



COMMERCIAL HEAT PUMP PERFORMANCE TABLES

HOW TO USE THE CHART

- For temperatures not on the table, averaging between two temperatures on the table will provide a reasonable estimate.
- For relative humidity values not on the table, estimates can be calculated by using the formula in the example below.

Example: for a heating value for an AWH-35 at 70° DB and 55° EWT at 45% RH compare to the known value of 30,600 Btu/h at 70° DB and 55° EWT at 50% RH.

$$X \text{ Btu/h} = \frac{\text{New RH} \times \text{Known Btu/h}}{\text{Known RH}} \quad X = \frac{45 \times 30600}{50} \quad X = \sim 27,540 \text{ Btu/h}$$

- Note: AWH unit performance has a slight curve through operating temperature and relative humidity ranges. The calculations above produce a linear performance and should only be used for estimating purposes.
- The 80° dry bulb band is the proposed AHRI* rating point for commercial heat pump water heaters
- Recovery rate is calculated at 60° ΔT with beginning water temperature of 70° and finishing water temperature of 130°
- Minimum entering air temperature 50° F. Maximum entering air temperature 95° F.

*Air-conditioning, Heating and Refrigeration Institute

AWH-35

Dry Bulb Temp. °F	Entering Water Temp. °F	50% RH					60% RH				
		Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)	Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)
50	55	22800	17300	4.1	1.62	45	23500	17900	4.2	1.63	46
	70	22500	16400	3.6	1.81		23200	17000	3.7	1.82	
	110	22200	13600	2.6	2.53		22700	14000	2.6	2.54	
60	55	26400	20800	4.7	1.66	51	27400	21700	4.8	1.67	53
	70	26100	19700	4.1	1.86		27000	20600	4.2	1.87	
	110	25400	16600	2.9	2.58		26000	17200	2.9	2.59	
70	55	30600	24700	5.2	1.72	59	32000	26100	5.4	1.74	61
	70	30100	23600	4.6	1.91		31500	24900	4.8	1.93	
	110	28900	19900	3.2	2.64		30000	21000	3.3	2.66	
80	55	35300	29200	5.8	1.78	67	37200	31100	6.0	1.81	70
	70	34600	27900	5.1	1.97		36500	29700	5.3	2.00	
	110	32900	23700	3.6	2.71		34500	25100	3.7	2.74	
95	55	43500	37000	6.7	1.90	81	45900	39300	6.9	1.94	85
	70	42500	35400	6.0	2.09		44700	37500	6.2	2.12	
	110	39700	30100	4.1	2.82		41600	31800	4.3	2.86	

AWH-55

Dry Bulb Temp. °F	Entering Water Temp. °F	50% RH					60% RH				
		Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)	Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)
50	55	37500	28900	4.3	2.53	74	38600	29900	4.5	2.54	76
	70	37100	27400	3.8	2.85		38200	28400	3.9	2.87	
	110	36600	22800	2.6	4.05		37400	23600	2.7	4.06	
60	55	43400	34600	4.9	2.60	85	45100	36200	5.0	2.62	87
	70	42900	32900	4.3	2.93		44500	34400	4.4	2.96	
	110	41900	27700	3.0	4.16		43000	28700	3.0	4.17	
70	55	50300	41100	5.5	2.70	97	52600	43300	5.7	2.73	101
	70	49500	39200	4.8	3.02		51800	41300	5.0	3.06	
	110	47700	33200	3.3	4.26		49600	34900	3.4	4.29	
80	55	58000	48500	6.1	2.80	110	61200	51500	6.3	2.85	116
	70	57000	46300	5.3	3.13		60100	49200	5.5	3.18	
	110	54300	39300	3.6	4.38		56900	41800	3.8	4.43	
95	55	71500	61300	7.0	3.00	134	75500	65000	7.2	3.07	141
	70	69900	58600	6.2	3.32		73700	62100	6.4	3.38	
	110	65600	49900	4.2	4.59		68700	52800	4.3	4.64	

