

MAINTENANCE



Pressure-Temperature Guide - ENG

Saturated Conditions – Pressure (psig)

Temp. °F	Freon® 22 R-22	Suva® 123 R-123	Suva® 134a R-134a	Suva® 404A R-404A	Suva® 410A R-410A	Suva® 507 R-507	Temp °C
-40	0.6	28.9"	14.8"	4.9	10.8	5.4	-40
-38	1.4	28.8"	13.9"	5.9	12.1	6.4	-39
-36	2.2	28.7"	12.9"	7.0	13.4	7.5	-38
-34	3.1	28.6"	12.0"	8.0	14.8	8.6	-37
-32	4.0	28.5"	10.9"	9.2	16.3	9.8	-36
-30	4.9	28.4"	9.8"	10.3	17.8	11.0	-34
-28	5.9	28.3"	8.7"	11.5	19.4	12.2	-33
-26	6.9	28.2"	7.5"	12.8	21.0	13.5	-32
-24	8.0	28.1"	6.3"	14.1	22.7	14.8	-31
-22	9.1	27.9"	5.0"	15.4	24.5	16.2	-30
-20	10.2	27.8"	3.7"	16.8	26.3	17.6	-29
-18	11.4	27.6"	2.3"	18.3	28.2	19.1	-28
-16	12.6	27.5"	0.8"	19.8	30.2	20.6	-27
-14	13.9	27.3"	0.3	21.3	32.2	22.2	-26
-12	15.2	27.2"	1.1	22.9	34.3	23.8	-24
-10	16.5	27.0"	1.9	24.6	36.5	25.5	-23
-8	17.9	26.8"	2.8	26.3	38.7	27.3	-22
-6	19.4	26.6"	3.6	28.0	41.0	29.1	-21
-4	20.9	26.4"	4.6	29.8	43.4	30.9	-20
-2	22.4	26.2"	5.5	31.7	45.9	32.8	-19
0	24.0	25.9"	6.5	33.7	48.4	34.8	-18
2	25.7	25.7"	7.5	35.7	51.1	36.9	-17
4	27.4	25.4"	8.5	37.7	53.8	39.0	-16
6	29.1	25.2"	9.6	39.8	56.6	41.1	-14
8	31.0	24.9"	10.8	42.0	59.5	43.4	-13
10	32.8	24.6"	11.9	44.3	62.4	45.7	-12
12	34.8	24.3"	13.1	46.6	65.5	48.1	-11
14	36.8	23.9"	14.4	49.0	68.6	50.5	-10
16	38.8	23.6"	15.7	51.5	71.9	53.0	-9
18	40.9	23.2"	17.0	54.0	75.2	55.6	-8
20	43.1	22.9"	18.4	56.6	78.7	58.3	-7
22	45.3	22.5"	19.9	59.3	82.2	61.0	-6
24	47.6	22.1"	21.3	62.0	85.8	63.8	-4
26	50.0	21.7"	22.9	64.8	89.6	66.7	-3
28	52.4	21.2"	24.5	67.7	93.4	69.7	-2
30	55.0	20.8"	26.1	70.7	97.4	72.7	-1
32	57.5	20.3"	27.8	73.8	101.4	75.9	0
34	60.2	19.8"	29.5	76.9	105.6	79.1	1
36	62.9	19.3"	31.3	80.2	109.9	82.4	2
38	65.7	18.7"	33.1	83.5	114.3	85.8	3
40	68.6	18.2"	35.0	86.9	118.8	89.2	4
42	71.5	17.6"	37.0	90.4	123.4	92.8	6
44	74.5	17.0"	39.0	94.0	128.2	96.5	7
46	77.6	16.3"	41.1	97.6	133.0	100.2	8
48	80.8	15.7"	43.2	101.4	138.0	104.1	9
50	84.1	15.0"	45.4	105.3	143.2	108.0	10
52	87.4	14.3"	47.7	109.2	148.4	112.0	11
54	90.8	13.5"	50.0	113.3	153.8	116.2	12
56	94.4	12.8"	52.4	117.4	159.3	120.4	13
58	98.0	12.0"	54.9	121.7	164.9	124.7	14

