

HQAC

Air Cooled Condensers



HQAC – 6 POLE FANS

PERFORMANCE DATA:				Heat Of Rejection (Watts)		R404A		
MODEL	High Speed (890 rpm)			Sub Cooler Option (8K)	Low Speed (630 rpm)			Sub Cooler Option (8K)
	1 KTD	10 KTD	15 KTD	1 KTD	1 KTD	10 KTD	15 KTD	1 KTD
Single Module								
HQAC3500	9570	95700	143550	8960	7900	79000	118500	7400
HQAC4000	9900	99000	148500	9270	8680	86800	130200	8130
HQAC5000	11830	118300	177450	11075	10050	100500	150750	9410
HQAC6000	14010	140100	210150	13120	11750	117500	176250	11005
HQAC7500	17180	171800	257700	16085	14340	143400	215100	13430
Double Module								
HQAC7002	19140	191400	287100	17920	15800	158000	237000	14800
HQAC8002	19800	19800	297000	18540	17630	176300	260400	16260
HQAC10002	23660	236600	354900	22150	20100	201000	301500	18820
HQAC12002	28020	280200	420300	26240	23500	235000	352500	22010
HQAC15002	34360	343600	515400	32170	28680	286800	430200	26860
Three Module								
HQAC10503	28710	287100	430650	26880	23700	237000	355500	22200
HQAC12003	29700	297000	445500	27810	26040	260400	390600	24390
HQAC15003	35490	354900	532350	33225	30150	301500	452250	28230
HQAC18003	42030	420300	630450	39360	35250	352500	528750	33015
HQAC22503	51540	515400	773100	48255	43020	430200	645300	40290
Four Module								
HQAC14004	38280	382800	574200	35840	31600	316000	474000	29600
HQAC16004	39600	396000	594000	37080	34720	347200	520800	32520
HQAC20004	47320	473200	709800	44300	40200	402000	603000	37640
HQAC24004	56040	560400	840600	52480	47000	470000	705000	44020
HQAC30004	68720	687200	1030800	64340	57360	573600	860400	53720



PERFORMANCE DATA: Heat Of Rejection (Watts) R134a

MODEL	High Speed ~ 890 rpm			Sub Cooler Option 8°K	Low Speed ~ 630 rpm			Sub Cooler Option 8°K
Single Module	1 KTD	10 KTD	15 KTD	1 KTD	1 KTD	10 KTD	15 KTD	1 KTD
HQAC3500	9190	91900	137850	8605	7580	75800	113700	7100
HQAC4000	9500	95000	142500	8895	8330	83300	124950	7800
HQAC5000	11350	113500	170250	10625	9650	96500	144750	9035
HQAC6000	13450	134500	201750	12595	11280	112800	169200	10565
HQAC7500	16490	164900	247350	15440	13760	137600	206400	12885
Double Module								
HQAC7002	18380	183800	275700	17210	15160	151600	227400	14200
HQAC8002	19000	190000	285000	17790	16660	166600	249900	15600
HQAC10002	22700	227000	340500	21250	19300	193000	289500	18070
HQAC12002	26900	269000	403500	25190	22560	225600	338400	21130
HQAC15002	32980	329800	494700	30880	27520	275200	412800	25770
Three Module								
HQAC10503	27570	275700	413550	25815	22740	227400	341100	21300
HQAC12003	28500	285000	427500	26685	24990	249900	374850	23400
HQAC15003	34050	340500	510750	31875	28950	289500	434250	27105
HQAC18003	40350	403500	605250	37785	33840	338400	507600	31695
HQAC22503	49470	494700	742050	46320	41280	412800	619200	38655
Four Module								
HQAC14004	36760	367600	551400	34420	30320	303200	454800	28400
HQAC16004	38000	380000	570000	35580	33320	333200	499800	31200
HQAC20004	45400	454000	681000	42500	38600	386000	579000	36140
HQAC24004	53800	538000	807000	50380	45120	451200	676800	42260
HQAC30004	65960	659600	989400	61760	55040	550400	825600	51540

Altitude CorrectionFactors : m (Factor), 0 (1.0), 500 (0.96), 1000 (0.92), 2000 (0.83), 2500 (0.78)

PERFORMANCE DATA:

