

**PRESSURE TEMPERATURE CHART HIGH ALTITUDE – 5,000 FT. ABOVE SEA LEVEL**

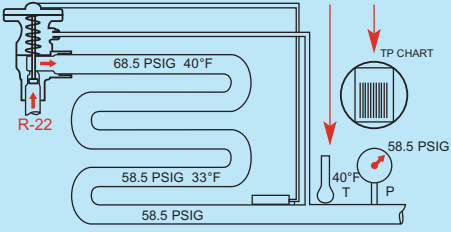
Red (in of Hg) = Vacuum      Black (psig) = Vapor      **Bold (psig) = Liquid**

°F	R-407C Vapor	R-407C Liquid	R-408A	R-409A	R-410A	R-502	R-507 AZ-50
-50	-6.1	1.1	1.4	13.8	7.3	2.0	3.3
-48	-5.0	1.8	2.2	13.1	8.3	2.7	4.1
-46	-3.8	2.6	3.0	12.4	9.4	3.5	5.0
-44	-2.5	3.4	3.8	11.6	10.6	4.4	5.9
-42	-1.2	4.3	4.6	10.8	11.8	5.2	6.8
-40	0.1	5.1	5.5	9.9	13.1	6.1	7.8
-38	0.8	6.1	6.4	9.0	14.4	7.0	8.8
-36	1.6	7.0	7.4	8.1	15.7	8.0	9.9
-34	2.4	8.0	8.3	7.1	17.1	9.0	11.0
-32	3.2	9.0	9.4	6.1	18.6	10.1	12.2
-30	4.0	10.1	10.4	5.0	20.1	11.1	13.3
-28	4.9	11.2	11.5	3.9	21.7	12.2	14.6
-26	5.8	12.4	12.7	2.7	23.3	13.4	15.9
-24	6.8	13.6	13.9	1.5	25.0	14.6	17.2
-22	7.8	14.8	15.1	0.2	26.8	15.9	18.6
-20	8.9	16.1	16.4	0.5	28.6	17.1	20.0
-18	9.9	17.5	17.7	1.2	30.5	18.5	21.5
-16	11.1	18.9	19.1	1.9	32.4	19.8	23.0
-14	12.3	20.3	20.5	2.7	34.4	21.3	24.6
-12	13.5	21.8	22.0	3.4	36.5	22.7	26.2
-10	14.7	23.3	23.5	4.2	38.7	24.3	27.9
-8	16.1	24.9	25.1	5.0	40.9	25.8	29.6
-6	17.4	26.6	26.7	5.9	43.2	27.5	31.4
-4	18.8	28.3	28.4	6.8	45.6	29.1	33.3
-2	20.3	30.1	30.1	7.7	48.1	30.8	35.2
0	21.8	31.9	31.9	8.7	50.6	32.6	37.2
2	23.4	33.8	33.7	9.7	53.2	34.5	39.2
4	25.0	35.7	35.6	10.7	55.9	36.4	41.3
6	26.7	37.7	37.6	11.8	58.7	38.3	43.5
8	28.5	39.8	39.6	12.9	61.6	40.3	45.7
10	30.3	41.9	41.7	14.0	64.6	42.4	48.1
12	32.1	44.1	43.8	15.2	67.6	44.5	50.4
14	34.1	46.4	46.0	16.4	70.8	46.7	52.9
16	36.1	48.7	48.3	17.7	74.0	48.9	55.4
18	38.1	51.1	50.6	19.0	77.3	51.3	58.0
20	40.3	53.6	53.0	20.4	80.8	53.6	60.6
22	42.5	56.2	55.5	21.8	84.3	56.1	63.4
24	44.7	58.8	58.1	23.2	87.9	58.6	66.2
26	47.1	61.5	60.7	24.7	91.6	61.2	69.1
28	49.5	64.3	63.4	26.3	95.5	63.8	72.0
30	52.0	67.1	66.1	27.9	99.4	66.6	75.1
32	54.5	70.1	69.0	29.5	103.5	69.4	78.2
34	57.2	73.1	71.9	31.2	107.6	72.2	81.4
36	59.9	76.2	74.9	32.9	111.9	75.2	84.7
38	62.7	79.4	78.0	34.7	116.3	78.2	88.1
40	65.6	82.6	81.1	36.6	120.8	81.3	91.6
42	68.5	86.0	84.3	38.5	125.4	84.5	95.1
44	71.6	89.4	87.7	40.4	130.1	87.8	98.8
46	74.7	93.0	91.1	42.5	135.0	91.1	102.5
48	77.9	96.6	94.6	44.5	139.9	94.5	106.4
50	81.2	100.3	98.1	46.7	145.0	98.0	110.3
52	84.6	104.1	101.8	48.9	150.3	101.6	114.3
54	88.1	108.0	105.5	51.1	155.6	105.3	118.5
56	91.7	112.0	109.4	53.5	161.1	109.0	122.7
