Tecumseh

TEMPERATURE PRESSURE CHART

At Sea Level

Pressure, psig — Vacuum, in. of mercury – ***Bold Italic*** Figures

Temperature		Refrigerant – (Tecumseh Code)										
°F	°C	12 (A)	22 (E)	134a (Y)	404A (Z)	407A	407C (C)	410A (B)	414B/ Hot Shot	422D/ MO29	438A/ MO99	507 (Z)
-48	-44.4	***14.6***	***4.8***	***18.0***	0.7	***7.7***	***9.8***	6.0	***18.9***	***7.9***	***10.3***	1.7
-44	-42.2	***12.9***	***1.9***	***16.5***	2.4	***5.0***	***7.3***	8.3	***17.5***	***5.3***	***7.8***	3.5
-40	-40	***11.0***	0.6	***14.8***	4.3	***2.0***	***4.6***	10.7	***15.9***	***2.3***	***5.2***	5.4
-36	-37.8	***8.9***	2.2	***13.0***	6.3	0.6	***1.6***	13.4	***14.2***	0.4	***2.3***	7.5
-32	-35.6	***6.7***	4.0	***10.9***	8.5	2.3	0.8	16.2	***12.3***	2.1	0.4	9.8
-28	-33.3	***4.3***	5.9	***8.7***	10.8	4.2	2.5	19.3	***10.3***	3.9	2.1	12.2
-24	-31.1	***1.7***	8.0	***6.3***	13.3	6.3	4.4	22.7	***8.1***	5.9	3.9	14.8
-20	-28.9	0.5	10.2	***3.7***	16.0	8.5	6.5	26.3	***5.6***	8.1	5.9	17.6
-16	-26.7	2.0	12.6	***0.8***	18.9	10.9	8.7	30.1	***3.0***	10.4	8.1	20.6
-12	-24.4	3.6	15.2	1.1	22.0	13.5	11.1	34.2	***0.1***	12.9	10.4	23.8
-8	-22.2	5.3	17.9	2.8	25.3	16.3	13.7	38.6	1.5	15.6	12.9	27.3
-4	-20	7.2	20.9	4.6	28.8	19.3	16.4	43.3	3.1	18.5	15.6	30.9
0	-17.8	9.1	24.0	6.5	32.6	22.5	19.4	48.3	4.9	21.7	18.5	34.8
2	-16.7	10.1	25.7	7.5	34.6	24.2	21.0	50.9	5.8	23.3	20.0	36.9
4	-15.6	11.2	27.4	8.5	36.6	26.0	22.6	53.7	6.8	25.0	21.6	39.0
6	-14.4	12.3	29.2	9.6	38.7	27.8	24.3	56.5	7.8	26.7	23.2	41.1
8	-13.3	13.4	31	10.8	40.9	29.7	26.1	59.3	8.8	28.5	24.9	43.4
10	-12.2	14.6	32.8	11.9	43.1	31.6	27.9	62.3	9.9	30.4	26.6	45.7
12	-11.1	15.8	34.8	13.1	45.4	33.6	29.8	65.4	11.0	32.3	28.4	48.0
14	-10	17.0	36.8	14.4	47.8	35.7	31.7	68.5	12.2	34.3	30.3	50.5
16	-8.9	18.3	38.8	15.7	50.2	37.8	33.7	71.7	13.4	36.4	32.2	53.0
18	-7.8	19.6	40.9	17.0	52.7	40.0	35.7	75.1	14.6	38.5	34.2	55.6
20	-6.7	21.0	43.1	18.4	55.3	42.3	37.9	78.5	15.9	40.7	36.2	58.2
22	-5.6	22.4	45.3	19.9	58.0	44.7	40.1	82.0	17.2	42.9	38.3	61.0
24	-4.4	23.8	47.6	21.3	60.7	47.1	42.3	85.7	18.5	45.2	40.5	63.8
26	-3.3	25.3	50.0	22.9	63.5	49.6	44.7	89.4	20.0	47.6	42.8	66.7
28	-2.2	26.8	52.4	24.5	66.4	52.2	47.1	93.2	21.4	50.1	45.1	69.7
30	-1.1	28.4	55.0	26.1	69.3	54.8	49.6	97.2	22.9	52.6	47.5	72.7
32	0	30.0	57.5	27.8	72.4	57.6	52.1	101.2	24.5	55.2	49.9	75.8
34	1.1	31.7	60.2	29.5	75.5	60.4	54.8	105.4	26.0	57.9	52.5	79.0