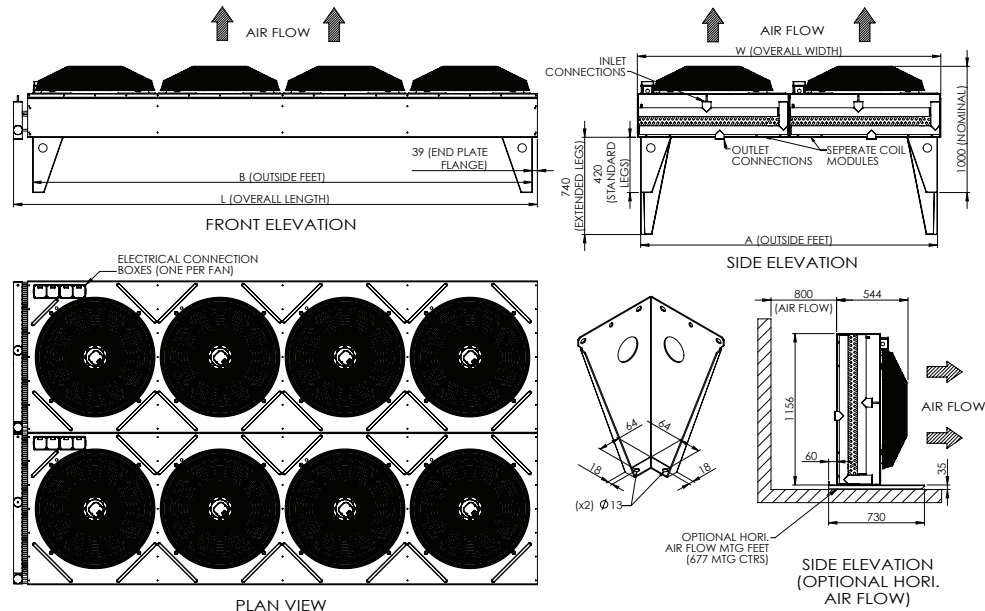
Heat Of Rejection (Watts)

R449A

MODEL	High Speed ~ 890 rpm			Sub Cooler Option 8°K	Low Speed ~ 630 rpm			Sub Cooler Option 8°K
	1 KTD	10 KTD	15 KTD	1 KTD	1 KTD	10 KTD	15 KTD	1 KTD
Single Module								
HQAC3500	9190	91900	137850	8605	7580	75800	113700	7100
HQAC4000	9500	95000	142500	8895	8330	83300	124950	7800
HQAC5000	11350	113500	170250	10625	9650	96500	144750	9035
HQAC6000	13450	134500	201750	12595	11280	112800	169200	10565
HQAC7500	16490	164900	247350	15440	13760	137600	206400	12885
Double Module								
HQAC7002	18380	183800	275700	17210	15160	151600	227400	14200
HQAC8002	19000	190000	285000	17790	16660	166600	249900	15600
HQAC10002	22700	227000	340500	21250	19300	193000	289500	18070
HQAC12002	26900	269000	403500	25190	22560	225600	338400	21130
HQAC15002	32980	329800	494700	30880	27520	275200	412800	25770
Three Module								
HQAC10503	27570	275700	413550	25815	22740	227400	341100	21300
HQAC12003	28500	285000	427500	26685	24990	249900	374850	23400
HQAC15003	34050	340500	510750	31875	28950	289500	434250	27105
HQAC18003	40350	403500	605250	37785	33840	338400	507600	31695
HQAC22503	49470	494700	742050	46320	41280	412800	619200	38655
Four Module								
HQAC14004	36760	367600	551400	34420	30320	303200	454800	28400
HQAC16004	38000	380000	570000	35580	33320	333200	499800	31200
HQAC20004	45400	454000	681000	42500	38600	386000	579000	36140
HQAC24004	53800	538000	807000	50380	45120	451200	676800	42260
HQAC30004	65960	659600	989400	61760	55040	550400	825600	51540



DIMENSIONS:



NTS (mm)

MODEL	DIMENSIONS (mm)					Dry Wgt (kg)
	L	W	B	A	Mounting Centres	
Single Module						
HQAC3500	2270	1156	2130	1100	2002 x 972	238
HQAC4000	3650	1156	3510	1100	3382 x 972	270
HQAC5000	3660	1156	3510	1100	3382 x 972	298
HQAC6000	3660	1156	3510	1100	3382 x 972	378
HQAC7500	3960	1156	3810	1100	3682 x 972	435
Double Module	(Supplied as one double module)					
HQAC7002	2270	2312	2130	2256	2002 x 2128	480
HQAC8002	3650	2312	3510	2256	3382 x 2128	544
HQAC10002	3660	2312	3510	2256	3382 x 2128	600
HQAC12002	3660	2312	3510	2256	3382 x 2128	760
HQAC15002	3960	2312	3810	2256	3682 x 2128	874
Three Module	(Supplied as one double module and one single module)					
HQAC10503	2270	3468	2130	(1100 + 2256)	(2002 x 972) + (2002 x 2128)	718
HQAC12003	3650	3468	3510	(1100 + 2256)	(3382 x 972) + (3382 x 2128)	814
HQAC15003	3660	3468	3510	(1100 + 2256)	(3382 x 972) + (3382 x 2128)	898
HQAC18003	3660	3468	3510	(1100 + 2256)	(3382 x 972) + (3382 x 2128)	1138
HQAC22503	3960	3468	3810	(1100 + 2256)	(3682 x 972) + (3682 x 2128)	1309
Four Module	(Supplied as two double modules)					
HQAC14004	2270	4624	2130	(2256 + 2256)	(2002 x 2128) + (2002 x 2128)	960
HQAC16004	3650	4624	3510	(2256 + 2256)	(3382 x 2128) + (3382 x 2128)	1088
HQAC20004	3660	4624	3510	(2256 + 2256)	(3382 x 2128) + (3382 x 2128)	1200
HQAC24004	3660	4624	3510	(2256 + 2256)	(3382 x 2128) + (3382 x 2128)	1520
HQAC30004	3960	4624	3810	(2256 + 2256)	(3682 x 2128) + (3682 x 2128)	1748

