

# ML14XC1 AND EL16XC1 CHARGING INFORMATION

FOR COMPLETE CHARGING PROCEDURES, REFER TO THE APPLICABLE INSTALLATION AND SERVICE MANUAL AVAILABLE ON DAVENET.

Capacity	-018	-024	-030	-036	-041	-042	-047	-048	-059	-060
<b>Table 1. Normal Operating Pressures<sup>1</sup></b>										
<b>°F(°C)<sup>2</sup></b>	<b>TXV System - Liquid Line ( ± 10 psig) / Suction Line ( ± 5 psig)</b>									
65 (18)	230 / 137	230 / 133	227 / 135	229 / 135	219 / 142	224 / 136	216 / 133	221 / 130	213 / 125	219 / 132
75 (24)	264 / 139	262 / 138	259 / 139	264 / 138	256 / 144	262 / 140	250 / 139	257 / 136	248 / 132	256 / 135
85 (29)	308 / 142	303 / 142	301 / 141	307 / 141	299 / 147	305 / 143	293 / 142	300 / 141	288 / 136	301 / 138
95 (35)	361 / 144	351 / 144	349 / 143	354 / 143	346 / 149	353 / 145	339 / 144	346 / 145	337 / 139	350 / 140
105 (41)	414 / 146	402 / 146	401 / 146	405 / 146	396 / 151	405 / 148	390 / 147	399 / 148	387 / 142	404 / 142
115 (45)	474 / 148	461 / 148	461 / 149	461 / 148	452 / 154	462 / 150	448 / 150	454 / 150	443 / 144	460 / 145
<b>°F(°C)<sup>2</sup></b>	<b>RFC System - Liquid Line ( ± 10 psig) / Suction Line ( ± 5 psig)</b>									
65 (18)	234 / 135	234 / 126	228 / 133	230 / 127	---	228 / 129	---	227 / 125	---	227 / 122
75 (24)	266 / 139	265 / 132	262 / 137	264 / 134	---	264 / 137	---	262 / 133	---	261 / 129
85 (29)	304 / 143	305 / 138	302 / 141	306 / 140	---	307 / 142	---	303 / 139	---	304 / 136
95 (35)	348 / 147	350 / 143	346 / 145	352 / 144	---	352 / 147	---	349 / 144	---	349 / 141
105 (41)	402 / 151	401 / 147	394 / 148	402 / 148	---	401 / 151	---	399 / 148	---	398 / 144
115 (46)	453 / 154	455 / 151	449 / 152	459 / 152	---	455 / 155	---	453 / 152	---	452 / 148
<b>Table 2. Approach (APP) Values<sup>3</sup> -TXV System - °F (°C) ± 1°F (0.5°C)</b>										
65 (18)	2 (1.1)	1 (0.5)	2 (1.1)	4 (2.2)	7 (3.9)	7 (3.9)	3 (1.7)	6 (3.3)	5 (2.8)	7 (3.9)
75 (24)	1 (0.5)	3 (1.7)	4 (2.2)	4 (2.2)	7 (3.9)	8 (4.4)	4 (2.2)	6 (3.3)	6 (3.3)	7 (3.9)
85 (29)	1 (0.5)	4 (2.2)	5 (2.8)	4 (2.2)	7 (3.9)	8 (4.4)	4 (2.2)	7 (3.9)	6 (3.3)	7 (3.9)
95 (35)	1 (0.5)	4 (2.2)	4 (2.2)	4 (2.2)	7 (3.9)	7 (3.9)	4 (2.2)	7 (3.9)	6 (3.3)	6 (3.3)
105 (41)	1 (0.5)	3 (1.7)	4 (2.2)	4 (2.2)	7 (3.9)	7 (3.9)	4 (2.2)	7 (3.9)	5 (2.8)	6 (3.3)
115 (45)	0 (0)	3 (1.7)	4 (2.2)	4 (2.2)	6 (3.3)	7 (3.9)	5 (2.8)	6 (3.3)	5 (2.8)	6 (3.3)
<b>Table 3. Subcooling (SC) Values<sup>4</sup> -TXV System - °F (°C) ± 1°F (0.5°C)</b>										
65 (18)	12 (6.7)	13 (7.2)	11 (6.1)	9 (5.0)	4 (2.2)	5 (2.8)	6 (3.3)	5 (2.8)	4 (2.2)	4 (2.2)
75 (24)	11 (6.1)	10 (5.6)	7 (3.9)	9 (5.0)	4 (2.2)	4 (2.2)	5 (2.8)	5 (2.8)	3 (1.7)	4 (2.2)
85 (29)	13 (7.2)	8 (4.4)	7 (3.9)	9 (5.0)	4 (2.2)	5 (2.8)	6 (3.3)	4 (2.2)	3 (1.7)	5 (2.8)
95 (35)	13 (7.2)	9 (5.0)	7 (3.9)	9 (5.0)	5 (2.8)	5 (2.8)	6 (3.3)	4 (2.2)	4 (2.2)	6 (3.3)
105 (41)	14 (7.8)	9 (5.0)	8 (4.4)	9 (5.0)	5 (2.8)	6 (3.3)	6 (3.3)	5 (2.8)	4 (2.2)	7 (3.9)
115 (46)	15 (8.3)	10 (5.6)	9 (5.0)	9 (5.0)	5 (2.8)	6 (3.3)	6 (3.3)	6 (3.3)	5 (2.8)	7 (3.6)
<p><sup>1</sup> Typical pressures; indoor evaporator match-up, indoor air quantity and evaporator load will cause the pressures to vary.</p> <p><sup>2</sup> Temperature of air entering outside coil.</p> <p><sup>3</sup> Approach = Liquid Line Temperature minus Outdoor Ambient Temperature</p> <p><sup>4</sup> Subcooling = Saturation Temperature minus Liquid Line Temperature</p>										

**AIRFLOW CHECK** - Both airflow and refrigerant charge must be monitored for 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.

Dry bulb temperature of air entering indoor coil (°F)

**Table 4. Evaporator Coil Delta-T**

<b>80</b>	24	24	23	23	22	22	22	20	19	18	17	16	15
<b>78</b>	23	23	23	22	22	21	21	20	19	18	17	16	15
<b>76</b>	22	22	22	21	21	20	19	19	18	17	16	15	14
<b>74</b>	21	21	21	20	19	19	18	17	16	16	15	14	13
<b>72</b>	20	20	19	18	17	17	16	15	15	14	13	12	11
<b>70</b>	19	19	18	18	17	17	16	15	15	14	13	12	11
<b>°F</b>	<b>57</b>	<b>58</b>	<b>59</b>	<b>60</b>	<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>

[ 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	0.052	0.060	0.067	0.071	TXV	0.081	TXV	0.083	TXV	0.096

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

Outdoor Temp (°F)		65	70	75	80	85	90	95	100	105
<b>C A P A C I T Y</b>	<b>-018</b>	21	21	21	19	18	16	13	9	1
	<b>-024</b>	25	25	24	23	22	21	19	16	13
	<b>-030</b>	20	20	19	17	15	13	9	7	4
	<b>-036</b>	26	24	23	20	17	14	11	7	4
	<b>-042</b>	25	24	22	20	17	15	12	7	6
	<b>-048</b>	27	26	24	22	19	16	12	8	3
	<b>-060</b>	29	27	26	24	21	19	16	12	9

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

