

# پکیج یونیت | Package Units



# INTRODUCTION

## BENEFITS AND FEATURES

Sarayel Nasim packaged air conditioning units are compact systems intended for applications in new or existing stores, restaurants, offices, schools, computer rooms, airports, and industrial plants.

Available in cooling capacities from 5 to 80 tons in a single unit, these units provide significant installation versatility and economy in that they can be used to supply the total cooling requirements in a variety of commercial, institutional, and industrial applications.

Units can be selected with air or water-cooled condensers in rooftop, indoor, and in case of aircooled versions in split or packaged arrangements.

Furthermore, the units can be used for free delivery or ducted applications. For ease of installation, the units can be in vertical or horizontal configuration.

Sarayel Nasim packaged units can provide year round air conditioning with hot water, steam or electric heating coil during the cold season. They can also be used to supplement central systems, permitting zone control at low load conditions without the expense of central systems.

Each unit is factory assembled, wired and shipped as a package. This greatly reduces installation time and assures the optimum positioning of the components.

In the areas where water supply is either unavailable or scarce, the air cooled units can be used. The aircooled split unit requires only the addition of the remotely located Sarayel Nasim Air Cooled Condenser for complete air conditioning.

**All components in Sarayel Nasim packaged units are designed for maximum performance and reliability.**

The basic component of the Sarayel Nasim packaged unit is a semi-hermetic type multi-cylinder compressor designed to run on 380 volt, 3 phase, 50 cycle power input. Motor protection on these units is comprised of three sensors mounted internally in the motor windings which in case of charges in motor temperature shuts off the compressor. An oil safety switch provides protection against loss of oil pressure. All controls and factory wiring are protected within galvanized steel enclosures.

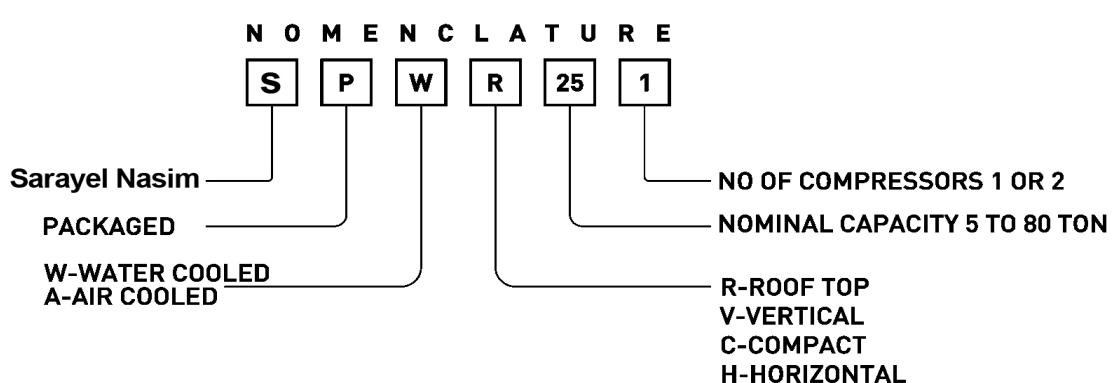
The DX cooling coil is designed and rated according to ARI-410 Standard. To maximize performance, a venturi flow distributor assures even distribution of flow into the cooling coil tubes. Suction line piping is insulated with closed cell insulation to prevent moisture condensation. The DX coil section is insulated with 19mm rock wool panel with aluminum foil cover.

The water cooled condenser is a shell and tube type heat exchanger, sized sufficiently to hold the total refrigerant charge on pump down operations. An integrated sub-cooling section allows system capacity increase without an increase in power.

The condenser shell design meets the ASME- Section VIII, DiV.1, Boiler & Pressure Vessel Code requirements in addition to TEMA Standards.

The air-cooled condenser is configured so that air discharge is directed upward thus carrying heat away from the unit and minimizing directional sound. The fan is statically and dynamically balanced therefore assuring smooth and quiet operation.

**For industrial process cooling and year round air conditioning, custom built units can also be designed and constructed.**



## PHYSICAL DATA

**Table 1**

UNIT SP	PHYSICAL DATA											
	W	A	W	A	W	A	W	A	W	A	W	A
5-1	8-1	10-1	15-1	20-1	25-1	30-1	35-1	40-1				
COMPRESSOR CAPACITY (Tons)	5	8	10	15	20	25	30	35				
NO OF COMPRESSORS	1	1	1	1	1	1	1	1				
REFRIGERANT R-22 Operating charge (kg)	6.0	2.5	5.5	2.2	6.5	2.8	11.7	4.8	11.7	4.9	11.8	6.7
									17.0	7.0	27.6	11.0
										27.6		11.5
EVAPORATOR COIL												
Number of rows	4	4	4	4	4	4	4	4	4	4	4	4
Fins per inch	8	8	8	8	8	8	8	8	8	8	8	8
Tube O.D (in)	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
Total face area (sq.ft)	4	6.4	8.0	12	16	20	23.4	28.0	32.0			
EVAPORATOR FAN												
Number	1	1	1	1	1	1	2	2	2	2	2	2
Size (in)	13	14	14	16	17	19	17	17	17	17	17	17
Nominal CFM	2000	3200	4000	6000	8000	10000	12000	14000	14000	16000		
STANDARD MOTOR												
Horsepower @ 1450 RPM	0.75	2.0	2.0	4.0	5.5	5.5	7.5	7.5	10.0			
RETURN-AIR FILTER												
Total face area (sq.ft)	5.2	7.6	8.3	12.5	17.7	23.6	26.6	29.2	38.2			
Thickness (in)	2	2	2	2	2	2	2	2	2			
CONDENSER (watercooled)												
No x shell diam. (in)	1 x 6	1 x 6	1 x 6	1 x 6	1 x 8	1 x 8	1 x 10	1 x 10	1 x 10			
Integrally finned tube O.D. (in)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4			
OPERATING WEIGHT (Kg)	441	341	523	420	615	492	700	559	780	631	846	686
							931	745	1100	872	1200	969

**Table 2**

UNIT SP	PHYSICAL DATA											
	W	A	W	A	W	A	W	A	W	A	W	A
10-2	15-2	20.2	30-2	40-2	50-2	60-2	70-2	80-2				
COMPRESSOR CAPACITY (Tons)	5	8	10	15	20	25	30	35				
NO OF COMPRESSORS	2	2	2	2	2	2	2	2				
REFRIGERANT R-22 Operating charge (kg)	11.5	4.5	11.0	4.0	12.7	5.5	24.4	10.5	24.4	10.8	27.6	11.2
							33.9	14.0	56.2	23.1	55.1	23.1
EVAPORATOR COIL												
Number of rows	4	4	4	4	4	4	4	4	4	4	4	4
Fins per inch	8	8	8	8	8	8	8	8	8	8	8	8
Tube O.D (in)	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
Total face area (sq.ft)	8.0	12.0	16.0	24.0	32.0	40.0	48.0	57.6				
EVAPORATOR FAN												
Number	1	1	1	1	1	1	2	2	2	2	2	2
Size (in)	14	16	17	17	17	17	19	19	22	22	22	22
Nominal CFM	4000	6000	8000	12000	16000	20000	24000	28000	32000			
STANDARD MOTOR												
Horsepower @ 1450 RPM	2.0	4.0	5.5	7.5	10.0	15.0	15.0	15.0	20.0			
RETURN-AIR FILTER												
Total face area (sq.ft)	10.4	13.0	17.7	25.0	36.5	43.9	55.9	63.9	67.9			
Thickness (in)	2	2	2	2	2	2	2	2	2			
CONDENSER (watercooled)												
No x shell diam. (in)	2 x 6	2 x 6	2 x 6	2 x 6	2 x 8	2 x 8	2 x 10	2 x 10	2 x 10			
Integrally finned tube O.D. (in)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4			
OPERATING WEIGHT (Kg)	670	473	920	706	1100	831	1230	952	1400	1087	1550	1233
							1780	1407	2100	1664	2300	1815

- Note:**
- All units are shipped with a holding charge. However, operating charge dose not include charge for remote air-cooled condenser or refrigerant connection piping. Operating charge values are approximate.
  - Fan size in TABLES 1 & 2 is selected for nominal conditions. Addition of special filters and other accessories will vary the fan size requirement.

## SELECTION PROCEDURE

### EXAMPLE 1: Air Cooled Model

**Given:**

**SUMMER CONDITION:**

Total Cooling Load (TC) .....	720 MBH
Sensible Heat Capacity (SHC) .....	530 MBH
Air Flow Rate. ....	24000 CFM
Entering Dry Bulb Temp. (EDB). ....	80 °F
Entering Wet Bulb Temp. (EWB). ....	67 °F
Air Entering Condenser Temp. (AEC). ....	90°F
Condensing Temp. (CT). ....	125 °F

**WINTER CONDITION**

Total Heating Load. ....	800 MBH
Entering Air Temp. EDB. ....	50 °F
Entering Hot Water Temp. EHT. ....	160 °F
Temperature Drop. ....	10 °F
Air Flow Rate.....	24000 CFM
External Static Pressure. ....	0.5" w.g.
Altitude. ....	Sea Level

**Find:**

- A. Unit size and capacity.
- B. Total heat rejection.
- C. Leaving dry/wet bulb temperatures.
- D. Heating capacity.
- E. Fan speed and HP.

**A. Consider Model Anpu-70-A-2 from TABLE 38, Interpolating between 23040 and 25920 CFM at 67 °F EWB, results in the following quantities:**

Total Cooling Capacity (TC) = 725.9 MBH Sensible Heat Capacity (SHC) = 539.3 MBH Compressor Power Consumption = 62.6 KW

**B. To determine the Total Heat Rejection, THR, enter TABLE 38 with CT = 125 °F and interpolate between 23040 and 25920 CFM. The THR is then found to be:**

$$\text{THR} = 939.6 \text{ MBH}$$

**Next, to select an air cooled condenser, refer to the Total Heat Rejection Chart in the Sarayel Nasim Air Cooled Condenser Catalog with:**

$$\text{TD} = 125 - 90 = 35 \text{ °F}$$

Model Anpu-550-R can be selected to appropriately reject the total heat.

**C. The Leaving Dry Bulb temperature can be calculated using the following relation:**

$$\frac{\text{SHC}}{1.087 \times \text{CFM}} \times \text{LDB} = \text{EDB} -$$

$$\text{LDB} = 80 \text{ °F} - \frac{539300}{1.087 \times 24000} = 59.3 \text{ °F}$$

The Leaving Wet Bulb temperature can be calculated according to the following method:

$$\frac{\text{TC} \times 1000}{4.5 \times \text{CFM}} \times H_2 = H_1 -$$

$$= 31.62 - \frac{735.9 \times 1000}{4.5 \times 24000} = 24.9 \text{ BTU/lb}$$

From TABLE 64, at 0 altitude interpolate between 24.48 and 25.12 BTU/lb to read LWB = 57.7 °F

**D. From the Heating Coil Ratings in TABLE 45, for Model Anpu-70-A-2,a 1 row heating coil (Full Circuit-8 FPI) with the following specifications can be selected:**

Heating Capacity = 1,001,800 BTU/hr Air Flow Rate = 28000 CFM

Since the CFM listed in the table is not equal to the design CFM, a correction factor must be applied.

$$\frac{\text{CFM}}{\text{NOMINAL CFM}} = \frac{24000}{28000} = 85.7 \%$$

From TABLE 42, interpolating between 80% and 90%, a correction factor of 0.92 is obtained. Next, a hot water coil correction factor must be determined.

