

14ACX/XC14 CHARGING INFORMATION

FOR COMPLETE CHARGING DETAILS, REFER TO THE INSTALLATION AND SERVICE PROCEDURES MANUAL (Corp. 0638-L10) AVAILABLE ON DAVENET.

Capacity	-018	-024	-030	-036	-041	-042	-047	-048	-059	-060
Table 1- Normal Operating Pressures¹										
°F(°C)²	TXV System - Liquid Line (± 10 psig) / Suction Line (± 5 psig)									
65 (18)	228 / 133	231 / 139	224 / 137	235 / 138	233 / 142	231 / 140	233 / 139	238 / 136	239 / 133	239 / 133
75 (24)	264 / 135	266 / 141	260 / 140	274 / 140	256 / 143	269 / 142	272 / 141	277 / 139	278 / 136	278 / 136
85 (29)	311 / 144	310 / 144	304 / 142	319 / 142	299 / 145	312 / 144	315 / 142	320 / 139	323 / 138	323 / 138
95 (35)	360 / 147	358 / 146	353 / 145	367 / 144	343 / 146	360 / 145	361 / 144	369 / 141	370 / 140	370 / 140
105 (41)	414 / 148	411 / 148	405 / 147	420 / 147	389 / 148	414 / 148	413 / 145	422 / 144	415 / 143	415 / 143
115 (45)	472 / 151	468 / 150	461 / 150	478 / 149	452 / 151	471 / 150	465 / 148	481 / 148	476 / 147	476 / 147
°F(°C)²	RFC System - Liquid Line (± 10 psig) / Suction Line (± 5 psig)									
65 (18)	234 / 134	232 / 133	229 / 131	237 / 132	228 / 131	230 / 134	232 / 125	240 / 126	244 / 125	244 / 125
75 (24)	268 / 138	266 / 137	268 / 137	275 / 137	263 / 138	267 / 139	268 / 133	281 / 133	281 / 131	281 / 131
85 (29)	310 / 143	308 / 142	310 / 141	319 / 141	306 / 144	308 / 145	312 / 140	324 / 138	324 / 136	324 / 136
95 (35)	356 / 147	354 / 146	351 / 145	364 / 145	348 / 148	354 / 149	357 / 144	371 / 142	370 / 141	370 / 141
105 (41)	407 / 151	404 / 150	402 / 149	415 / 149	395 / 151	406 / 153	406 / 149	420 / 146	418 / 145	418 / 145
115 (46)	462 / 155	459 / 154	458 / 153	472 / 152	453 / 155	459 / 156	460 / 152	473 / 150	471 / 147	471 / 147
Table 2- Approach (APP) Values³ -TXV System - °F (°C) ± 1°F (0.5°C)										
65 (18)	5 (2.8)	6 (3.3)	4 (2.2)	7 (3.9)	3 (1.7)	6 (3.3)	9 (5.0)	7 (3.9)	8 (4.4)	8 (4.4)
75 (24)	6 (3.3)	8 (4.4)	6 (3.3)	8 (4.4)	3 (1.7)	5 (2.8)	9 (5.0)	8 (4.4)	9 (5.0)	9 (5.0)
85 (29)	6 (3.3)	9 (5.0)	6 (3.3)	8 (4.4)	4 (2.2)	5 (2.8)	8 (4.4)	8 (4.4)	9 (5.0)	9 (5.0)
95 (35)	6 (3.3)	9 (5.0)	6 (3.3)	7 (3.9)	4 (2.2)	5 (2.8)	8 (4.4)	8 (4.4)	9 (5.0)	9 (5.0)
105 (41)	4 (2.2)	8 (4.4)	8 (4.4)	7 (3.9)	4 (2.2)	5 (2.8)	8 (4.4)	8 (4.4)	9 (5.0)	9 (5.0)
115 (45)	4 (2.2)	7 (3.9)	5 (2.8)	6 (3.3)	5 (2.8)	4 (2.2)	8 (4.4)	9 (5.0)	9 (5.0)	9 (5.0)
Table 3- Subcooling (SC) Values⁴ -TXV System - °F (°C) ± 1°F (0.5°C)										
65 (18)	8 (4.4)	8 (4.4)	8 (4.4)	8 (4.4)	9 (5.0)	8 (4.4)	6 (3.3)	8 (4.4)	6 (3.3)	8 (4.4)
75 (24)	7 (3.9)	5 (2.8)	6 (3.3)	7 (3.9)	7 (3.9)	8 (4.4)	6 (3.3)	8 (4.4)	5 (2.8)	7 (3.9)
85 (29)	8 (4.4)	5 (2.8)	6 (3.3)	8 (4.4)	7 (3.9)	9 (5.0)	6 (3.3)	8 (4.4)	5 (2.8)	8 (4.4)
95 (35)	8 (4.4)	5 (2.8)	7 (3.9)	8 (4.4)	7 (3.9)	9 (5.0)	6 (3.3)	8 (4.4)	4 (2.2)	7 (3.9)
105 (41)	10 (5.6)	6 (3.3)	7 (3.9)	9 (5.0)	7 (3.9)	10 (5.6)	6 (3.3)	8 (4.4)	4 (2.2)	6 (3.3)
115 (46)	11 (6.1)	7 (3.9)	7 (3.9)	9 (5.0)	6 (3.3)	10 (5.6)	5 (2.8)	7 (3.9)	3 (1.7)	6 (3.3)
<p>¹ Typical pressures; indoor evaporator match-up, indoor air quantity and evaporator load will cause the pressures to vary.</p> <p>² Temperature of air entering outside coil.</p> <p>³ Approach = Liquid Line Temperature minus Outdoor Ambient Temperature</p> <p>⁴ Subcooling = Saturation Temperature minus Liquid Line Temperature</p>										

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 4. Measure coil's leaving air DB and subtract that value from entering air DB. The measured difference should be within ±3°F (±1.8°C) 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 4°F higher than table value); action necessary: increase fan speed.

Table 4. Evaporator Coil Delta-T

Dry bulb temperature of air entering indoor coil (°F)	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
	°F	57	58	59	60	61	62	63	64	65	66	67	68	69	70
		[Wet bulb temperature of air entering indoor coil]													

Table 5. RFC Sizes

Capacity	-018	-024	-030	-036	-041	-042	-047	-048	-059	-060
RFC Size	0.053	0.060	0.067	0.071	TXV	0.083	TXV	0.083	TXV	0.093

Table 6. Superheat Value (RFC)* ± 1°F (0.5°C)

Outdoor Temp (°F)	65	70	75	80	85	90	95	100	105
C	21	21	21	20	19	18	16	13	10
A	23	22	22	21	19	17	14	10	8
P	22	20	19	17	15	13	12	10	6
A	21	20	19	17	15	13	10	8	5
C	23	22	20	18	15	12	8	4	2
I	35	30	25	22	18	12	8	5	5
T	35	30	25	22	18	12	8	5	5

*Suction line saturation temperature minus suction line temperature. All measurements are at the service valves and are based on 80db / 67wb indoor temperature.

