C24 SERIES — UP-FLO AIR-CONDITIONING ONLY EVAPORATOR UNITS

1 to 5 Tons (4 to 18 kW) Nominal Cooling Capacity

C24

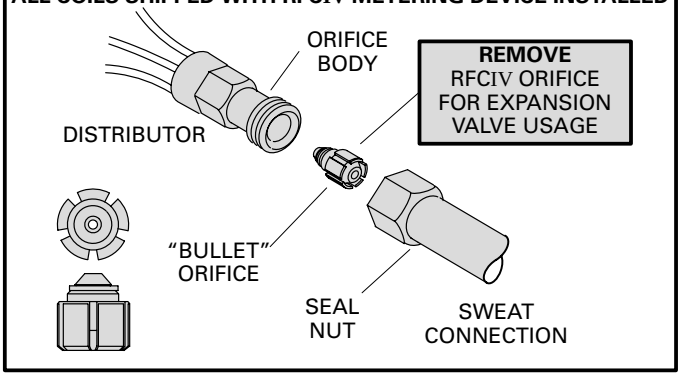
Bulletin #490***
November 1993

Applications — Lennox designed and built up-flo evaporator coils can easily be installed with most Lennox up-flo furnaces. Coils match most plenum openings of Lennox furnaces. See Coil to Furnace Selector indexed in this bulletin. Also see dimension drawings and application drawings. See condensing units bulletins (section Cooling Units — Condensing Units) for evaporator unit applications and cooling capacities.

Construction — Lennox designed and fabricated coils are constructed of precisely spaced ripple-edged enhanced aluminum fins machine fitted to rifled copper tubes. Lanced fins allow for maximum exposure of fin surface to air stream. Copper rifled tubing construction provides long coil life and ease of service. Rifled tubing provides superior refrigerant flow resulting in maximum heat transfer. Twin coils assembled in an "A" configuration provides extra large surface and contact area for maximum efficiency. Fins have collars that grip tubing for maximum contact area resulting in excellent heat transfer. Flared shoulder tubing joints and silver soldering provide tight leakproof joints. Coils are thoroughly tested under pressure to insure leakproof construction. Drainpan is constructed of a non-corrosive polymer and has dual 3/4 inch (19 mm) fpt drain connections. Two-piece end panel allows easy access for coil servicing and cleaning. Refrigerant lines are equipped with sweat connections on both suction and liquid lines.

Fully Tested — Evaporator units have been thoroughly tested with matching condensing units in the Lennox Research Laboratory environmental test room. Air resistance data is from tests conducted in the Lennox air test chamber. Coil assemblies are shipped factory assembled and ready for installation.

ALL COILS SHIPPED WITH RFCIV METERING DEVICE INSTALLED



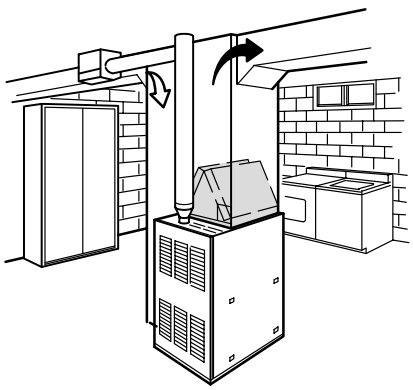
Refrigerant Control Choice — Coils are shipped with factory installed RFCIV refrigerant metering device. An alternate choice is to select an optional expansion valve for a more efficient capacity rating. For expansion valve usage, coils must be field altered by removing the RFCIV metering orifice, see sketch above.

Refrigerant Flow Control IV — All models are applicable to Lennox RFCIV™ systems. RFCIV is a very accurate means of metering refrigerant in system. Refrigerant control is accomplished by the exact sizing of a refrigerant metering orifice. The principle of the Lennox RFCIV system involves matching the evaporator coil with the proper bore size in the orifice (primary and secondary) within the metering device. Because the RFCIV system equalizes pressure almost instantaneously after the compressor stops, the unit starts unloaded, eliminating the need for any additional controls.

Expansion Valve Kits (Optional) — Expansion valve is available for field installation on the coil. See condensing unit bulletins for expansion valve selection.