36	2.2	33.4	62.9	31.3	78.7	63.3	57.5	109.7	27.7	60.6	55.1	82.3
38	3.3	35.1	65.7	33.1	82.0	66.3	60.3	114.1	29.4	63.5	57.7	85.7
40	4.4	36.9	68.6	35.0	85.4	69.4	63.2	118.6	31.1	66.4	60.5	89.2
42	5.6	38.7	71.5	37.0	88.8	72.5	66.1	123.2	32.9	69.4	63.3	92.8
44	6.7	40.6	74.5	39.0	92.4	75.8	69.2	127.9	34.8	72.5	66.3	96.4
46	7.8	42.6	77.6	41.1	96.0	79.1	72.3	132.8	36.7	75.6	69.3	100.2
48	8.9	44.6	80.8	43.2	99.8	82.6	75.5	137.8	38.6	78.9	72.3	104.0
50	10	46.6	84.1	45.4	103.6	86.1	78.8	142.9	40.7	82.2	75.5	108.0
52	11.1	48.7	87.4	47.7	109.2	108.2	101.7	148.1	58.6	96.1	94.6	112.0
56	13.3	53.1	94.4	52.4	117.4	116.5	109.6	159.0	63.7	103.6	102.1	120.4
60	15.6	57.6	101.6	57.4	126.0	125.2	117.9	170.4	69.0	111.4	109.8	129.1
64	17.8	62.4	109.3	62.7	135.0	134.3	126.7	182.4	74.6	119.6	118.0	138.3
68	20	67.5	117.3	68.2	144.4	143.9	135.8	194.9	80.5	128.1	126.6	147.9
72	22.2	72.7	125.7	74.1	154.3	153.9	145.4	208.1	86.6	137.1	135.5	158.0
76	24.4	78.2	134.5	80.2	164.6	164.4	155.4	221.8	93.0	146.5	144.9	168.5
80	26.7	84.0	143.6	86.7	175.4	175.3	165.8	236.1	99.7	156.3	154.7	179.5
84	28.9	90.0	153.2	93.5	186.7	186.7	176.8	251.2	106.8	166.5	165.0	191.0
88	31.1	96.3	163.2	100.6	198.4	198.7	188.2	266.8	114.1	177.2	175.7	203.0
92	33.3	102.9	173.7	108.1	210.7	211.1	200.1	283.2	121.8	188.4	186.8	215.5
96	35.6	109.8	184.6	115.9	223.4	224.1	212.5	300.3	129.7	200.0	198.5	228.6
100	37.8	116.9	195.9	124.2	236.8	237.6	225.5	318.1	138.1	212.2	210.6	242.2
104	40	124.4	207.7	132.7	250.6	251.7	239.0	336.6	146.7	224.8	223.2	256.4
108	42.2	132.1	220.0	141.7	265.1	266.4	253.0	355.9	155.8	237.9	236.4	271.1
112	44.4	140.2	232.8	151.1	280.1	281.6	267.6	376.1	165.1	251.6	250.1	286.5
116	46.7	148.6	246.1	160.9	295.8	297.5	282.8	397.0	174.9	265.9	264.3	302.4
120	48.9	157.3	260.0	171.2	312.1	314.0	298.6	418.9	185.0	280.7	279.1	319.1
124	51.1	166.3	274.3	181.8	329.0	331.1	315.0	441.6	195.6	296.0	294.4	336.4
128	53.3	175.7	289.2	193.0	346.6	348.8	332.0	465.2	206.5	312.0	310.3	354.4
132	55.6	185.5	304.7	204.6	364.9	367.2	349.6	489.8	217.8	328.6	326.9	373.1
136	57.8	195.6	320.7	216.7	383.9	386.3	368.0	515.4	229.5	345.8	344.1	392.6
140	60	206.0	337.4	229.2	403.7	406.2	386.9	542.0	241.7	363.7	361.9	412.8
144	62.2	216.9	354.6	242.3	424.3	426.7	406.6	569.7	254.3	382.3	380.3	433.9
148	64.4	228.1	372.5	255.9	445.7	448.0	427.0	598.5	267.3	401.5	399.4	455.9