Enter Figure 1 at 50 °F EDB and moving vertically upward to 160 °F EHT, the correction factor can be found to be 0.93 The actual heating capacity is then:

$$\text{Actual Heating Capacity} = 1,001,800 \times 0.92 \times 0.93 = 857,200 \text{ BTU/hr}$$

**E. From TABLE 43, for a 1 row coil, the internal static pressure is found by interpolation to be 0.07" w.g. Similarly for a 4-row cooling coil, the static pressure drop is found to be 0.4" w.g. The**

## SELECTION PROCEDURE

**total system pressure drop is:**

$$\Delta P_{\text{Total}} = \Delta P_{\text{internal}} + \Delta P_{\text{external}}$$

$$= (0.07" + 0.4") + 0.5" = 0.97" \text{ w.g.}$$

From the Fan Performance Chart on TABLE 49, for Model AnpuA-70-2 with a static pressure of 0.97" w.g., 24000 CFM, and interpolating between 0.75" and 1" static pressure the following quantities can be selected for the fan:

$$\text{RPM} = 512 \quad \text{HP} = 10$$

### EXAMPLE 2: Water Cooled Model

**Given:**

#### SUMMER CONDITION

Total Cooling Load (TC).	.....206 MBH
Sensible Heat Capacity (SHC).	.....103 MBH
Air Flow Rate.	.....5500 CFM
Entering Dry Bulb Temp. (EDB).	.....80 °F
Entering Wet Bulb Temp. (EBW).	.....72 °F
Condenser Entering Water Temp. (EWT).	.....85 °F

#### WINTER CONDITION

Total Heating Load.	.....270 MBH
Entering Dry Bulb Temp. (EDB).	.....60 °F
Entering Hot Water Temp. (EWT).	.....160 °F
Temperature Drop.	.....20 °F
Air Flow Rate.	.....5500 °F
External Static Pressure.	.....0.5" w.g.
Altitude.	.....Sea Level

**Find:**

- A. Unit size and capacity.
- B. Condenser water flow rate.
- C. Condenser pressure drop.
- D. Leaving dry/wet bulb temperatures.
- E. Heating capacity.
- F. Fan speed and HP.

**A. Consider Model AnpuW-15-1 from TABLE 7, interpolating between 5400 and 6000 CFM at 72 °F EWB, Permits the determination of the following quantities:**

$$\text{Total Capacity (TC)} = 207.6 \text{ MBH}$$

$$\text{Sensible Heat Capacity (SHC)} = 105.7 \text{ MBH}$$

$$\text{Compressor Power Consumption} = 10.2 \text{ KW}$$

**B. From TABLE 7, the condenser water flow rate is:**

$$\text{GPM} = 45.1$$

**C. From TABLE 7, the condenser pressure drop is**

$$\text{PD} = 16.2 \text{ ft. water}$$

**D. The Leaving Dry Bulb temperature is calculated according to the following relation:**

$$\frac{\text{SHC}}{1.087 \times \text{CFM}} \cdot \text{LDB} = \text{EDB} -$$

$$\text{LDB} = 80 \text{ }^{\circ}\text{F} - \frac{105700}{1.087 \times 5500} = 62.3 \text{ }^{\circ}\text{F}$$

The Leaving Wet Bulb temperature can be calculated according to the following method:

$$\frac{\text{TC} \times 1000}{4.5 \times \text{CFM}} \cdot H_2 = H_1 -$$

$$= 35.83 - \frac{207.6 \times 1000}{4.5 \times 5500} = 27.4 \text{ BTU/lb}$$

From TABLE 64, interpolating between 27.85 and 28.57 BTU/lb result in LWB = 61.4 °F.

**E. The Heating Coil Capacity for Model AnpuW-15-1 configured with a 2-row coil (Full Circuit-8 FPI) and EDB = 60 °F , from TABLE 45, is:**

$$\text{Heating Capacity} = 338.7 \text{ MBH}$$

Next, the hot water coil correction factor of 0.85 can be read from Figure 1 at the intersection of a vertically projected line from 60 °F entering air temperature up to the 160 °F entering water temperature line and projection horizontally to the left to correction factor axis.

Since the CFM in the table is not equal to the design CFM, a correction factor must be applied.

$$\frac{\text{CFM}}{\text{NOMINAL CFM}} = \frac{5500}{6000} = 91.7 \%$$

**Interpolating between 90% and 100% in TABLE 42, a correction factor 0.96 is obtained. Applying the hot water and CFM correction factors to obtain the actual heating capacity as:**

$$\text{Actual Heating Capacity} = 338700 \times 0.85 \times 0.96 = 276.4 \text{ MBH}$$

**F. The total static pressure, fan speed, and horse power are calculated similar to the procedure outlined in part e) of EXAMPLE 1 as:**

$$\Delta P_{\text{Total}} = 1.1" \text{ w.g.}$$

$$\text{RPM} = 780 \quad \text{HP} = 3$$

## SELECTION PROCEDURE

**Notes:**

Air cooled condensers must operate under different ambient conditions in order to provide sufficient heat rejection from the air conditioning cycle. All manufacturers therefore publish condenser ratings under a standard condition. For any condition other than the standard condition stated by the manufacturer, correction factors must be applied to the total heat rejection in the packaged rating tables. One such correction factor is altitude correction factor given in the table below which must be applied to the total heat rejected from the air cooled packaged unit in order to select the appropriate air cooled condenser.

**Table 3 -ALTIYUDE CORRECTION FACTOR**

ALTITUDE (m)	CF	ALTITUDE (m)	CF
0	1.000	1400	1.107
310	1.023	1550	1.119
625	1.047	1720	1.132
940	1.070	1880	1.145
1250	1.095	2000	1.158

**EXAMPLE 3: Altitude Correction Factor**

Suppose the air cooled condenser of EXAMPLE 1 is to operate under the same summer and winter condition except at the location stated below:

**Geographic Location: Tehran**
**Altitude: 1190 meters**

**The unit selection and the calculation of the Total Heat Rejection (THR) is identical to the steps a) and B) in EXAMPLE 1. Hence:**

**Model Anpu-70-A-2**
**THR = 939.6 MBH**

From TABLE 3, the Correction Factor CF = 1.0902 by interpolation. Applying CF to the Total Heat Rejection leads to the new value for THR:

$$\text{THR}_{\text{New}} = \text{THR} \times 1.0902 = 939.6 \times 1.0902 = 1024 \text{ MBH}$$

From Sarayel Nasim Air Cooled Condenser Catalog for TD = 35 °F and THR New = 1024 MBH, air cooled condenser Model Anpu-700-R can be selected.

**EXAMPLE 4: Non Standard Condition Water Cooled Model**
**Given:**
**SUMMER CONDITION**

Total Cooling Load (TC).	260 MBH
Sensible Heat Capacity (SHC).	140 MBH
Air Flow Rate.	8800 MBH
Entering Dry Bulb Temp. (EDB).	83 °F
Entering Wet Bulb Temp. (EWB).	67 °F
Condenser Entering Water Temp. (EWT).	85 °F
Design Leaving Dry Bulb Temp. (DLDB).	66 °F
Coil Face Area (FA).	16.0 FT <sup>2</sup>
Altitude.	0 FT

Select Anpu-20-W-1 from TABLE 8, with TC=240.8 MBH and SHC=186 MBH at 80 °F EDB. The face velocity, FV, is calculated according to the following relation:

$$FV = \frac{CFM}{FA} = \frac{8800}{16.0} = 550 \text{ FPM}$$

Where the face area, FA, for packaged units is listed in TABLE 1. With the calculated face velocity enter TABLE 40, under the 4-row coil the Bypass Factor, BF, is given as 0.26. Next, enter TABLE 41, at 83 °F EDB and interpolate between 0.25 and 0.30 BF. The CF is then calculated as 2.42. The corrected TC and SHC for EDB=83 °F can be determined according to:

$$TC = 240800 + 8800 \times 2.42 = 262000 \text{ BTUH} \quad SHC = 186000 + 8800 \times 2.42 = 207000 \text{ BTUH}$$

Since the calculated TC and SHC can satisfactorily meet the given load, the leaving dry bulb temperature can be calculated as:

$$LDB = 83 \text{ °F} - \frac{207000}{1.087 \times 8800} = 61.4 \text{ °F}$$

It can thus be seen that the design leaving dry bulb temperature of 66 °F can be attained.

The leaving Wet Bulb temperature can be calculated according to the following method:

$$H_2 = H_1 - \frac{TC}{4.5 \times CFM} = 35.83 - \frac{262000}{4.5 \times 8800} = 24.9 \text{ BTU/lb}$$

From TABLE 64 at 0 altitude interpolate between 29.31 and 28.57 BTU/lb to read LWB = 63.8 °F.











## WATER COOLED PACKAGED UNIT RATINGS

**TABLE 19****Anpu-60-W-2 RATINGS**

EWT (°F)	CONDENSER		CFM	19200			21600			24000			26400		
			FACE VELOCITY(FPM)	400			450			500			550		
	GPM	PD(ft)	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
75	172.2	21.5	TC (MBH)	795.5	723.8	655.7	813.3	738.6	669.2	826.9	751.6	680.0	837.1	762.3	691.9
			SHC (MBH)	398.0	490.4	582.7	413.5	516.9	618.0	430.4	540.6	651.4	444.0	565.2	691.9
			Input Power (KW)	32.0	32.1	32.0	31.9	32.1	32.1	31.9	32.1	32.1	31.9	32.1	32.1
			Current(AMP.)	55.6	55.8	55.7	55.5	55.8	55.7	55.5	55.8	55.8	55.5	55.7	55.8
85	170.2	20.8	TC (MBH)	771.7	700.2	631.4	788.4	714.2	647.0	802.2	726.9	656.5	811.3	737.3	669.4
			SHC (MBH)	389.6	479.7	572.6	404.7	506.7	607.0	420.4	531.3	637.9	436.3	555.8	665.7
			Input Power (KW)	36.4	36.2	36.2	36.4	36.3	35.9	36.4	36.3	36.0	36.4	36.3	36.0
			Current(AMP.)	62.1	61.8	61.8	62.1	61.9	61.3	62.1	61.9	61.6	62.1	62.0	61.6
95	166.7	20.2	TC (MBH)	738.7	669.8	603.5	753.4	682.6	616.8	766.4	694.2	642.3	774.0	703.7	642.3
			SHC (MBH)	375.9	460.3	559.8	392.1	495.3	592.6	408.3	518.1	642.3	428.0	541.1	642.3
			Input Power (KW)	41.2	40.6	39.8	41.2	40.7	40.0	41.2	40.8	40.3	41.2	40.9	40.3
			Current(AMP.)	69.1	68.3	67.2	69.1	68.5	67.4	69.1	68.6	67.9	69.1	68.7	67.9

**TABLE 20****Anpu-70-W-2 RATINGS**

EWT (°F)	CONDENSER		CFM	23040			25920			28800			31680		
			FACE VELOCITY(FPM)	400			450			500			550		
	GPM	PD(ft)	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
75	208.2	19.9	TC (MBH)	954.5	869.5	790.0	975.4	887.8	805.0	991.1	902.6	818.7	1003.0	915.5	831.8
			SHC (MBH)	476.2	589.4	700.0	494.2	619.9	743.2	514.0	649.5	781.9	534.0	675.9	818.7
			Input Power (KW)	40.5	40.7	40.7	40.4	40.7	40.7	40.4	40.6	40.7	40.4	40.6	40.7
			Current(AMP.)	76.7	77.1	77.1	76.6	77.0	77.1	76.6	77.0	77.1	76.6	76.9	77.1
85	205.7	19.5	TC (MBH)	924.6	840.2	760.2	854.6	857.6	774.6	960.0	871.7	789.3	972.2	884.3	803.7
			SHC (MBH)	466.4	576.4	685.6	484.8	606.6	728.9	503.4	635.7	765.9	524.0	663.8	798.6
			Input Power (KW)	46.0	45.8	45.9	46.0	45.9	45.5	46.0	45.9	45.6	46.0	45.9	45.7
			Current(AMP.)	85.0	84.7	84.9	85.0	84.8	84.2	85.0	84.9	84.4	85.0	84.9	84.5
95	201.5	18.7	TC (MBH)	883.2	802.3	727.2	900.4	818.1	739.7	915.9	831.1	754.9	924.0	842.9	770.5
			SHC (MBH)	450.2	562.3	672.1	469.6	591.1	711.3	487.0	621.0	748.2	508.0	647.4	770.5
			Input Power (KW)	52.1	51.5	50.6	52.1	51.6	50.8	52.1	51.7	50.9	52.1	51.8	51.1
			Current(AMP.)	94.1	93.3	91.8	94.1	93.4	92.1	94.1	93.5	92.4	94.1	93.7	92.6