Adjustable Coil Adaptor Base (Optional) — Adjustable adaptor base **(50J15)** provides quick and easy installation in a wide variety of applications. See Coil To Furnace Selector, dimension drawings and application drawings.

Typical Application



Utility Room Installation
With G24M Furnace
and Automatic Humidifier

CF30-00 Non-Adjustable Adaptor Base (Optional) — Fixed width base **(46J43)** is available for C24 installations with G12Q5-165 model furnaces. See Specifications table, Coil to Furnace Selector, dimension drawings and application drawings.

Full Height Empty Coil Cabinet Cabinet (Optional) — Cabinets are fully insulated with thick fiberglass insulation and are constructed of heavy gauge steel with a deluxe baked-on enamel paint finish. Bend-up flanges are provided in outlet opening of cabinet for ease of plenum connection in conventional. See Specifications tables, Empty Coil Cabinet to Furnace Selector and dimension drawing.

SPECIFICATIONS

Model Number		C24-21-RFC	C24-26-RFC	C24-26W-RFC	C24-31-RFC	C24-31W-RFC
Evaporator Coil	Net face area — sq. ft. (m^2)	3.11 (0.29)	3.11 (0.29)	3.11 (0.29)	3.56 (0.33)	3.56 (0.33)
	Tube diameter — in. (mm)	3/8 (10)	3/8 (10)	3/8 (10)	3/8 (10)	3/8 (10)
	Number of rows	1	2	2	2	2
	Fins per inch (m)	20 (787)	14 (551)	14 (551)	13 (512)	13 (512)
Suction line connection — in. (mm) sweat		5/8 (15.9)	5/8 (15.9)	5/8 (15.9)	3/4 (19)	3/4 (19)
Liquid line connection — in. (mm) sweat		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
Condensate drain (fpt) — in. (mm)		(2) 3/4 (19)	(2) 3/4 (19)	(2) 3/4 (19)	(2) 3/4 (19)	(2) 3/4 (19)
Refrigerant		HCFC-22	HCFC-22	HCFC-22	HCFC-22	HCFC-22
Coil shipping weight — lbs. (kg) 1 package		27 (12)	32 (15)	36 (16)	35 (16)	39 (18)
*Expansion Device Furnished		RFCIV				
Adjustable Adaptor Base (Optional)		**50J15**				
Full Height Empty Coil Cabinet (Optional)	Catalog Number	**98H79**	**98H79**	**98H81**	**98H80**	**98H81**
	Ship. Wt. — lbs. (kg)	8 (4)	8 (4)	14 (6)	10 (5)	14 (6)

*Furnished and factory installed.

SPECIFICATIONS

Model Number		C24-41-RFC	C24-41W-RFC	C24-46-RFC	C24-51-RFC	C24-65-RFC
Evaporator Coil	Net face area — sq. ft. (m^2)	4.00 (0.37)	4.00 (0.37)	4.89 (0.45)	6.13 (0.57)	7.58 (0.70)
	Tube diameter — in. (mm)	3/8 (10)	3/8 (10)	3/8 (10)	3/8 (10)	3/8 (10)
	Number of rows	2	2	2	2	2
	Fins per inch (m)	13 (512)	13 (512)	14 (551)	13 (512)	13 (512)
Suction line connection — in. (mm) sweat		3/4 (19)	3/4 (19)	7/8 (22.2)	7/8 (22.2)	1-1/8 (28.6)
Liquid line connection — in. (mm) sweat		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
Condensate drain (fpt) — in. (mm)		(2) 3/4 (19)	(2) 3/4 (19)	(2) 3/4 (19)	(2) 3/4 (19)	(2) 3/4 (19)
Refrigerant		HCFC-22	HCFC-22	HCFC-22	HCFC-22	HCFC-22
Coil shipping weight — lbs. (kg) 1 package		36 (16)	40 (18)	43 (20)	44 (20)	54 (25)
*Expansion Device Furnished		RFCIV				
Adjustable Adaptor Base (Optional)		**50J15**				
Non-Adjustable Coil Adaptor Base (Optional)		- - - -			CF30-00 **(46J43)**	
Full Height Empty Coil Cabinet (Optional)	Catalog Number	**98H80**	**98H81**	**98H82**	**98H83**	**98H84**
	Ship. Wt. — lbs. (kg)	10 (5)	14 (6)	22 (10)	26 (12)	32 (15)

*Furnished and factory installed.

