The Brand You Know.
The Products You Trust.

EMERSON
Climate Technologies

PRESSURE TEMPERATURE CHART AT SEA LEVEL

Red (in of Hg) = Vacuum Black (psig) = Vapor **Bold (psig) = Liquid**

°F	R-12	R-22	R-134a	R-401A MP-39	R-402A HP-80	R-404A HP-62
-50	15.5	6.1	18.7	17.9	1.1	0.1
-48	14.6	4.8	18.0	17.2	1.9	0.7
-46	13.8	3.4	17.3	16.4	2.8	1.6
-44	12.9	1.9	16.5	15.6	3.7	2.4
-42	12.0	0.4	15.7	14.7	4.7	3.4
-40	11.0	0.6	14.8	13.8	5.7	4.3
-38	10.0	1.4	13.9	12.9	6.8	5.3
-36	8.9	2.2	13.0	11.9	7.8	6.3
-34	7.9	3.1	12.0	10.9	9.0	7.4
-32	6.7	4.0	10.9	9.8	10.1	8.5
-30	5.5	4.9	9.8	8.7	11.4	9.6
-28	4.3	5.9	8.7	7.5	12.6	10.8
-26	3.0	6.9	7.5	6.3	13.9	12.0
-24	1.7	8.0	6.3	5.0	15.3	13.3
-22	0.3	9.1	5.0	3.6	16.7	14.6
-20	0.5	10.2	3.7	2.2	18.2	16.0
-18	1.3	11.4	2.3	0.8	19.7	17.4
-16	2.0	12.6	0.8	0.3	21.2	18.9
-14	2.8	13.9	0.3	1.1	22.9	20.4
-12	3.6	15.2	1.1	1.9	24.5	22.0
-10	4.5	16.5	1.9	2.8	26.3	23.6
-8	5.3	17.9	2.8	3.6	28.0	25.3
-6	6.2	19.4	3.6	4.5	29.9	27.0
-4	7.2	20.9	4.6	5.4	31.8	28.8
-2	8.1	22.4	5.5	6.4	33.8	30.7
0	9.1	24.0	6.5	7.4	35.8	32.6
2	10.1	25.7	7.5	8.5	37.9	34.6
4	11.2	27.4	8.5	9.5	40.0	36.6
6	12.3	29.1	9.6	10.7	42.3	38.7
8	13.4	31.0	10.8	11.8	44.6	40.9
10	14.6	32.8	11.9	13.0	46.9	43.1
12	15.8	34.8	13.1	14.2	49.4	45.4
14	17.0	36.8	14.4	15.5	51.9	47.8
16	18.3	38.8	15.7	16.9	54.4	50.2
18	19.6	40.9	17.0	18.2	57.1	52.7
20	21.0	43.1	18.4	19.6	59.8	55.3
22	22.4	45.3	19.9	21.1	62.6	58.0
24	23.8	47.6	21.3	22.6	65.5	60.7
26	25.3	50.0	22.9	24.2	68.5	63.5
28	26.8	52.4	24.5	25.8	71.5	66.4
30	28.4	55.0	26.1	27.4	74.7	69.3
32	30.0	57.5	27.8	29.1	77.9	72.4
34	31.6	60.2	29.5	30.9	81.2	75.5
36	33.3	62.9	31.3	32.7	84.6	78.7
38	35.1	65.7	33.1	34.6	88.0	82.0
40	36.9	68.6	35.0	36.5	91.6	85.4
42	38.7	71.5	37.0	38.5	95.3	88.8
44	40.6	74.5	39.0	40.5	99.0	92.4
46	42.6	77.6	41.1	42.6	102.9	96.0
48	44.6	80.8	43.2	44.8	106.8	99.8
50	46.6	84.1	45.4	47.0	110.8	103.6
52	48.7	87.4	47.7	**60.4**	**115.0**	**107.5**
54	50.8	90.8	50.0	**63.0**	**119.2**	**111.6**
56	53.1	94.4	52.4	**65.7**	**123.6**	**115.7**
58	55.3	98.0	54.9	**68.4**	**128.0**	**119.9**
60	57.6	101.6	57.4	**71.2**	**132.6**	**124.2**
62	60.0	105.4	60.0	**74.1**	**137.2**	**128.7**
64	62.4	109.3	62.7	**77.0**	**142.0**	**133.2**
