



# Tecumseh

## TEMPERATURE PRESSURE CHART At Sea Level

Pressure, psig

Vacuum, in. of mercury – *Blue Bold Italic* Figures

Temperature		Tecumseh Model Number - Refrigerant Code										
°F	°C	R22 (E)	R134a (Y)	R290 (U)	R404A (Z)	R407C (C)	R407F	R410A (B)	R414B/ Hot Shot	R438A/ M099	R507 (Z)	R1234yf (H)
-48	-44.4	<b>4.8</b>	<b>18.0</b>	<b>6.5</b>	0.7	<b>9.8</b>	<b>6.5</b>	6.0	<b>18.9</b>	<b>10.3</b>	1.7	<b>7.4</b>
-44	-42.2	<b>1.9</b>	<b>16.5</b>	<b>0.1</b>	2.4	<b>7.3</b>	<b>3.6</b>	8.3	<b>17.5</b>	<b>7.8</b>	3.5	<b>6.6</b>
-40	-40.0	0.6	<b>14.8</b>	1.4	4.3	<b>4.6</b>	<b>0.5</b>	10.7	<b>15.9</b>	<b>5.2</b>	5.4	<b>5.7</b>
-36	-37.8	2.2	<b>13.0</b>	3.0	6.3	<b>1.6</b>	1.4	13.4	<b>14.2</b>	<b>2.3</b>	7.5	<b>4.6</b>
-32	-35.6	4.0	<b>10.9</b>	4.8	8.5	0.8	3.3	16.2	<b>12.3</b>	0.4	9.8	<b>3.5</b>
-28	-33.3	5.9	<b>8.7</b>	6.6	10.8	2.5	5.2	19.3	<b>10.3</b>	2.1	12.2	<b>2.3</b>
-24	-31.1	8.0	<b>6.3</b>	8.6	13.3	4.4	7.4	22.7	<b>8.1</b>	3.9	14.8	<b>1.0</b>
-20	-28.9	10.2	<b>3.7</b>	10.7	16.0	6.5	9.7	26.3	<b>5.6</b>	5.9	17.6	0.4
-16	-26.7	12.6	<b>0.8</b>	13.0	18.9	8.7	12.2	30.1	<b>3.0</b>	8.1	20.6	1.9
-12	-24.4	15.2	1.1	15.4	22.0	11.1	14.9	34.2	<b>0.1</b>	10.4	23.8	3.5
-8	-22.2	17.9	2.8	18.0	25.3	13.7	17.9	38.6	1.5	12.9	27.3	5.3
-4	-20.0	20.9	4.6	20.8	28.8	16.4	21.0	43.3	3.1	15.6	30.9	7.2
0	-17.8	24.0	6.5	23.7	32.6	19.4	24.4	48.3	4.9	18.5	34.8	9.2
2	-16.7	25.7	7.5	25.2	34.6	21.0	26.2	50.9	5.8	20.0	36.9	10.3
4	-15.6	27.4	8.5	26.8	36.6	22.6	28.0	53.7	6.8	21.6	39.0	11.4
6	-14.4	29.2	9.6	28.4	38.7	24.3	29.9	56.5	7.8	23.2	41.1	12.5
8	-13.3	31	10.8	30.1	40.9	26.1	31.9	59.3	8.8	24.9	43.4	13.7
10	-12.2	32.8	11.9	31.8	43.1	27.9	33.9	62.3	9.9	26.6	45.7	14.9
12	-11.1	34.8	13.1	33.6	45.4	29.8	36.0	65.4	11.0	28.4	48.0	16.2
14	-10.0	36.8	14.4	35.4	47.8	31.7	38.2	68.5	12.2	30.3	50.5	17.5
16	-8.9	38.8	15.7	37.2	50.2	33.7	40.4	71.7	13.4	32.2	53.0	18.8
18	-7.8	40.9	17.0	39.2	52.7	35.7	42.7	75.1	14.6	34.2	55.6	20.2
20	-6.7	43.1	18.4	41.1	55.3	37.9	45.1	78.5	15.9	36.2	58.2	21.6
22	-5.6	45.3	19.9	43.2	58.0	40.1	47.6	82.0	17.2	38.3	61.0	23.1
24	-4.4	47.6	21.3	45.2	60.7	42.3	50.1	85.7	18.5	40.5	63.8	24.6
26	-3.3	50.0	22.9	47.4	63.5	44.7	52.7	89.4	20.0	42.8	66.7	26.1
28	-2.2	52.4	24.5	49.6	66.4	47.1	55.4	93.2	21.4	45.1	69.7	27.8
30	-1.1	55.0	26.1	51.8	69.3	49.6	58.2	97.2	22.9	47.5	72.7	29.4
32	0.0	57.5	27.8	54.1	72.4	52.1	61.0	101.2	24.5	49.9	75.8	31.1
