647	51 - 54	73 - 79.1	102 - 113	118 - 131	60 - 60	80 - 80	110 - 125	125 - 150
-090Da	460 V		29	40	56.2	66	30	40	60	70
-120Ca	208 - 230 V	921645	54 - 57	76 - 83	105 - 117	121 - 135	60 - 60	80 - 90	110 - 125	125 - 150
-120Da	460 V		29.9	43	59	68	30	45	60	70

NOTE: Manufacturer specifically recommends the use of the 917468 Dual Circuit adapter kit for all applications of H5HK 30kW & 35kW Electric Heat Kits.

Heater Kit Application

Q6SP Capacity	Heater Kit Information					
	Part #	H5HK	Voltage	kW	Breakers	Limit *
-090Ca	917423A	009Q-01	208 / 240	6.8 / 9.0	0	160°F
	917424A	018Q-11		13.1 / 17.4	1	160°F
	920614	030Q-22		21.6 / 28.8	2	180°F
	917425A	035Q-22		26.2 / 34.8	2	210°F
-090Da	920616	009S-01	480	9.9	0	155°F
	917426A	018S-01		18	0	160°F
	920615	030S-01		28.8	0	180°F
	917427A	035S-01		34.8	0	210°F
-120Ca	917423A	009Q-01	208 / 240	6.8 / 9.0	0	160°F
	917424A	018Q-11		13.1 / 17.4	1	160°F
	920614	030Q-22		21.6 / 28.8	2	180°F
	917425A	035Q-22		26.2 / 34.8	2	210°F
-120Da	920616	009S-01	480	9.9	0	155°F
	917426A	018S-01		18	0	160°F
	920615	030S-01		28.8	0	180°F
	917427A	035S-01		34.8	0	210°F

NOTE: Circuit Breakers included with kits are for heater kit short circuit protection ONLY and are not to be used as a disconnect means. Keep current note about the 920998 kit on page 11 of current 503D-0110 TSL but locate it next to this table.

IMPORTANT:

High Static Applications of the H5HK 30 kW & 35 kW kits. When installing the 30 kW & 35 kW H5HK Heater Kits in the Q6SP series packaged heat pumps and in conjunction with a high static drive kit; or on duct systems where the unit ESP is greater than 0.75 in-W.C. for the 7.5T units or 0.9 in-W.C. for 10T units; then the heater kit will require a 920998 accessory kit.

Recommended Minimum CFM, H5HK heater kits

The minimum supplied air to the H5HK heater kits is dependant upon the installed, unit external static pressure. As a general rule, manufacturer recommends using 350 cfm/ton as a design minimum. However, the installation technician should always verify the heater kit operation for nuisance tripping.

Electric Heater Kit Temperature Rise, Reference Data

H5HK Model	Voltage	kW	Btuh	CFM Range						
				SCFM	2100	2500	2900	3300	3700	4500
009Q	208	6.8	23,202	Rise (°F)	10	9	7	7	6	5
	240	9.0	30,708		14	11	10	9	8	6
009S	480	9.9	33,779		15	13	11	9	8	7
018Q	208	13.1	44,697	Rise (°F)	20	17	14	13	11	9
	240	17.4	59,369		26	22	19	17	15	12
018S	480	18.0	61,416		27	23	20	17	15	13
030Q	208	21.6	73,699	Rise (°F)	32	27	24	21	18	15
	240	28.8	98,266		43	36	31	28	25	20
030S	480	28.8	98,266		43	36	31	28	25	20
035Q	208	26.2	89,394	Rise (°F)	39	33	29	25	22	18
	240	34.8	118,738		52	44	38	33	30	24
035S	480	34.8	118,738		52	44	38	33	30	24

Power Exhaust Electrical Data & Performance

Model	Part #	Volts	HP	CFM	FLA	Fuse	MCA	MOP
Q6SP-090 & 120	547876	230	3/4	4900	4.0	9A	5.00	9.00
Q6SP-090 & 120	547877	460	3/4	4900	2.0	4A	2.50	4.50

Note: Power Exhaust requires separate electrical hook-up & disconnect.