**Note:** ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86.

## WATER COOLED PACKAGED UNIT RATINGS

**TABLE 21****Anpu-80-W-2 RATINGS**

EWT (°F)	CONDENSER		CFM	24800			27900			31000			341		
				FACE VELOCITY(FPM)			400			450			500		
	GPM	PD(ft)	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
75	245.5	22.7	TC (MBH)	1121.9	1018.6	925.4	1149.0	1042.9	947.1	1169.2	1062.7	964.2	1187.9	1080.1	976.0
			SHC (MBH)	548.0	671.6	788.0	568.5	704.6	833.8	589.2	737.1	877.2	609.6	766.6	923.1
			Input Power (KW)	48.1	48.3	48.1	48.1	48.3	48.2	48.0	48.3	48.2	47.9	48.2	48.3
			Current(AMP.)	86.0	86.3	86.1	85.9	86.2	86.2	85.8	86.2	86.2	85.7	86.2	86.2
85	242.1	22.1	TC (MBH)	1085.2	982.6	889.2	1111.8	1006.1	909.5	1131.2	1024.8	924.4	1148.7	1041.5	938.1
			SHC (MBH)	535.9	654.0	772.8	555.7	687.9	815.7	577.8	720.2	861.8	596.8	751.1	902.9
			Input Power (KW)	54.6	54.3	53.6	54.6	54.4	53.8	54.6	54.4	53.9	54.6	54.5	54.0
			Current(AMP.)	94.4	93.9	93.2	94.4	94.1	93.4	94.4	94.2	93.5	94.4	94.2	93.6
95	237.1	21.1	TC (MBH)	1037.0	939.1	848.0	1061.4	960.2	865.0	1079.4	976.8	880.7	1094.4	992.1	895.7
			SHC (MBH)	516.4	636.2	752.1	535.7	669.6	799.4	558.2	702.4	840.2	578.3	731.9	881.7
			Input Power (KW)	61.7	60.8	59.7	61.9	61.0	59.9	61.9	61.2	60.1	61.9	61.3	60.3
			Current(AMP.)	103.6	102.5	101.0	103.9	102.8	101.3	103.9	138.0	101.6	103.9	103.2	101.8

### Rating Table Notes:

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (KW), the heat generated by the evaporator fan has not been taken into account.
3. Ratings are based on 10 °F subcooling.
4. All ratings are based on 80 °F EDB according to ARI standards 310-90 and 360-86.

### Formulas, (At sea level):

$$\text{GPM} = \frac{\text{THR(BTU/hr)}}{500 \times \Delta T} \quad (\text{Water Flow Rate})$$

$$\text{LDB} = \text{EDB} - \frac{\text{SHC(BTU/hr)}}{1.087 \times \text{CFM}} \quad (\text{For cooling and heating coils})$$

$$H_2 = H_1 - \frac{\text{TC (BTU/hr)}}{4.45 \times \text{CFM}} \quad (\text{For cooling coil})$$

THR (MBH) = Gross Total Capacity (MBH) + 3.413 x Compressor Power Input (KW)  
 (For suction cooled compressors)

## AIR COOLED PACKAGED UNIT RATINGS

<b>TABLE 22</b>		<b>Anpu-5-A-1 RATINGS</b>												
		<b>CFM</b>	1600			1800			2000			2200		
			400			450			500			550		
		<b>FACE VELOCITY(FPM)</b>	72	67	62	72	67	62	72	67	62	72	67	62
105	EWB(°F)	TC (MBH)	67.7	61.1	54.8	69.2	62.5	56.1	70.4	63.6	57.1	71.5	64.6	58.1
	SHC (MBH)	33.6	41.1	48.8	35.0	43.5	51.7	36.4	45.5	54.6	37.6	47.6	57.6	
	Input Power (KW)	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
	Current(AMP.)	6.8	6.8	6.7	6.8	6.8	6.7	6.8	6.8	6.7	6.8	6.8	6.8	6.7
	THR (MBH)	79.4	72.8	58.2	80.9	74.2	67.7	82.2	75.3	68.8	83.2	76.3	69.7	
115	TC (MBH)	64.6	58.3	52.3	66.0	59.5	53.5	67.1	60.6	54.3	68.1	61.5	55.6	
	SHC (MBH)	32.5	40.0	47.5	33.9	42.4	50.5	35.2	44.3	53.4	36.5	46.3	55.6	
	Input Power (KW)	3.9	3.8	3.7	3.9	3.8	3.8	3.9	3.8	3.8	3.9	3.8	3.8	
	Current(AMP.)	7.37	7.3	7.2	7.3	7.3	7.2	7.3	7.3	7.2	7.3	7.3	7.2	
	THR (MBH)	77.8	71.3	65.1	79.2	72.6	66.3	80.3	73.7	67.2	81.4	74.6	68.5	
125	TC (MBH)	61.5	55.4	49.7	62.7	56.5	50.6	63.7	57.5	51.9	64.6	58.3	53.2	
	SHC (MBH)	31.3	38.8	46.3	32.7	41.1	49.2	34.0	43.2	51.9	33.	45.2	53.2	
	Input Power (KW)	4.3	4.2	4.1	4.3	4.2	4.1	4.3	4.2	4.1	4.3	4.2	4.2	
	Current(AMP.)	7.97	7.8	7.6	7.9	7.8	7.7	7.9	7.8	7.7	7.9	7.8	7.7	
	THR (MBH)	76.1	69.7	63.7	77.4	70.9	64.6	78.5	71.9	66.0	79.3	72.8	67.4	
135	TC (MBH)	58.3	52.4	46.9	59.3	53.4	48.2	60.3	54.3	49.6	61.0	55	50.8	
	SHC (MBH)	30.0	37.7	45.2	31.5	39.8	48.0	32.8	41.9	49.5	34.0	43.9	50.8	
	Input Power (KW)	4.7	4.6	4.4	4.7	4.6	4.5	4.7	4.6	4.5	4.7	4.6	4.5	
	Current(AMP.)	8.4	8.3	8.1	8.5	8.3	8.1	8.5	8.3	8.2	8.5	8.4	8.2	
	THR (MBH)	74.3	68.0	62.0	75.4	69.1	63.4	76.4	70.0	64.9	77.2	70.8	66.3	

<b>TABLE 23</b>		<b>Anpu-8-A-1 RATINGS</b>												
		<b>CFM</b>	2560			2880			3200			3520		
			400			450			500			550		
		<b>FACE VELOCITY(FPM)</b>	72	67	62	72	67	62	72	67	62	72	67	62
105	EWB(°F)	TC (MBH)	102.4	92.9	83.9	105.3	94.8	85.6	106.3	96.2	87.3	107.3	98.1	88.7
	SHC (MBH)	51.8	63.9	75.9	54.0	67.3	80.5	55.9	71.0	85.3	57.5	73.4	88.7	
	Input Power (KW)	6.4	6.3	6.1	6.4	6.3	6.2	6.5	6.3	6.2	6.5	6.4	6.2	
	Current(AMP.)	12.2	12.0	11.8	12.3	12.0	11.8	12.3	12.1	11.9	12.3	12.1	11.9	
	THR (MBH)	124.3	114.4	104.9	127.0	116.4	106.7	128.4	117.8	108.4	129.5	119.8	109.9	
115	TC (MBH)	98.0	88.8	80.1	99.9	90.5	81.7	101.4	91.6	84.0	102.9	93.5	85.3	
	SHC (MBH)	50.1	62.1	74.1	52.2	65.6	78.6	54.2	69.3	82.1	55.9	71.6	85.3	
	Input Power (KW)	7.1	6.9	6.7	7.1	6.9	6.7	7.1	6.9	6.8	7.1	7.0	6.8	
	Current(AMP.)	13.3	14.2	12.6	13.3	13.0	12.7	13.4	13.0	12.8	13.4	13.1	12.8	
	THR (MBH)	122.1	112.3	102.9	124.1	114.2	104.7	125.8	115.3	107.2	127.3	117.3	105.6	
125	TC (MBH)	92.9	84.2	75.9	94.7	85.7	77.6	96.1	86.7	80.4	97.3	88.3	81.5	
	SHC (MBH)	48.1	60.3	72.4	50.3	63.6	77.0	52.1	67.3	78.4	54.2	69.9	81.5	
	Input Power (KW)	7.7	7.5	7.2	7.8	7.5	7.3	8.8	7.6	8.4	8.8	7.6	7.4	
	Current(AMP.)	14.3	13.9	13.5	14.4	14.0	13.6	15.9	14.0	15.3	15.9	14.1	13.8	
	THR (MBH)	119.3	109.7	100.6	121.1	111.5	102.5	126.1	112.5	109.0	127.3	114.2	106.9	
135	TC (MBH)	87.1	78.9	71.3	88.4	80.3	73.4	89.6	81.4	76.2	90.2	82.4	77.2	
	SHC (MBH)	46.1	58.2	70.8	48.1	61.5	73.4	49.7	65.0	74.3	51.6	68.0	77.2	
	Input Power (KW)	8.4	8.1	7.8	8.4	8.1	7.9	8.4	8.2	8.0	8.4	8.2	8.0	
	Current(AMP.)	15.4	14.9	14.4	15.4	15.0	14.6	15.4	15.0	14.7	15.4	15.1	14.8	
	THR (MBH)	115.7	106.5	98	117.1	108.1	100.4	118.3	109.3	103.5	118.9	110.5	104.7	

### Rating Table Notes:

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (kw), the heat generated by the evaporator fan has not been taken into account.

3. Ratings are based on 10 °F subcooling.
4. All ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86
5. Standard air cooled condenser rating are based on 125 °F condensing temperature according to ARI Standard 460-[87].

## AIR COOLED PACKAGED UNIT RATINGS

**TABLE 24****Anpu-10-A-1 RATINGS**

CT (°F)	CFM	3200			3600			4000			4400		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	138.1	124.7	112.5	141.3	127.5	115.0	143.7	130	117	146.0	132.1	118.9
	SHC (MBH)	68.1	83.6	98.4	71.0	88.0	104.2	73.7	92.0	110.1	76.1	96.0	115.3
	Input Power (KW)	8.5	8.4	8.3	8.6	8.5	8.3	8.6	8.5	8.3	8.6	8.5	8.3
	Current(AMP.)	15.8	15.6	15.3	15.8	15.6	15.4	15.8	15.7	15.4	15.8	15.7	15.5
	THR (MBH)	167.3	153.4	140.7	170.5	170.1	143.3	173.0	158.9	145.4	175.3	161.1	147.4
115	TC (MBH)	131.2	118.5	106.8	134.1	121.1	109.0	136.4	123.3	110.9	138.3	125.2	112.8
	SHC (MBH)	65.6	81.0	95.8	68.2	85.3	101.6	70.9	89.4	107.2	73.5	93.1	112.7
	Input Power (KW)	9.4	9.2	9.0	9.5	9.3	9.0	9.5	9.3	9.0	9.5	9.3	9.1
	Current(AMP.)	17.2	16.9	16.5	17.2	16.9	16.6	17.2	17	16.6	17.3	17.0	16.7
	THR (MBH)	163.4	150.0	137.5	166.4	152.7	139.9	168.8	155.0	141.9	170.8	157.0	144
125	TC (MBH)	124.2	112.2	101.0	126.8	114.5	102.9	128.9	116.4	104.8	130.5	118.1	107.7
	SHC (MBH)	62.9	78.3	93.1	65.6	82.6	99.2	68.3	86.6	104.8	70.9	90.6	107.7
	Input Power (KW)	10.3	10.0	9.7	10.3	10.1	9.8	10.3	10.1	9.8	10.4	10.1	9.9
	Current(AMP.)	18.5	18.1	17.6	18.6	18.2	17.7	18.6	18.2	17.8	18.7	18.3	17.9
	THR (MBH)	152.3	146.4	134.2	162.0	148.9	136.3	164.2	150.9	138.4	165.9	152.7	141.4
135	TC (MBH)	117.2	105.8	95.2	119.4	107.8	97.2	121.3	109.4	100	122.7	110.9	102.5
	SHC (MBH)	60.5	75.6	90.7	63.0	80.1	97.2	65.6	84	100	68.1	87.8	102.5
	Input Power (KW)	11.1	10.7	10.4	11.1	10.8	10.5	11.2	10.9	10.6	11.2	10.9	10.6
	Current(AMP.)	19.8	19.3	18.7	19.9	19.4	18.8	20	19.5	19.6	20.0	19.55	19.1
	THR (MBH)	154.9	142.5	130.8	157.4	144.7	132.9	159.4	146.5	136.1	160.9	148.1	138.8

