LENNOX®
ENGINEERING DATA

CR18 SERIES — DOWN-FLOW EVAPORATOR AND HEAT PUMP COILS

CR18

Bulletin #210052

March 1994

1-1/2 Thru 5 Ton (5.3 Thru 17.6 kW) Nominal Cooling Capacity

Applications

- Lennox designed 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.
- Units are applicable to expansion valve or RFCIV systems. RFCIV metering device is furnished with HS23 and HP23 units for field installation on CR18 coil.
- Expansion valve systems require field installed kit.
- See condensing units bulletins (section Cooling Units — Condensing Units) for evaporator unit applications and cooling capacities.
- See heat pump outdoor unit bulletins (section Heat Pumps — Matched remote Systems) for indoor coil applications and cooling and heating capacities.
- See FM21 bulletin in Heat Pumps — Matched Remote Systems for more information on heat pump systems.

Cabinet Construction

- Cabinets insulated with thick fiberglass insulation.
- Constructed of heavy gauge steel with deluxe paint finish.
- Removable panel allows access for easy servicing.
- Support rails are furnished with CR18-41, CR18-51 and CR18-65 for certain applications. See Coil/Furnace Match-up Selector table.
- Refrigerant lines extend outside of cabinet for easy connection.

Coil Construction

- Durable copper tubing.
- Ripple-edged aluminum fins provide maximum exposure of fin surface to air stream..
- Twin coil construction assembled in a "V" configuration for large surface area.
- Corrosion resistant galvanized steel drain pan with 3/4 inch (19 mm) mpt drain connection.
- Liquid line seal nut section furnished for installation of external expansion valve or RFCIV orifice.
- 90° suction line elbow furnished for ease of installation.
- Suction/vapor line has 1/4 in. (6 mm) port external to cabinet for expansion valve usage with external equalizer.
- Sweat connections on both liquid and suction (vapor) lines.
- High pressure testing insures leakproof construction.

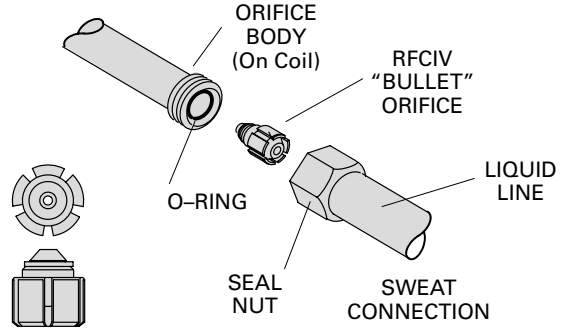
Fully Tested

- Tested with matching condensing and heat pump units.
- Rated in accordance with ARI Standard 210/240-86 conditions and DOE test procedures.
- Air resistance tests from Lennox Laboratory air test chamber.
- Coil assemblies shipped factory assembled ready for installation.

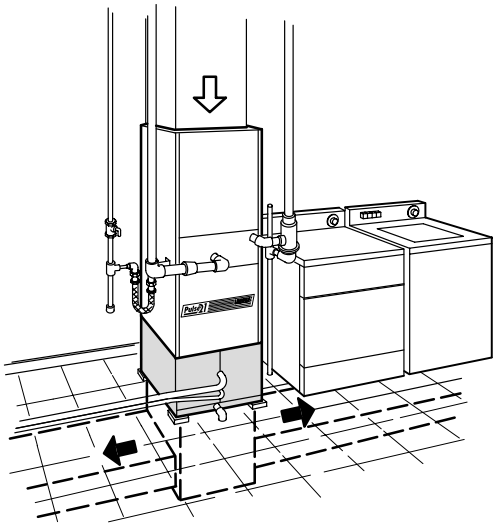
Refrigerant Control Choice

- Coils applicable to RFCIV refrigerant metering device (furnished with HS23 condensing unit and HP23 heat pump outdoor unit) for an economical installation.
- Optional expansion valve or check and expansion valve provides a wider and more efficient capacity rating.

RFCIV METERING SYSTEM



Typical Application



Utility Room Installation
With Pulse 21® Furnace

Refrigerant Flow Control IV

- All models applicable to Lennox RFCIV™ system.
- RFCIV accurately meters refrigerant in system.
- Refrigerant control is accomplished by exact sizing of refrigerant metering orifice.
- Principle of Lennox RFCIV system involves matching evaporator coil with proper bore size in orifice in metering device.
- Bullet-shaped orifice design allows for reverse flow during heat pump heating cycle. As the refrigerant flows in the reverse direction, the orifice moves back to a free flow position, eliminating the need for a check valve and related piping in system.
- RFCIV system equalizes pressure almost instantaneously after compressor stops, unit starts unloaded, eliminating need for additional controls.

OPTIONAL ACCESSORIES (Ordered Extra)

Expansion Valve Kits (Optional)

- Expansion valve available for field installation external to coil.
- See condensing unit bulletins for expansion valve kit selection.
- See heat pump outdoor unit bulletins for check and expansion valve kit selection.

The maple leaf symbol in this bulletin denotes Canadian only usage where applicable

NOTE — Due to Lennox' ongoing committent to quality, Specifications, Ratings and Dimensions subject to change without notice.