TECHNICAL DATA:

MODEL	Fan Motors (380-420V/3/50)								Coil			
	Qty.	Dia. (mm)	Total Air Vol (l/sec)		Electrical - Hi Speed (Total fans)		Electrical - Low Speed (Total fans)		Std Connections. (F.Sw)		Circ #	Circ Volume (dm3)
			Hi Speed	Low Speed	FLA	Watts	FLA	Watts	Inlet	Outlet		
Single Module												
HQAC3500	2	800	11660	8880	8.0	4.6	4000	1250	1 x 1-5/8"	1 x 1-5/8"	18	59
HQAC4000	3	800	17490	14370	12.0	6.9	6000	1875	1 x 1-5/8"	1 x 1-5/8"	18	47
HQAC5000	3	800	16990	13580	12.0	6.9	6000	1875	1 x 2-1/8"	1 x 2-1/8"	24	64
HQAC6000	3	800	15800	12560	12.0	6.9	6000	1875	1 x 2-5/8"	1 x 2-5/8"	36	94
HQAC7500	4	800	20200	15880	16.0	9.2	8000	2500	1 x 2-5/8"	1 x 2-5/8"	36	102
Double Module												
HQAC7002	4	800	23320	17760	16.0	9.2	8000	2500	2 x 1-5/8"	2 x 1-5/8"	36	118
HQAC8002	6	800	34980	29460	24.0	13.8	12000	3750	2 x 1-5/8"	2 x 1-5/8"	36	94
HQAC10002	6	800	33980	27160	24.0	13.8	12000	3750	2 x 2-1/8"	2 x 2-1/8"	48	128
HQAC12002	6	800	31600	25120	24.0	13.8	12000	3750	2 x 2-5/8"	2 x 2-5/8"	72	188
HQAC15002	8	800	40400	31760	32.0	18.4	16000	5000	2 x 2-5/8"	2 x 2-5/8"	72	204
Three Module												
HQAC10503	6	800	34980	26640	24.0	13.8	12000	3750	3 x 1-5/8"	3 x 1-5/8"	54	177
HQAC12003	9	800	52470	43830	36.0	20.7	18000	5625	3 x 1-5/8"	3 x 1-5/8"	54	141
HQAC15003	9	800	50970	40740	36.0	20.7	18000	5625	3 x 2-1/8"	3 x 2-1/8"	72	192
HQAC18003	9	800	47400	37680	36.0	20.7	18000	5625	3 x 2-5/8"	3 x 2-5/8"	108	282
HQAC22503	12	800	60600	47640	48.0	27.6	24000	7500	3 x 2-5/8"	3 x 2-5/8"	108	306
Four Module												
HQAC14004	8	800	46640	35520	32.0	18.4	16000	5000	4 x 1-5/8"	4 x 1-5/8"	72	236
HQAC16004	12	800	69960	58920	48.0	27.6	24000	7500	4 x 1-5/8"	4 x 1-5/8"	72	188
HQAC20004	12	800	67960	54320	48.0	27.6	24000	7500	4 x 2-1/8"	4 x 2-1/8"	96	256
HQAC24004	12	800	63200	50240	48.0	27.6	24000	7500	4 x 2-5/8"	4 x 2-5/8"	144	376
HQAC30004	16	800	80800	63520	64.0	36.8	32000	10000	4 x 2-5/8"	4 x 2-5/8"	144	408