To determine subcooling for R-404A, R-407A, R-407C, R-414B, R-422D, & R-438A, use BUBBLE POINT values (temps. above 50°F – blue background)

To determine superheat for R-404A, R-407A, R-407C, R-414B, R-422D, & R-438A, use DEW POINT values (temps. 50°F & below)

TECUMSEH MODEL CHART

AE	A	4	4	40	Y	XA
Compressor Family	Release Variant (Generation)	Application	Number of Digits in Printed BTU Capacity	First Two Digits of Rated BTU Capacity	Refrigerant	Voltage

AE
AG
AH
AJ
AK
AN
AV
AW
AZ
RG
RK
SA
SF
TP
HG
TH
TW
VS

A = 1st
B = 2nd
C = 3rd
etc...

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

Primary Refrigerants
A = R12
B = R410A
C = R407C
E = R22
J = R502
Y = R134a
Z = R404A/R507

Voltage Codes
XA = 115-60-1; 100-50-1
XB = 230-60-1; 200-50-1
XC = 220-240-50-1
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
XN = 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
AB = 115-60-1; 90-50-1
VA = 265-60-1; 220-240-50-1
NA = 208-230-60-1
AA = 115-60-1

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

Primary Application Parameters		
Evap Temperature	**Rating Point**	**Motor Starting Torque**
1. Low	-10°F	Normal
2. Low	-10°F	High
3. High	+45°F	Normal
4. High	+45°F	High
5. Air Cond	+45°F	Normal
6. Medium	+20°F	Normal
7. Medium	+20°F	High
8. Air Cond	+49°F	Normal
9. Commercial	+20°F	High
0. Commercial	+20°F	Normal
F. Low – Vapor Inj	-10°F	High
G. Low – Vapor Inj	-10°F	High

Compressor Application Categories	
Low Temp	-40°F to +10°F
Medium Temp	-10°F to +30°F
Commercial Temp	-10°F to +45°F
High Temp	+20°F to +55°F
Air Conditioning	+32°F to +55°F
Heat Pump	-15°F to +57°F

Tecumseh

Tecumseh Products Company | 1136 Oak Valley Drive | Ann Arbor, MI 48108 USA | +1 800.211.3427 | www.tecumseh.com

APPROXIMATE PRESSURE CONTROL SETTINGS

Pressure – Pounds Per Square Inch Gauge

Application	Temp Range (°F)	Evap TD (°F)	22		134a		404A		414B		507	
			Out	In	Out	In	Out	In	Out	In	Out	In
Beverage Cooler	35 to 38	15	41	66	17	33	53	82	15	29	56	86
Floral Cooler												
Produce Cooler												
Smoked Meat Cooler	32 to 35	15	38	62	15	30	49	77	13	27	52	81
Meat Reach Thru												
Service Deli												
Seafood												
Multi-Deck Fresh Meat	26 to 29	15	32	54	11	25	42	68	9	22	44	71
Frozen Glass Door	-10 to 0	10	9	24	–	–	15	33	–	–	16	35
Frozen Walk-In												
Frozen Ice Cream	-30 to -20	10	0	10	–	–	3	16	–	–	4	18
Frozen Food - Open Type												

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

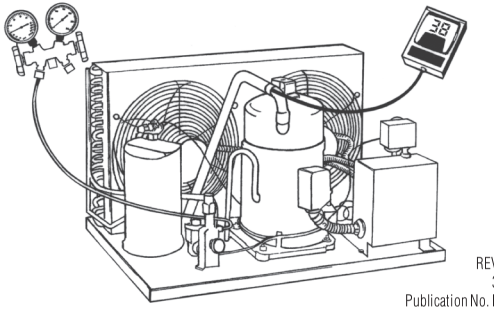
HOW TO CHECK SUPERHEAT

Example: Refrigerant 134a

Suction Temperature
(6" to 12" from compressor)

Evaporator Temperature
(Converting Pressure of 18 psig)

Superheat



REV 8/10
35772
Publication No. ES114