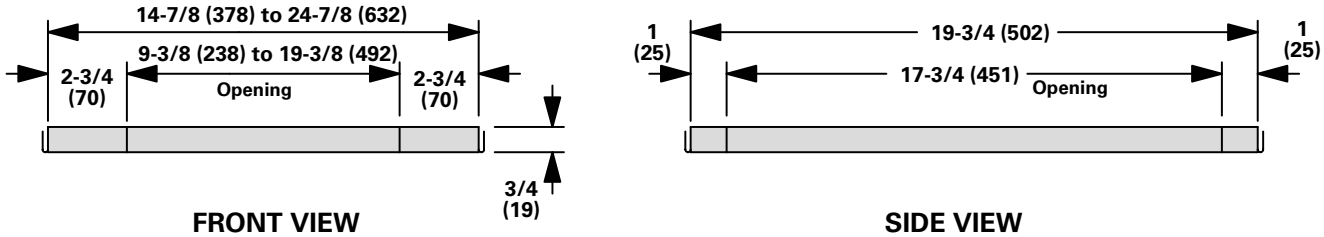
AIR RESISTANCE

Model Number	Air Volume		Total Resistance	
	cfm	L/s	in. w.g.	Pa
C24-21	300	140	.02	5
	400	190	.03	7
	500	235	.05	12
	600	285	.07	17
	700	330	.09	22
C24-26 C24-26W	400	190	.04	10
	600	285	.09	22
	800	380	.15	37
	1000	470	.23	57
	1200	570	.32	80
C24-31 C24-31W	600	285	.07	17
	800	380	.12	30
	1000	470	.18	45
	1200	570	.25	62
	1400	660	.34	85

Model Number	Air Volume		Total Resistance	
	cfm	L/s	in. w.g.	Pa
C24-41 C24-41W	800	380	.12	30
	1000	470	.19	47
	1200	570	.26	65
	1400	660	.35	87
	1600	760	.44	109
C24-46	1000	470	.12	30
	1200	570	.16	40
	1400	660	.22	55
	1600	760	.28	70
	1800	850	.34	85
C24-51	1200	570	.09	22
	1400	660	.12	30
	1600	760	.15	37
	1800	850	.19	47
	2000	940	.23	57
C24-65	1600	760	.11	27
	1800	850	.14	35
	2000	940	.17	42
	2200	1040	.20	50
	2400	1130	.23	57

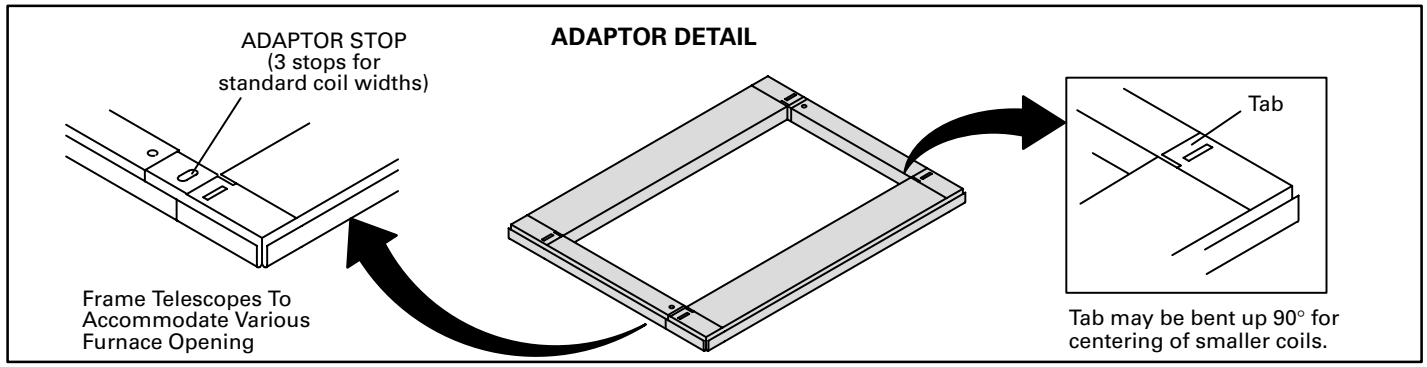
DIMENSIONS — inches (mm)