Accessory Performance Data

Q6SP	Air Volume (CFM)	Total Resistance (inches water column) †								
		Wet Evaporator Coil	Down Flow Economizer	Horizontal Economizer	Step Down Diffuser System				Flush Mount Diffuser System	Throw ‡ (Ft)
					2 Ends Open	2 Ends Open w/1 Side Open	2 Ends Open w/2 Sides Open	Throw ‡ (Ft)		
-090*a & -120*a	2400	0.06	0.04	0.02	0.05	0.05	0.02	11-19	0.05	15-16
	2600	0.07	0.06	0.02	0.10	0.08	0.05	14-22	0.07	17-18
	2800	0.08	0.09	0.02	0.15	0.09	0.08	16-24	0.09	18-20
	3000	0.09	0.12	0.03	0.20	0.10	0.09	18-26	0.11	19-22
	3200	0.10	0.14	0.03	0.25	0.15	0.12	20-28	0.13	20-24
	3400	0.11	0.17	0.03	0.30	0.20	0.15	23-31	0.15	21-27
	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

† Pressure drop data are approximate values to allow for use in all design conditions.

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

Part #	Accessory Description	Q6SP Series Units	
		Weight lb	090 & 120 (C/D)a
547881	Horizontal Supply & Return Kit	49	X
547860	Hinged Roof Curb 8" High - K/D	70	X
547861	Hinged Roof Curb 14" High - K/D	125	X
547862	Hinged Roof Curb 18" High - K/D	155	X
547863	Hinged Roof Curb 24" High - K/D	220	X
558857	Hooded Hail Guard	80	X
547874	0-35% Manual Outside Air Damper	41	X
547865	0-35% Motorized Damper - Requires 547874 Manual Damper Kit	15	X
562536	Economizer - Modulating w/ Relief, Adapts Horizontal with 547881	181	X
920233	Sensor, Enthalpy, C7400A (For Economizer Differential Enthalpy Control)		X
920317	CO2 Sensor, Wall Mount		X
920318	CO2 Sensor, Duct Mount		X
547876	Power Exhaust (208/230v/3ph), Requires an Economizer & Adapts Horizontal	152	X
547877	Power Exhaust (460v/3ph), Requires an Economizer & Adapts Horizontal	152	X
547869	20" Supply & Return Transition Round	154	
547870	20" Flush Mount Concentric Diffuser Round	157	
547871	20" Step Down Concentric Diffuser Round	36	
547878	18" x 28" Supply & Return Transition	162	X
547879	18" x 28" Flush Mount Concentric Diffuser	193	X
547880	18" x 28" Step Down Concentric Diffuser	193	X
558863	Duct Smoke Detector Photo Elect.		X
558866	Duct Smoke Detector, Remote Multi-signal control		X
558864	Smoke Detector, Duct Sampling Tube DST3, 2-4 ft.		X
558865	Smoke Detector, Duct Sampling Tube DST5, 4-8 ft.		X
920463	Low Ambient Kit		X
917454	Bottom Power Entry Kit		X
917423A	H5HK009Q-01 9KW - 208/240V, 3Ø	7	X
917424A	H5HK018Q-11 18KW - 208/240V, 3Ø	12	X
920614	H5HK030Q-22 30KW - 208/240V, 3Ø	16	X
917425A	H5HK035Q-22 35KW - 208/240V, 3Ø	17	X
920616	H5HK009S-01 9KW - 480V, 3Ø	8	X
917426A	H5HK018S-01 18KW - 480V, 3Ø	10	X
920615	H5HK030S-01 30KW - 480V, 3Ø	11	X
917427A	H5HK035S-01 35KW - 480V, 3Ø	12	X
920998	30 & 35 kW High Static Applications, 7.5t >.75" WC or 10t > .90" WC ESP	1	X
917468	3 Pole Dual Circuit Adapter Kit	1	X
920619	Thermostat-3 Stage Heat/2 Stage Cool (requires "O" terminal)		X



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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.

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