LENNOX®
ENGINEERING DATA

CR24 SERIES — DOWN-FLO AIR-CONDITIONING ONLY EVAPORATOR UNITS

*12,000 to 60,000 Btuh (3.5 to 17.6 kW) Cooling Capacity

***ARI Standard 210/240 Certified Ratings with Matching Condensing Unit**

CR24

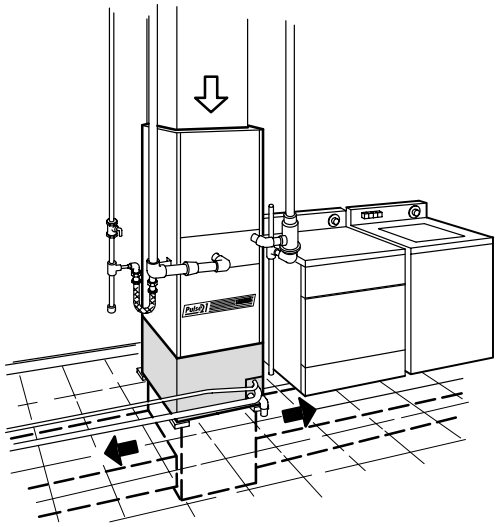
Bulletin #210017
October 1993
Supersedes March 1993

Cabinet Construction — Cabinets are constructed of heavy gauge steel with a deluxe baked-on enamel paint finish and are fully insulated with thick fiberglass insulation. Removeable panel allows access for easy servicing. Refrigerant lines extend outside of cabinet for ease of construction.

Coil 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 on coil allows easy access for coil servicing and cleaning. Refrigerant lines are equipped with sweat connections on 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.

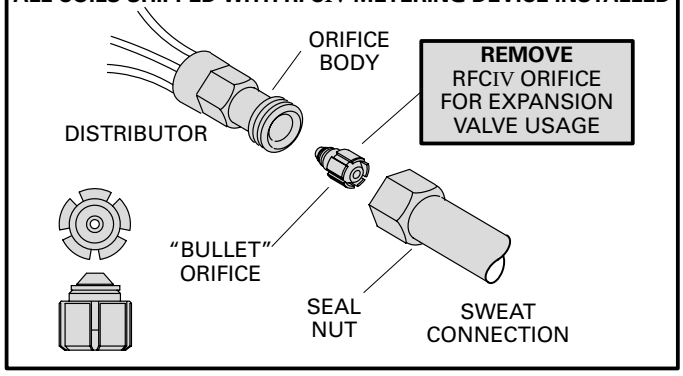
Typical Applications



Utility Room Installation
With Pulse 21® Furnace

Applications — Lennox designed and built down-flo evaporator coils can easily be installed with most Lennox down-flo furnaces. Coils match openings of most Lennox furnaces. See Coil/Furnace Match-up Selector table in this bulletin for more information. Coils are also designed for use with matching B24 series blower units. See Coil/B24 Match-up Selector table in this bulletin and B24 blower unit bulletin indexed in this section. See condensing units bulletins (section Cooling Units — Condensing Units) for evaporator unit applications and cooling capacities.

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. Expansion valve kits are optional and must be ordered extra. See condensing unit bulletins in tab section, Cooling Units — Condensing Units for valve selection.

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 within the metering device. Because the RFCIV system equalizes pressure almost instanteously after the compressor stops, the unit starts unloaded, eliminating the need for any additional controls.

Furnace Support Kit (Optional) — Kit **(41J22)** is required to provide additional support when matching 21-1/4 in. (540 mm) wide furnaces with CR24-51 and CR24-65 coils.

NOTE — Specifications, Ratings and Dimensions subject to change without notice.

SPECIFICATIONS

Model No.		CR24-21-RFC	CR24-31-RFC	CR24-31W-RFC	CR24-41-RFC	CR24-51-RFC	CR24-65-RFC
Evaporator Coil	Net face area — sq. ft. (m^2)	3.11 (0.29)	3.56 (0.33)	3.56 (0.33)	4.89 (0.45)	6.13 (0.57)	7.58 (0.70)
	Tube diameter — in. (mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	No. of rows	1	2	2	2	2	2
	Fins per inch (m)	20 (787)	13 (512)	13 (512)	14 (495)	13 (512)	13 (512)
Suction line connection — in. (mm) sweat		5/8 (15.9)	3/4 (19)	3/4 (19)	3/4 (19)	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)	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)	(2) 3/4 (19)
Refrigerant		R-22	R-22	R-22	R-22	R-22	R-22
Coil shipping weight — lbs. (kg) 1 pkg		35 (16)	45 (20)	49 (22)	65 (29)	70 (32)	86 (39)
*Expansion Device Furnished		RFCIV Metering Orifice					
**Furnace Support Kit (Optional)		Not Available				**41J22**	

*Furnished and factory installed.
**Required when matching 21-1/4 in. (540 mm) wide furnaces with CR24-51 and CR24-65 coils.

