



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/W)	R407C (C/W)	R410A (B)	R404A (Z)	R407A (Z)	R449A (Z)	R452A (Z)	R448A (Z)	R417C (A/Y)	R134a (Y)	R513A (Y)	R290 (U)
-48.0	-44.4	4.8	9.8	5.9	0.7	7.7	6.0	1.8	6.0	18.7	18.0	15.5	3.0
-44.0	-42.2	1.9	7.3	8.2	2.4	5.0	3.1	0.7	3.2	16.1	16.5	13.7	0.1
-40.0	-40.0	0.6	4.6	10.7	4.3	2.0	0.0	2.4	0.1	13.4	14.8	11.8	1.4
-36.0	-37.8	2.2	1.6	13.3	6.3	0.6	1.7	4.2	1.6	10.7	13.0	9.7	3.0
-32.0	-35.6	4.0	0.8	16.2	8.5	2.3	3.5	6.2	3.4	8.0	10.9	7.4	4.8
-28.0	-33.3	5.9	2.5	19.3	10.8	4.2	5.4	8.4	5.4	5.4	8.7	4.9	6.6
-24.0	-31.1	8.0	4.4	22.6	13.3	6.3	7.6	10.7	7.5	2.7	6.3	2.1	8.6
-20.0	-28.9	10.2	6.5	26.2	16.0	8.5	9.9	13.2	9.8	0.2	3.7	0.4	10.7
-16.0	-26.7	12.6	8.7	30.0	18.9	10.9	12.3	15.9	12.3	1.8	0.8	2.0	13.0
-12.0	-24.4	15.2	11.1	34.1	22.0	13.5	15.0	18.9	15.0	3.5	1.1	3.6	15.4
-8.0	-22.2	17.9	13.7	38.5	25.3	16.3	17.9	22.0	17.9	5.4	2.8	5.5	18.0
-4.0	-20.0	20.9	16.4	43.2	28.8	19.3	21.0	25.3	21.0	7.4	4.6	7.4	20.8
0.0	-17.8	24.0	19.4	48.2	32.6	22.5	24.3	28.9	24.3	9.6	6.5	9.5	23.7
2.0	-16.7	25.7	21.0	50.8	34.6	24.2	26.0	30.7	26.0	10.7	7.5	10.6	25.2
4.0	-15.6	27.4	22.6	53.5	36.6	26.0	27.8	32.7	27.8	11.9	8.5	11.8	26.8
6.0	-14.4	29.2	24.3	56.3	38.7	27.8	29.7	34.7	29.7	13.1	9.6	13.0	28.4
8.0	-13.3	31.0	26.1	59.2	40.9	29.7	31.6	36.7	31.6	14.4	10.8	14.2	30.1
10.0	-12.2	32.8	27.9	62.2	43.1	31.6	33.5	38.8	33.6	15.7	11.9	15.5	31.8
12.0	-11.1	34.8	29.8	65.2	45.4	33.6	35.6	41.0	35.7	17.1	13.1	16.8	33.6
14.0	-10.0	36.8	31.7	68.4	47.8	35.7	37.7	43.3	37.8	18.5	14.4	18.1	35.4
16.0	-8.9	38.8	33.7	71.6	50.2	37.8	39.9	45.6	40.0	20.0	15.7	19.5	37.2
18.0	-7.8	40.9	35.7	74.9	52.7	40.0	42.1	48.0	42.2	21.5	17.0	21.0	39.2
20.0	-6.7	43.1	37.9	78.4	55.3	42.3	44.5	50.5	44.6	23.0	18.4	22.4	41.1
22.0	-5.6	45.3	40.1	81.9	58.0	44.7	46.8	53.0	47.0	24.7	19.9	24.0	43.2
24.0	-4.4	47.6	42.3	85.5	60.7	47.1	49.3	55.6	49.4	26.3	21.3	25.6	45.2
26.0	-3.3	50.0	44.7	89.2	63.5	49.6	51.8	58.3	52.0	28.1	22.9	27.2	47.4
28.0	-2.2	52.4	47.1	93.1	66.4	52.2	54.5	61.1	54.6	29.8	24.5	28.9	49.6
30.0	-1.1	55.0	49.6	97.0	69.3	54.8	57.1	64.0	57.3	31.7	26.1	30.6	51.8
32.0	0.0	57.5	52.1	101.1	72.4	57.6	59.9	66.9	60.1	33.6	27.8	32.4	54.1
34.0	1.1	60.2	54.8	105.2	75.5	60.4	62.8	69.9	63.0	35.5	29.5	34.3	56.5
36.0	2.2	62.9	57.5	109.5	78.7	63.3	65.7	73.0	65.9	37.5	31.3	36.2	58.9
38.0	3.3	65.7	60.3	113.9	82.0	66.3	68.7	76.2	69.0	39.6	33.1	38.1	61.4
40.0	4.4	68.6	63.2	118.4	85.4	69.4	71.8	79.4	72.1	41.7	35.0	40.1	63.9