OPTIONAL ADJUSTABLE ADAPTOR BASE (50J15)



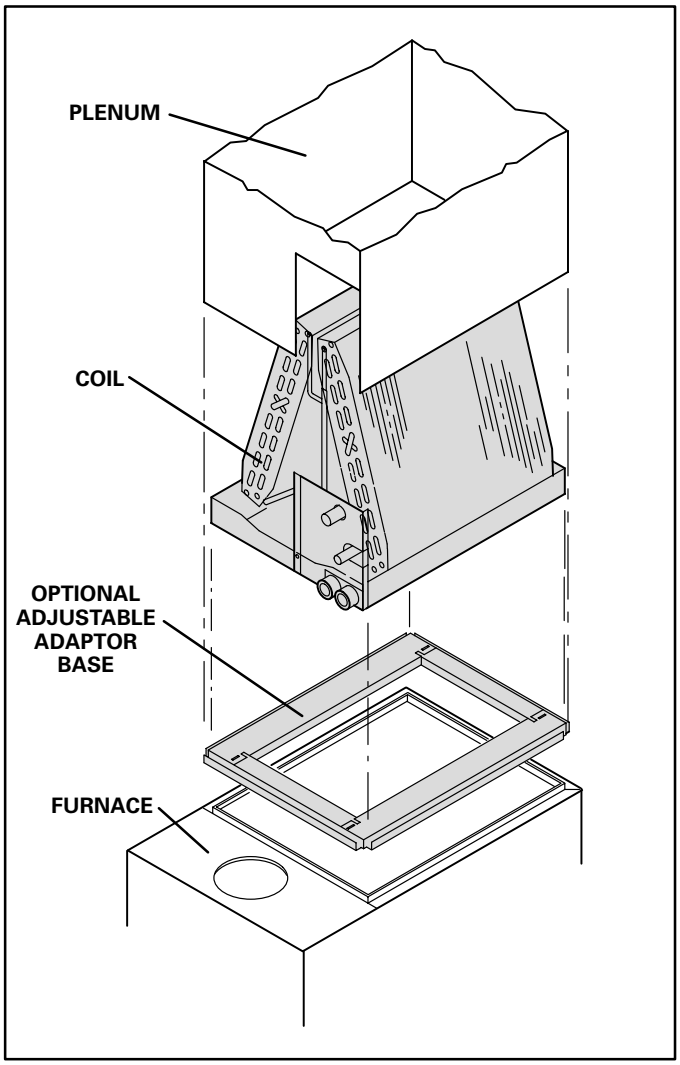
FRONT VIEW **SIDE VIEW**

NOTE — Adaptor base is not required with empty coil cabinet.

