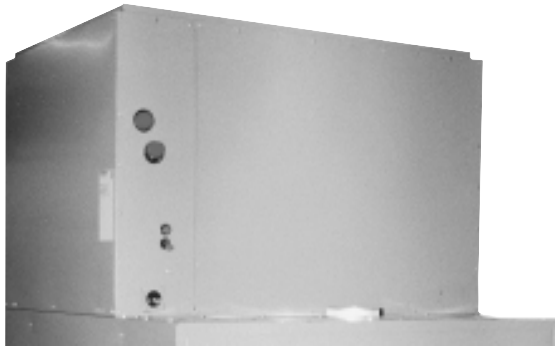




# CASED COOLING COIL MODEL ACU

USED WITH MODEL CAUA



ANSI Z83.8a - Commercial/Industrial  
CGA 2.6a - Commercial/Industrial

### Description and Features

Model ACU Series cased cooling coils are designed specifically for Reznor® Model CAUA Series of heaters.

- 3 Models/3 Sizes per Model
- Nominal Cooling Capacity Range - 60 to 180 MBH
- Airflow Range - 1800 to 6000 CFM
- "A" Coil with R22 Refrigerant
- Thermal Expansion Valve(s)
- Stainless Steel Drain Pan
- 3/8" Rifled Copper Tubing with Aluminum Fins
- Painted (Tawny Beige) Mated Cabinets (Model Series ACU and Model Series CAUA Packaged Heaters)

### Benefits

#### Ease of Installation

The coils are easy to install, requiring no expensive field fabrication time or additional costs.

#### Proper Operation and Performance

All coils include a factory-matched and installed thermal expansion valve for R-22 refrigerant. The expansion valve ensures proper operation of the coil over a wide range of design conditions. Use of an expansion valve eliminates problems such as compressor flooding and evaporator coil frosting that are often encountered with fixed orifice expansion devices. In addition, the coils employ an interlaced circuiting design which provides a more efficient use of the coil surface than other circuiting techniques.

### Design Flexibility

Many coil sizes are available for *your* cooling requirements. Nominal capacities range from 60 to 180 MBH (5 to 15 tons) over an airflow range of 1800 to 6000 cfm.

### Staging Options

For nominal capacities above 90 MBH the optional coils consist of two independent refrigerant circuits. The independent circuit design allows for use of separate condensing units. Staging condensing units on the large capacity coils results in greater control under part load conditions.

### Model Number Coding

Sample No:

ACUA-072

Air Conditioning Cased Coil	AC
Upflow	U
Cabinet Size	A
	B
	C
Nominal Capacity (MBH)	060
	072
	090
	120
	180

