13ACX HFC-410A CHARGING INFORMATION – FOR COMPLETE CHARGING PROCEDURES, REFER TO THE APPLICABLE INSTALLATION AND SERVICE MANUAL

AIRFLOW CHECK - Both airflow and refrigerant charge must be monitored for a proper system set-up. It may be necessary to alternately check and adjust the airflow and the refrigerant charge.

NOTE - Be sure that filters and indoor and outdoor coils are clean before testing.

To determine temperature drop across indoor coil (Delta-T), measure the entering air dry bulb (DB) and wet bulb (WB) temperatures at the indoor coil. Find Delta-T in table 1. Measure coil's leaving air DB and subtract that value from entering air DB. The measured difference should be within ±3ºF (±1.8ºC) of table value; if too low, decrease the indoor fan speed (refer to indoor unit for information). If the Delta-T is too high, increase the indoor fan speed. Repeat charging procedure and Delta-T (air flow adjustment) procedure until both are correct.

Example: *assume entering air DB - 72, WB - 64, leaving DB - 53. Therefore, Delta-T should be 15 (per table); delta across coil is 72 - 53 or 19 (which is 4ºF higher than table value); action necessary: increase fan speed.*

Table 1. Evaporator Coil Delta-T

Dry bulb temperature of air entering indoor coil (ºF)															
	80	24	24	24	23	23	22	22	22	20	19	18	17	16	15
	78	23	23	23	22	22	21	21	20	19	18	17	16	15	14
	76	22	22	22	21	21	20	19	19	18	17	16	15	14	13
	74	21	21	21	20	19	19	18	17	16	16	15	14	13	12
	72	20	20	19	18	17	17	16	15	15	14	13	12	11	10
	70	19	19	18	18	17	17	16	15	15	14	13	12	11	10
	ºF	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**

[Wet bulb temperature of air entering indoor coil]

Table 2. Superheat (SH) Value (RFC)

Suction line saturation temperature minus suction line temperature.									
Outdoor Temp (ºF)	65	70	75	80	85	90	95	100	105
Superheat (ºF)	35	30	25	22	18	12	8	5	5
All measurements are at the service valves and are based on 80db / 67wb indoor temperature.									

Table 3. RFC Sizes

Unit Size	-18	-24	-30	-36	-42	-48	-60
RFC Size	0.051	0.057	0.065	0.072	0.076	0.082	0.090

Table 4- Normal Operating Pressures[1]

Size	-18	-24	-30	-36	-42	-48	-60
°F(°C)[2]	**Fixed Orifice (RFC)** - Liquid Line (±10 psig) / Vapor Line (±5 psig)						
65 (18)	233 / 121	246 / 126	245 / 123	261 / 134	246 / 126	247 / 125	248 / 124
70 (21)	250 / 124	265 / 129	265 / 126	281 / 136	263 / 128	266 / 128	266 / 126
75 (24)	270 / 128	286 / 132	286 / 129	301 / 138	284 / 131	286 / 131	288 / 130
80 (27)	291 / 131	307 /135	308 / 132	324 / 140	305 / 133	307 / 133	309 / 133
85 (29)	313 / 134	330 / 137	331 / 135	346 / 142	327 / 135	329 / 135	330 / 135
90 (32)	335 / 136	353 / 140	355 / 138	371 / 144	350 / 138	353 / 138	354 / 138
95 (35)	359 / 138	378 / 142	380 / 140	396 / 146	374 / 140	377 / 140	377 / 140
100 (38)	383 / 140	402 / 143	405 / 142	422 / 148	399 / 142	403 / 142	406 / 142
105 (41)	409 / 142	428 / 145	431 / 144	448 / 150	424 / 144	428 / 144	431 / 144
110 (43)	436 / 145	456 / 147	458 / 146	477 / 151	452 / 146	455 / 146	457 / 146
115 (46)	464 / 147	486 / 149	487 / 148	506 / 153	481 / 148	483 / 147	484 / 148
°F(°C)[2]	**TXV System** - Liquid Line (±10 psig) / Vapor Line (±5 psig)						
65 (18)	233 / 132	244 / 137	248 / 127	263 / 135	238 / 132	235 / 132	241 / 130
70 (21)	251 / 133	263 / 138	263 / 131	281 / 138	262 / 133	254 / 132	260 / 130
75 (24)	265 / 133	285 / 139	284 / 132	302 / 140	280 / 134	276 / 134	280 / 132
80 (27)	292 / 135	307 / 140	307 / 134	325 / 142	301 / 136	298 / 134	299 / 134
85 (29)	314 / 136	329 / 141	330 / 135	349 / 142	327 / 137	323 / 135	321 / 135
90 (32)	338 / 137	354 / 142	355 / 136	375 / 143	353 / 138	350 / 137	344 / 134
95 (35)	362 / 138	379 / 143	380 / 137	404 / 144	377 / 140	377 / 138	371 / 135
100 (38)	388 / 140	404 / 144	407 / 138	433 / 145	404 / 141	406 / 140	400 / 137
105 (41)	415 / 141	438 / 145	434 / 139	462 / 147	435 / 142	430 / 141	428 / 139
110 (43)	444 / 142	464 / 147	465 / 141	494 / 149	465 / 143	464 / 142	458 / 141
115 (45)	475 / 143	495 / 148	497 / 142	527 / 150	499 / 144	495 / 143	484 / 142

Table 5- Approach (APP) Values[3] - TXV System - ºF (ºC) ±1ºF (0.5ºC)

All	8 (4.4)	11 (6.1)	10 (5.5)	13 (7.2)	7 (3.9)	7 (3.9)	13 (7.2)

Table 6- Subcooling (SC) Values[4] - TXV System - ºF (ºC) ±1ºF (0.5ºC)

65	5 (2.8)	8 (4.4)	5 (2.8)	3 (1.7)	8 (4.4)	6 (3.3)	4 (2.2)
75	5 (2.8)	8 (4.4)	6 (3.3)	3 (1.7)	9 (5.0)	7 (3.9)	4 (2.2)
85	5 (2.8)	8 (4.4)	6 (3.3)	4 (2.2)	9 (5.0)	7 (3.9)	5 (2.8)
95	6 (3.3)	9 (5.0)	7 (3.9)	4 (2.2)	10 (5.5)	8 (4.4)	5 (2.8)
105	7 (3.9)	9 (5.0)	8 (4.4)	5 (2.8)	11 (6.1)	9 (5.0)	5 (2.8)
115	9 (5.0)	10 (5.5)	8 (4.4)	5 (2.8)	11 (6.1)	9 (5.0)	4 (2.2)

1 Typical pressures; indoor evaporator match up, indoor air quantity, and evaporator load will cause the pressures to vary.
2 Temperature of air entering outside coil.
3 Approach = Liquid Line Temp. minus Outdoor Ambient Temperature
4 Subcooling = Saturation Temp. minus Liquid Line Temp Temperature

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