34	1.1	60.2	29.5	56.5	75.5	54.8	64.0	105.4	26.0	52.5	79.0	32.9
36	2.2	62.9	31.3	58.9	78.7	57.5	67.0	109.7	27.7	55.1	82.3	34.7
38	3.3	65.7	33.1	61.4	82.0	60.3	70.1	114.1	29.4	57.7	85.7	36.5
40	4.4	68.6	35.0	63.9	85.4	63.2	73.4	118.6	31.1	60.5	89.2	38.4
42	5.6	71.5	37.0	66.5	88.8	66.1	76.7	123.2	32.9	63.3	92.8	40.4
44	6.7	74.5	39.0	69.2	92.4	69.2	80.1	127.9	34.8	66.3	96.4	42.4
46	7.8	77.6	41.1	72.0	96.0	72.3	83.5	132.8	36.7	69.3	100.2	44.5
48	8.9	80.8	43.2	74.8	99.8	75.5	87.1	137.8	38.6	72.3	104.0	46.6
50	10.0	84.1	45.4	77.6	103.6	78.8	90.8	142.9	40.7	75.5	108.0	48.8
52	11.1	87.4	47.7	80.6	109.2	101.7	113.9	148.1	58.6	94.6	112.0	51.0
56	13.3	94.4	52.4	86.7	117.4	109.6	122.6	159.0	63.7	102.1	120.4	55.7
60	15.6	101.6	57.4	93.0	126.0	117.9	131.7	170.4	69.0	109.8	129.1	60.6
64	17.8	109.3	62.7	99.7	135.0	126.7	141.2	182.4	74.6	118.0	138.3	65.7
68	20.0	117.3	68.2	106.6	144.4	135.8	151.2	194.9	80.5	126.6	147.9	71.1
72	22.2	125.7	74.1	113.9	154.3	145.4	161.7	208.1	86.6	135.5	158.0	76.8
76	24.4	134.5	80.2	121.4	164.6	155.4	172.6	221.8	93.0	144.9	168.5	82.8
80	26.7	143.6	86.7	129.3	175.4	165.8	184.1	236.1	99.7	154.7	179.5	89.0
84	28.9	153.2	93.5	137.6	186.7	176.8	196.0	251.2	106.8	165.0	191.0	95.6
88	31.1	163.2	100.6	146.1	198.4	188.2	208.5	266.8	114.1	175.7	203.0	102.4
92	33.3	173.7	108.1	155.0	210.7	200.1	221.5	283.2	121.8	186.8	215.5	109.6
96	35.6	184.6	115.9	164.3	223.4	212.5	235.1	300.3	129.7	198.5	228.6	117.0
100	37.8	195.9	124.2	173.9	236.8	225.5	249.3	318.1	138.1	210.6	242.2	124.9
104	40.0	207.7	132.7	183.9	250.6	239.0	264.0	336.6	146.7	223.2	256.4	133.0
108	42.2	220.0	141.7	194.3	265.1	253.0	279.3	355.9	155.8	236.4	271.1	141.5
112	44.4	232.8	151.1	205.1	280.1	267.6	295.2	376.1	165.1	250.1	286.5	150.4
116	46.7	246.1	160.9	216.3	295.8	282.8	311.8	397.0	174.9	264.3	302.4	159.6
120	48.9	260.0	171.2	227.8	312.1	298.6	329.0	418.9	185.0	279.1	319.1	169.2
124	51.1	274.3	181.8	239.9	329.0	315.0	346.9	441.6	195.6	294.4	336.4	179.2
128	53.3	289.2	193.0	252.3	346.6	332.0	365.5	465.2	206.5	310.3	354.4	189.7
132	55.6	304.7	204.6	265.2	364.9	349.6	384.7	489.8	217.8	326.9	373.1	200.5
136	57.8	320.7	216.7	278.5	383.9	368.0	404.7	515.4	229.5	344.1	392.6	211.7
140	60.0	337.4	229.2	292.3	403.7	386.9	425.4	542.0	241.7	361.9	412.8	223.4
144	62.2	354.6	242.3	306.6	424.3	406.6	446.9	569.7	254.3	380.3	433.9	235.6
148	64.4	372.5	255.9	321.4	445.7	427.0	469.1	598.5	267.3	399.4	455.9	248.2