66	64.9	113.2	65.4	**80.0**	**146.9**	**137.8**
68	67.5	117.3	68.2	**83.1**	**151.9**	**142.6**
70	70.1	121.4	71.1	**86.3**	**157.0**	**147.4**
72	72.7	125.7	74.1	**89.5**	**162.2**	**152.4**
74	75.4	130.0	77.1	**92.8**	**167.5**	**157.5**
76	78.2	134.5	80.2	**96.2**	**173.0**	**162.7**
78	81.1	139.0	83.4	**99.7**	**178.5**	**168.0**
80	84.0	143.6	86.7	**103.2**	**184.2**	**173.4**
82	87.0	148.4	90.0	**106.8**	**190.1**	**179.0**
84	90.0	153.2	93.5	**110.6**	**196.0**	**184.6**
86	93.2	158.2	97.0	**114.4**	**202.1**	**190.4**
88	96.3	163.2	100.6	**118.2**	**208.3**	**196.4**
90	99.6	168.4	104.3	**122.2**	**214.6**	**202.4**
92	102.9	173.7	108.1	**126.2**	**221.1**	**208.6**
94	106.3	179.1	112.0	**130.4**	**227.7**	**214.9**
96	109.8	184.6	115.9	**134.6**	**234.4**	**221.3**
98	113.3	190.2	120.0	**138.9**	**241.3**	**227.9**
100	116.9	195.9	124.2	**143.3**	**248.3**	**234.6**
102	120.6	201.8	128.4	**147.8**	**255.5**	**241.5**
104	124.4	207.7	132.7	**152.4**	**262.8**	**248.5**
106	128.2	213.8	137.2	**157.1**	**270.2**	**255.6**
108	132.1	220.0	141.7	**161.9**	**277.8**	**262.9**
110	136.1	226.4	146.4	**166.8**	**285.6**	**270.4**
112	140.2	232.8	151.1	**171.8**	**293.5**	**278.0**
114	144.3	239.4	156.0	**176.8**	**301.6**	**285.7**
116	148.6	246.1	160.9	**182.0**	**309.8**	**293.6**
118	152.9	253.0	166.0	**187.3**	**318.2**	**301.7**
120	157.3	260.0	171.2	**192.7**	**326.7**	**309.9**
122	161.8	267.1	176.5	**198.2**	**335.5**	**318.3**
124	166.3	274.3	181.8	**203.8**	**344.3**	**326.8**
126	171.0	281.7	187.4	**209.5**	**353.4**	**335.5**
128	175.7	289.2	193.0	**215.3**	**362.6**	**344.4**
130	180.5	296.9	198.7	**221.2**	**372.0**	**353.5**
132	185.5	304.7	204.6	**227.2**	**381.6**	**362.8**
134	190.5	312.6	210.6	**233.4**	**391.4**	**372.2**
136	195.6	320.7	216.7	**239.7**	**401.4**	**381.9**
138	200.8	329.0	222.9	**246.0**	**411.6**	**391.7**
140	206.0	337.4	229.2	**252.5**	**421.9**	**401.7**
142	211.4	345.9	235.7	**259.1**	**432.5**	**412.0**
144	216.9	354.6	242.3	**265.9**	**443.3**	**422.4**
146	222.5	363.5	249.0	**272.7**	**454.2**	**433.1**
148	228.1	372.5	255.9	**279.7**	**465.4**	**443.9**
150	233.9	381.7	262.9	**286.8**	**476.9**	**455.1**

