



MODEL HPAS 5 DS 378

Heating Capacity	377,700 BTUH	Cooling Capacity	318,600 BTUH
Condenser Water Flow	100 GPM	Evaporator Construction	Copper/Aluminum
Pressure Drop (cond.)	5.2 PSI	Cabinet Construction	Galvanized Steel
Entering Water Temp.	100 °F	Entering Wet Bulb Temp.	72.0°F
Leaving Water Temp.	107.59 °F	Water Pump—2 - 1 HP	460/3/60 - 1.7 Amp ea.
COP	4.67	Cooling EER	16.32
Compressors	(2) SZ160 Maneurop Scroll	Condensers	Double Wall Vented
Voltage	460/60/3Ø	Construction (Cond.)	Tube-in-Tube
RLA/LRA	19.0/175 ea.	Fan 2 - 1 HP	460/3/60 - 1.8 Amp ea
Control Voltage	24 Volts	Refrigerant Type	R-134A
Minimum Circuit Amp.	30 compressor ea.	Minimum Unit Amperage.	75 Amp.

STANDARD FEATURES

Liquid Receiver	Liquid Line Dryer
Compressors Service Valves	Thermostatic Expansion Valves
Liquid Line Sight Glass	Pre-wired Mechanical Controls
Insulated Compressor Compartment	Insulated Suction Lines
Compressor Time Delay Adjustable Relay	High Side Pressure Control
Phase/Voltage Protection	Low Side Pressure Control
Five Year Compressor Warranty/One Yr. Parts	Hinged Control Panel

Options

Micro-Processor Based Control System
Painted Galvanize Cabinet
304 or 316 Stainless Steel Cabinet
Blower
Refrigerant Pump Down Solenoid Valves
Technical 10-1 Evaporator Coil Coating
Warranty on all Parts & Labor Year 2-5

Note: In View of Continuous Product Improvements, design and specification are subject to change without Notice

Heat Harvester Energy Efficient Products
 Manufactured by
H H Systems, Inc.