**TABLE 25****Anpu-15-A-1 RATINGS**

CT (°F)	CFM	4800			5400			6000			6600		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	194.3	175.7	158.5	198.4	179.2	153.8	201.6	182.7	164.4	204.5	185.2	167.8
	SHC (MBH)	97.5	120.6	143.5	101.7	127.4	152.6	105.7	133.2	160.7	109.5	139.4	167.7
	Input Power (KW)	11.5	11.3	11.1	11.6	11.4	11.1	11.6	11.4	11.2	11.6	11.5	11.2
	Current(AMP.)	21.7	21.3	20.9	21.7	21.4	21.0	21.8	21.5	21.1	21.8	21.5	21.2
	THR (MBH)	233.8	214.4	196.4	237.9	218.1	191.8	241.3	221.7	202.5	244.2	224.3	206.1
115	TC (MBH)	185.8	167.9	151.3	189.5	171.1	153.8	192.5	174.2	157.4	195.6	176.6	161.3
	SHC (MBH)	94.4	117.6	140.1	98.6	124.2	149.6	102.3	129.9	157.3	105.6	137.0	161.6
	Input Power (KW)	12.8	12.5	12.2	12.9	12.6	12.2	12.9	12.6	12.3	12.9	12.7	12.4
	Current(AMP.)	23.8	23.3	22.7	23.9	23.4	22.8	23.9	23.5	22.9	23.9	23.5	23.0
	THR (MBH)	229.6	210.7	192.8	233.5	214.1	195.6	236.0	217.3	199.4	239.7	219.9	203.5
125	TC (MBH)	176.9	159.9	143.1	180.3	162.8	146.8	183.6	165.5	150.9	186.5	167.7	154.8
	SHC (MBH)	91.5	114.3	137.8	95.1	120.7	146.7	98.6	126.9	151.3	101.4	132.6	154.8
	Input Power (KW)	14.1	13.7	13.2	14.2	13.8	13.3	14.2	13.8	13.4	14.2	13.9	13.5
	Current(AMP.)	25.9	25.2	24.4	26.0	25.3	24.6	26.0	25.5	24.8	26.0	25.5	25.0
	THR (MBH)	225.1	206.6	188.2	228.7	209.8	192.3	232.1	212.7	196.8	235.0	215.1	201.1
135	TC (MBH)	167.8	151.6	136.0	170.9	154.4	140.3	174.5	156.5	144.5	177.1	158.4	148.0
	SHC (MBH)	87.9	110.9	133.9	91.8	117.1	140.7	94.0	123.5	144.5	96.9	129.6	148.0
	Input Power (KW)	15.4	14.8	14.2	15.4	14.9	14.4	15.4	15.0	14.6	15.4	16.1	14.7
	Current(AMP.)	28.1	27.2	26.2	28.1	27.3	26.5	28.1	27.5	26.7	28.1	27.6	26.9
	THR (MBH)	220.2	202.2	184.7	223.4	205.3	189.6	227.0	207.7	194.8	229.5	209.8	198.2

**Rating Table Notes:**

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (KW), the heat generated by the evaporator fan has been taken into account.

3. Ratings are based on 10 °F subcooling.
4. All ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86
5. Standard air cooled condenser ratings are based on 125 °F condensing temperature according to ARI Standard 460-[87].

## AIR COOLED PACKAGED UNIT RATINGS

**TABLE 26****Anpu-20-A-1 RATINGS**

CT (°F)	CFM	6400			7200			8000			8800		
		FACE VELOCITY(FPM)			400			450			500		
	EWB(°F)		72	67	62	72	67	62	72	67	62	72	67
105	TC (MBH)	241.6	219.4	198.3	246.1	223.7	201.9	249.9	227.1	206.7	252.5	230.0	211.7
	SHC (MBH)	125.8	157.0	188.2	131.4	165.3	200.1	136.7	173.9	206.7	142.4	181.7	211.7
	Input Power (KW)	12.9	12.8	12.6	12.9	12.8	12.6	12.9	12.8	12.7	12.9	12.8	12.7
	Current(AMP.)	23.5	23.4	23.2	23.5	23.4	23.2	23.5	23.5	23.3	23.5	23.5	23.3
	THR (MBH)	285.5	263.0	241.4	290.1	267.4	245.1	293.9	270.8	250.0	296.5	273.8	255.1
115	TC (MBH)	230.6	209.4	188.5	234.7	213.1	193.3	238.1	216.2	198.6	240.2	218.7	203.1
	SHC (MBH)	121.6	152.6	188.5	126.9	161.1	193.3	132.2	169.4	198.6	138.2	177.6	203.1
	Input Power (KW)	14.4	14.2	13.9	14.4	14.2	14.0	14.4	14.3	14.1	14.4	14.3	14.1
	Current(AMP.)	25.7	25.4	24.9	25.7	25.4	25.1	25.7	25.5	25.2	25.7	25.5	25.3
	THR (MBH)	279.8	257.9	235.9	283.9	261.7	241.1	287.4	265.0	246.6	289.4	267.6	251.3
125	TC (MBH)	219.1	198.7	179.6	222.8	202.2	185.2	225.7	205.0	190.4	227.1	207.2	194.7
	SHC (MBH)	117.4	148.6	179.6	122.5	156.9	185.2	128.3	164.7	190.4	135.0	173.4	194.7
	Input Power (KW)	15.9	15.6	15.2	15.9	15.7	15.3	15.9	15.7	15.4	15.9	15.7	15.5
	Current(AMP.)	27.8	27.4	26.8	27.8	27.4	27.0	27.8	27.5	27.1	27.8	27.6	27.3
	THR (MBH)	273.4	251.9	231.5	277.0	255.6	237.5	280.0	258.6	243.1	281.3	260.9	247.7
135	TC (MBH)	207.4	187.8	171.4	210.7	190.9	177.0	213.2	193.3	181.6	214.0	195.3	185.7
	SHC (MBH)	112.6	144.2	171.4	118.2	152.5	177.0	123.7	160.8	181.6	130.9	168.7	185.7
	Input Power (KW)	17.3	16.9	16.5	17.3	17.0	16.7	17.3	17.1	16.8	17.3	17.1	16.9
	Current(AMP.)	29.8	29.3	28.7	29.8	29.5	28.9	29.8	29.6	29.1	29.8	29.6	29.3
	THR (MBH)	266.4	245.6	227.7	269.7	249.0	233.9	272.2	251.7	238.9	273.0	253.8	243.4

**TABLE 27****Anpu-25-A-1 RATINGS**

CT (°F)	CFM	8000			9000			10000			11000		
		FACE VELOCITY(FPM)			400			450			500		
	EWB(°F)		72	67	62	72	67	62	72	67	62	72	67
105	TC (MBH)	306.6	277.7	250.7	312.3	283.1	255.5	317.4	287.9	260.6	320.4	291.9	267.2
	SHC (MBH)	155.8	195.0	233.0	162.8	205.9	247.6	169.2	215.9	260.6	176.6	225.0	267.2
	Input Power (KW)	16.8	16.6	16.3	16.8	16.6	16.4	16.8	16.7	16.4	16.8	16.7	16.5
	Current(AMP.)	29.7	29.5	29.1	29.8	29.5	29.2	29.8	29.6	29.3	29.8	29.6	29.4
	THR (MBH)	363.8	334.4	306.5	369.6	339.9	311.5	374.7	344.8	316.7	377.7	348.9	323.6
115	TC (MBH)	292.4	264.9	239.1	297.4	269.7	244.5	302.3	274.1	250.6	304.2	277.6	256.8
	SHC (MBH)	151.3	189.4	227.7	157.7	200.3	242.7	163.4	209.8	250.6	172.1	219.9	256.8
	Input Power (KW)	18.7	18.4	18.0	18.7	18.5	18.1	18.7	18.5	18.2	18.7	18.6	18.3
	Current(AMP.)	32.5	32.0	31.4	32.5	32.1	31.6	32.5	32.2	31.4	32.5	32.3	31.9
	THR (MBH)	356.2	327.7	300.5	361.4	332.7	306.3	366.2	337.4	312.7	368.1	340.9	319.2
125	TC (MBH)	277.5	251.3	227.7	282.1	255.9	233.7	286.7	259.7	240.0	287.2	262.6	245.7
	SHC (MBH)	145.6	184.4	221.4	152.5	194.8	233.5	157.4	205.0	240.0	167.6	214.6	245.7
	Input Power (KW)	20.5	20.1	19.6	20.5	20.2	19.8	20.5	20.3	19.9	20.5	20.4	20.4
	Current(AMP.)	35.1	34.5	33.8	35.1	34.7	34.0	35.1	34.8	34.2	35.1	34.8	34.4
	THR (MBH)	347.6	320.1	294.6	352.2	325.0	301.2	356.8	329.0	308.0	357.3	322.2	314.1
135	TC (MBH)	261.6	237.1	215.9	265.6	241.3	222.8	270.5	244.5	228.8	269.4	247.0	233.9
	SHC (MBH)	140.6	178.6	215.9	147.6	189.2	22.8	151.4	199.2	228.8	164.1	208.6	233.9
	Input Power (KW)	22.2	21.8	21.2	22.2	22.0	21.4	22.2	22.0	21.6	22.2	22.1	21.8
	Current(AMP.)	37.5	37.0	36.0	37.5	37.1	36.4	37.5	37.3	36.6	37.5	37.3	36.8
	THR (MBH)	337.6	311.7	288.3	341.5	316.2	295.9	346.5	319.7	302.5	345.3	322.4	308.2

**Rating Table Notes:**

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (KW), the heat generated by the evaporator fan has been taken into account.

3. Ratings are based on 10 °F subcooling.
4. All ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86.
5. Standard air cooled condenser ratings are based on 125 °F condensing temperature according to ARI Standard 460-(87) .

## AIR COOLED PACKAGED UNIT RATINGS

**TABLE 28****Anpu-30-A-1 RATINGS**

CT (°F)	CFM	9360			10530			11700			12870		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	362.8	328.1	296.0	369.6	334.7	301.5	375.8	340.3	307.1	380.6	344.9	314.7
	SHC (MBH)	183.8	229.0	273.2	192.1	241.0	290.7	199.5	253.4	307.1	206.8	262.0	314.7
	Input Power (KW)	20.5	20.2	19.9	20.6	20.3	19.9	20.6	20.4	20.0	20.6	20.4	20.1
	Current(AMP.)	34.5	34.0	33.5	34.5	34.1	33.6	34.5	34.2	33.7	34.5	34.3	33.8
	THR (MBH)	432.9	397.1	363.9	439.9	404.0	369.5	446.0	409.8	375.3	450.8	414.5	383.3
115	TC (MBH)	345.6	312.5	281.7	351.9	318.5	287.9	357.4	323.7	294.8	362.1	327.8	302.3
	SHC (MBH)	177.8	222.8	266.8	185.3	235.5	285.0	192.5	246.8	294.8	199.9	258.1	302.3
	Input Power (KW)	22.8	22.3	21.8	22.8	22.4	21.9	22.8	22.5	22.0	22.8	22.6	22.2
	Current(AMP.)	37.9	37.1	36.3	37.9	37.3	36.5	37.9	37.4	36.7	37.9	37.5	36.9
	THR (MBH)	423.5	388.8	356.0	429.8	395.0	362.6	435.3	400.5	370.0	439.9	404.9	377.9
125	TC (MBH)	327.7	296.3	267.6	333.4	301.4	274.4	338.1	306.1	282.2	342.3	309.9	288.9
	SHC (MBH)	171.3	216.4	259.6	179.5	228.8	274.4	186.5	240.1	282.2	193.1	251.8	288.9
	Input Power (KW)	24.9	24.4	23.6	24.9	24.5	23.8	24.9	24.6	24.0	24.9	24.7	24.2
	Current(AMP.)	41.0	40.1	39.1	41.0	40.3	39.4	41.0	40.5	39.6	41.0	40.6	39.9
	THR (MBH)	412.7	379.4	348.4	418.4	385.0	355.8	423.1	390.1	364.2	427.3	394.1	371.5
135	TC (MBH)	308.5	279.1	253.2	313.5	283.6	261.3	317.9	287.7	268.5	321.8	291.0	274.7
	SHC (MBH)	164.8	209.4	253.2	172.4	222.0	261.4	179.4	233.0	268.5	186.3	243.7	274.7
	Input Power (KW)	26.8	26.3	25.5	26.8	26.4	25.7	26.8	26.6	26.0	26.8	26.7	26.2
	Current(AMP.)	43.8	43.0	41.8	43.8	43.3	42.2	43.8	43.4	42.6	43.8	43.6	42.9
	THR (MBH)	400.1	368.9	340.1	405.2	379.9	349.2	409.6	378.4	357.1	413.4	382.0	364.0

