

**CAPVU
Evaporator Coil
A Coil – Uncased
Upflow, Downflow**



Product Data

The CAPVU evaporator coils incorporate proven standards for reliable system operation and performance throughout the life of a quality Carrier Air Conditioner or Heat Pump system. Evaporator coils manufactured by Carrier and installed as part of a total comfort system provide ARI-rated performance ratings and are additionally listed with UL and c-UL.

DESIGN FEATURES

Performance — Designed with performance in mind, these A-coils offer low pressure drops to enhance system performance and airflow characteristics.

Aluminum Coils — Models are built with aluminum hairpins, designed to resist both general pitting corrosion and excessive indoor Formicary Corrosion. (Formicary Corrosion is an industry phenomenon.)

Thermostatic Expansion Valves (TXV) — All Carrier coils have refrigerant-specific, factory-installed TXVs.

Durable Condensate Pan — The corrosion-resistant drain pan is designed with a “fiberglass reinforced thermoset polyester” material (FRTP) that offers unsurpassed pan strength. It is engineered with proper slope to help ensure water drainage, reduced pan sweating and improved moisture removal for better home comfort.

Refrigerant Connections — The coils are provided with proven sweat connections for leak-free operation maintaining system reliability. The side mounting tubing to the coil slabs allows for easy cleaning and servicing of the coils, as well as easy access to the TXV.

Burst Pressure — These coils meet or exceed burst pressure of 2100 psi which is at least three to five times the pressure they will see in actual application.

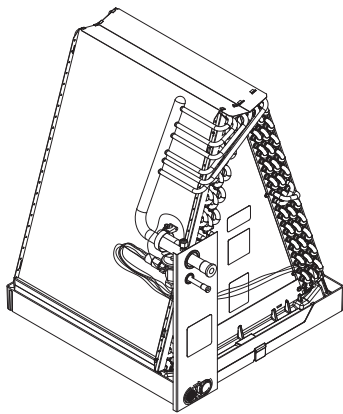
UV Knockouts — The cased coils also come with factory-installed UV knockouts for quick and easy installation of Carrier UV lights.

Serviceability — All the coils come with a “split-delta plate” for easy, quick access to the coil for service and cleaning. Also the coils are removable from the front of the unit without use of any tools (once the door is removed). The units are also designed with a single size screw, the same size as used on all our Carrier furnaces. One tool required for all jobs.

Installation Flexibility — The CAPVU evaporator coils are uncased A-coils that provide flexibility for a wide variety of field applications installed in either a factory-manufactured accessory casing, or a field-supplied plenum enclosure. Water management capabilities have been enhanced for downflow applications.

Coil Support — Carrier provides a standard factory pan support for the uncased coil, providing precise, durable support in the plenum for easier installations.

Face Plate — A unique Carrier feature, the face plate comes shipped with the uncased evaporator coil models, provides for a



CAPVU

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more professional installation and prevents air leaks at the refrigerant line connections.