58	95.4	116.1	113.3	55.8	166.8	112.9	127.0
60	99.2	120.3	117.4	58.3	172.5	116.8	131.5
62	103.1	124.7	121.5	60.8	178.4	120.9	136.0
64	107.1	129.1	125.7	63.4	184.5	125.0	140.7
66	111.2	133.6	130.0	66.0	190.7	129.2	145.4
68	115.4	138.2	134.4	68.8	197.0	133.5	150.3
70	119.7	142.9	139.0	71.6	203.5	137.9	155.3
72	124.1	147.8	143.6	74.4	210.1	142.4	160.3
74	128.6	152.7	148.3	77.4	216.9	147.1	165.5
76	133.3	157.8	153.2	80.4	223.8	151.8	170.9
78	138.0	162.9	158.1	83.5	230.9	156.6	176.3
80	142.9	168.2	163.2	86.6	238.2	161.5	181.9
82	147.9	173.6	168.3	89.9	245.6	166.5	187.5
84	153.0	179.2	173.6	93.2	253.1	171.6	193.3
86	158.3	184.8	179.0	96.6	260.9	176.9	199.3
88	163.6	190.6	184.5	100.1	268.8	182.2	205.3
90	169.1	196.5	190.1	103.7	276.9	187.7	211.5
92	174.7	202.5	195.9	107.3	285.1	193.2	217.8
94	180.5	208.7	201.7	111.1	293.6	198.9	224.3
96	186.4	214.9	207.7	114.9	302.2	204.7	230.9
98	192.4	221.4	213.8	118.8	311.0	210.6	237.6
100	198.5	227.9	220.0	122.8	320.0	216.7	244.5
102	204.8	234.6	226.4	126.9	329.1	222.8	251.5
104	211.3	241.4	232.9	131.1	338.5	229.1	258.6
106	217.8	248.3	239.5	135.4	348.1	235.5	265.9
108	224.6	255.4	246.3	139.7	357.8	242.0	273.4
110	231.4	262.7	253.1	144.2	367.8	248.7	281.0
112	238.5	270.0	260.2	148.8	377.9	255.4	288.7
114	245.7	277.5	267.3	153.5	388.3	262.4	296.6
116	253.0	285.2	274.6	158.2	398.9	269.4	304.7
118	260.5	293.0	282.1	163.1	409.7	276.6	312.9
120	268.2	301.0	289.6	168.1	420.7	283.9	321.3
122	276.0	309.1	297.4	173.2	431.9	291.3	329.9
124	284.0	317.4	305.3	178.4	443.4	298.9	338.6
126	292.2	325.8	313.3	183.7	455.1	306.7	347.5
128	300.5	334.4	321.5	189.1	467.0	314.5	356.6
130	309.0	343.1	329.8	194.6	479.2	322.6	365.9
132	317.8	352.1	338.3	200.2	491.6	330.8	375.3
134	326.6	361.1	347.0	206.0	504.3	339.1	385.0
136	335.7	370.4	355.8	211.8	517.2	347.6	394.8
138	345.0	379.8	364.8	217.8	530.4	356.2	404.8
140	354.5	389.4	373.9	223.9	543.8	365.0	415.1
142	364.1	399.1	383.3	230.1	557.6	373.9	425.5
144	374.0	409.0	392.8	236.5	571.6	383.1	436.2
146	384.1	419.1	402.4	243.0	585.9	392.4	447.1
148	394.4	429.4	412.3	249.6	600.5	401.8	458.2
150	404.9	439.9	422.3	256.3	615.4	411.4	469.6

**MEASURING OPERATING SUPERHEAT**

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

TEMP.  $T$  (40°F) - TEMP.  $P$  (33°F) = S.H. (7°)