**TABLE 29****Anpu-35-A-1 RATINGS**

CT (°F)	CFM	11200			12600			14000			15400		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	436.7	396.1	358.3	445.4	404.6	365.1	451.8	410.6	372.2	459.7	416.3	379.6
	SHC (MBH)	221.8	275.3	328.3	230.6	290.1	348.7	240.2	304.2	372.2	246.2	317.3	379.6
	Input Power (KW)	26.0	25.7	25.2	26.0	25.8	25.3	26.0	25.8	25.4	26.0	25.9	25.5
	Current(AMP.)	47.0	46.5	45.8	47.0	46.6	46.0	47.0	46.7	46.1	47.0	46.8	46.2
	THR (MBH)	525.5	483.8	444.4	534.4	492.5	451.5	540.7	498.8	458.9	458.6	504.6	466.6
115	TC (MBH)	415.6	376.9	340.8	423.7	384.4	347.9	428.7	390.1	355.6	437.3	395.3	364.0
	SHC (MBH)	213.5	266.9	320.1	223.3	282.0	341.7	232.0	296.0	354.9	237.0	309.7	364.0
	Input Power (KW)	29.0	28.4	27.8	29.0	28.6	27.9	29.0	28.6	28.1	29.0	28.7	28.2
	Current(AMP.)	51.4	50.6	49.6	51.4	50.8	49.8	51.4	50.9	50.1	51.4	51.1	50.3
	THR (MBH)	514.5	474.0	435.6	522.2	481.9	443.2	527.6	487.9	451.4	536.2	493.3	460.2
125	TC (MBH)	393.9	357.1	323.3	401.2	363.8	330.8	404.6	368.9	339.6	443.7	373.5	347.7
	SHC (MBH)	205.4	259.7	311.4	213.9	273.9	329.8	225.0	287.6	339.6	228.0	300.9	347.7
	Input Power (KW)	31.8	31.1	30.3	31.8	31.3	30.5	31.8	31.4	30.7	31.8	31.5	30.9
	Current(AMP.)	55.7	54.7	53.4	55.7	55.0	53.7	55.7	55.1	54.1	55.7	55.3	54.4
	THR (MBH)	502.4	463.4	426.6	509.6	470.7	434.8	513.0	476.2	444.5	522.1	481.1	453.2
135	TC (MBH)	371.3	336.4	305.7	378.1	342.3	314.8	379.8	347.0	323.3	390.0	350.9	330.6
	SHC (MBH)	197.4	251.4	303.9	205.0	265.9	314.8	219.0	279.9	323.3	219.3	292.5	330.6
	Input Power (KW)	34.4	33.8	32.8	34.4	34.0	33.1	34.4	34.2	33.4	34.4	34.3	33.6
	Current(AMP.)	59.7	58.8	57.2	59.7	59.1	57.7	59.7	59.3	58.1	59.7	59.5	58.5
	THR (MBH)	488.8	451.9	417.5	495.7	458.4	427.7	497.3	463.5	437.2	507.5	467.9	445.4

**Rating Table Notes:**

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (kw), the heat generated by the evaporator fan has not been taken into account.

3. Ratings are based on 10 °F subcooling.
4. All ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86
5. Standard air cooled condenser rating are based on 125 °F condensing temperature according to ARI Standard 460-(87).

## AIR COOLED PACKAGED UNIT RATINGS

**TABLE 30****Anpu-40-A-1 RATINGS**

CT (°F)	CFM	12800			14400			16000			17600		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	520.9	471.3	425.8	531.8	481.0	433.7	540.8	489.8	441.4	549.7	496.9	448.1
	SHC (MBH)	260.8	322.1	382.3	271.9	340.1	409.0	285.0	355.9	427.8	293.0	371.8	448.1
	Input Power (KW)	30.9	30.4	29.9	30.9	30.5	30.0	30.9	30.6	30.1	30.9	30.7	30.2
	Current(AMP.)	51.8	51.3	50.5	51.9	51.4	50.7	52.0	51.5	50.8	52.0	51.6	50.9
	THR (MBH)	626.2	575.2	527.7	637.4	585.2	536.0	646.4	594.2	544.1	655.3	601.6	551.0
115	TC (MBH)	496.4	449.0	404.7	506.6	458.2	412.8	514.5	465.9	421.3	523.2	472.5	430.2
	SHC (MBH)	251.0	313.1	372.8	264.5	330.3	395.8	275.0	345.7	421.3	283.3	361.0	430.2
	Input Power (KW)	34.4	33.7	32.8	34.4	33.8	33.0	34.4	33.9	33.2	34.4	34.0	33.3
	Current(AMP.)	56.5	55.5	54.4	56.6	55.7	54.7	56.6	55.9	54.9	56.6	56.0	55.1
	THR (MBH)	613.8	563.9	516.8	624.1	573.4	525.5	632.1	581.8	534.5	640.8	588.7	544.0
125	TC (MBH)	471.1	425.9	383.8	480.5	434.4	392.3	487.4	441.2	401.6	496.0	447.1	411.5
	SHC (MBH)	242.2	303.5	362.8	254.9	320.9	392.3	266.0	337.1	401.6	272.5	351.6	411.5
	Input Power (KW)	37.8	36.9	35.8	37.8	37.1	36.0	37.8	37.2	36.3	37.8	37.4	36.5
	Current(AMP.)	61.0	59.8	58.3	61.0	60.1	58.7	61.0	60.3	59.0	61.0	60.5	59.4
	THR (MBH)	600.0	551.7	505.9	609.4	561.0	515.2	616.3	568.2	525.3	624.9	574.6	536.2
135	TC (MBH)	445.0	402.0	363.0	453.7	409.6	372.1	459.7	415.7	382.1	468.6	420.9	392.0
	SHC (MBH)	232.3	294.1	354.4	244.7	310.4	372.1	263.0	326.2	382.1	266.0	342.1	392.0
	Input Power (KW)	40.9	40.0	38.7	40.9	40.2	39.0	40.9	40.4	39.3	40.9	40.6	39.7
	Current(AMP.)	65.4	64.1	62.3	65.4	64.4	62.7	65.4	64.7	63.2	65.4	64.9	63.7
	THR (MBH)	584.7	538.6	495.0	593.4	547.0	505.3	599.4	553.7	516.4	608.2	559.5	527.5

**TABLE 31****Anpu-10-A-2 RATINGS**

CT (°F)	CFM	3200			3600			4000			4400		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	137.0	123.6	111.0	140.2	126.4	113.6	142.8	128.8	115.8	145.0	131.0	117.6
	SHC (MBH)	68.0	83.0	98.2	70.8	87.6	104.2	73.4	92.0	109.6	76.0	95.8	116.0
	Input Power (KW)	6.9	6.9	6.1	6.9	6.9	6.8	6.9	6.9	6.8	6.8	6.9	6.8
	Current(AMP.)	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
	THR (MBH)	160.4	147.0	131.8	163.6	149.8	136.9	166.2	152.2	139.1	168.3	154.4	140.9
115	TC (MBH)	130.8	118.0	106.0	133.6	120.6	108.2	136.2	122.8	110.2	138.2	124.6	112.4
	SHC (MBH)	65.8	80.8	96.0	68.4	85.2	101.6	70.8	89.2	107.0	73.4	93.2	112.0
	Input Power (KW)	7.7	7.6	7.5	7.7	7.7	7.5	7.8	7.7	7.6	7.8	7.7	7.6
	Current(AMP.)	14.7	14.6	14.4	14.7	14.6	14.4	14.7	14.6	14.7	14.7	14.6	14.5
	THR (MBH)	157.2	144.1	131.7	160.0	146.7	133.9	162.7	149.0	136.0	164.7	150.9	138.3
125	TC (MBH)	124.4	112.0	100.6	127.0	114.4	102.6	129.4	116.4	105.0	131.2	118.0	107.4
	SHC (MBH)	63.2	78.4	93.2	66.0	82.6	99.2	68.6	86.6	104.4	70.8	90.4	107.4
	Input Power (KW)	8.6	8.4	8.2	8.6	8.4	8.2	8.6	8.5	8.3	8.6	8.5	8.3
	Current(AMP.)	15.8	15.6	15.3	15.8	15.6	15.4	15.9	15.7	15.4	15.9	15.7	15.5
	THR (MBH)	153.7	140.7	128.6	156.4	143.2	130.7	158.8	145.3	133.3	160.7	147.0	135.9
135	TC (MBH)	118.0	106.1	94.8	120.2	108.2	97.2	122.2	110.0	100.0	124.0	111.4	102.6
	SHC (MBH)	60.8	75.8	90.8	63.6	80.2	96.8	66.2	84.4	100.0	68.4	88.4	102.6
	Input Power (KW)	9.4	9.2	8.9	9.5	9.2	8.9	9.5	9.2	9.0	9.5	9.3	9.1
	Current(AMP.)	16.9	16.6	16.2	17.0	16.7	16.3	17.0	16.7	16.4	17.0	16.8	16.5
	THR (MBH)	151.4	137.4	125.1	152.5	139.7	127.7	154.6	141.5	130.8	156.4	141.9	133.6

**Rating Table Notes:**

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (KW), the heat generated by the evaporator fan has been taken into account.

3. Ratings are based on 10 °F subcooling.
4. All ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86.
5. Standard air cooled condenser ratings are based on 125 °F condensing temperature according to ARI Standard 460-[87] .

## AIR COOLED PACKAGED UNIT RATINGS

**TABLE 32****Anpu-15-A-2 RATINGS**

CT (°F)	CFM	4800			5400			6000			6400		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	199.7	180.9	163.2	204.0	184.5	166.6	208.1	187.8	169.7	210.8	190.8	172.7
	SHC (MBH)	99.5	122.9	145.8	103.6	129.6	154.6	108.0	136.0	163.0	109.8	138.5	172.7
	Input Power (KW)	12.8	12.5	12.2	12.8	12.6	12.3	12.9	12.6	12.3	12.9	12.6	12.4
	Current(AMP.)	24.3	23.9	23.4	24.4	24.0	23.5	24.5	24.1	23.6	24.6	24.1	23.7
	THR (MBH)	243.3	223.6	204.8	247.8	227.4	208.5	252.0	230.8	211.8	254.8	233.9	214.9
115	TC (MBH)	190.9	172.8	155.8	194.8	176.2	159.0	197.8	179.2	162.1	200.4	181.8	165.7
	SHC (MBH)	96.2	119.5	142.4	100.7	126.4	151.2	104.7	132.4	162.1	106.1	135.1	165.7
	Input Power (KW)	14.0	13.7	13.3	14.1	13.8	13.4	14.2	13.8	13.4	14.2	13.9	13.5
	Current(AMP.)	26.4	25.7	25.1	26.5	25.9	25.2	26.6	26.0	25.4	26.7	26.1	25.5
	THR (MBH)	238.8	219.5	201.2	243.0	223.1	204.7	246.2	226.4	208.0	248.9	229.1	211.8
125	TC (MBH)	181.2	163.8	147.7	184.6	166.9	150.7	187.3	169.6	154.5	189.7	171.9	158.4
	SHC (MBH)	92.7	116.1	138.8	97.0	122.5	150.7	100.9	128.8	154.5	102.2	131.6	158.4
	Input Power (KW)	15.3	14.9	14.4	15.4	14.94	14.5	15.5	15.0	14.6	15.5	15.1	14.7
	Current(AMP.)	28.4	27.6	26.8	28.6	27.8	27.0	28.7	27.9	27.2	28.8	28.0	27.4
	THR (MBH)	233.5	214.5	196.8	237.1	217.9	200.1	240.2	220.9	204.3	242.7	223.4	208.5
135	TC (MBH)	170.4	153.7	138.7	173.1	156.4	142.6	175.2	158.7	146.6	177.1	160.7	150.2
	SHC (MBH)	88.8	112.1	134.8	92.8	118.2	142.6	96.6	124.5	146.6	98.0	127.7	150.2
	Input Power (KW)	16.6	16.0	15.5	16.7	16.1	15.6	16.8	16.2	15.8	16.8	16.3	15.9
	Current(AMP.)	30.5	29.6	28.6	30.7	29.7	28.8	30.8	29.9	29.1	30.9	30.0	29.3
	THR (MBH)	227.1	208.4	191.5	230.1	211.4	195.9	232.4	214.1	200.5	234.4	216.3	204.5

