

HFC-410A CHARGING INFORMATION – FOR COMPLETE CHARGING PROCEDURES, REFER TO THE APPLICABLE INSTALLATION AND SERVICE MANUAL

Maintenance Checks Using the Normal Operating Pressures Table

Table 1 may be used to help perform maintenance checks. This table is not a procedure for charging the system. Minor variations in the pressures can be expected due to differences in installations. However, significant deviations could mean that the system is not properly charged or that a problem exists with some component in the system.

Matched System Components/Charge Levels/Line Set Lengths/Liquid Line Sizing

Table 2 lists all the Lennox recommended indoor unit matches along with the charge levels for the various sizes of outdoor units. Charge levels on the unit nameplate are based on installations with 15' (4.6m) line sets; consider line set length and liquid line sizing differences when calculating charge adjustments. For each additional foot of 3/8" liquid line set, add 0.6 ounces or for 1/2" liquid lines, add 1.0 ounce of additional charge.

Charge Using the Weigh-In Method

If the system is void of refrigerant, locate and repair any leaks, then weigh the refrigerant charge into the unit. For charge adjustments, consider line set length differences and, referring to table 2, adjust for the match-up difference.

- 1 - Recover the refrigerant from the unit.
- 2 - Conduct a leak check and then evacuate the system.
- 3 - Weigh in the unit nameplate charge, adjusting for match-up and line set length differences. If weighing facilities are not available, use the Subcooling method.

Charge Using the Subcooling Method

Cooling Mode—When the outdoor ambient temperature is 60°F (15°C) and above, use the cooling mode to adjust the charge using the subcooling method. Target subcooling values in table 2 are based on 70 to 80°F (21-27°C) indoor return air temperature.

Heating Mode—When the outdoor ambient temperature is below 60°F (15°C), use the subcooling method to adjust the charge using the subcooling charge levels in table 2. Target subcooling values in table 2 are based on 65-75°F (18-24°C) indoor return air temperature.

Table 1 - Normal Operating Pressures (Liquid ±0 & Suction ±5 psig)

	Size	-024		-036		-048		-060	
	°F (°C)	Liq	Vap	Liq	Vap	Liq	Vap	Liq	Vap
Normal Operating Pressures (psig) – Cooling									
First Stage (Low Capacity) Pressure	65 (18.3)	226	144	216	142	224	143	230	137
	75 (23.9)	260	145	251	144	259	145	269	139
	85 (29.4)	301	148	291	146	297	147	313	142
	95 (35.0)	346	151	337	148	346	149	361	144
	105 (40.6)	396	153	382	150	395	151	411	147
Second Stage (High Capacity) Pressure	115 (46.1)	451	156	438	153	452	155	466	151
	65 (18.3)	240	142	227	134	232	138	237	131
	75 (23.9)	278	144	261	138	271	140	275	133
	85 (29.4)	325	147	305	140	313	142	319	135
	95 (35.0)	372	149	349	142	362	145	368	138
105 (40.6)	423	151	401	144	415	147	419	141	
115 (46.1)	484	153	463	146	473	150	479	145	
Normal Operating Pressures (psig) – Heating									
First Stage (Low Capacity) Pressure	50 (10)	334	116	384	119	332	115	369	112
	60 (15.5)	358	134	410	139	352	132	394	120
Second Stage (High Capacity) Pressure	20 (-7.0)	288	66	334	67	288	62	321	60
	30 (-1.0)	308	81	362	82	301	75	335	71
	40 (4.4)	327	96	373	95	318	92	363	90
	50 (10)	350	113	400	114	337	109	380	107
60 (15.5)	373	132	427	133	355	126	403	126	

Table 2 - HFC-410A Indoor Coil/Units Match-Ups and Subcooling Charge Levels

Indoor Unit Match-Up	Heating ±5°F	Cooling ±1°F	*Add Charge		Indoor Unit Match-Up	Heating ±5°F	Cooling ±1°F	*Add Charge		Indoor Unit Match-Up	Heating ±5°F	Cooling ±1°F	*Add Charge	
	Subcooling		lb.	oz.		Subcooling		lb.	oz.		Subcooling		lb.	oz.
XP16-024					CBX40UHV-042					CH33-50/60C				
CBX25UHV-024	49	5	0	0	CBX40UH-042	17	9	1	1	CH33-50/60C	19	7	2	5
CBX25UHV-030	45	9	0	15	CBX40UH-048	21	7	0	15	CR33-60D	16	5	0	10
CBX26UH-024	45	6	0	15	CH33-43B	11	7	0	11	CH33-60D	13	6	0	0
CBX27UH-024-230	20	7	0	9	CH33-48C	20	7	1	2	CR33-62D	11	7	1	4
CBX27UH-030-230	17	7	1	3	CH33-43C	21	7	0	15	CR33-50/60C	15	5	0	10
CBX32MV-024/030	20	7	0	9	CR33-48B	53	6	0	0	CR33-60D	16	5	0	10
CBX32MV-036	17	7	1	3	CR33-48C	53	6	0	0	CX34-60D	14	6	1	0
CBX40UH-024	17	7	1	3	CX34-43B/C	15	7	0	11	CX34-62D	9	7	1	6
CBX40UH-030	17	7	1	3	CX34-50/60C	15	7	0	11	CX34-62C	8	7	1	9
CBX40UH-036	17	7	1	3	XP16/SPB*H4-048					XP16/SPB*H4-060				
CH33-31B	31	8	1	12	CBX25UH-048	12	7	0	4	CBX25UH-060	15	4	1	10
CR33-30/36A/B/C	45	4	0	0	CBX26UH-048-230	10	6	1	4	CBX26UH-060	20	9	4	13
CX34-31A/B	24	7	1	11	CBX27UH-048-230	19	7	1	4	CBX27UH-060-230	10	6	2	3
CX34-38A/B	18	8	1	10	CBX27UH-060-230	13	12	3	3	CBX32M-060	17	6	1	12
XP16/SPB*H4-036					CBX32M-048	19	7	1	4	CBX32MV-060	17	5	1	12
CBX25UH-036	59	7	0	15	CBX32M-060	14	7	1	11	CBX32MV-068	15	7	2	1
CBX25UHV-036					CBX40UH-060	17	6	1	12					
CBX27UH-036-230	25	7	1	6	CBX32MV-048	19	7	1	4	CBX40UH-060	17	6	1	12
CBX27UH-042-230	17	9	1	1	CBX32MV-060	14	7	1	11	CH23-68	37	9	2	10
CBX32M-036	24	7	1	6	CBX32MV-068	9	6	1	11	CH33-50/60C	33	8	1	0
CBX32MV-036	24	7	1	6	CBX40UH-048	19	7	1	4	CH33-62D	16	7	1	4
CBX32MV-048	17	9	1	1	CBX40UH-060	14	7	1	11	CR33-50/60C	24	7	0	0
CBX40UH-030	24	7	1	6	CH23-68	24	8	1	12	CR33-60D	24	7	0	0
CBX40UH-036	24	7	1	6	CH33-49C	19	7	2	5	CX34-62C	21	9	2	16
										CX34-62D	13	7	1	4

*Amount of charge required in addition to charge shown on unit nameplate. (Does not include additional charge required for extended line set lengths.)