MODEL NUMBER NOMENCLATURE

1 2 3 4 5 6 7 8 9 10 11 12
C A P V U 1 8 1 4 A C A

Product

C = Coil

Type

A – A Coil

Refrigerant Type

P = Puron® (R-410A) Refrigerant TXV

Coil Configuration

V = Upflow / Downflow

Cabinet Finish

P = Painted

U = Uncased

Variations

A = Basic

Tubing Design

L = Aluminum

Revision Level

A = 1st

Cabinet Width

14 = 14-in. / 356mm

17 = 17-in. / 432mm

21 = 21-in. / 533mm

24 = 24-in. / 610mm

Unit Capacity

18 = 1 1/2 Ton

24 = 2 Ton

30 = 2 1/2 Ton

36 = 3 Ton

42 = 3 1/2 Ton

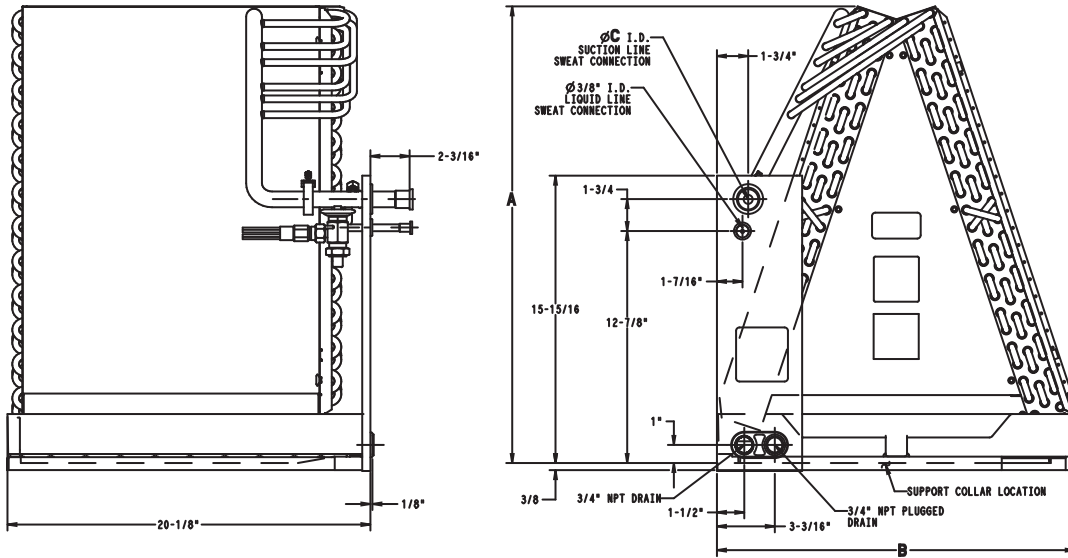
48 = 4 Ton

60 = 5 Ton



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program For verification of certification for individual products, go to www.ahridirectory.org.





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DIMENSIONS - CAPVU

UNIT	A in. (mm.)	B in. (mm.)	C in. (mm.)	SHIPPING WT. lb. (kg.)
CAPVU1814ALA	13-5/8 (346)	13 (330)	5/8 (16)	21.0 (10)
CAPVU2414ALA	17-3/4 (451)	13 (330)	5/8 (16)	25.0 (12)
CAPVU2417ALA	17-1/4 (438)	16-5/16 (414)	5/8 (16)	28.0 (12)
CAPVU3014ALA	21-7/8 (556)	13 (330)	3/4 (19)	32.0 (14)
CAPVU3017ALA	21-7/16 (545)	16-5/16 (414)	3/4 (19)	32.0 (14)
CAPVU3614ALA	23-15/16 (608)	13 (330)	3/4 (19)	31.0 (14)
CAPVU3617ALA	23-9/16 (598)	16-5/16 (414)	3/4 (19)	35.0 (16)
CAPVU3621ALA	23 (584)	19-13/16 (503)	3/4 (19)	36.0 (16)
CAPVU4221ALA	25-1/16 (637)	19-13/16 (503)	7/8 (22)	38.0 (17)
CAPVU4224ALA	24-1/2 (622)	23-5/16 (592)	7/8 (22)	42.0 (19)
CAPVU4817ALA	29-7/8 (759)	16-5/16 (414)	7/8 (22)	50.0 (23)
CAPVU4821ALA	25-5/16 (643)	19-13/16 (503)	7/8 (22)	47.0 (21)
CAPVU4824ALA	24-13/16 (630)	23-5/16 (592)	7/8 (22)	49.0 (22)
CAPVU6021ALA	31-1/2 (800)	19-13/16 (503)	7/8 (22)	57.0 (26)
CAPVU6024ALA	31-1/16 (789)	23-5/16 (592)	7/8 (22)	557.0 (25)

NOTES:

1. Contact manufacturer for cooling capacities at conditions other than shown in table.
2. Formulas:
 Leaving db = entering db - $\frac{\text{sensible heat cap.}}{1.09 \times \text{CFM}}$
 Leaving wb = wb corresponding to enthalpy of air leaving coil (h_{LWB})

$$h_{LWB} = h_{EWB} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{CFM}}$$
 Where h_{EWB} = enthalpy of air entering coil
3. SHC is based on 80°F (27°C) db temperature of air entering the evaporator coil.
 Below 80°F (27°C) db, subtract (Correction Factor x CFM) from SHC.
 Above 80°F (27°C) db, add (Correction Factor x CFM) to SHC.
4. Direct interpolation is permissible. Do not extrapolate.
5. Fan motor heat has not been deducted.
6. All data points are based on 10°F (-12°C) superheat leaving coil and use of thermostatic expansion valve (TXV) device.
7. All units have sweat suction-tube connection and a liquid-tube connection. For 1-1/8-in. system suction tube, 3/4 x 1-1/8-in. suction tube connection adapter is available as accessory.
8. The CAPVU coils can be used in any properly designed system using Puron® refrigerant.
9. Before using maximum cfm shown in table, check coil static pressure drop to ensure system blower can provide necessary static pressure needed for coil and duct systems.
10. Bypass Factor = 0 indicates no psychometric solution. Use bypass factor of next lower EWB for approximation.

BYPASS FACTOR	ENTERING AIR DRY BULB TEMPERATURE °F (°C)					
	79 (26)	78 (26)	77 (25)	76 (24)	75 (24)	Under 75 (24)
	81 (27)	82 (28)	83 (28)	84 (29)	84 (29)	Above 85 (29)
Correction Factor						
0.10	0.98	1.96	2.94	3.92	4.91	Use formula shown below
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.