Recovery from 70°F to 130°F

COMMERCIAL HEAT PUMP PERFORMANCE TABLES



AWH-75

Dry Bulb Temp. °F	Entering Water Temp. °F	50% RH					60% RH				
		Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)	Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)
50	55	50400	38600	4.3	3.46		51900	40000	4.4	3.49	
	70	49900	36700	3.8	3.87	99	51300	38000	3.9	3.89	101
	110	49200	30100	2.6	5.58		50300	31100	2.6	5.61	
60	55	58400	46000	4.7	3.62		60700	48200	4.9	3.66	
	70	57500	43800	4.2	4.01	113	59600	45800	4.3	4.06	116
	110	55900	36300	2.9	5.74		57400	37700	2.9	5.77	
70	55	67600	54600	5.2	3.80		70600	57500	5.4	3.85	
	70	66300	52000	4.6	4.19	129	69200	54800	4.8	4.24	134
	110	63500	43300	3.2	5.90		65800	45600	3.2	5.94	
80	55	77800	64200	5.7	3.98		82100	68200	5.9	4.05	
	70	76100	61200	5.1	4.36	146	80200	65100	5.3	4.42	153
	110	71800	51200	3.5	6.03		75200	54500	3.6	6.08	
95	55	95800	81300	6.6	4.24		101100	86400	6.9	4.30	
	70	93200	77600	6.0	4.58	177	98100	82400	6.2	4.61	185
	110	86300	65300	4.1	6.16		90300	69200	4.3	6.17	

AWH-100

Dry Bulb Temp. °F	Entering Water Temp. °F	50% RH					60% RH				
		Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)	Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)
50	55	65700	51400	4.6	4.18		67600	53200	4.7	4.21	
	70	64900	48900	4.1	4.70	128	66700	50500	4.1	4.73	131
	110	63400	40300	2.7	6.78		64700	41500	2.8	6.80	
60	55	76100	61200	5.1	4.36		78900	63900	5.2	4.42	
	70	75000	58300	4.5	4.88	146	77500	60700	4.6	4.92	150
	110	72300	48500	3.0	6.97		74000	50100	3.1	7.00	
70	55	88000	72400	5.6	4.58		92000	76100	5.8	4.65	
	70	86400	69100	5.0	5.08	167	90200	72600	5.1	5.14	173
	110	82200	57800	3.4	7.15		85200	60600	3.5	7.20	
80	55	101300	84900	6.2	4.80		106800	90100	6.4	4.89	
	70	99100	81000	5.5	5.28	190	104300	86000	5.7	5.35	199
	110	93000	68100	3.7	7.29		97200	72200	3.9	7.34	
95	55	124100	106700	7.1	5.09		130600	113000	7.4	5.15	
	70	120800	102000	6.4	5.51	228	126900	108000	6.7	5.54	239
	110	111300	86000	4.4	7.40		116200	90900	4.6	7.39	

AWH-115

Dry Bulb Temp. °F	Entering Water Temp. °F	50% RH					60% RH				
		Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)	Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)
50	55	75300	59000	4.6	4.76		77500	61100	4.7	4.80	
	70	74400	56100	4.1	5.36	147	76500	58000	4.1	5.40	151
	110	73200	46400	2.7	7.86		74700	47800	2.8	7.89	
60	55	87200	70200	5.1	4.98		90400	73200	5.3	5.04	
	70	85900	66800	4.5	5.58	168	88900	69600	4.6	5.64	173
	110	83300	55700	3.0	8.08		85300	57600	3.1	8.12	
70	55	100800	82900	5.6	5.24		105400	87200	5.8	5.32	
	70	98900	79100	5.0	5.82	192	103300	83100	5.1	5.90	199
	110	94500	66200	3.3	8.30		97900	69400	3.4	8.35	
80	55	116000	97200	6.2	5.50		122300	103200	6.4	5.60	
	70	113400	92700	5.5	6.05	218	119400	98400	5.7	6.14	228
	110	106900	77900	3.7	8.48		111600	82500	3.8	8.53	
95	55	142300	122300	7.1	5.85		149900	129700	7.4	5.92	
	70	138400	116700	6.4	6.34	262	145400	123600	6.7	6.38	274
	110	127700	98300	4.3	8.63		133400	103900	4.5	8.64	

Recovery from 70°F to 130°F



COMMERCIAL HEAT PUMP PERFORMANCE TABLES

AWH-140

Dry Bulb Temp. °F	Entering Water Temp. °F	50% RH					60% RH				
		Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)	Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)
50	55	92700	71300	4.3	6.28	182	95600	73900	4.4	6.34	187
	70	91900	67800	3.8	7.07		94600	70200	3.9	7.13	
	110	90500	56000	2.6	10.10		92500	57900	2.7	10.14	
60	55	107500	85100	4.8	6.56	208	112000	89300	4.9	6.64	214
	70	106100	81000	4.2	7.35		110100	84800	4.3	7.42	
	110	102800	67400	2.9	10.37		105600	70000	3.0	10.43	
70	55	124900	101400	5.3	6.88	237	130700	106900	5.5	6.98	247
	70	122500	96400	4.7	7.66		128100	101600	4.8	7.76	
	110	116800	80400	3.2	10.68		121400	84600	3.3	10.78	
80	55	144700	120000	5.9	7.24	270	152800	127600	6.1	7.38	285
	70	141300	113900	5.2	8.01		149100	121300	5.4	8.16	
	110	132700	95100	3.5	11.02		139300	101200	3.7	11.16	
95	55	180000	153100	6.7	7.86	330	190800	163300	6.9	8.05	348
	70	174800	145400	5.9	8.63		185000	154900	6.2	8.81	
	110	161100	121400	4.1	11.62		169300	129000	4.2	11.79	