TXV SUPERHEAT ADJUSTMENT

Valve Family	"Total Turns"	Degrees of SH Per Turn					
		R-22		R-134a	R-404A/507		R410A
		+20 F	-20 F	+20 F	+20F	-20F	+40F
A	8	3.0	5.0	4.5	2.0	4.0	2.0
C	12	–	–	–	–	–	4.0
HF	10	2.2	4.2	3.8	1.8	3.2	N/A
TF	10	3.0	5.0	4.5	2.0	4.0	2.0
TRAE	10	2.2	4.2	3.8	1.8	3.2	N/A
TCLE	32	0.8	1.5	1.0	0.5	1.0	N/A

Turn adjustment clockwise to increase superheat, counterclockwise to decrease superheat. To return to approximate original factory setting, turn adjustment stem counterclockwise until the spring is completely unloaded (reaches stop or starts to "ratchet"). Then, turn it back in one half of the "Total Turns" shown on the chart.

PRESSURE TEMPERATURE CHART AT SEA LEVEL

Red (in of Hg) = Vacuum Black (psig) = Vapor **Bold (psig) = Liquid**

°F	R-407C Vapor	R-407C Liquid	R-408A	R-409A	R-410A	R-502	R-507A AZ-50
-50	11.0	2.7	2.0	18.7	4.9	0.8	0.9
-48	9.8	1.2	0.5	18.0	5.9	0.3	1.7
-46	8.6	**0.2**	0.6	17.2	7.0	1.1	2.6
-44	7.4	**1.0**	1.4	16.5	8.2	2.0	3.5
-42	6.0	**1.9**	2.2	15.6	9.4	2.8	4.4
-40	4.6	**2.7**	3.1	14.8	10.7	3.7	5.4
-38	3.2	**3.7**	4.0	13.9	12.0	4.6	6.4
-36	1.7	**4.6**	5.0	13.0	13.3	5.6	7.5
-34	0.1	**5.6**	5.9	12.0	14.7	6.6	8.6
-32	0.8	**6.6**	7.0	11.0	16.2	7.7	9.8
-30	1.6	**7.7**	8.0	9.9	17.7	8.7	10.9
-28	2.5	**8.8**	9.1	8.8	19.3	9.8	12.2
-26	3.4	**10.0**	10.3	7.6	20.9	11.0	13.5
-24	4.4	**11.2**	11.5	6.4	22.6	12.2	14.8
-22	5.4	**12.4**	12.7	5.1	24.4	13.5	16.2
-20	6.5	**13.7**	14.0	3.8	26.2	14.7	17.6
-18	7.5	**15.1**	15.3	2.4	28.1	16.1	19.1
-16	8.7	**16.5**	16.7	1.0	30.0	17.4	20.6
-14	9.9	**17.9**	18.1	0.3	32.0	18.9	22.2
-12	11.1	**19.4**	19.6	1.0	34.1	20.3	23.8
-10	12.3	**20.9**	21.1	1.8	36.3	21.9	25.5
-8	13.7	**22.5**	22.7	2.6	38.5	23.4	27.2
-6	15.0	**24.2**	24.3	3.5	40.8	25.1	29.0
-4	16.4	**25.9**	26.0	4.4	43.2	26.7	30.9
-2	17.9	**27.7**	27.7	5.3	45.7	28.4	32.8
0	19.4	**29.5**	29.5	6.3	48.2	30.2	34.8
2	21.0	**31.4**	31.3	7.3	50.8	32.1	36.8
4	22.6	**33.3**	33.2	8.3	53.5	34.0	38.9
6	24.3	**35.3**	35.2	9.4	56.3	35.9	41.1
8	26.1	**37.4**	37.2	10.5	59.2	37.9	43.3
10	27.9	**39.5**	39.3	11.6	62.2	40.0	45.7
12	29.7	**41.7**	41.4	12.8	65.2	42.1	48.0
14	31.7	**44.0**	43.6	14.0	68.4	44.3	50.5
16	33.7	**46.3**	45.9	15.3	71.6	46.5	53.0
18	35.7	**48.7**	48.2	16.6	74.9	48.9	55.6
20	37.9	**51.2**	50.6	18.0	78.4	51.2	58.2
22	40.1	**53.8**	53.1	19.4	81.9	53.7	61.0
24	42.3	**56.4**	55.7	20.8	85.5	56.2	63.8
26	44.7	**59.1**	58.3	22.3	89.2	58.8	66.7
28	47.1	**61.9**	61.0	23.9	93.1	61.4	69.6
30	49.6	**64.7**	63.7	25.5	97.0	64.2	72.7
32	52.1	**67.7**	66.6	27.1	101.1	67.0	75.8
34	54.8	**70.7**	69.5	28.8	105.2	69.8	79.0
36	57.5	**73.8**	72.5	30.5	109.5	72.8	82.3
38	60.3	**77.0**	75.6	32.3	113.9	75.8	85.7
40	63.2	**80.2**	78.7	34.2	118.4	78.9	89.2
42	66.1	**83.6**	81.9	36.1	123.0	82.1	92.7
44	69.2	**87.0**	85.3	38.0	127.7	85.4	96.4
46	72.3	**90.6**	88.7	40.1	132.6	88.7	100.1
48	75.5	**94.2**	92.2	42.1	137.5	92.1	104.0
50	78.8	**97.9**	95.7	44.3	142.6	95.6	107.9
52	82.2	**101.7**	99.4	**46.5**	147.9	99.2	111.9
54	85.7	**105.6**	103.1	**48.7**	153.2	102.9	116.1
56	89.3	**109.6**	107.0	**51.1**	158.7	106.6	120.3
