

CH22 SERIES EVAPORATOR UNITS — HORIZONTAL CH22
AIR-CONDITIONING AND HEAT PUMP

***13,000 to 63,000 Btuh (3.8 to 18.5 kW) Cooling Capacity**

Bulletin #210018

October 1993

Supersedes June 1993

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

Applications — Lennox designed and built horizontal evaporator coils can easily be installed with most Lennox horizontal 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. CH22-21 thru CH22-65 coils are available with factory installed expansion and check valve. CH22-21 thru CH22-41 coils are also available with factory installed RFCIV metering orifice. 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.

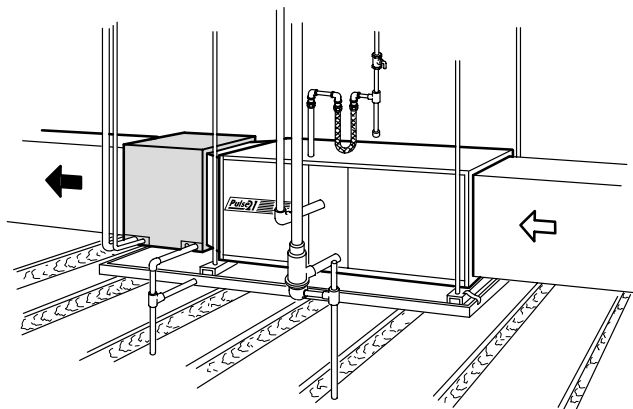
Cabinet Construction — Cabinets are constructed of heavy gauge steel with a deluxe baked-on enamel paint finish and are fully insulated with thick fiberglass insulation. Removable panel allows access for easy servicing. Refrigerant lines extend outside of cabinet for ease of connection.

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. Coils provide 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 heavy gauge galvanized steel and has dual 3/4 inch (19 mm) mpt drain connections. Refrigerant lines are equipped with sweat connections on suction (vapor) line and liquid lines.

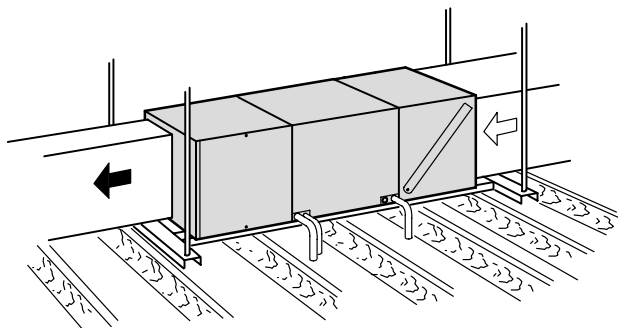
Fully Tested — Evaporator units have been thoroughly tested with matching condensing and heat pump units in the Lennox Research Laboratory environmental test room. Air resistance data is from tests conducted in the Lennox air test chamber. Coil assemblies are shipped factory assembled and ready for installation.

Refrigerant Flow Control IV — CH22-21, CH22-31 and CH22-41 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. For heat pump applications in the heating mode, the bullet shaped orifice allows for reverse flow. 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 the system. Because the RFCIV system equalizes pressure almost instantaneous after compressor stops, the unit starts unloaded, eliminating the need for any additional controls. See sketch below.

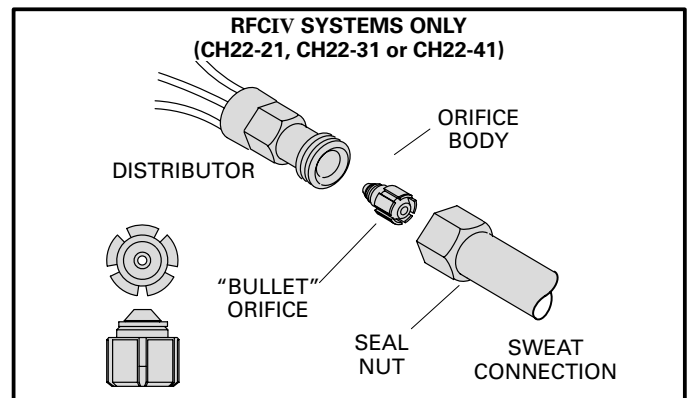
Typical Applications



Attic Installation
With Pulse21® Furnace



Attic Installation
With B24 Blower Unit
and Optional Filter Kit



SPECIFICATIONS

Model No.		CH22-21-TXV CH22-21RFC	CH22-31-TXV CH22-31RFC	CH22-41-TXV CH22-41RFC	CH22-51-TXV	CH22-65-TXV
Evaporator Coil	Net face area — sq. ft. (m ²)	3.11 (0.29)	5.45 (0.51)	6.00 (0.56)	8.00 (0.74)	8.00 (0.74)
	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	2	2	2	3
	Fins per inch (m)	15 (591)	15 (591)	15 (591)	15 (591)	12 (472)
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 (mpt) — 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		55 (25)	62 (28)	65 (29)	72 (33)	95 (43)
*Expansion Device Furnished		Expansion And Check Valve or RFCIV			Expansion And Check Valve	

*Furnished and factory installed.

