



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	4.8	18.0	6.5	0.7	9.8	6.5	6.0	18.9	10.3	1.7	7.4
-44	-42.2	1.9	16.5	0.1	2.4	7.3	3.6	8.3	17.5	7.8	3.5	6.6
-40	-40.0	0.6	14.8	1.4	4.3	4.6	0.5	10.7	15.9	5.2	5.4	5.7
-36	-37.8	2.2	13.0	3.0	6.3	1.6	1.4	13.4	14.2	2.3	7.5	4.6
-32	-35.6	4.0	10.9	4.8	8.5	0.8	3.3	16.2	12.3	0.4	9.8	3.5
-28	-33.3	5.9	8.7	6.6	10.8	2.5	5.2	19.3	10.3	2.1	12.2	2.3
-24	-31.1	8.0	6.3	8.6	13.3	4.4	7.4	22.7	8.1	3.9	14.8	1.0
-20	-28.9	10.2	3.7	10.7	16.0	6.5	9.7	26.3	5.6	5.9	17.6	0.4
-16	-26.7	12.6	0.8	13.0	18.9	8.7	12.2	30.1	3.0	8.1	20.6	1.9
-12	-24.4	15.2	1.1	15.4	22.0	11.1	14.9	34.2	0.1	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

(AE² models only)

AE

440

Y = AA

1A

(All models except AE²)

AEA

440

Y = XA

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

Examples:

AE² model number:
AE4440Y-AA1A

Model number except AE²:
AEA4440YXA

In this example (4) total digits, with the first two (40), or 4,000 Btu/h capacity

AE	Release Variant
AG	A = 1st
AH	B = 2nd
AJ	C = 3rd
AK	etc...
AN	
AV	
AW	

Primary Refrigerants	Voltage Codes
A = R12	AA = 115/60/1
B = R410A	AB = 115/60/1; 90/50/1
C = R407C	EZ = 220-240/50/1
E = R22	NA = 208-230/60/1
J = R502	VA = 265/60/1; 220-240/50/1
U = R290	XA = 115/60/1; 100/50/1
Y = R134a	XB = 230/60/1; 200/50/1
Z = R404A	XC = 220-240/50/1
Z = R507	XD = 208-230/60/1; 200/50/1
	XF = 208-230/60/3; 200-240/50/3
	XG = 460/60/3; 380-420/50/3
	XH = 575/60/3; 480-520/50/3
	XI = 208-230/60/1; 200-220/50/1
	XP = 220/60/1; 200/50/1
	XJ = 200-230/60/3; 200-220/50/3
	XU = 100/60/1; 100/50/1
	XV = 265/60/1

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

For explanation of voltage not listed, contact Tecumseh Products Company.

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												
Produce Cooler												
Smoked Meat Cooler	32 to 35 (0°C to 1.7°C)	15°F (8.3°C)	38	62	15	30	49	77	13	27	52	81
Meat Reach Thru												
Service Deli												
Seafood												
Multi-Deck Fresh Meat	26 to 29 (-3.3°C to -1.7°C)	15°F (8.3°C)	32	54	11	25	42	68	9	22	44	71
Frozen Glass Door	-10 to 0 (-23.3°C to -17.8°C)	10°F (5.6°C)	9	24	-	-	15	33	-	-	16	35
Frozen Walk-In												
Frozen Ice Cream												
Frozen Food - Open Type	-30 to -20 (-34.3°C to -28.9°C)	10°F (5.6°C)	0	10	-	-	3	16	-	-	4	18

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

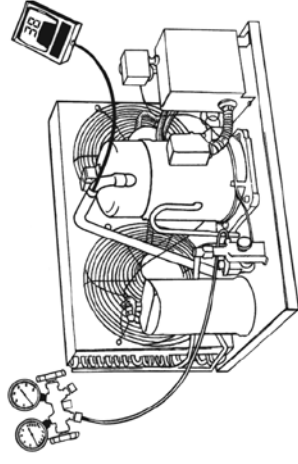
HOW TO CHECK SUPERHEAT

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)



Tecumseh