MODEL HPAS 5 DS 378															
WB TEMP.	ENTER WATER TEMP. F @ 100 GPM,														
72 DEG .	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140
CMBTUH	367,200	359,700	352,200	344,100	336,000	327,300	318,600	309,400	300,200	290,200	280,200	270,000	259,800	249,600	239,400
HMBTUH	409,794	406,390	401,279	395,978	390,676	385,048	379,420	373,803	368,187	362,078	355,969	350,206	344,442	338,679	332,916
WATTS	15,480	16,180	16,880	17,700	18,520	19,420	20,320	21,370	22,420	23,560	24,700	26,000	27,300	28,600	29,900
EER	23.72	22.23	20.86	19.44	18.14	16.85	15.68	14.48	13.39	12.32	11.34	10.38	9.52	8.73	8.01
COP	7.76	7.36	6.97	6.55	6.18	5.81	5.47	5.13	4.81	4.5	4.22	3.95	3.7	3.47	3.26
LV. WTR	78.2	83.13	88.03	92.92	97.82	102.7	107.59	112.48	117.37	122.24	127.12	132.01	136.89	141.78	146.66
WB TEMP.	ENTER WATER TEMP. F @ 100 GPM,														
67 DEG .	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140
CMBTUH	335,400	328,400	321,400	313,900	306,400	298,300	290,200	281,600	273,000	263,800	254,600	245,100	235,600	226,100	216,600
HMBTUH	377,926	373,315	368,704	363,969	359,233	354,205	349,177	344,092	339,007	333,698	328,389	323,258	318,126	312,995	307,864
WATTS	15,460	16,160	16,860	17,670	18,480	19,380	20,280	21,310	22,340	23,480	24,620	25,900	27,180	28,460	29,740
EER	21.69	20.32	19.06	17.76	16.58	15.39	14.31	13.21	12.22	11.24	10.34	9.46	8.67	7.94	7.28
COP	7.16	6.77	6.41	6.04	5.7	5.36	5.04	4.73	4.45	4.16	3.91	3.66	3.43	3.22	3.03
LV. WTR	77.56	82.47	87.38	92.28	97.19	102.09	106.99	111.88	116.78	121.68	126.57	131.47	136.37	141.26	146.16
WB TEMP.	ENTER WATER TEMP. F @ 100 GPM,														
62 DEG .	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140
CMBTUH	303,600	297,100	290,600	283,700	276,800	269,300	261,800	253,800	245,800	237,400	229,000	220,200	211,400	202,600	193,800
HMBTUH	346,058	341,947	337,836	333,666	329,497	325,068	320,640	316,087	311,534	307,025	302,516	298,016	293,517	289,017	284,518
WATTS	15,440	16,140	16,840	17,640	18,440	19,340	20,240	21,250	22,260	23,400	24,540	25,800	27,060	28,320	29,580
EER	19.66	18.41	17.26	16.08	15.01	13.92	12.93	11.94	11.04	10.15	9.33	8.53	7.81	7.15	6.55
COP	6.57	6.21	5.88	5.54	5.24	4.92	4.64	4.36	4.1	3.84	3.61	3.38	3.18	2.99	2.82
LV. WTR	76.92	81.84	86.76	91.68	96.59	101.5	106.42	111.32	116.23	121.14	126.05	130.96	135.87	140.78	145.69
WB TEMP.	ENTER WATER TEMP. F @ 100 GPM,														
57 DEG .	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140
CMBTUH	274,000	268,100	262,200	255,700	249,200	242,300	235,400	228,100	220,800	213,000	205,200	197,100	189,000	180,900	172,800
HMBTUH	316,389	312,844	309,299	305,496	301,692	297,830	293,967	290,114	286,261	282,284	278,306	274,507	270,707	266,908	263,108
WATTS	15,420	16,110	16,800	17,590	18,380	19,270	20,160	21,170	22,180	23,300	24,420	25,680	26,940	28,200	29,460
EER	17.77	16.64	15.61	14.54	13.56	12.57	11.68	10.77	9.95	9.14	8.4	7.68	7.02	6.41	5.87
COP	6.01	5.69	5.39	5.09	4.81	4.53	4.27	4.02	3.78	3.55	3.34	3.13	2.94	2.77	2.62
LV. WTR	76.33	81.26	86.19	91.11	96.04	100.96	105.88	110.8	115.73	120.65	125.57	130.49	135.42	140.34	145.26
WB TEMP.	ENTER WATER TEMP. F @ 100 GPM,														
52 DEG .	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140
CMBTUH	246,600	241,100	235,600	229,700	223,800	217,400	211,000	204,300	197,600	190,500	183,400	175,900	168,400	160,900	153,400
HMBTUH	288,853	285,674	282,495	279,291	276,087	272,691	269,294	266,007	262,720	259,443	256,165	252,931	249,698	246,464	243,230
WATTS	15,380	16,060	16,740	17,530	18,320	19,200	20,080	21,080	22,080	23,200	24,320	25,570	26,820	28,070	29,320
EER	16.03	15.01	14.07	13.1	12.22	11.32	10.51	9.69	8.95	8.21	7.54	6.88	6.28	5.73	5.23
COP	5.5	5.21	4.94	4.67	4.42	4.16	3.93	3.7	3.49	3.28	3.09	2.9	2.73	2.57	2.43
LV. WTR	75.78	80.72	85.65	90.59	95.52	100.46	105.39	110.32	115.26	120.19	125.13	130.06	135	139.93	144.87
WB TEMP.	ENTER WATER TEMP. F @ 100 GPM,														
47 DEG .	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140
CMBTUH	221,400	216,500	211,600	205,900	200,200	194,400	188,600	182,400	176,200	169,700	163,200	156,400	149,600	142,800	136,000
HMBTUH	263,448	260,869	258,290	255,252	252,214	249,418	246,621	243,800	240,979	238,267	235,556	232,988	230,420	227,852	225,284
WATTS	15,320	16,000	16,680	17,460	18,240	19,120	20,000	20,990	21,980	23,090	24,200	25,440	26,680	27,920	29,160
EER	14.45	13.53	12.69	11.79	10.98	10.17	9.43	8.69	8.02	7.35	6.74	6.15	5.61	5.11	4.66
COP	5.04	4.78	4.54	4.28	4.05	3.82	3.61	3.4	3.21	3.02	2.85	2.68	2.53	2.39	2.26
LV. WTR	75.27	80.22	85.17	90.11	95.05	99.99	104.93	109.88	114.82	119.77	124.71	129.66	134.61	139.56	144.51
WB TEMP.	ENTER WATER TEMP. F @ 100 GPM,														
42 DEG .	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140
CMBTUH	198,000	193,300	188,600	183,600	178,600	173,200	167,800	162,200	156,600	150,600	144,600	138,400	132,200	126,000	119,800
HMBTUH	239,843	237,464	235,085	232,713	230,341	227,910	225,480	221,143	220,969	218,758	216,546	214,544	212,542	210,540	208,538
WATTS	15,260	15,940	16,620	17,390	18,160	19,030	19,900	34,920	21,860	22,970	24,080	25,310	26,540	27,770	29,000
EER	12.98	12.13	11.35	10.56	9.83	9.1	8.43	4.64	7.16	6.56	6	5.47	4.98	4.54	4.13
COP	4.61	4.36	4.14	3.92	3.72	3.51	3.32	2.28	2.96	2.79	2.63	2.48	2.35	2.22	2.11
LV. WTR	74.8	79.75	84.7	89.66	94.61	99.56	104.51	110.43	114.42	119.38	124.33	129.29	134.25	139.21	144.17