Correction Factor = 1.09 x (1 - BF) x (db - 80)

ACCESSORIES

EMPTY COIL CASING ACCESSORY FOR UNCASSED A-COIL

ACCESSORY PART NUMBER	CAPVU NOMINAL COIL SIZES	DIMENSIONS in. (mm.)		
		H	W	D
KCAKC2212ECC	1814, 2414, 3014, 3614	25-7/8 (657)	14-3/16 (360)	20-5/8 (524)
KCAKC2306ECC	2417, 3017, 3617, 4817	33-7/8 (860)	17-1/2 (445)	20-5/8 (524)
KCAKC2404ECC	3621, 4221, 4821, 6021	33-7/8 (860)	21 (533)	20-5/8 (524)
KCAKC2504ECC	4224, 4824, 6024	33-7/8 (860)	24-1/2 (622)	20-5/8 (524)

COIL STATIC PRESSURE DROP (in. w.c.) PURON® R-410A REFRIGERANT

UNIT SIZE	STANDARD CFM																			
	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	
1814	Dry																			
	0.079	0.111	0.145	0.186	0.232															
2414	Wet																			
	0.083	0.116	0.151	0.196	0.243															
2417	Dry																			
	0.065	0.091	0.120	0.154	0.194	0.237	0.284													
2417	Wet																			
	0.066	0.094	0.124	0.161	0.203	0.250	0.301													
3014	Dry																			
	0.056	0.076	0.097	0.123	0.151	0.182	0.215													
3014	Wet																			
	0.060	0.082	0.105	0.132	0.163	0.195	0.231													
3017	Dry																			
	0.054	0.077	0.102	0.133	0.167	0.206	0.248	0.296	0.347											
3017	Wet																			
	0.059	0.084	0.111	0.142	0.181	0.223	0.269	0.319	0.375											
3614	Dry																			
	0.043	0.059	0.077	0.096	0.119	0.144	0.171	0.201	0.232											
3614	Wet																			
	0.046	0.063	0.083	0.105	0.130	0.157	0.186	0.219	0.252											
3617	Dry																			
	0.047	0.069	0.093	0.119	0.151	0.187	0.227	0.270	0.317	0.362	0.418									
3617	Wet																			
	0.053	0.076	0.101	0.129	0.162	0.200	0.241	0.286	0.335	0.388	0.447									
3621	Dry																			
	0.023	0.036	0.052	0.069	0.089	0.110	0.135	0.160	0.189	0.219	0.251									
3621	Wet																			
	0.042	0.058	0.076	0.095	0.117	0.142	0.169	0.198	0.231	0.265	0.299									
4221	Dry																			
	0.026	0.037	0.050	0.062	0.077	0.092	0.109	0.128	0.148	0.170	0.193									
4221	Wet																			
	0.029	0.040	0.053	0.065	0.082	0.099	0.119	0.138	0.160	0.185	0.209									
4224	Dry																			
			0.044	0.056	0.068	0.082	0.099	0.119	0.138	0.161	0.183	0.205	0.233							
4224	Wet																			
			0.058	0.073	0.089	0.106	0.125	0.143	0.165	0.189	0.213	0.239	0.268							
4817	Dry																			
			0.039	0.049	0.060	0.072	0.085	0.099	0.114	0.130	0.146	0.164	0.182							
4817	Wet																			
			0.054	0.066	0.079	0.092	0.103	0.125	0.142	0.161	0.182	0.202	0.222							
4821	Dry																			
			0.065	0.082	0.105	0.128	0.156	0.185	0.216	0.253	0.290	0.331	0.372	0.417	0.464					
4821	Wet																			
			0.066	0.084	0.106	0.130	0.159	0.188	0.222	0.256	0.296	0.337	0.379	0.425	0.476					
4824	Dry																			
			0.055	0.072	0.089	0.107	0.128	0.150	0.175	0.199	0.228	0.257	0.288	0.321	0.356					
4824	Wet																			
			0.058	0.075	0.094	0.115	0.136	0.161	0.188	0.217	0.247	0.279	0.313	0.347	0.386					
6021	Dry																			
			0.044	0.056	0.069	0.084	0.100	0.118	0.137	0.159	0.180	0.198	0.222	0.247	0.275					
6021	Wet																			
			0.052	0.065	0.080	0.095	0.112	0.131	0.150	0.171	0.193	0.214	0.241	0.270	0.296					
6024	Dry																			
					0.075	0.093	0.112	0.133	0.157	0.181	0.206	0.234	0.264	0.294	0.326	0.360	0.396	0.432	0.478	
6024	Wet																			
					0.077	0.095	0.115	0.137	0.159	0.184	0.209	0.238	0.268	0.300	0.334	0.370	0.407	0.444	0.488	
6024	Dry																			
					0.073	0.083	0.095	0.107	0.120	0.136	0.152	0.169	0.184	0.203	0.217	0.238	0.260	0.283	0.307	
6024	Wet																			
					0.076	0.086	0.098	0.110	0.124	0.140	0.157	0.175	0.193	0.215	0.238	0.261	0.286	0.314	0.342	