58	93.0	**113.7**	110.9	**53.4**	164.4	110.5	124.6
60	96.8	**117.9**	115.0	**55.9**	170.1	114.4	129.1
62	100.7	**122.3**	119.1	**58.4**	176.0	118.5	133.6
64	104.7	**126.7**	123.3	**61.0**	182.1	122.6	138.3
66	108.8	**131.2**	127.6	**63.6**	188.3	126.8	143.0
68	113.0	**135.8**	132.0	**66.4**	194.6	131.1	147.9
70	117.3	**140.5**	136.6	**69.2**	201.1	135.5	152.9
72	121.7	**145.4**	141.2	**72.0**	207.7	140.0	157.9
74	126.2	**150.3**	145.9	**75.0**	214.5	144.7	163.1
76	130.9	**155.4**	150.8	**78.0**	221.4	149.4	168.5
78	135.6	**160.5**	155.7	**81.1**	228.5	154.2	173.9
80	140.5	**165.8**	160.8	**84.2**	235.8	159.1	179.5
82	145.5	**171.2**	165.9	**87.5**	243.2	164.1	185.1
84	150.6	**176.8**	171.2	**90.8**	250.7	169.2	190.9
86	155.9	**182.4**	176.6	**94.2**	258.5	174.5	196.9
88	161.2	**188.2**	182.1	**97.7**	266.4	179.8	202.9
90	166.7	**194.1**	187.7	**101.3**	274.5	185.3	209.1
92	172.3	**200.1**	193.5	**104.9**	282.7	190.8	215.4
94	178.1	**206.3**	199.3	**108.7**	291.2	196.5	221.9
96	184.0	**212.5**	205.3	**112.5**	299.8	202.3	228.5
98	190.0	**219.0**	211.4	**116.4**	308.6	208.2	235.2
100	196.1	**225.5**	217.6	**120.4**	317.6	214.3	242.1
102	202.4	**232.2**	224.0	**124.5**	326.7	220.4	249.1
104	208.9	**239.0**	230.5	**128.7**	336.1	226.7	256.2
106	215.4	**245.9**	237.1	**133.0**	345.7	233.1	263.5
108	222.2	**253.0**	243.9	**137.3**	355.4	239.6	271.0
110	229.0	**260.3**	250.7	**141.8**	365.4	246.3	278.6
112	236.1	**267.6**	257.8	**146.4**	375.5	253.0	286.3
114	243.3	**275.1**	264.9	**151.1**	385.9	260.0	294.2
116	250.6	**282.8**	272.2	**155.8**	396.5	267.0	302.3
118	258.1	**290.6**	279.7	**160.7**	407.3	274.2	310.5
120	265.8	**298.6**	287.2	**165.7**	418.3	281.5	318.9
122	273.6	**306.7**	295.0	**170.8**	429.5	288.9	327.5
124	281.6	**315.0**	302.9	**176.0**	441.0	296.5	336.2
126	289.8	**323.4**	310.9	**181.3**	452.7	304.3	345.1
128	298.1	**332.0**	319.1	**186.7**	464.6	312.1	354.2
130	306.6	**340.7**	327.4	**192.2**	476.8	320.2	363.5
132	315.4	**349.7**	335.9	**197.8**	489.2	328.4	372.9
134	324.2	**358.7**	344.6	**203.6**	501.9	336.7	382.6
136	333.3	**368.0**	353.4	**209.4**	514.8	345.2	392.4
138	342.6	**377.4**	362.4	**215.4**	528.0	353.8	402.4
140	352.1	**387.0**	371.5	**221.5**	541.4	362.6	412.7
142	361.7	**396.7**	380.9	**227.7**	555.2	371.5	423.1
144	371.6	**406.6**	390.4	**234.1**	569.2	380.7	433.8
146	381.7	**416.7**	400.0	**240.6**	583.5	390.0	444.7
148	392.0	**427.0**	409.9	**247.2**	598.1	399.4	455.8
150	402.5	**437.5**	419.9	**253.9**	613.0	409.0	467.2

MEASURING OPERATING SUPERHEAT

1. Determine suction pressure with accurate gauge at evaporator outlet. On close coupled installations, suction pressure may be read at compressor suction connection.
2. From refrigerant pressure - temperature tables, determine saturation temperature at observed suction pressure.
3. Measure temperature of suction gas at TXV remote bulb location.
4. Subtract saturation temperature read from tables in step No. 2 from temperature measured in step No. 3. Difference is superheat of suction gas.