To determine subcooling for R404A, R407A, R407C, R407F, R414B, & R438A, use BUBBLE POINT values (temps. above 50°F – blue background)

To determine superheat for R404A, R407A, R407C, R407F, R414B, & R438A, use DEW POINT values (temps. 50°F & below)

**TECUMSEH MODEL CHART**  
(AE<sup>2</sup> models only)

**AE** = **AA** **1A**  
**Y** = **AA** **1A**  
**4** = **AA** **1A**  
**440** = **AA** **1A**  
**440** = **AA** **1A**

**TECUMSEH MODEL CHART**  
(All models except AE<sup>2</sup>)

<b>Compressor Family</b> (First Two Digits)	<b>Application</b>	<b>Refrigerant</b>	<b>Voltage</b>	<b>Efficiency Level</b> (AE <sup>2</sup> models only)
<b>Release Variant</b> (The Third Digit)	<b>First Digit is the No. of Digits in Btu/h Capacity</b> <b>Last Two Digits are the First Two Digits in Rated Btu/h Capacity</b>			

<b>AE</b>	<b>Release Variant</b>	<b>Primary Refrigerants</b>	<b>Voltage Codes</b>
<b>AG</b>	<b>A = 1st</b>	<b>A = R12</b>	<b>AA = 115/60/1</b>
<b>AH</b>	<b>B = 2nd</b>	<b>B = R410A</b>	<b>AB = 115/60/1; 90/50/1</b>
<b>AJ</b>	<b>C = 3rd</b>	<b>C = R407C</b>	<b>FZ = 220-240/50/1</b>
<b>AK</b>	<b>etc...</b>	<b>E = R22</b>	<b>NA = 208-230/60/1</b>
<b>AN</b>		<b>E = 265/60/1; 220-240/50/1</b>	<b>VA = 265/60/1; 220-240/50/1</b>
<b>AV</b>		<b>J = R502</b>	<b>XA = 115/60/1; 100/50/1</b>
<b>AW</b>		<b>U = R290</b>	<b>XB = 230/60/1; 200/50/1</b>
<b>AZ</b>		<b>Y = R134a</b>	<b>XC = 220-240/50/1</b>
<b>RG</b>		<b>Z = R404A</b>	<b>XD = 208-230/60/1; 200/50/1</b>
<b>RK</b>		<b>Z = R507</b>	<b>XF = 208-230/60/3; 200-240/50/3</b>
<b>SA</b>			<b>YG = 460/60/3; 380-420/50/3</b>
<b>SF</b>			<b>YH = 575/60/3; 480-520/50/3</b>
<b>TP</b>			<b>XN = 208-230/60/1; 200-220/50/1</b>
<b>HG</b>			<b>XP = 220/60/1; 200/50/1</b>
<b>TH</b>			<b>XJ = 200-230/60/3; 200-220/50/3</b>
<b>TW</b>			<b>XU = 100/60/1; 100/50/1</b>
<b>VS</b>			<b>XV = 265/60/1</b>