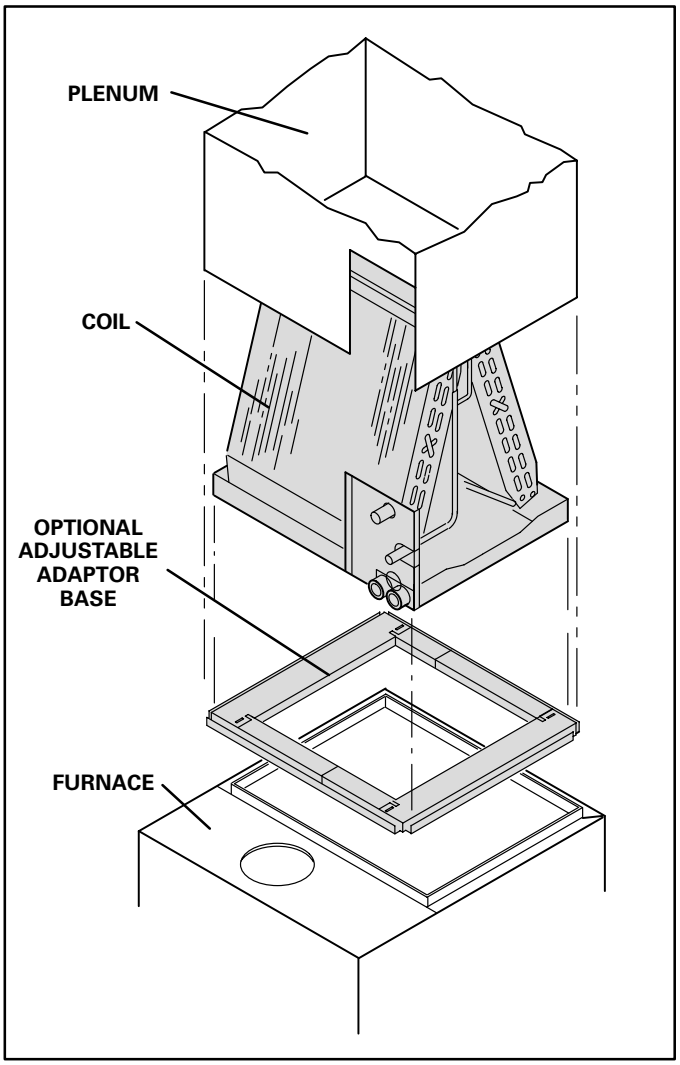


COIL AND ADAPTOR BASE APPLICATIONS

C24-21, C24-26(W), C24-31(W), C24-41(W), and C24-46 COILS

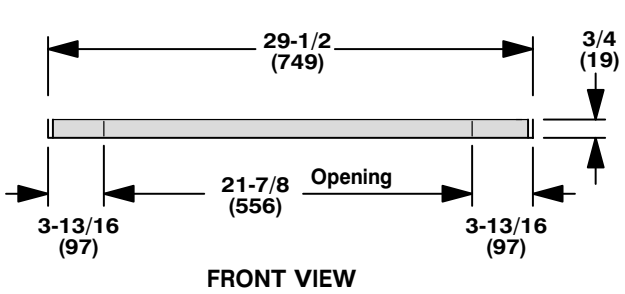


C24-51 AND C24-65 COILS

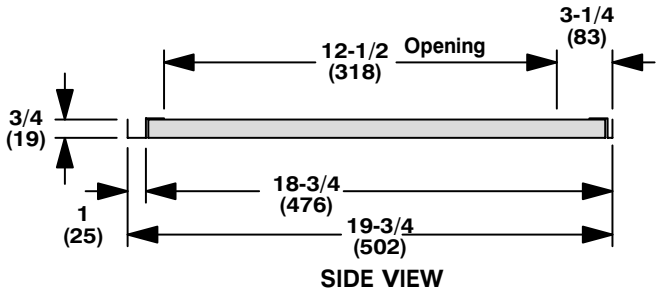


OPTIONAL ACCESSORY DIMENSIONS — inches (mm)

