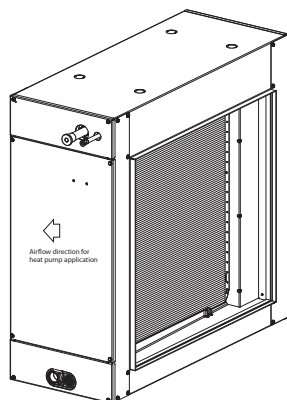


**CSPHP
Evaporator Coil
Slab Coil – Cased
Horizontal**

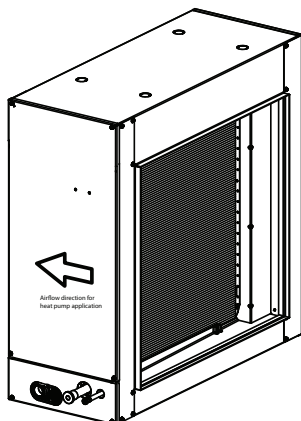


Product Data



Tin

A06520



Aluminum

CSPHP

A10475

The CSPHP 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 AHRI-rated performance ratings and are additionally listed with UL and c-UL. The coils are available for systems utilizing Puron®, the environmentally friendly refrigerant. The CSPHP are cased slab coils that are housed in a durable, 22 gauge, pre-painted taupe metallic cabinet to match the Carrier furnaces. The fully-insulated cabinet (foil faced with R-2.1 insulation properties) provides for quiet, efficient operation of the evaporator coil. The coils are available in sizes 024 through 060 (2-5 tons).

DESIGN FEATURES

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

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

Durable Condensate Pans — The corrosion-resistant drain pan is designed in a new “fiberglass reinforced thermoset polyester” material (FRTP) that offers unsurpassed pan strength.

Refrigerant Connections — The coils are provided with industry proven sweat-connections for leak-free operation to maintain system reliability.

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 — The coils are removable from the front of the unit without use of any tools, after 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 CSPHP evaporator coils are cased slab coils that provide flexibility for a wide variety of field applications. The unique design is great for all those horizontal applications. It should be noted that this new design maintains the same duct size openings as previous units, so replacement of present horizontal coils will be easy to convert.

NOTE: For cooling-only units, coil can be installed in either airflow direction. Heat pump applications require specific airflow direction to obtain performance.

Tin Plated Copper Coils — “T” models are built with special hairpins, tin plated to resist both general pitting corrosion and excessive indoor corrosion-Formicary Corrosion. (Formicary Corrosion is an industry phenomenon.)

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



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.



MODEL NUMBER NOMENCLATURE

1 2 3 4 5 6 7 8 9 10 11 12
 C S P H P 2 4 1 2 A T A

Product
 C = Coil

Type
 S – Slab

Refrigerant Type
 P = Puron® Refrigerant (R-410A) TXV

Coil Configuration
 H – Horizontal

Cabinet Finish
 P = Painted

Variations
 A = Basic

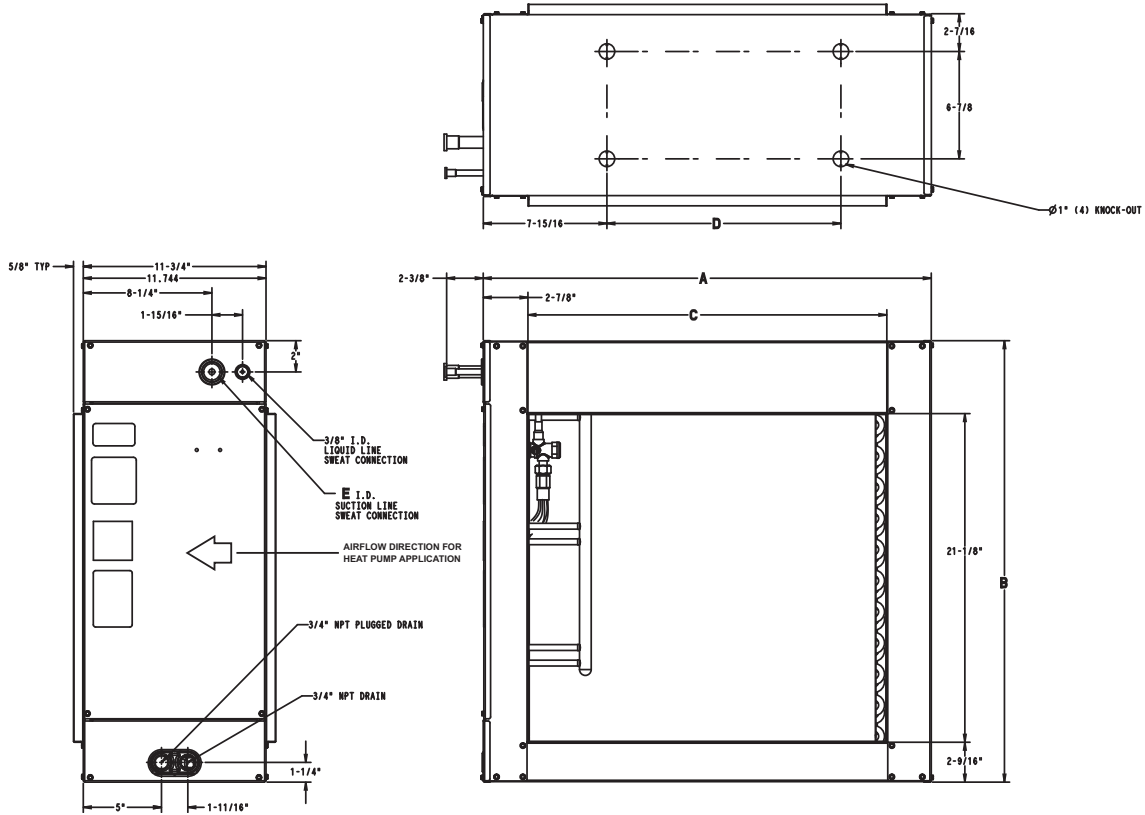
Tubing Design
 L – Aluminum
 T – Tin Plated Copper