# The Brand You Know. The Products You Trust.



## PRESSURE TEMPERATURE CHART HIGH ALTITUDE – 5,000 FT. ABOVE 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	10.6	1.2	13.8	13.0	3.5	2.4
-48	9.7	0.0	13.1	12.3	4.3	3.1
-46	8.9	0.7	12.4	11.5	5.2	4.0
-44	8.0	1.5	11.6	10.7	6.1	4.8
-42	7.1	2.2	10.8	9.8	7.1	5.8
-40	6.1	3.0	9.9	8.9	8.1	6.7
-38	5.1	3.8	9.0	8.0	9.2	7.7
-36	4.0	4.6	8.1	7.0	10.2	8.7
-34	3.0	5.5	7.1	6.0	11.4	9.8
-32	1.8	6.4	6.0	4.9	12.5	10.9
-30	0.6	7.3	4.9	3.8	13.8	12.0
-28	0.3	8.3	3.8	2.6	15.0	13.2
-26	0.9	9.3	2.6	1.4	16.3	14.4
-24	1.6	10.4	1.4	0.1	17.7	15.7
-22	2.3	11.5	0.1	0.6	19.1	17.0
-20	2.9	12.6	0.6	1.3	20.6	18.4
-18	3.7	13.8	1.3	2.0	22.1	19.8
-16	4.4	15.0	2.0	2.7	23.6	21.3
-14	5.2	16.3	2.7	3.5	25.3	22.8
-12	6.0	17.6	3.5	4.3	26.9	24.4
-10	6.9	18.9	4.3	5.2	28.7	26.0
-8	7.7	20.3	5.2	6.0	30.4	27.7
-6	8.6	21.8	6.0	6.9	32.3	29.4
-4	9.6	23.3	7.0	7.8	34.2	31.2
-2	10.5	24.8	7.9	8.8	36.2	33.1
0	11.5	26.4	8.9	9.8	38.2	35.0
2	12.5	28.1	9.9	10.9	40.3	37.0
4	13.6	29.8	10.9	11.9	42.4	39.0
6	14.7	31.5	12.0	13.1	44.7	41.1
8	15.8	33.4	13.2	14.2	47.0	43.3
10	17.0	35.2	14.3	15.4	49.3	45.5
12	18.2	37.2	15.5	16.6	51.8	47.8
14	19.4	39.2	16.8	17.9	54.3	50.2
16	20.7	41.2	18.1	19.3	56.8	52.6
18	22.0	43.3	19.4	20.6	59.5	55.1
20	23.4	45.5	20.8	22.0	62.2	57.7
22	24.8	47.7	22.3	23.5	65.0	60.4
24	26.2	50.0	23.7	25.0	67.9	63.1
26	27.7	52.4	25.3	26.6	70.9	65.9
28	29.2	54.8	26.9	28.2	73.9	68.8
30	30.8	57.4	28.5	29.8	77.1	71.7
32	32.4	59.9	30.2	31.5	80.3	74.8
34	34.0	62.6	31.9	33.3	83.6	77.9
36	35.7	65.3	33.7	35.1	87.0	81.1
38	37.5	68.1	35.5	37.0	90.4	84.4
40	39.3	71.0	37.4	38.9	94.0	87.8
42	41.1	73.9	39.4	40.9	97.7	91.2
44	43.0	76.9	41.4	42.9	101.4	94.8
46	45.0	80.0	43.5	45.0	105.3	98.4
48	47.0	83.2	45.6	47.2	109.2	102.2
50	49.0	86.5	47.8	49.4	113.2	106.0
52	51.1	89.8	50.1	<b>62.8</b>	<b>117.4</b>	<b>109.9</b>
54	53.2	93.2	52.4	<b>65.4</b>	<b>121.6</b>	<b>114.0</b>
56	55.5	96.8	54.8	<b>68.1</b>	<b>126.0</b>	<b>118.1</b>
58	57.7	100.4	57.3	<b>70.8</b>	<b>130.4</b>	<b>122.3</b>
60	60.0	104.0	59.8	<b>73.6</b>	<b>135.0</b>	<b>126.6</b>
62	62.4	107.8	62.4	<b>76.5</b>	<b>139.6</b>	<b>131.1</b>
64	64.8	111.7	65.1	<b>79.4</b>	<b>144.4</b>	<b>135.6</b>
66	67.3	115.6	67.8	<b>82.4</b>	<b>149.3</b>	<b>140.2</b>
68	69.9	119.7	70.6	<b>85.5</b>	<b>154.3</b>	<b>145.0</b>
70	72.5	123.8	73.5	<b>88.7</b>	<b>159.4</b>	<b>149.8</b>
72	75.1	128.1	76.5	<b>91.9</b>	<b>164.6</b>	<b>154.8</b>