OPTIONAL CF30-00 ADAPTOR BASE (46J43) For G20Q5/6E-150 Only



FRONT VIEW

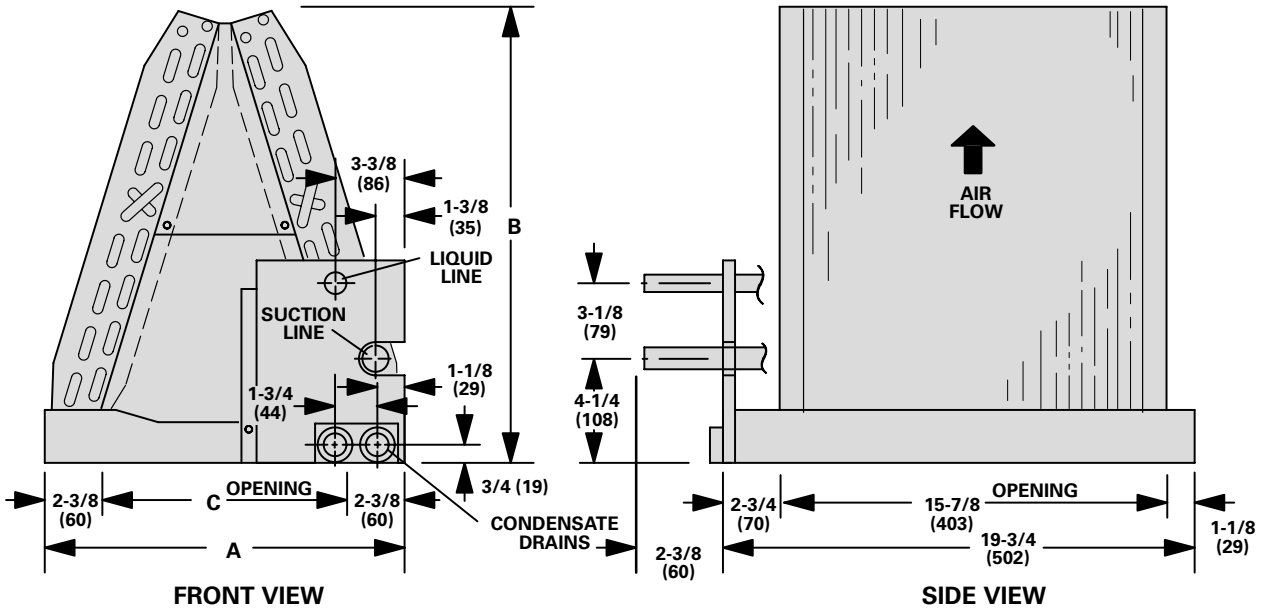


SIDE VIEW

NOTE — Adaptor base is not required with empty coil cabinet.

DIMENSIONS — inches (mm)

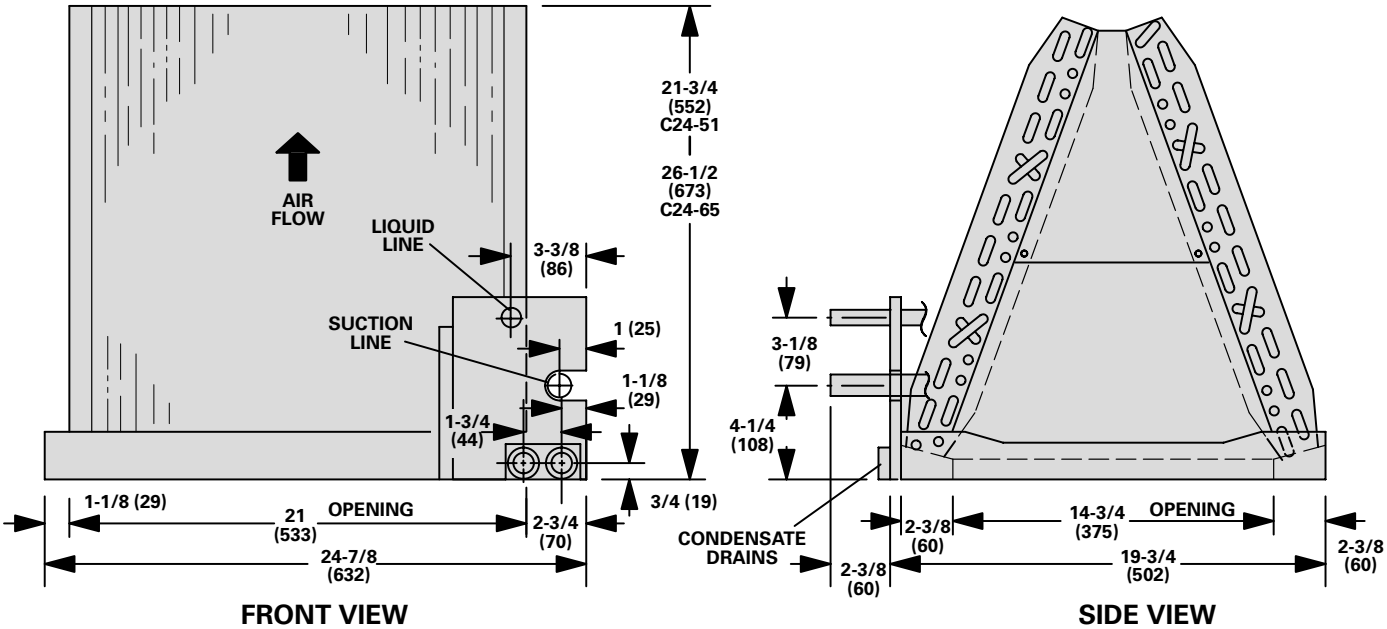
C24-21, C24-26, C24-26W, C24-31, C24-31W, C24-41, C24-41W AND C24-46 COILS