Examples:  
AE<sup>2</sup> model number: **AE4440Y-AA1A**  
Model number except AE<sup>2</sup>: **AE4440YXA**

Primary Application Parameters		Motor Starting Torque	
Evap Temperature	Rating Point	Rating Point	Motor Starting Torque
1. Low	-10°F (-23.3°C)	Normal	Normal
2. Low	-10°F (-23.3°C)	High	High
3. High	45°F (7.2°C)	Normal	Normal
4. High	45°F (7.2°C)	High	High
5. Air Conditioning	45°F (7.2°C)	Normal	Normal
6. Medium	20°F (-6.7°C)	Normal	Normal
7. Medium	20°F (-6.7°C)	High	High
8. Air Conditioning	49°F (9.4°C)	Normal	Normal
9. Commercial	20°F (-6.7°C)	High	High
0. Commercial	20°F (-6.7°C)	Normal	Normal
E. Low - Vapor Inj	-10°F (-23.3°C)	High	High
G. Low - Liquid Inj	-10°F (-23.3°C)	High	High

Compressor Application Categories	
Low Temp	-40°F to 10°F (-40.0°C to -12.2°C)
Medium Temp	-10°F to 30°F (-23.3°C to -1.1°C)
Commercial Temp	-10°F to 45°F (-23.3°C to 7.2°C)
High Temp	20°F to 55°F (-6.7°C to 12.8°C)
High Temp (AE <sup>2</sup> )	-10°F to 59°F (-23.3°C to 15.0°C)
Air Conditioning	32°F to 55°F (0.0°C to 12.8°C)
Heat Pump	-15°F to 57°F (-26.1°C to 13.9°C)



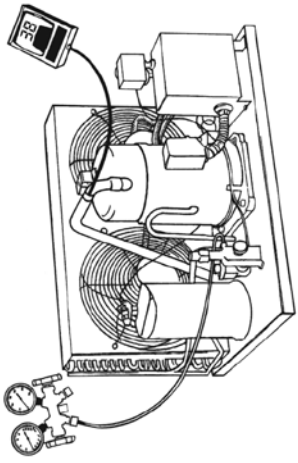
**APPROXIMATE PRESSURE CONTROL SETTINGS**

Pressure - Pounds Per Square Inch Gauge

Application	Temp Range	Evap TD	R22		R134a		R404A		R414B		R507	
			Out	In	Out	In	Out	In	Out	In	Out	In
Beverage Cooler	35°F to 38°F (1.7°C to 3.3°C)	15°F (8.3°C)	41	66	17	33	53	82	15	29	56	86
Floral Cooler			38	62	15	30	49	77	13	27	52	81
Produce Cooler			32	54	11	25	42	68	9	22	44	71
Smoked Meat Cooler	32 to 35 (0°C to 1.7°C)	15°F (8.3°C)	32	54	11	25	42	68	9	22	44	71
Meat Reach Thru			9	24	-	-	15	33	-	-	16	35
Service Deli	26 to 29 (-3.3°C to -1.7°C)	15°F (8.3°C)	0	10	-	-	3	16	-	-	4	18
Seafood			32	54	11	25	42	68	9	22	44	71
Multi-Deck Fresh Meat			-10 to 0 (-23.3°C to -17.8°C)	10°F (5.6°C)	9	24	-	-	15	33	-	-
Frozen Glass Door	-30 to -20 (-34.3°C to -28.9°C)	10°F (5.6°C)	0	10	-	-	3	16	-	-	4	18
Frozen Walk-In			32	54	11	25	42	68	9	22	44	71
Frozen Ice Cream			9	24	-	-	15	33	-	-	16	35
Frozen Food - Open Type			0	10	-	-	3	16	-	-	4	18

Pressure control settings assume a suction line pressure loss equivalent to 2°F.

**HOW TO CHECK SUPERHEAT**



- Example: Refrigerant 134a
- Suction Temperature 38°F (3.3°C)  
(6" to 12" from compressor)
- Evaporator Temperature 20°F (-6.7°C)  
(Converting Pressure of 18 psig)
- Superheat 18°F (10.0°C)**