AWH-170

Dry Bulb Temp. °F	Entering Water Temp. °F	50% RH					60% RH				
		Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)	Heating Capacity (BTUH)	Cooling Capacity (BTUH)	C.O.P	kW Input	Recovery Rate (GPH)
50	55	113400	86900	4.3	7.78	222	116700	90000	4.4	7.83	227
	70	112500	82600	3.8	8.75		115600	85600	3.8	8.80	
	110	110100	68100	2.6	12.30		112500	70300	2.7	12.35	
60	55	131200	103700	4.8	8.06	254	136200	108500	4.9	8.13	261
	70	129700	98900	4.2	9.04		134400	103200	4.3	9.13	
	110	125300	82300	2.9	12.61		128600	85300	3.0	12.69	
70	55	149600	123200	5.3	8.26	290	158800	129800	5.5	8.50	302
	70	142600	117500	4.7	8.96		156200	123800	4.8	9.51	
	110	144300	98300	3.2	13.14		148100	103400	3.3	13.11	
80	55	175200	145200	5.8	8.78	331	185000	154400	6.1	8.95	348
	70	172100	138600	5.1	9.81		181500	147400	5.3	9.99	
	110	162300	116400	3.5	13.45		170200	123700	3.7	13.64	
95	55	217000	184500	6.7	9.53	404	229700	196300	6.9	9.78	426
	70	212400	176200	5.9	10.62		224400	187300	6.0	10.87	
	110	197400	148400	4.0	14.33		207300	157500	4.2	14.60	