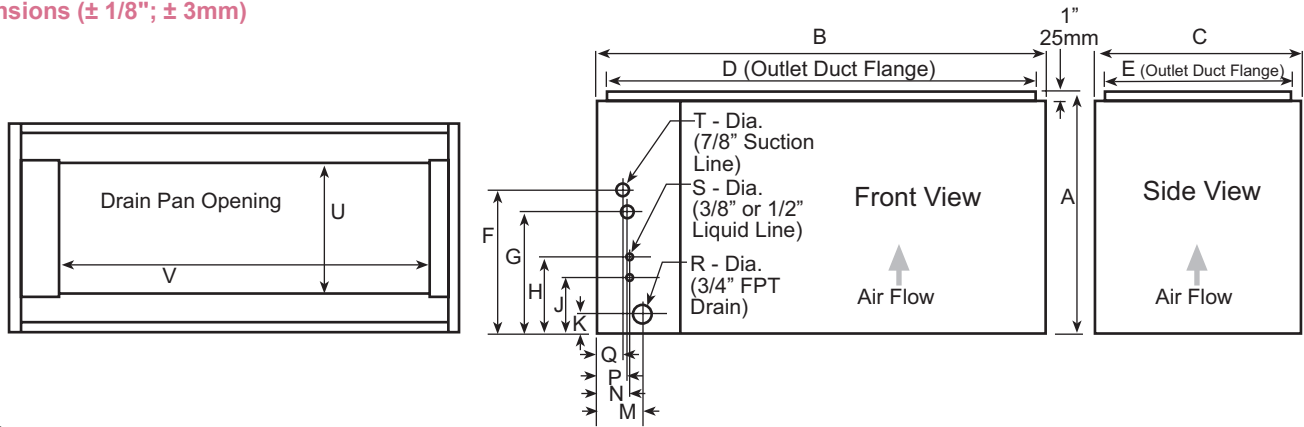
### TECHNICAL DATA

Model	ACUA			ACUB			ACUC			
Size	060	072	090	090	120	150	120	150	180	
Nominal Cooling Capacity	MBH	60	72	90	90	120	150	150	180	
	kW									
Refrigerant Type	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	
Thermal Expansion Valves <sup>A</sup>	1	1	2	2	2	2	2	2	2	
Liquid Line Connection(s)	3/8"	1/2"	(2) 3/8"	(2) 3/8"	(2) 3/8"	(2) 1/2"	(2) 3/8"	(2) 1/2"	(2) 1/2"	
No. of Interlaced Circuits	8	8	12	12	12	18	12	16	18	
Face Area	ft <sup>2</sup>	7.79	7.79	9.38	14.04	11.67	13.7	17.13	15.38	17.13
	M <sup>2</sup>	0.72	0.72	0.87	1.30	1.08	1.27	1.59	1.43	1.59
Rows - Fins/Inch	2 - 10	2 - 12	3 - 10	2 - 12	3 - 10	3 - 12	2 - 12	3 - 10	3 - 10	
Airflow - cfm (m <sup>3</sup> /hr)	Low	1,800 (3,058)			3,000 (5,097)			4,000 (6,796)		
	Nominal	2,400 (4,077)			4,000 (6,796)			5,000 (8,495)		
	High	3,000 (5,097)			5,000 (8,495)			6,000 (10,194)		
Approximate Weight	lbs.	83	86	105	110	122	140	176	180	188
	Kg.	38	39	48	50	55	64	80	82	85

<sup>A</sup> Thermal expansion valves are factory supplied. Models with two thermal expansion valves have interlaced circuiting.

<sup>B</sup> Airflow in excess of maximum values shown may result in blow-off of condensation.

Dimensions (± 1/8"; ± 3mm)



Inches

Model	A	B	C	D	E	F	G	H	J	K	M	N	P	Q	R*	S*	T*	U	V
ACUA	27	38	23	36	21	16 1/2	--	8 1/2	--	2 1/8	6	4	--	3 1/2	2	3/4	1 1/4	14 1/2	27
ACUB	27	50	23	48	21	16	13 5/8	8 5/8	6 1/4	2 1/8	5 1/8	3 5/8	3 1/4	2 3/4	2	(2) 3/4	(2) 1 1/2	14 1/2	41 1/4
ACUC	32 5/8	50	36	48	34	20 1/2	17 1/4	9 1/4	7 3/4	2 1/8	4 1/4	5 3/4	4 1/4	3	2	(2) 3/4	(2) 1 3/4	27 1/2	39 7/8

mm

Model	A	B	C	D	E	F	G	H	J	K	M	N	P	Q	R*	S*	T*	U	V
ACUA	686	965	584	914	533	419	--	216	--	54	152	101	--	89	51	19	32	368	686
ACUB	686	127	584	1,219	533	406	346	219	159	54	130	92	83	70	51	(2) 19	(2) 38	368	1,048
ACUC	829	1,270	914	1,219	864	521	438	235	197	54	108	146	108	76	51	(2) 19	(2) 44	699	1,013

\* Hole size (not pipe size). Hole Locations: Suction Line, FxQ and GxP; Liquid Line, HxN and JxN; Drain, KxM.

Selection Procedure

- From the table on the right, determine the matching coil cabinet by model size (ACUA, ACUB, or ACUC) for your Model CAUA heater.
- For the specific application, identify the design conditions, nominal cooling load, airflow required, and saturated vapor refrigerant temperature supplied to the coil.
- Reference the Performance Data Tables. Select the appropriate table based on the model size determined in No. 1. Find the coil that meets or exceeds your nominal cooling requirement based on the design conditions, operating CFM, and the saturated suction temperature (evaporator temperature) of the refrigerant supplied to the coil.

Heater Size	150	200	250	300	350	400
Cabinet	ACUA	ACUB	ACUC			
Coil Size	060	090	120			
	072	120	150			
	090	150	180			

**EXAMPLE:**

Furnace Model CAUA 200

Design Conditions 80/67deg. F  
27/19 deg. C

Supply Airflow Required 2,400 CFM  
4,077 m<sup>3</sup>/hr

Evaporator Temperature 45 deg. F\*  
7 deg. C\*

Required Cooling Load 84 MBH  
24.6 kW

**SOLUTION:**

Select Model ACUA from Table above; choose the Model ACUA Performance Data Table on next page for next step.

- Go to center section of columns

- Go to middle column of center section.

Find the total cooling load where the 45 deg. F (7 deg. C) Evaporator Temperature row intersects the selected 2400 CFM column for each size.

- Size 060 @ 71 MBH;
- Size 072 @ 75 MBH; and
- Size 090 @ 95 MBH

Select ACUA-090 because the total cooling load at the specified conditions will provide the 84 MBH required at full load

\*Make sure your condensing unit(s) are rated for the cooling load. Add in line losses to determine the evaporator temperature as: Evaporator temperature = Saturated Suction Temperature (43°F) + Line Losses (2°F) = 45°F. **Always follow the condensing unit manufacturer's recommendations for refrigerant piping and proper equipment sizing.**