SPECIFICATIONS

Model No.		CR18-21	CR18-31	CR18-41	CR18-51	CR18-65
Evaporator Coil	Net face area — sq. ft. (m^2)	3.21 (0.30)	3.21 (0.30)	4.08 (0.38)	5.25 (0.49)	6.42 (0.60)
	Tube diameter — in. (mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	No. of rows	2	3	3	3	3
	Fins per inch (m)	17	13	15	13	15
Suction (vapor) line connection — in. (mm) sweat		5/8 (15.9)	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)
Condensate drain (fpt) — in. (mm)		3/4 (19)	3/4 (19)	3/4 (19)	3/4 (19)	3/4 (19)
Refrigerant		HCFC-22	HCFC-22	HCFC-22	HCFC-22	HCFC-22
Coil shipping weight — lbs. (kg) 1 package		41 (19)	46 (21)	60 (27)	76 (34)	101 (46)

AIR RESISTANCE

Model No.	Air Volume		Total Resistance	
	cfm	L/s	in. w.g.	Pa
CR18-21	500	235	.06	15
	600	285	.07	17
	800	380	.09	22
	1000	470	.12	30
CR18-31	800	380	.10	25
	1000	470	.14	35
	1200	565	.22	55
	1400	660	.33	82
CR18-41	800	380	.08	20
	1000	470	.10	25
	1200	565	.13	32
	1400	660	.19	47
	1600	755	.30	75
CR18-51	1200	565	.07	17
	1400	660	.08	20
	1600	755	.10	25
	1800	850	.12	30
	2000	945	.15	37
CR18-65	1400	660	.13	32
	1600	755	.16	40
	1800	850	.21	52
	2000	945	.26	65
	2200	1040	.30	75
	2400	1135	.35	87
	2600	1225	.43	107

CR18 COIL TO FURNACE MATCHING SELECTOR

Furnace Model No.		Coil Model Number				
		CR18-21	CR18-31	CR18-41	CR18-51	CR18-65
G20RE G20RX	Q2/3-50			XX		
	Q3-75			XX		
	Q4-75		X		XX	XX
	Q3/4-100		X		XX	XX
	Q5-100					
	Q3-125			X		
	Q4/5-125					
G20RE	Q4/5-150				X	X
GSR21	Q3-50	X	X			
	Q4-50				XX	XX
	Q3-80		X			
	Q4/5-80				XX	XX
	Q4/5-100				XX	XX
GSR21	V3-80	X	X			
	V5-80				XX	XX
	V5-100				XX	XX
G24M, G24MX (80MGF, 80MGFX)	2-45	X	X			
	2-60	X	X			
	3-60	X	X	X		
	2-75	X	X			
	3-75	X	X	X		
	4-75		X	X	X	X
	3/4-100		X	X	X	X
	4/5-100			X	X	X
	3/4-120			X	X	X
	4/5-120			X	X	X
	4/5-140			X	X	X
OSR20	Q3-105/120	X	X	X		
	♲ Q3-120/105	X	X	X		
	Q5-140/154				X	X

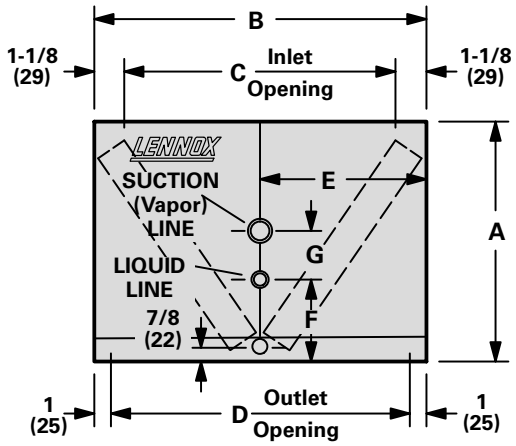
Coil matches furnace and air volume.

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

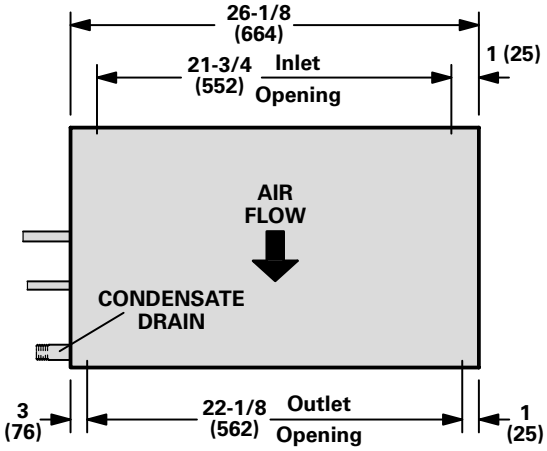
XX Coil matches air volume. Coil does not match furnace physically: use support rails shipped with unit.

Does not match.

DIMENSIONS — inches (mm)



FRONT VIEW



SIDE VIEW

Model Number	A		B		C		D		E		F		G	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
CR18-21 CR18-31	12-3/4	324	16-1/4	413	14-1/4	362	14-1/4	362	8-1/8	206	3-3/4	95	3	76
CR18-41	15-3/8	391	21-1/4	540	19-1/4	489	19-1/4	489	10-5/8	270	5-1/2	140	3	76
CR18-51	19-1/8	486	26-1/4	667	24-1/4	616	24-1/4	616	13-1/8	333	6-7/16	164	4	102
CR18-65	22-7/8	581	26-1/4	667	24-1/4	616	24-1/4	616	13-1/8	333	6-7/16	164	4	102