AIR RESISTANCE

Model No.	Air Volume		Total Resistance	
	cfm	L/s	in. w.g.	Pa
CR24-21	300	140	.04	10
	400	190	.07	17
	500	235	.10	25
	600	285	.14	35
	700	330	.18	42
CR24-31	600	285	.12	30
	800	380	.20	50
	1000	470	.30	75
	1200	570	.41	102
	1400	660	.55	137
CR24-31W	600	285	.12	30
	800	380	.20	50
	1000	470	.30	75
	1200	570	.41	102
	1400	660	.55	137
CR24-41	800	380	.13	32
	1000	470	.20	50
	1200	570	.27	67
	1400	660	.36	90
	1600	760	.46	114
CR24-51	1200	570	.17	42
	1400	660	.23	57
	1600	755	.29	72
	1800	850	.36	90
	2000	940	.43	107
CR24-65	1600	760	.22	55
	1800	850	.27	67
	2000	940	.33	82
	2200	1040	.39	97
	2400	1130	.46	114

CR24 COIL TO FURNACE MATCHING SELECTOR

Furnace Model No.		Coil Model Number					
		CR24-21	CR24-31	CR24-31W	CR24-41	CR24-51	CR24-65
G20RE G20RX	Q2/3-50						
	Q3-75						
	Q4-75					XX	
	Q3/4-100					XX	
	Q5-100						
	Q3-125						
	Q4/5-125						
G20RE	Q4/5-150					X	X
GSR21	Q3-50						
	Q4-50					XX	
	Q3-80					XX	
	Q4/5-80					XX	XX
	Q4/5-100					XX	XX
GSR21	V3-80					XX	
	V5-80					XX	XX
	V5-100					XX	XX
G24M	2-45	X	X	X			
	2-60	X	X	X			
	3-60		X	X	X		
	2-75	X	X	X			
	3-75		X	X	X		
	4-75		X	X	X	XX	
	3/4-100		X	X	X	XX	
	4/5-100					XX	XX
	3/4-120					XX	
	4/5-120					XX	XX
	4/5-140					XX	XX
OSR20	Q3-105/120		X	X	X		
	Q5-140/154				X	XX	XX

Coil matches furnace and air volume.

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

XX — Coil matches air volume. Coil does not match furnace physically and requires field fabricated transition. Requires Furnace Support Kit **(41J22)**.

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

XX — Coil does not match furnace physically and requires field fabricated transition. Check furnace air volume and total system pressure drop for satisfactory match. Requires Furnace Support Kit **(41J22)**.

Does not match.

CR24 COIL TO B24 BLOWER UNIT MATCHING SELECTOR

Blower Model No.		Coil Model Number					
		CR24-21	CR24-31	CR24-31W	CR24-41	CR24-51	CR24-65
B24	Q2						
	Q3						
	Q3.5						
	Q4/5						