AIR RESISTANCE

Model No.	Air Volume		Total Resistance	
	cfm	L/s	in. w.g.	Pa
CH22-21	400	190	.04	11
	500	235	.07	16
	600	285	.09	23
	700	330	.12	30
CH22-31	600	285	.09	22
	800	380	.15	36
	1000	470	.22	55
	1200	565	.31	77
	1400	660	.41	102
CH22-41	800	380	.09	24
	1000	470	.14	36
	1200	565	.20	50
	1400	660	.26	66
	1600	755	.34	84
CH22-51	1200	565	.15	37
	1400	660	.20	49
	1600	755	.25	62
	1800	850	.31	77
	2000	945	.38	94
CH22-65	1400	660	.22	54
	1600	755	.28	69
	1800	850	.34	85
	2000	945	.41	103
	2200	1040	.49	123
	2400	1135	.58	145

CH22 COIL TO FURNACE MATCHING SELECTOR

Furnace Model No.		Coil Model Number				
		CH22-21	CH22-31	CH22-41	CH22-51	CH22-65
GSR21	Q3-50	X	X	X		
	Q4-50		X	X	X	
	Q3-80		X	X	X	
	Q4/5-80		X	X	X	X
	Q4/5-100			X	X	X
GSR21	V3-80	X	X	X	X	
	V5-80		X	X	X	X
	V5-100		X	X	X	X
G24M	2-45	X	X			
	2-60	X	X			
	3-60		X	X		
	2-75	X	X			
	3-75		X	X		
	4-75		X	X	X	
	3/4-100		X	X	X	
	4/5-100				X	X
	3/4-120		X	X	X	
	4/5-120				X	X
	4/5-140				X	X
OSR20	Q3-105/120		X	X		
	⊕ Q3-120/105		X	X		
	Q5-140/154			X	X	X

- 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.
- ⊕ Available in Canada only.

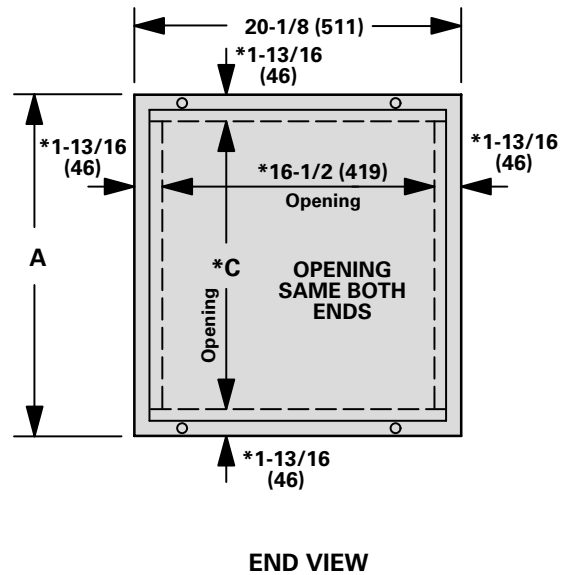
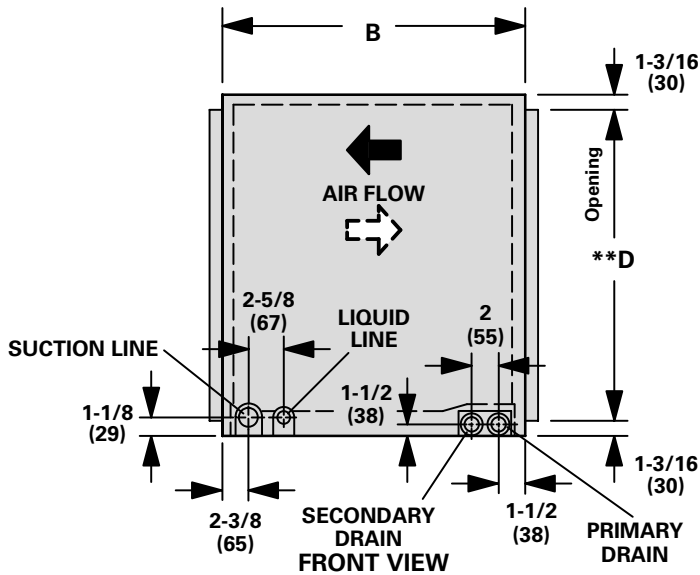
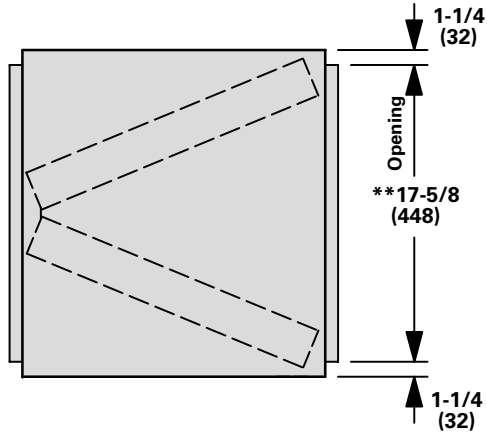
CH22 COIL TO B24 BLOWER UNIT MATCHING SELECTOR

Blower Model No.		Coil Model Number				
		CH22-21	CH22-31	CH22-41	CH22-51	CH22-65
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 that may be bent up 90° for plenum connection on conventional horizontal applications or to help in alignment with B24 Series Blower Units.
 *Dimensions before flange is bent up.
 **Dimensions after flange is bent up.



Model No.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
CH22-21	16-1/4	413	20-7/8	530	12-5/8	346	13-7/8	380
CH22-31	16-1/4	413	29-3/8	805	12-5/8	346	13-7/8	380
CH22-41	21-1/4	540	29-3/8	805	17-5/8	483	18-7/8	517
CH22-51	26-1/4	667	29-3/8	805	22-5/8	620	23-7/8	654
CH22-65	26-1/4	667	29-3/8	805	22-5/8	620	23-7/8	654