FRONT VIEW SIDE VIEW

Model Number	A		B		C	
	in.	mm	in.	mm	in.	mm
C24-21	14-3/4	375	15	381	10	254
C24-26	14-3/4	375	15	381	10	254
C24-26W	19-3/4	502	15	381	15	254
C24-31	14-3/4	375	16-7/8	428	10	254
C24-31W	19-3/4	502	16-7/8	428	15	254
C24-41	14-3/4	375	18-3/4	476	10	254
C24-41W	19-3/4	502	18-3/4	476	15	254
C24-46	19-3/4	502	22-3/4	578	15	381

C24-51 AND C24-65 COILS



FRONT VIEW SIDE VIEW

ADJUSTABLE COIL ADAPTOR BASE TO FURNACE SELECTOR

Furnace Model Number		Coil Model Number									
		C24-21	C24-26	C24-26W	C24-31	C24-31W	C24-41	C24-41W	C24-46	C24-51	C24-65
G12	Q3-82									X	
	Q3-110										
	Q5-137										
	Q5-165								X	*CF30-00	*CF30-00
G21	Q3-40										
	Q3-60										
	Q3-80										
	Q5-80										
	Q5-100										
G24M	2-45										
	2-60										
	3-60									X	
	2-75										
	3-75									X	
	4-75									X	X
	3/4-100									X	X
	3/4-120									X	X
	4/5-100									X	X
	4/5-120									X	X
	4/5-140								X		

Coil matches furnace and air volume.

Coil matches furnace physically. Check furnace air volume and total system pressure drop for satisfactory match with coil.

X — Coil matches air volume. Coil does not match furnace physically and requires field fabricated transition.

X — Coil does not match furnace physically and requires field fabricated transition. Check furnace air volume and total system pressure drop for satisfactory match with coil.

Does not Match

*Coil matches furnace with optional CF30-00 adaptor base.

EMPTY COIL CABINET TO FURNACE SELECTOR

Furnace Model Number	Empty Cabinet	98H79	98H79	98H81	98H80	98H81	98H80	98H81	98H82	98H83	98H84
	Coil Model Number	C24-21	C24-26	C24-26W	C24-31	C24-31W	C24-41	C24-41W	C24-46	C24-51	C24-65
G12	Q3-82			X		X		X	X	X	
	Q3-110		X		X		X			X	X
	Q5-137							X	X		
	Q5-165									X	X
G21	Q3-40		X		X		X			X	
	Q3-60		X		X		X			X	
	Q3-80		X		X		X			X	
	Q5-80								X		
	Q5-100								X		
G24M	2-45			X		X		X			
	2-60			X		X		X			
	3-60			X		X		X	X	X	
	2-75			X		X		X			
	3-75			X		X		X	X	X	
	4-75			X		X		X	X	X	X
	3/4-100		X		X		X			X	X
	4/5-100									X	X
	3/4-120		X		X		X			X	X
	4/5-120									X	X
	4/5-140								X	X	X

Coil matches furnace and air volume.

Coil matches furnace physically. Check furnace air volume and total system pressure drop for satisfactory match with coil.

X — Coil matches air volume. Coil does not match furnace physically and requires field fabricated transition.