NOISE LEVEL DATA

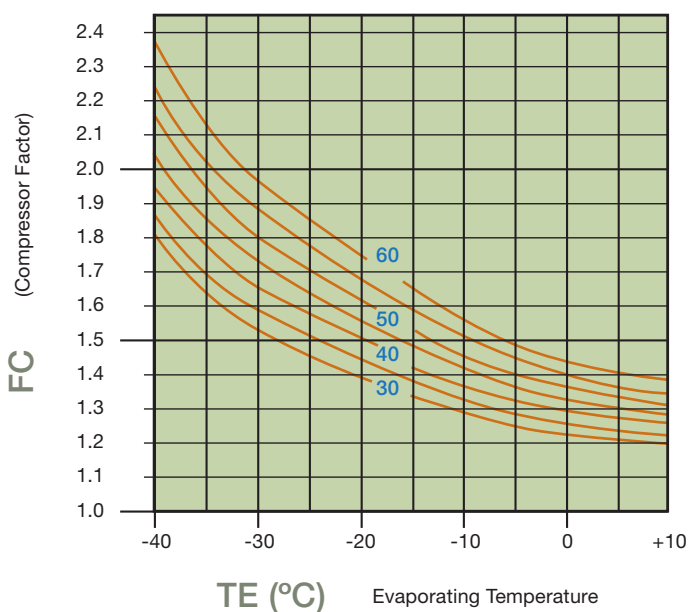
MODEL	Qty.	Dia. (mm)	dbA - Hi Speed			dbA - Lo Speed			
			1.0 m	3.0 m	10.0 m	1.0 m	3.0 m	10.0 m	
Single Module									Sound Pressure Levels (db re 20 uPa) Rated in "free field" conditions. Tested generally in accordance with AS1217.7 1985.
HQAC3500	2	800	79	75	69	69	63	59	
HQAC4000	3	800	81	78	71	72	66	62	
HQAC5000	3	800	80	77	70	71	65	61	
HQAC6000	3	800	80	77	70	71	65	61	
HQAC7500	4	800	82	78	72	72	66	62	
Double Module									
HQAC7002	4	800	82	78	72	72	66	62	
HQAC8002	6	800	85	81	75	75	69	65	
HQAC10002	6	800	84	80	74	74	68	64	
HQAC12002	6	800	84	80	74	74	68	64	
HQAC15002	8	800	85	81	75	75	69	65	
Three Module									
HQAC10503	6	800	84	80	74	74	68	64	
HQAC12003	9	800	88	84	78	77	71	67	
HQAC15003	9	800	87	83	77	76	70	66	
HQAC18003	9	800	87	83	77	76	70	66	
HQAC22503	12	800	88	84	78	77	71	67	
Four Module									
HQAC14004	8	800	85	81	75	75	69	65	
HQAC16004	12	800	89	85	79	78	72	68	
HQAC20004	12	800	88	84	78	77	71	67	
HQAC24004	12	800	88	84	78	77	71	67	
HQAC30004	16	800	90	86	80	78	72	68	

SELECTION DATA:

Analytical Selection

$$PC = \frac{PE \times FC \times FT \times FA \times 1/FR}{\Delta T}$$

PC = CONDENSER CAPACITY PER KTD
PE = EVAPORATOR CAPACITY
FC = COMPRESSOR FACTOR
FT = AMBIENT TEMPERATURE FACTOR
FA = ALTITUDE FACTOR
FR = REFRIGERANT FACTOR
 ΔT = CONDENSING TEMP - AMBIENT TEMP.

FC (To be used when compressor data is unavailable.)

FT (Ambient Temperature Factor)

TA (°C)	20	25	30	35	40
FT	0.988	1.000	1.010	1.026	1.039

FA (Altitude Factor)

m	0	200	400	600	800
FA	1.000	1.013	1.027	1.042	1.056

m	1000	1200	1400	1600	1800
FA	1.074	1.090	1.107	1.124	1.142

m	2000	2400	2600	2800	3000
FA	1.160	1.201	1.222	1.243	1.265

FR (Refrigerant Factor)

R	R404A	R449A	R407F	R134a	R410A
FR	1.0	0.96	0.95	0.96	1.02

SELECTION EXAMPLE:

Basic Data

PE = EVAPORATOR CAPACITY = 145 Kws
TE = EVAPORATING TEMPERATURE = -5°C
TC = CONDENSING TEMPERATURE = 43°C
TA = AMBIENT TEMPERATURE = 30°C
 ALTITUDE = 600m
 REFRIGERANT = R404A
 ΔT = TC-TA = 13KTD

SELECTION:

$$PC = \frac{145 \times 1.35 \times 1.013 \times 1.042 \times 1/1.0}{13} = 15.89 \text{ Kws/KTD}$$

SELECTION =

HQAC7500
@ 17.18 Kws/KTD

PATTON



The company reserves the right to make specification changes without notice. 18/07/2018