42.0	5.6	71.5	66.1	123.0	88.8	72.5	75.0	82.8	75.3	43.9	37.0	42.2	66.5
44.0	6.7	74.5	69.2	127.7	92.4	75.8	78.3	86.3	78.6	46.2	39.0	44.3	69.2
46.0	7.8	77.6	72.3	132.6	96.0	79.1	81.7	89.8	82.0	48.5	41.1	46.5	72.0
48.0	8.9	80.8	75.5	137.5	99.8	82.6	85.1	93.4	85.4	50.9	43.2	48.7	74.8
50.0	10.0	84.1	78.8	142.6	103.6	86.1	88.7	97.1	89.0	53.3	45.4	51.0	77.6
52.0	11.1	87.4	101.7	148.4	109.2	108.2	110.1	114.9	112.1	55.9	47.7	53.4	80.6
56.0	13.3	94.4	109.6	159.3	117.4	116.5	118.4	123.5	120.5	61.1	52.4	58.3	86.7
60.0	15.6	101.6	117.9	170.7	126.0	125.2	127.2	132.4	129.4	66.7	57.4	63.5	93.0
64.0	17.8	109.3	126.7	182.7	135.0	134.3	136.4	141.8	138.7	72.6	62.7	69.0	99.7
68.0	20.0	117.3	135.8	195.3	144.4	143.9	146.0	151.7	148.5	78.8	68.2	74.8	106.6
72.0	22.2	125.7	145.4	208.4	154.3	153.9	156.1	162.0	158.7	92.7	74.1	80.8	113.9
76.0	24.4	134.5	155.4	222.2	164.6	164.4	166.6	172.7	169.3	99.8	80.2	87.1	121.4
80.0	26.7	143.6	165.8	236.5	175.4	175.3	177.6	183.9	180.5	107.0	86.7	93.8	129.3
84.0	28.9	153.2	176.8	251.6	186.7	186.7	189.0	195.6	192.1	115.0	93.5	100.8	137.6
88.0	31.1	163.2	188.2	267.3	198.4	198.7	201.0	207.8	204.2	123.0	100.6	108.1	146.1
92.0	33.3	173.7	200.1	283.6	210.7	211.1	213.5	220.6	216.8	132.0	108.1	115.7	155.0
96.0	35.6	184.6	212.5	300.7	223.4	224.1	226.5	233.8	230.0	141.0	115.9	123.7	164.3
100.0	37.8	195.9	225.5	318.5	236.8	237.6	240.1	247.6	243.7	150.0	124.2	132.1	173.9
104.0	40.0	207.7	239.0	337.1	250.6	251.7	254.2	261.9	258.0	160.0	132.7	140.8	183.9
108.0	42.2	220.0	253.0	356.5	265.1	266.4	268.8	276.8	272.8	170.0	141.7	150.0	194.3
112.0	44.4	232.8	267.6	376.6	280.1	281.6	284.1	292.3	288.3	180.0	151.1	159.5	205.1
116.0	46.7	246.1	282.8	397.6	295.8	297.5	299.9	308.4	304.3	191.0	160.9	169.4	216.3
120.0	48.9	260.0	298.6	419.4	312.1	314.0	316.3	325.1	320.9	203.0	171.2	179.7	227.8
124.0	51.1	274.3	315.0	442.1	329.0	331.1	333.4	342.4	338.2	215.0	181.8	190.5	239.9
128.0	53.3	289.2	332.0	465.8	346.6	348.8	351.1	360.3	356.1	227.0	193.0	201.7	252.3
132.0	55.6	304.7	349.6	490.3	364.9	367.2	369.5	379.0	374.6	240.0	204.6	213.4	265.2
136.0	57.8	320.7	368.0	515.9	383.9	386.3	388.5	398.3	393.9	255.0	216.7	225.5	278.5
140.0	60.0	337.4	386.9	542.5	403.7	406.2	408.3	418.3	413.8	270.0	229.2	238.1	292.3
144.0	62.2	354.6	406.6	570.2	424.3	426.7	428.7	438.9	434.4	287.0	242.3	251.2	306.6
148.0	64.4	372.5	427.0	599.0	445.7	448.0	449.9	460.4	455.7	306.0	255.9	264.8	321.4