**TABLE 33****Anpu-20-A-2 RATINGS**

CT (°F)	CFM	6400			7200			8000			8800		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	276.3	249.4	225.0	282.5	255.1	230.0	287.4	260.0	234.0	292.0	264.2	237.7
	SHC (MBH)	137.6	167.1	196.9	142.0	176.0	208.5	147.5	184.1	220.1	152.3	192.0	230.6
	Input Power (KW)	17.1	16.8	16.5	17.1	16.9	16.6	17.2	17.0	16.6	17.2	17.0	16.7
	Current(AMP.)	31.6	31.2	30.7	31.6	31.3	30.8	31.7	31.4	30.9	31.7	31.4	30.9
	THR (MBH)	334.6	306.9	281.3	341.0	312.8	286.6	346.0	317.8	290.8	350.7	322.2	294.7
115	TC (MBH)	262.5	237.0	213.5	268.1	242.1	218.0	272.8	246.5	221.8	276.7	250.3	225.6
	SHC (MBH)	131.5	162.1	191.7	136.7	170.5	203.6	141.8	178.9	214.4	269.2	186.2	225.6
	Input Power (KW)	18.9	18.5	18.0	18.9	18.6	18.1	19.0	18.6	18.2	19.0	18.7	18.3
	Current(AMP.)	34.3	33.7	33.0	34.4	33.9	33.1	34.5	34.0	33.3	34.6	34.1	33.4
	THR (MBH)	326.8	300.0	275.0	332.7	305.5	279.8	337.5	310.1	283.8	314.5	314.1	288.0
125	TC (MBH)	248.4	224.4	202.0	253.6	229.0	205.8	257.8	232.8	209.6	261.1	236.2	215.3
	SHC (MBH)	125.9	156.3	186.3	131.2	165.2	198.5	136.6	173.3	209.6	141.9	181.2	215.3
	Input Power (KW)	20.5	20.0	19.4	20.6	20.1	19.5	20.7	20.2	19.7	20.7	20.3	19.8
	Current(AMP.)	37.0	36.2	35.3	37.2	36.4	35.4	37.3	36.5	35.6	37.4	36.6	35.8
	THR (MBH)	318.5	292.7	268.4	324.0	297.8	272.5	328.4	301.8	276.7	331.9	305.9	282.9
135	TC (MBH)	234.4	211.6	190.4	238.9	215.6	194.3	242.5	218.8	200.0	245.3	221.8	204.9
	SHC (MBH)	120.9	151.2	181.3	126.1	160.2	194.3	131.2	167.9	200.0	136.5	175.6	204.9
	Input Power (KW)	22.1	21.5	20.8	22.2	21.6	20.9	22.3	21.7	21.1	22.4	21.8	21.3
	Current(AMP.)	39.6	38.6	37.5	39.8	38.8	37.7	39.9	39.0	38.0	40.0	39.1	38.3
	THR (MBH)	309.9	285.0	261.5	314.8	289.3	265.8	318.7	293.0	272.1	321.7	296.2	277.6

**Rating Table Notes:**

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (kw), the heat generated by the evaporator fan has not been taken into account.

3. Ratings are based on 10 °F subcooling.
4. All ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86
5. Standard air cooled condenser rating are based on 125 °F condensing temperature according to ARI Standard 460-(87).

## AIR COOLED PACKAGED UNIT RATINGS

**TABLE 34****Anpu-30-A-2 RATINGS**

CT (°F)	CFM	9600			10800			12000			13200		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	378.5	342.4	308.6	385.7	349.4	314.6	392.4	355.2	319.9	397.4	360.4	326.5
	SHC (MBH)	190.1	235.6	280.7	198.8	248.2	297.7	205.7	260.5	316.3	213.6	271.1	326.5
	Input Power (KW)	23.0	22.6	22.0	23.1	22.7	22.1	23.1	22.7	22.2	23.2	22.8	22.3
	Current(AMP.)	43.2	42.5	41.6	43.3	42.7	41.8	43.4	42.8	41.9	43.5	42.9	42.1
	THR (MBH)	457.0	419.4	383.8	464.4	426.7	390.1	471.3	432.8	395.7	476.6	438.2	402.6
115	TC (MBH)	361.7	327.0	294.7	368.3	333.4	299.8	374.6	338.8	306.5	379.1	343.5	314.1
	SHC (MBH)	184.1	230.0	273.9	192.4	242.0	291.7	199.5	254.3	306.5	207.4	265.3	314.1
	Input Power (KW)	25.5	24.9	24.1	25.6	25.0	24.3	25.7	25.1	24.4	25.8	25.2	24.6
	Current(AMP.)	47.2	46.2	45.0	47.5	46.5	45.2	47.6	46.6	45.5	47.8	46.8	45.8
	THR (MBH)	448.8	411.9	377.0	455.7	418.7	382.6	462.4	424.5	389.8	467.1	429.5	398.1
125	TC (MBH)	344.4	311.2	280.4	350.5	317.0	284.6	356.0	321.9	294.2	360.3	326.2	301.4
	SHC (MBH)	178.3	223.1	267.9	186.5	236.2	284.6	193.5	247.5	294.2	200.8	258.6	301.4
	Input Power (KW)	28.0	27.1	26.2	28.1	27.3	26.3	28.3	27.4	26.6	28.4	27.5	26.9
	Current(AMP.)	51.5	50.0	48.5	51.7	50.3	48.7	51.9	50.5	49.2	52.1	50.7	49.5
	THR (MBH)	439.9	403.8	369.8	446.6	410.1	374.5	452.5	415.6	385.1	457.1	420.2	393.1
135	TC (MBH)	326.6	294.9	266.3	332.3	300.1	273.8	337.5	304.5	281.4	341.1	308.2	288.1
	SHC (MBH)	171.9	294.9	263.5	179.7	230.2	273.9	186.8	241.4	281.4	193.6	251.8	288.1
	Input Power (KW)	30.4	29.4	28.3	30.6	29.6	28.6	30.7	29.7	28.9	30.7	29.8	29.1
	Current(AMP.)	55.7	53.8	51.9	56.0	54.1	25.5	56.2	54.4	53.0	56.2	54.6	53.4
	THR (MBH)	430.5	395.1	362.8	436.8	401.0	371.4	442.4	406.0	380.0	446.1	410.1	387.5

**TABLE 35****Anpu-40-A-2 RATINGS**

CT (°F)	CFM	12800			14400			16000			17600		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	478.0	433.6	392.5	487.0	442.1	400.2	494.0	449.1	409.2	499.9	454.3	418.8
	SHC (MBH)	244.2	306.9	367.4	255.1	323.2	390.0	265.1	338.7	408.6	275.5	354.8	418.8
	Input Power (KW)	25.7	25.5	25.2	25.7	25.6	25.3	25.8	25.6	25.3	25.8	25.6	25.4
	Current(AMP.)	47.1	58.8	46.3	47.1	46.8	46.4	47.1	46.9	46.5	47.1	46.9	46.6
	THR (MBH)	565.8	520.7	478.5	574.8	529.3	486.5	583.9	536.5	495.7	587.8	541.8	505.6
115	TC (MBH)	456.1	413.5	374.0	464.0	421.3	383.0	470.5	427.5	392.9	475.7	432.3	402.3
	SHC (MBH)	236.6	299.0	359.6	247.8	315.4	382.0	258.3	331.0	392.0	267.4	346.4	402.3
	Input Power (KW)	28.8	28.3	27.8	28.8	28.4	27.9	28.8	28.5	28.1	28.8	28.6	28.2
	Current(AMP.)	51.3	50.7	49.9	51.4	50.8	62.9	51.4	50.9	50.3	51.4	51.0	50.5
	THR (MBH)	554.4	510.2	468.8	562.4	518.4	478.3	569.0	524.8	488.7	574.1	529.8	498.6
125	TC (MBH)	433.2	392.8	356.1	440.2	398.4	366.5	445.9	405.1	376.7	450.2	409.4	385.2
	SHC (MBH)	229.3	290.8	354.3	240.0	307.2	366.4	249.3	323.5	376.5	260.6	338.4	385.2
	Input Power (KW)	31.8	31.1	30.3	31.8	31.2	30.6	31.8	31.3	30.8	31.8	31.4	31.0
	Current(AMP.)	55.6	54.6	53.5	55.6	54.8	53.8	55.6	54.9	54.1	55.6	55.0	54.4
	THR (MBH)	541.7	499.0	459.7	548.8	506.4	470.8	554.4	512.0	481.8	558.6	516.5	490.9
135	TC (MBH)	409.5	371.5	339.4	415.6	377.5	350.4	420.9	382.0	359.4	424.4	385.7	367.3
	SHC (MBH)	221.2	282.1	339.4	231.5	298.4	350.0	241.8	313.9	359.3	253.0	329.5	367.3
	Input Power (KW)	34.6	33.8	32.9	34.6	34.0	33.2	34.6	34.1	33.5	34.6	34.2	33.7
	Current(AMP.)	59.7	58.5	57.2	59.7	58.8	57.7	59.7	58.9	58.1	59.7	59.1	58.4
	THR (MBH)	527.4	486.9	451.7	533.5	493.4	463.8	538.9	498.3	473.6	542.3	502.3	482.2

**Rating Table Notes:**

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (KW), the heat generated by the evaporator fan has been taken into account.

3. Ratings are based on 10 °F subcooling
4. All ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86.
5. Standard air cooled condenser ratings are based on 125 °F condensing temperature according to ARI Standard 460-[87].