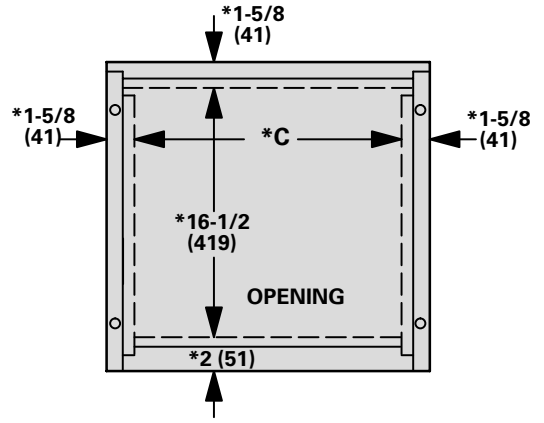
X — Coil does not match furnace physically and requires field fabricated transition. Check furnace air volume and total system pressure drop for satisfactory match with coil.

Does not Match

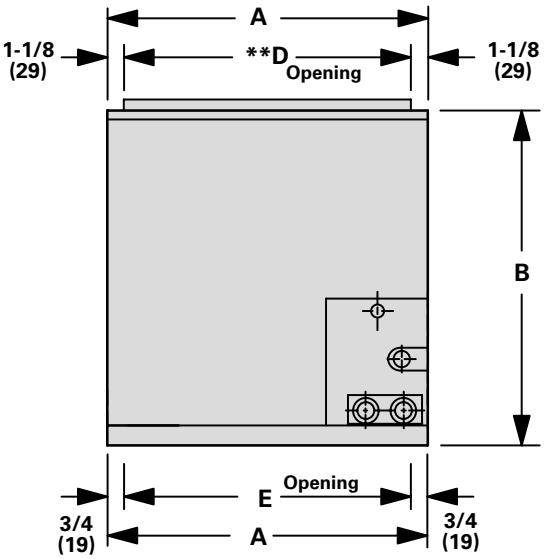
OPTIONAL ACCESSORY DIMENSIONS — inches (mm)

UP-FLO EMPTY COIL CABINETS

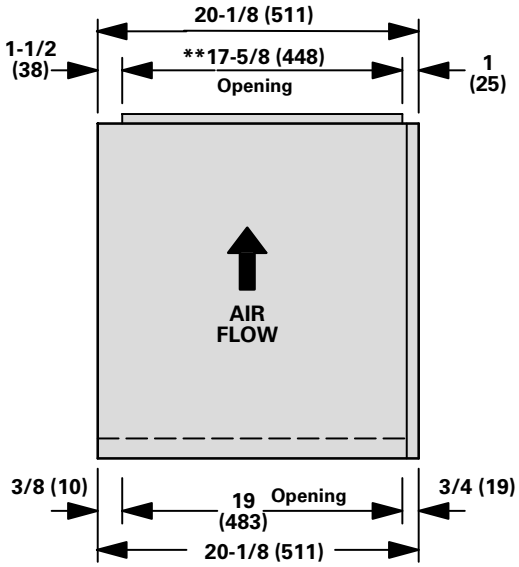
NOTE — Empty coil cabinet is equipped with a 5/8 inch (16mm) flange that may be bent up 90° for plenum connection on conventional up-flo furnace applications.
***Dimensions before flange is bent up.**
****Dimensions after flange is bent up.**



TOP VIEW



FRONT VIEW



SIDE VIEW

Empty Cabinet Catalog Number	C24 Coil Model Number	A		B		C		D		E	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
98H79	C24-21 C24-26	16-1/4	413	17	432	13	330	14	356	14-3/4	375
98H80	C24-31 C24-41	16-1/4	413	21	533	13	330	14	356	14-3/4	375
98H81	C24-26W C24-31W C24-41W	21-1/4	540	21	533	18	457	19	483	19-3/4	502
98H82	C24-46	21-1/4	540	25-3/4	654	18	457	19	483	19-3/4	502
98H83	C24-51	26-1/4	667	25-3/4	654	23	584	24	610	24-3/4	629
98H84	C24-65	26-1/4	667	28-3/4	730	23	584	24	610	24-3/4	629