74	77.8	132.4	79.5	<b>95.2</b>	<b>169.9</b>	<b>159.9</b>
76	80.6	136.9	82.6	<b>98.6</b>	<b>175.4</b>	<b>165.1</b>
78	83.5	141.4	85.8	<b>102.1</b>	<b>180.9</b>	<b>170.4</b>
80	86.4	146.0	89.1	<b>105.6</b>	<b>186.6</b>	<b>175.8</b>
82	89.4	150.8	92.4	<b>109.2</b>	<b>192.5</b>	<b>181.4</b>
84	92.4	155.6	95.9	<b>113.0</b>	<b>198.4</b>	<b>187.0</b>
86	95.6	160.6	99.4	<b>116.8</b>	<b>204.5</b>	<b>192.8</b>
88	98.7	165.6	103.0	<b>120.6</b>	<b>210.7</b>	<b>198.8</b>
90	102.0	170.8	106.7	<b>124.6</b>	<b>217.0</b>	<b>204.8</b>
92	105.3	176.1	110.5	<b>128.6</b>	<b>223.5</b>	<b>211.0</b>
94	108.7	181.5	114.4	<b>132.8</b>	<b>230.1</b>	<b>217.3</b>
96	112.2	187.0	118.3	<b>137.0</b>	<b>236.8</b>	<b>223.7</b>
98	115.7	192.6	122.4	<b>141.3</b>	<b>243.7</b>	<b>230.3</b>
100	119.3	198.3	126.6	<b>145.7</b>	<b>250.7</b>	<b>237.0</b>
102	123.0	204.2	130.8	<b>150.2</b>	<b>257.9</b>	<b>243.9</b>
104	126.8	210.1	135.1	<b>154.8</b>	<b>265.2</b>	<b>250.9</b>
106	130.6	216.2	139.6	<b>159.5</b>	<b>272.6</b>	<b>258.0</b>
108	134.5	222.4	144.1	<b>164.3</b>	<b>280.2</b>	<b>265.3</b>
110	138.5	228.8	148.8	<b>169.2</b>	<b>288.0</b>	<b>272.8</b>
112	142.6	235.2	153.5	<b>174.2</b>	<b>295.9</b>	<b>280.4</b>
114	146.7	241.8	158.4	<b>179.2</b>	<b>304.0</b>	<b>288.1</b>
116	151.0	248.5	163.3	<b>184.4</b>	<b>312.2</b>	<b>296.0</b>
118	155.3	255.4	168.4	<b>189.7</b>	<b>320.6</b>	<b>304.1</b>
120	159.7	262.4	173.6	<b>195.1</b>	<b>329.1</b>	<b>312.3</b>
122	164.2	269.5	178.9	<b>200.6</b>	<b>337.9</b>	<b>320.7</b>
124	168.7	276.7	184.2	<b>206.2</b>	<b>346.7</b>	<b>329.2</b>
126	173.4	284.1	189.8	<b>211.9</b>	<b>355.8</b>	<b>337.9</b>
128	178.1	291.6	195.4	<b>217.7</b>	<b>365.0</b>	<b>346.8</b>
130	182.9	299.3	201.1	<b>223.6</b>	<b>374.4</b>	<b>355.9</b>
132	187.9	307.1	207.0	<b>229.6</b>	<b>384.0</b>	<b>365.2</b>
134	192.9	315.0	213.0	<b>235.8</b>	<b>393.8</b>	<b>374.6</b>
136	198.0	323.1	219.1	<b>242.1</b>	<b>403.8</b>	<b>384.3</b>
138	203.2	331.4	225.3	<b>248.4</b>	<b>414.0</b>	<b>394.1</b>
140	208.4	339.8	231.6	<b>254.9</b>	<b>424.3</b>	<b>404.1</b>
142	213.8	348.3	238.1	<b>261.5</b>	<b>434.9</b>	<b>414.4</b>
144	219.3	357.0	244.7	<b>268.3</b>	<b>445.7</b>	<b>424.8</b>
146	224.9	365.9	251.4	<b>275.1</b>	<b>456.6</b>	<b>435.5</b>
148	230.5	374.9	258.3	<b>282.1</b>	<b>467.8</b>	<b>446.3</b>
150	236.3	384.1	265.3	<b>289.2</b>	<b>479.3</b>	<b>457.5</b>

### 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.