## AIR COOLED PACKAGED UNIT RATINGS

**TABLE 36****Anpu-50-A-2 RATINGS**

CT (°F)	CFM	16000			18000			20000			22000		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	603.6	547.2	495.1	615.1	557.8	500.5	624.2	566.9	514.9	631.8	573.9	527.2
	SHC (MBH)	308.4	386.0	460.5	322.6	407.2	494.4	334.7	425.7	514.9	347.0	446.5	527.2
	Input Power (KW)	33.5	33.3	32.6	33.6	33.2	32.7	33.6	33.3	32.8	33.6	33.3	32.9
	Current(AMP.)	59.4	59.1	58.1	59.5	59.0	58.2	59.5	59.1	58.5	59.5	59.2	58.6
	THR (MBH)	718.0	660.7	606.4	693.6	671.2	612.0	738.8	680.4	627.0	746.4	687.7	639.9
115	TC (MBH)	575.7	521.9	470.1	586.3	531.5	481.3	594.4	539.7	495.0	601.0	546.2	507.1
	SHC (MBH)	298.7	375.8	453.0	311.3	396.4	481.2	324.5	416.0	495.0	336.7	435.3	506.4
	Input Power (KW)	37.4	36.7	35.8	37.4	36.8	36.1	37.4	36.9	36.3	37.4	37.0	36.5
	Current(AMP.)	64.9	63.9	62.7	65.0	64.1	63.0	65.0	64.3	63.3	65.0	64.4	63.6
	THR (MBH)	703.3	647.2	592.4	714.0	657.2	604.4	722.2	665.7	619.0	728.8	672.6	631.6
125	TC (MBH)	546.2	495.4	447.5	555.8	504.0	461.4	563.0	510.9	474.0	569.2	516.6	484.9
	SHC (MBH)	288.6	365.4	446.1	301.4	386.6	461.4	314.2	406.0	474.0	327.0	424.8	484.9
	Input Power (KW)	41.1	40.2	39.0	41.1	40.3	39.4	41.1	40.5	39.7	41.1	40.5	39.9
	Current(AMP.)	70.2	68.8	67.2	70.2	69.1	67.7	70.2	69.3	68.2	70.2	69.4	68.5
	THR (MBH)	686.4	632.4	580.8	696.0	641.7	595.8	703.2	649.1	609.4	709.4	654.9	621.3
135	TC (MBH)	515.3	467.3	426.2	524.0	475.1	440.1	529.8	480.6	451.7	535	485.6	461.7
	SHC (MBH)	277.8	353.4	426.2	289.9	374.2	440.1	302.7	395.2	451.7	316.3	413.8	461.7
	Input Power (KW)	44.5	43.5	42.2	44.5	43.7	42.7	44.5	43.9	43.0	44.5	44.0	43.3
	Current(AMP.)	75.1	73.7	71.8	75.1	74.0	72.5	75.1	74.2	73.0	75.1	74.4	73.4
	THR (MBH)	667.1	615.8	570.4	675.9	624.3	585.7	681.6	630.4	598.6	686.8	635.8	609.7

**TABLE 37****Anpu-60-A-2 RATINGS**

CT (°F)	CFM	19200			21600			24000			26400		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	738.7	669.8	603.5	753.4	682.6	616.8	766.4	694.2	624.5	774.0	703.7	642.3
	SHC (MBH)	375.9	468.3	559.8	392.1	495.3	592.6	408.3	518.1	629.1	428.0	541.1	642.3
	Input Power (KW)	41.2	40.6	39.8	41.2	40.7	40.0	41.2	40.8	40.2	41.2	40.9	40.3
	Current(AMP.)	69.1	68.3	67.2	69.1	68.5	67.4	69.1	68.6	67.6	69.1	68.7	67.9
	THR (MBH)	879.1	808.4	738.7	893.9	821.6	753.4	906.8	833.6	766.2	914.5	843.4	799.9
115	TC (MBH)	704.6	637.6	574.9	716.9	649.5	588.2	729.7	659.7	602.4	735.3	668.6	617.1
	SHC (MBH)	363.2	455.0	545.6	381.0	480.6	581.0	393.8	504.5	602.4	412.0	529.3	617.1
	Input Power (KW)	45.6	44.9	43.8	45.6	45.1	44.0	45.6	45.2	44.3	45.6	45.3	44.5
	Current(AMP.)	75.7	74.6	73.0	75.7	74.9	73.3	75.7	75.1	73.7	75.7	75.3	74.1
	THR (MBH)	860.4	790.8	724.3	872.6	803.3	738.4	885.4	814.0	753.6	885.0	823.3	769.2
125	TC (MBH)	668.8	603.7	545.6	677.9	614.8	560.1	690.4	623.7	575.8	693.6	631.7	589.7
	SHC (MBH)	347.6	442.3	531.2	367.4	468.2	560.1	380.4	492.4	575.8	400.0	514.0	589.7
	Input Power (KW)	49.8	49.0	47.6	49.8	49.2	48.0	49.8	49.4	48.3	49.8	49.6	48.7
	Current(AMP.)	81.9	80.7	78.6	81.9	81.0	79.2	81.9	81.3	79.7	81.9	81.6	80.2
	THR (MBH)	838.9	770.9	708.0	847.9	782.8	723.8	860.5	792.4	740.8	863.7	800.9	755.7
135	TC (MBH)	632.0	568.4	516.4	637.1	578.0	533.2	649.8	585.8	547.8	650.6	592.6	560.5
	SHC (MBH)	332.8	428.4	516.4	355.5	453.2	533.2	364.2	478.6	547.8	388.0	501.3	560.5
	Input Power (KW)	53.7	52.9	51.3	53.7	53.2	51.8	53.7	53.4	52.3	53.7	53.6	52.7
	Current(AMP.)	87.7	86.6	84.1	87.7	87.0	85.0	87.7	87.3	85.6	87.7	87.6	86.2
	THR (MBH)	815.3	749.0	691.5	820.4	759.6	710.2	833.1	768.1	726.3	833.8	775.6	740.3

**Rating Table Notes:**

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (KW), the heat generated by the evaporator fan has been taken into account.

3. Ratings are based on 10 °F subcooling
4. All ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86.
5. Standard air cooled condenser ratings are based on 125 °F condensing temperature according to ARI Standard 460-(87).

## AIR COOLED PACKAGED UNIT RATINGS

**TABLE 38****Anpu-70-A-2 RATINGS**

CT (°F)	CFM	23040			25920			28800			31680		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	883.2	802.3	727.2	900.4	818.1	739.7	915.9	831.1	748.2	924.0	842.9	770.5
	SHC (MBH)	450.2	562.3	672.1	469.6	591.1	711.3	487.0	621.0	754.9	508.0	647.4	770.5
	Input Power (KW)	52.1	51.5	50.6	52.1	51.6	50.8	52.1	51.7	50.9	52.1	51.8	51.1
	Current(AMP.)	94.1	93.3	91.8	94.1	93.4	92.1	94.1	93.5	92.4	94.1	93.7	92.6
	THR (MBH)	1061.0	978.1	899.8	1078.2	994.2	912.9	1093.7	1007.7	928.8	1101.9	1019.7	944.9
115	TC (MBH)	840.4	762.7	690.0	854.8	777.3	704.8	870.5	789.4	720.5	875.5	800.0	738.9
	SHC (MBH)	434.4	545.9	653.9	457.0	575.1	696.5	470.6	603.2	720.5	492.0	632.1	738.9
	Input Power (KW)	58.0	57.0	55.7	58.0	57.3	56.0	58.0	75.4	56.3	58.0	57.6	56.6
	Current(AMP.)	102.9	101.5	99.5	102.9	101.8	99.9	102.9	102.1	100.4	102.9	102.3	100.9
	THR (MBH)	1038.0	957.3	880.1	1052.1	972.7	895.9	1068.4	985.4	912.6	1073.3	996.6	932.2
125	TC (MBH)	795.9	721.3	654.5	806.6	735.1	670.0	826.1	746.2	689.4	827.5	755.4	705.6
	SHC (MBH)	418.4	529.4	636.3	438.0	559.1	670.0	452.0	587.9	689.4	480.0	614.0	705.6
	Input Power (KW)	63.5	62.5	60.8	63.5	62.8	61.2	63.5	63.1	61.7	63.5	63.3	62.1
	Current(AMP.)	111.3	109.7	107.1	111.3	110.2	107.8	111.3	110.6	108.5	111.3	110.9	109.1
	THR (MBH)	1013.0	934.6	861.8	1023.4	949.5	878.8	1043.0	961.4	900.0	1044.4	971.3	917.6
135	TC (MBH)	750.1	680.2	618.4	757.0	691.5	639.0	775.1	701.4	656.1	772.6	709.3	671.0
	SHC (MBH)	402.2	513.2	618.4	424.0	542.9	638.9	436.0	570.0	656.1	468	599.2	671.0
	Input Power (KW)	68.9	67.9	65.8	68.9	68.2	66.5	68.9	68.5	67.1	68.9	68.8	67.6
	Current(AMP.)	119.4	117.9	114.7	119.4	118.5	115.8	119.4	118.9	116.7	119.4	119.3	117.4
	THR (MBH)	985.2	911.9	842.8	992.1	924.4	866.0	1010.2	935.3	885.0	1011.0	944.0	901.7

**TABLE 39****Anpu-80-A-2 RATINGS**

CT (°F)	CFM	24800			27900			31000			34100		
	FACE VELOCITY(FPM)	400			450			500			550		
	EWB(°F)	72	67	62	72	67	62	72	67	62	72	67	62
105	TC (MBH)	1037.0	939.1	848.0	1061.4	960.2	865.0	1079.4	976.8	840.2	1094.4	992.1	895.7
	SHC (MBH)	516.4	636.2	752.1	535.7	669.6	799.4	558.2	702.4	880.7	578.3	731.9	881.7
	Input Power (KW)	61.7	60.8	59.7	61.9	61.0	59.9	61.9	61.2	60.1	61.9	61.3	60.3
	Current(AMP.)	103.6	102.5	101.0	103.9	102.8	101.3	103.9	138.0	101.6	103.9	103.2	101.8
	THR (MBH)	1247.5	1146.7	1051.7	1272.5	1168.6	1069.5	1290.6	1185.7	1086.0	1305.7	1202.8	101.6
115	TC (MBH)	988.6	895.3	806.6	1010.3	914.2	822.7	1027.7	929.1	839.2	1039.6	943.0	855.7
	SHC (MBH)	499.3	616.0	733.2	519.7	649.3	778.7	539.0	681.8	822.9	561.5	712.4	852.5
	Input Power (KW)	68.7	67.3	65.6	68.9	67.6	66.0	68.9	67.9	66.3	68.9	68.1	66.6
	Current(AMP.)	112.9	148.9	108.8	113.2	111.5	109.2	113.2	111.8	109.7	113.2	112.1	110.1
	THR (MBH)	1223.1	1125.0	1030.6	1245.4	1145.0	1047.8	1262.8	1160.7	1065.5	1274.7	1175.3	1083.0
125	TC (MBH)	938.6	849.3	764.8	957.0	866.5	781.0	974.4	880.2	798.2	984.5	893.0	817.3
	SHC (MBH)	480.0	599.0	714.8	501.2	631.3	758.0	518.9	663.3	795.1	545.8	691.7	817.2
	Input Power (KW)	75.5	73.7	71.5	75.5	74.1	71.9	75.5	74.4	72.4	75.5	74.7	72.9
	Current(AMP.)	122.1	119.6	116.6	122.1	120.1	117.2	122.1	120.6	117.8	122.1	121.0	118.5
	THR (MBH)	1196.3	1100.8	1008.7	1214.8	1119.4	1026.5	1232.1	1134.1	1045.3	1242.3	1147.9	1066.1
135	TC (MBH)	886.9	801.2	722.7	901.5	817.1	739.6	919.7	829.7	760.0	923.8	841.1	778.7
	SHC (MBH)	461.9	579.5	693.8	485.6	611.4	737.2	499.0	643.8	760.0	528.1	672.8	778.7
	Input Power (KW)	81.9	79.9	77.2	81.9	80.4	77.8	81.9	80.8	78.6	81.9	81.2	79.2
	Current(AMP.)	130.7	128.1	124.4	130.7	128.8	125.8	130.7	129.3	126.2	130.7	129.8	127.1
	THR (MBH)	1166.3	1074.0	986.2	1180.9	1091.7	1005.3	1199.1	1105.5	1028.2	1203.1	1118.1	1049.0

**Rating Table Notes:**

1. Direct interpolation is permissible but do not extrapolate.
2. In calculating the cooling load and power input (KW), the heat generated by the evaporator fan has been taken into account.

3. Ratings are based on 10 °F subcooling
4. All ratings are based on 80°F EDB according to ARI standards 310-90 and 360-86.
5. Standard air cooled condenser ratings are based on 125 °F condensing temperature according to ARI Standard 460-[87].