Revision Level
 A = 1st

Cabinet Width
 12 – 12-In. (305mm) Slab

Unit Capacity
 24 = 2 Ton 42 = 3 1/2 Ton
 30 = 2 1/2 Ton 48 = 4 Ton
 36 = 3 Ton 60 = 5 Ton

CSPHP



A06523

DIMENSIONS

UNIT	SERIES	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	SHIPPING WT. TIN/ALUMINUM lb. (kg)
CSPHP2412A(L,T)A	A	24-1/16 (612)	28-3/8 (721)	16-1/16 (408)	9-3/8 (238)	5/8 (16)	55.0 / 48.0 (25) / (22)
CSPHP3012A(L,T)A	A	24-1/16 (612)	28-3/8 (721)	16-1/16 (408)	9-3/8 (238)	3/4 (19)	56.0 50.0 (25) / (23)
CSPHP3612A(L,T)A	A	28-13/16 (732)	28-3/8 (721)	23-1/16 (586)	15-1/6 (383)	3/4 (19)	61.0 / 54.0 (28) / (24)
CSPHP4212A(L,T)A	A	28-13/16 (732)	28-3/8 (721)	23-1/16 (586)	15-1/16 (383)	3/4 (19)	63.0 / 56.0 (29) / (25)
CSPHP4812A(L,T)A	A	28-13/16 (732)	30-3/8 (772)	23-1/16 (586)	17-5/16 (440)	7/8 (22)	65.0 / 68.0 (29) / (26)
CSPHP6012A(L,T)A	A	38-15/16 (989)	30-3/8 (772)	33-13/16 (859)	24-13/16 (630)	7/8 (22)	82.5 / 74.0 (37) / (34)

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 d(A(L,T)A 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 CSPHP 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 = $1.09 \times (1 - \text{BF}) \times (\text{db} - 80)$

PERFORMANCE DATA (cont)

COIL STATIC PRESSURE DROP (in. w.c.) PURON® REFRIGERANTS

UNIT SIZE	STANDARD CFM																			
	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	
2412	Dry																			
	0.060	0.081	0.104	0.129	0.155	0.186	0.217													
	Wet																			
	0.069	0.096	0.129	0.162	0.198	0.237	0.278													
3012	Dry																			
	0.044	0.060	0.077	0.097	0.116	0.140	0.165	0.190	0.219											
	Wet																			
	0.050	0.071	0.093	0.116	0.144	0.172	0.203	0.235	0.269											
3612	Dry																			
	0.043	0.058	0.074	0.089	0.107	0.127	0.150	0.172	0.197	0.224	0.252									
	Wet																			
	0.048	0.066	0.086	0.104	0.128	0.154	0.182	0.212	0.245	0.280	0.317									
4212	Dry																			
			0.065	0.079	0.095	0.113	0.134	0.154	0.176	0.197	0.220	0.246	0.268							
	Wet																			
			0.076	0.094	0.114	0.137	0.163	0.189	0.215	0.245	0.273	0.303	0.332							
4812	Dry																			
			0.063	0.076	0.091	0.105	0.121	0.138	0.157	0.175	0.195	0.217	0.238	0.260	0.284					
	Wet																			
			0.080	0.101	0.123	0.149	0.175	0.206	0.215	0.231	0.261	0.291	0.325	0.361	0.394					
6012	Dry																			
					0.051	0.060	0.069	0.079	0.090	0.101	0.113	0.125	0.138	0.153	0.165	0.180	0.195	0.211	0.227	
	Wet																			
					0.063	0.076	0.089	0.102	0.118	0.135	0.155	0.175	0.193	0.214	0.235	0.258	0.279	0.302	0.325	

CSPHP