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 – light background)

TECUMSEH MODEL CHART

AE

4

440

Y

AA

1A

AEA

4

440

Y

XA

(All models except AE²)

Compressor Family (First Two Digits) Release Variant (The Third Digit)		Application	First Digit is the No. of Digits in Btu/h Capacity Last Two Digits are the First Two Digits in Rated Btu/h Capacity	Refrigerant	Voltage	Efficiency Level (AE ² models only)
AE AG AH AJ AK AN AV AW AZ RG RK SA SF TP HG TH TW VS	Release Variant	In this example (4) total digits, with the first two (40), or 4,000 Btu/h capacity				
	A = 1st					
	B = 2nd					
	C = 3rd					
	etc...					
		Primary Application Parameters		Voltage Codes		
		Evap Temperature	Rating Point	Motor Starting Torque		
		1. Low	-10°F (-23.3°C)	Normal	AA = 115/60/1	
		2. Low	-10°F (-23.3°C)	High	AB = 115/60/1; 90/50/1	
		3. High	46°F (7.2°C)	Normal	FZ = 220-240/50/1	
		4. High	49°F (7.2°C)	High	MA = 208-230/60/1	
		5. Air Conditioning	46°F (7.2°C)	Normal	VA = 265/60/1; 220-240/50/1	
		6. Medium	20°F (-6.7°C)	Normal	XA = 115/60/1; 100/50/1	
		7. Medium	20°F (-6.7°C)	High	XB = 230/60/1; 200/50/1	
		8. Air Conditioning	49°F (9.4°C)	Normal	XC = 220-240/50/1	
		9. Commercial	20°F (-6.7°C)	High	XD = 208-230/60/1; 200/50/1	
		0. Commercial	20°F (-6.7°C)	High	XF = 208-230/60/3; 200-240/50/3	
		F. Low – Vapor Inj	-10°F (-23.3°C)	High	XG = 460/60/3; 380-420/50/3	
		G. Low – Liquid Inj	-10°F (-23.3°C)	High	XH = 575/60/3; 480-520/50/3	
					XI = 208-230/60/1; 200-220/50/1	
					XP = 220/60/1; 200/50/1	
					XT = 200-230/60/3; 200-220/50/3	
					XU = 100/60/1; 100/50/1	
					XV = 265/60/1	

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

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



APPROXIMATE PRESSURE CONTROL SETTINGS

Application	Temp Range	R22		R134a		R404A		R417C		R452A	
		Out	In	Out	In	Out	In	Out	In	Out	In
Beverage Cooler	35°F to 38°F (1.7°C to 3.3°C)	41	66	53	82	23	42	48	76		
Floral Cooler											
Produce Cooler											
Spoked Meat Cooler	32 to 35 (0°C to 1.7°C)	38	62	15	30	49	77	21	39	46	73
Meat Reach Thru											
Service Deli											
Seafood	26 to 29 (-3.3°C to -1.7°C)	32	54	11	25	42	68	16	33	39	64
Multi-Deck Fresh Meat											
Frozen Glass Door	-10 to 0 (-23.3°C to -17.8°C)	9	24	-	-	15	33	-	-	13	29
Frozen Walk-In											
Frozen Ice Cream											
Frozen Food - Open Type	-30 to -20 (-34.3°C to -28.9°C)	0	10	-	-	3	16	-	-	4	13

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)