## CORRECTION FACTORS

<b>Table 40</b>		<b>BYPASS FACTORS*</b>		
<b>COIL FACE VELOCITY FPM</b>		<b>4 ROW</b>	<b>5 ROW</b>	<b>6 ROW</b>
	400	0.20	0.14	0.10
	450	0.21	0.15	0.11
	500	0.23	0.17	0.12
	550	0.26	0.19	0.13
	600	0.27	0.20	0.14

\* FOR 8 FPI COIL

<b>Table 41</b>		<b>SENSIBLE CAPACITY CORRECTION FACTOR*</b>						
<b>COIL BYPAS FACTORS</b>		<b>EVAPORATOR ENTERING AIR DRY BULB TEMPERATUR °F</b>						
		79	78	77	76	74	72	70
		81	82	83	84	86	88	90
	0.05	1.03	2.07	3.09	4.13	6.19	8.26	10.33
	0.10	0.98	1.96	2.94	3.91	5.87	7.83	9.78
	0.15	0.92	1.85	2.77	3.69	5.54	7.39	9.24
	0.20	0.87	1.74	2.61	3.48	5.22	6.96	8.69
	0.25	0.82	1.63	2.45	3.26	4.89	6.52	8.15
	0.30	0.76	1.52	2.28	3.04	4.57	6.09	7.61

\* SHC RATINGS ARE BASED ON 80 °F EDB TEMPERATURE OF AIR ENTERING EVAPORATOR COIL.  
 BELOW 80 °F → CORRECTED SHC = SHC (FROM RATING TABLES) - CFM x CORRECTION FACTOR FROM TABLE 41  
 ABOVE 80 °F → CORRECTED SHC = SHC (FROM RATING TABLES) + CFM x CORRECTION FACTOR FROM TABLE 41

<b>Table 42</b>		<b>CAPACITY CORRECTION FACTOR FOR FLOW RATE</b>				
<b>CFM / NOM. CFM</b>		<b>80%</b>	<b>90%</b>	<b>100%</b>	<b>110%</b>	<b>120%</b>
<b>HEATING CAPACITY</b>		0.89	0.95	1.00	1.02	1.05

<b>Table 43</b>		<b>COIL AIR SIDE PRESSURE DROP (inch, water)</b>				
<b>CFM / NOM. CFM</b>		<b>80%</b>	<b>90%</b>	<b>100%</b>	<b>110%</b>	<b>120%</b>
<b>COOLING COIL</b> 4-ROW	WET	0.32	0.39	0.45	0.51	0.57
	DRY	0.19	0.24	0.29	0.34	0.38
<b>HEATING COIL</b>	1-ROW	0.06	0.07	0.08	0.09	0.11
	2-ROW	0.12	0.15	0.17	0.21	0.23

<b>Table 44</b>		<b>WATER SIDE PRESSURE DROP CORRECTION FACTOR</b>								
<b>AVERAGE HOT WATER TEMP. °F</b>		100	120	140	150	160	180	200	200	250
	<b>CORRECTION FACTOR</b>	0.89	0.86	0.83	0.81	0.80	0.79	0.77	0.76	0.76

$\Delta P$  (FROM TABLE 46, 46A) x CORRECTION FACTOR FROM TABLE 44 = CORRECTED PRESSURE DROP

## HEATING COIL RATINGS

**TABLE 45****HOT WATER HEATING COIL RATINGS (MBH)**

MODEL	NOMINAL CFM	EDB (°F)	CIRCUIT	8FPI		14FPI	
				1ROW	2ROW	1ROW	2ROW
AnpuW,A 5-1	2000	40	F	66.3	129.6	98.4	179.0
			H	75.3	138.4	113.1	191.4
		50	F	60.0	118.5	88.8	163.7
			H	68.8	127.1	103.2	176.0
		60	F	53.6	107.4	79.3	148.5
			H	62.3	115.9	93.4	160.6
AnpuW,A 8-1	3200	70	F	47.3	96.3	69.9	133.3
			H	55.8	104.6	83.5	145.1
		40	F	106.2	206.1	158.3	285.8
			H	119.5	219.0	180.0	304.1
		50	F	96.2	188.6	143.1	261.6
			H	109.2	201.3	164.4	279.7
AnpuW,A 10-1	4000	60	F	86.3	171.1	128.1	237.5
			H	99.0	183.6	148.8	255.3
		70	F	76.3	153.6	113.2	213.3
			H	88.7	165.9	133.4	230.9
		40	F	138.6	263.9	207.0	365.6
			H	152.3	277.1	229.3	384.3
AnpuW,A 15-1	6000	50	F	125.9	241.8	187.8	335.2
			H	139.3	254.8	209.7	353.7
		60	F	113.2	219.7	168.7	304.8
			H	126.4	232.5	190.1	323.0
		70	F	100.7	197.7	149.7	274.4
			H	113.4	210.2	170.6	292.3
AnpuW,A 20-1	8000	40	F	216.4	405.8	323.5	561.2
			H	236.5	425.1	356.3	588.3
		50	F	197.0	372.3	294.2	515.1
			H	216.7	391.2	326.4	541.8
		60	F	177.6	338.7	265.1	469.0
			H	197.0	357.3	296.5	495.3
AnpuW,A 25-1	10000	70	F	158.3	305.2	236.0	422.9
			H	177.2	323.4	266.7	448.8
		40	F	298.9	550.8	448.3	762.2
			H	322.5	573.3	486.8	793.7
		50	F	272.8	506.0	409.0	700.6
			H	296.0	528.0	446.8	731.6
AnpuW,A 30-1	12000	60	F	246.7	461.0	369.7	639.0
			H	269.5	482.8	406.7	669.5
		70	F	220.8	416.2	330.5	577.3
			H	243.0	437.5	366.8	607.5
		40	F	371.6	685.6	557.8	950.0
			H	399.6	712.2	603.3	986.9
AnpuW,A 25-1	10000	50	F	339.2	629.7	508.8	872.7
			H	366.6	655.9	553.5	909.6
		60	F	306.8	573.8	460.0	795.9
			H	333.8	599.5	503.8	832.2
		70	F	274.6	518.0	411.2	719.1
			H	300.8	543.2	454.1	754.9
AnpuW,A 30-1	12000	40	F	436.5	808.2	656.6	1123.5
			H	469.6	839.8	710.4	1168.1
		50	F	398.4	742.3	598.8	1032.5
			H	430.8	773.3	651.7	1076.5
		60	F	360.3	676.3	541.3	941.5
			H	392.1	706.9	593.2	984.9
		70	F	322.5	610.5	483.8	850.5
			H	353.4	640.5	534.6	893.3

**Note:** 1. All ratings TABLE 45 are based on 180°F entering water temp., 160°F leaving water temp. For conditions other than 180°F entering 160°F leaving water temperatures apply correction from FIGURE  
 2. Heating coils with single row and full circuiting have opposite coil connections.

## HEATING COIL RATINGS

**TABLE 45** HOT WATER HEATING COIL RATINGS (MBH) (Continued)

MODEL	NOMINAL CFM	EDB (°F)	CIRCUIT	8FPI		14FPI	
				1ROW	2ROW	1ROW	2ROW
AnpuW,A 35-1	14000	40	F	527.6	962.2	795.0	1336.5
			H	560.0	993.0	847.8	1379.8
		50	F	482.5	884.6	726.9	1229.7
			H	514.3	915.0	778.8	1272.4
		60	F	437.6	807.1	658.9	1122.9
			H	468.8	837.0	709.8	1165.0
AnpuW,A 40-1	16000	70	F	392.7	729.6	591.0	1016.1
			H	423.3	758.9	640.9	1057.6
		40	F	611.1	1111.2	920.0	1540.6
			H	647.6	1146.0	979.9	1589.4
		50	F	559.1	1021.8	841.4	1417.7
			H	595.2	1056.0	900.2	1765.8
AnpuW,A 10-2	4000	60	F	507.1	932.4	762.9	1294.7
			H	542.5	966.1	820.6	1342.3
		70	F	455.2	843.0	684.5	1171.8
			H	489.9	876.1	741.1	1218.6
		40	F	139.4	265.9	207.8	367.5
			H	154.8	280.6	232.8	388.4
AnpuW,A 15-2	6000	50	F	126.6	243.5	188.5	336.9
			H	141.7	258.1	213.0	357.4
		60	F	113.8	221.3	169.2	306.2
			H	128.5	235.5	193.2	326.5
		70	F	101.0	199.0	150.0	275.6
			H	115.4	213.0	173.4	295.5
AnpuW,A 20-2	8000	40	F	223.2	413.8	334.0	571.3
			H	241.8	431.4	364.1	595.9
		50	F	203.5	379.9	304.3	524.8
			H	221.7	397.2	333.8	549.1
		60	F	183.9	345.9	274.7	478.3
			H	201.7	362.9	303.6	502.2
AnpuW,A 30-2	12000	70	F	164.2	312.0	245.2	431.8
			H	181.6	328.1	273.4	455.4
		40	F	296.3	546.3	445.1	757.5
			H	318.1	567.0	480.7	786.7
		50	F	270.5	501.8	406.1	696.3
			H	291.9	522.2	441.1	725.1
AnpuW,A 40-2	16000	60	F	244.7	457.3	367.3	635.1
			H	265.7	477.4	401.5	663.5
		70	F	219.1	412.9	328.5	573.9
			H	239.6	432.6	362.0	601.9
		40	F	432.2	798.2	652.1	1114.0
			H	462.2	827.0	701.3	1154.9
AnpuW,A 30-2	12000	50	F	394.8	733.3	595.4	1024.2
			H	424.3	761.7	643.8	1064.6
		60	F	357.5	668.6	538.8	934.4
			H	386.3	696.4	586.2	974.3
		70	F	320.3	603.8	482.4	844.6
			H	348.5	631.2	528.7	883.9
AnpuW,A 40-2	16000	40	F	603.0	1099.7	908.6	1527.5
			H	640.0	1134.8	968.9	1577.0
		50	F	551.5	1011.1	830.8	1405.4
			H	587.9	1045.7	890.1	1454.3
		60	F	500.1	922.5	753.0	1283.3
			H	535.8	956.5	811.2	1331.5
		70	F	448.9	833.9	675.5	1161.3
			H	483.7	867.4	732.5	1208.7

**Note:** 1. All ratings TABLE 45 are based on 180 °F entering water temp., 160°F leaving water temp. For conditions other 180 °F entering 160 °F leaving water temperatures apply correction factor from FIGURE1.  
 2. Heating coils with single row and full circuiting have opposite coil connections.

## HEATING COIL RATINGS

**TABLE 45****HOT WATER HEATING COIL RATINGS (MBH) (Continued)**

MODEL	NOMINAL CFM	EDB (°F)	CIRCUIT	8FPI		14FPI	
				1ROW	2ROW	1ROW	2ROW
AnpuW,A 50-2	20000	40	F	768.5	1391.6	1158.5	1930.9
			H	811.0	1431.8	1227.7	1987.3
		50	F	703.6	1280.0	1060.3	1777.5
			H	745.3	1319.6	1128.4	1833.2
		60	F	638.8	1168.6	962.3	1624.5
			H	679.7	1207.5	1029.1	1679.1
AnpuW,A 60-2	24000	70	F	574.1	1057.1	864.5	1470.7
			H	614.1	1095.4	929.9	1524.8
		40	F	931.4	1683.6	1402.6	2332.1
			H	982.8	1732.1	1486.2	2399.9
		50	F	852.7	1548.8	1283.8	2146.9
			H	903.2	1596.5	1366.0	2213.9
AnpuW,A 70-2	28000	60	F	774.1	1413.9	1165.2	1961.7
			H	823.7	1460.9	1245.2	2027.8
		70	F	695.7	1279.1	1046.7	1776.5
			H	744.2	1325.3	1125.8	1841.7
		40	F	1094.1	1975.5	1646.6	2733.1
			H	1154.5	2032.3	1744.6	2812.3
AnpuW,A 80-2	32000	50	F	1001.8	1817.3	1507.2	2516.1
			H	1061.0	1873.2	1603.5	2594.3
		60	F	909.5	1659.1	1367.9	2299.2
			H	967.6	1714.2	1462.6	2376.4
		70	F	817.4	1501.0	1229.0	2082.2
			H	874.2	1555.1	1321.7	2158.3
		40	F	1210.9	2198.4	1828.3	3058.6
			H	1278.2	2262.3	1938.0	3148.5
		50	F	1108.6	2022.2	1673.3	2815.4
			H	1174.6	2085.0	1781.1	2904.2
		60	F	1006.5	1846.0	1518.5	2572.3
			H	1071.2	1907.8	1624.3	2659.8
		70	F	904.3	1669.8	1364.0	2329.0
			H	967.7	1730.5	1467.7	2415.4

**Note:**

1. All ratings TABLE 45 are based on 180°F entering water temp., 160°F leaving water temp. For conditions other 180°F entering 160°F leaving water temperatures apply correction factor from FIGURE1.
2. Heating coils with single row and full circuiting have opposite coil connections.

### FIGURE 1 HOT WATER COIL LOAD CORRECTION FACTOR

Corrected load = load from TABLE 45 x correction factor from FIGURE 1