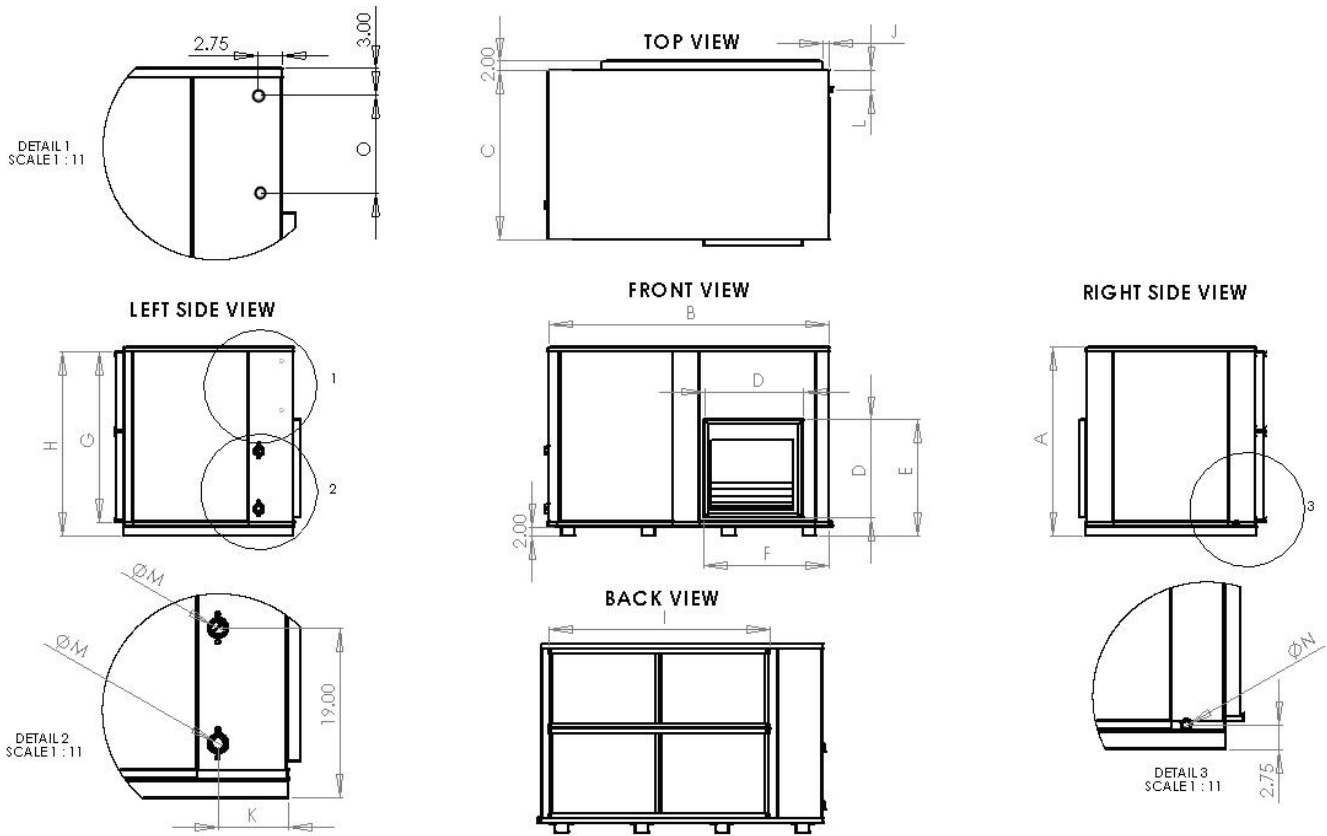
Recovery from 70°F to 130°F

COMMERCIAL HEAT PUMP ELECTRICAL PERFORMANCE TABLE

Model	V / Ph / Hz	COMPRESSOR			BLOWER MOTOR		PUMP (230V/1PH)		MCA	MFS
		RLA	LRA	MCC	FLA	HP	FLA	HP		
AWH-35	208-230/1/60	18.60	100.00	29.00	3.60	1/2	0.88	1/8	28	45
AWH-35	208-230/3/60	10.90	77.00	17.00	2.3-2.4	1/2	0.88	1/8	17	25
AWH-35	460/3/60	5.40	39.00	8.50	1.20	1/2	0.88	1/8	9	12
AWH-55	208-230/1/60	27.90	175.00	43.50	5.30	3/4	0.88	1/8	42	60
AWH-55	208-230/3/60	19.90	115.00	31.00	2.9-3	3/4	0.88	1/8	29	45
AWH-55	460/3/60	8.70	63.00	13.50	1.50	3/4	0.88	1/8	13	20
AWH-75	208-230/3/60	24.00	196.00	37.50	3.5-3.6	1	0.88	1/8	35	50
AWH-75	460/3/60	11.50	100.00	18.00	1.80	1	0.88	1/8	17	25
AWH-100	208-230/3/60	28.20	225.00	44.00	3.5-3.6	1	0.88	1/8	40	60
AWH-100	460/3/60	14.10	114.00	22.00	1.80	1	0.88	1/8	20	30
AWH-115	208-230/3/60	35.30	239.00	55.00	3.5-3.6	1	1.00	1/6	49	80
AWH-115	460/3/60	17.90	125.00	28.00	1.80	1	1.00	1/6	25	40
AWH-140	208-230/3/60	48.10	300.00	75.00	4.8-4.8	1 1/2	1.00	1/6	66	110
AWH-140	460/3/60	21.80	150.00	34.00	2.40	1 1/2	1.00	1/6	31	50
AWH-170	208-230/3/60	52.60	340.00	82.00	6.2-6.2	2	2.50	1/2	75	125
AWH-170	460/3/60	25.60	173.00	40.00	3.10	2	2.50	1/2	37	60

RLA = Running Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current FLA = Full Load Amps MCA = Minimum Circuit Ampacity MFS = Maximum Fuse Size

COMMERCIAL HEAT PUMP DIMENSION TABLES



Dimensions common to all units

- 1 7/8" electrical pilot holes for power and control
- 2 2" unit foot

AWH Dimension Table

Model	Overall Dimensions (inches)			Supply Air Dimensions (inches)				Filter Area Dimensions (inches)				Piping Locators (inches)			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
AWH-35	24.75	40	26	14	17.5	17.75	20.25	21.5	27	3	7	4.375	1	0.75	11
AWH-55	28.5	47	32	16	20	20.5	24	25	35	2.5	7	4.375	1	0.75	11
AWH-75	28.5	57	32	18	22	24	24	25	47	1.5	7	4.375	1.5	0.75	11
AWH-100	42.5	63	38	22	26	28	38	39.25	49.5	1.5	8	4.875	1.5	1	16
AWH-115	42.5	63	38	22	26	28	38	39.25	49.5	1.5	8	4.875	1.5	1	16
AWH-140	42.5	63	38	24	28	28	38	39.25	49.5	2.5	8	4.875	1.5	1	16
AWH-170	42.5	75	46	28	32	34	38	39.25	63.75	1.5	8	4.875	2	1	16

A = Height
B = Width
C = Depth

D = Supply Flange Dimension
E = Supply Flange Height Locator
F = Supply Flange Horizontal Locator
G = Filter Height

H = Filter Height Locator
I = Filter Horizontal
J = Filter Horizontal Locator
K = Entering Water X-axis Locator

L = Condensate Connection X-axis Locator
M = Entering/Leaving Water Connections * FPT
N = Condensate Connection Size * FPT
O = Power Pilot Hole Y-axis Locator