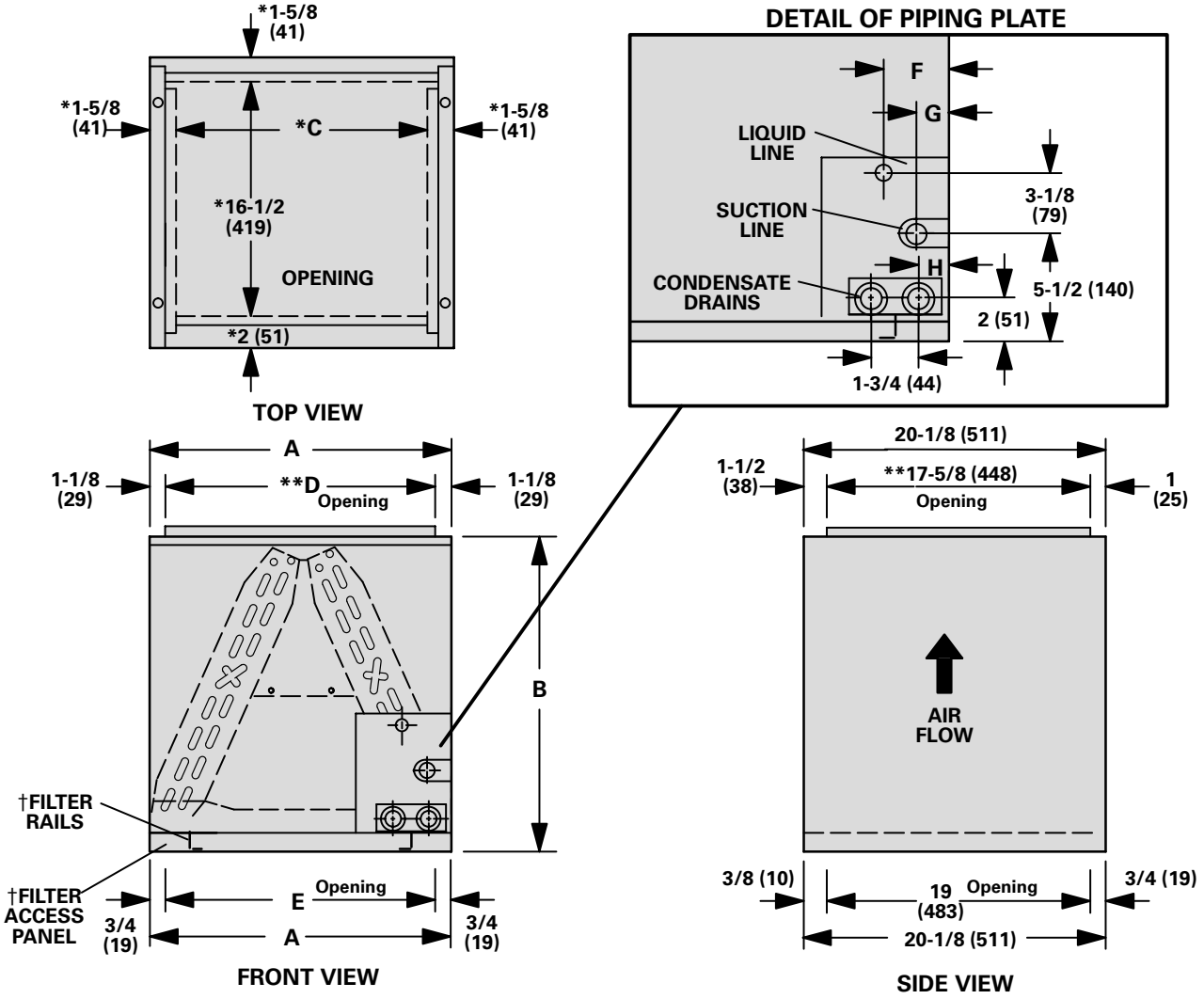
Coil matches B24 blower and air volume.

Does not match.

NOTE — Table shows match-ups by dimension only. Pressure drop of individual coils must be calculated with blower capacities and system airflow requirements for a satisfactory match.

DIMENSIONS — inches (mm)

NOTE — Coil cabinet is equipped with a 5/8 inch (16mm) flange on top of cabinet that may be bent up for plenum connection when used with B24 Series Blower Units in down-flo applications. When coil is used is conventional down-flo furnace applications, flange should be bent in.
***Dimensions before flange is bent.**
****Dimensions after flange is bent.**



Model No.	A		B		C		D		E		F		G		H	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
CR24-21	16-1/4	413	17	432	13	330	14	356	14-3/4	375	4-1/8	105	2-1/8	54	1-7/8	48
CR24-31	16-1/4	413	21	533	13	330	14	356	14-3/4	375	4-1/8	105	2-1/8	54	1-7/8	48
CR24-31W	21-1/4	540	21	533	18	457	19	483	19-3/4	502	6-5/8	168	4-5/8	117	4-3/8	111
CR24-41	21-1/4	540	25-3/4	654	18	457	19	483	19-3/4	502	4-1/8	105	2-1/8	54	1-7/8	48
CR24-51	26-1/4	667	25-3/4	654	23	584	24	610	24-3/4	629	4-1/8	105	2-1/8	54	1-7/8	48
CR24-65	26-1/4	667	28-3/4	730	23	584	24	610	24-3/4	629	4-1/8	105	2-1/8	54	1-7/8	48