"Denotes inches of mercury ("Hg)

Saturated Conditions – Pressure (psig)

Temp. °F	Freon® 22 R-22	Suva® 123 R-123	Suva® 134a R-134a	Suva® 404A R-404A	Suva® 410A R-410A	Suva® 507 R-507	Temp °C
60	101.6	11.2"	57.4	126.0	170.7	129.2	16
62	105.4	10.3"	60.0	130.5	176.6	133.7	17
64	109.3	9.4"	62.7	135.0	182.7	138.4	18
66	113.2	8.5"	65.4	139.7	188.9	143.1	19
68	117.3	7.6"	68.2	144.4	195.3	148.0	20
70	121.4	6.6"	71.1	149.3	201.8	153.0	21
72	125.7	5.6"	74.1	154.3	208.4	158.1	22
74	130.0	4.6"	77.1	159.4	215.2	163.3	23
76	134.5	3.5"	80.2	164.6	222.2	168.6	24
78	139.0	2.4"	83.4	169.9	229.3	174.1	26
80	143.6	1.2"	86.7	175.4	236.5	179.6	27
82	148.4	0.0"	90.0	181.0	244.0	185.3	28
84	153.2	0.6	93.5	186.7	251.6	191.1	29
86	158.2	1.2	97.0	192.5	259.3	197.1	30
88	163.2	1.8	100.6	198.4	267.3	203.1	31
90	168.4	2.5	104.3	204.5	275.4	209.3	32
92	173.7	3.2	108.1	210.7	283.6	215.6	33
94	179.1	3.9	112.0	217.0	292.1	222.1	34
96	184.6	4.6	115.9	223.4	300.7	228.7	36
98	190.2	5.3	120.0	230.0	309.5	235.4	37
100	195.9	6.1	124.2	236.8	318.5	242.3	38
102	201.8	6.9	128.4	243.6	327.7	249.3	39
104	207.7	7.7	132.7	250.6	337.1	256.5	40
106	213.8	8.5	137.2	257.8	346.7	263.8	41
108	220.0	9.4	141.7	265.1	356.5	271.2	42
110	226.4	10.3	146.4	272.5	366.4	278.8	43
112	232.8	11.2	151.1	280.1	376.6	286.6	44
114	239.4	12.1	156.0	287.9	387.0	294.5	46
116	246.1	13.1	160.9	295.8	397.6	302.6	47
118	253.0	14.1	166.0	303.8	408.4	310.8	48
120	260.0	15.1	171.2	312.1	419.4	319.2	49
122	267.1	16.1	176.5	320.4	430.7	327.8	50
124	274.3	17.2	181.8	329.0	442.1	336.5	51
126	281.7	18.3	187.4	337.7	453.8	345.4	52
128	289.2	19.4	193.0	346.6	465.8	354.5	53
130	296.9	20.6	198.7	355.6	477.9	363.8	54
132	304.7	21.7	204.6	364.9	490.3	373.2	56
134	312.6	22.9	210.6	374.3	503.0	382.9	57
136	320.7	24.2	216.7	383.9	515.9	392.7	58
138	329.0	25.5	222.9	393.7	529.1	402.7	59
140	337.4	26.8	229.2	403.7	542.5	413.0	60
142	345.9	28.1	235.7	413.9	556.2	423.4	61
144	354.6	29.5	242.3	424.3	570.2	434.1	62
146	363.5	30.9	249.0	434.9	584.5	445.0	63
148	372.5	32.3	255.9	445.7	599.0	456.1	64
150	381.7	33.8	262.9	456.8	613.88	467.4	66

MAINTENANCE



DuPont™ Suva®

REFRIGERANTS

Pressure-Temperature Guide - ENG

**Superheat –
Saturated Vapor
Pressures**

Typical
PH Diagram
Superheat–
Reference Point



Dew Point — Saturated Vapor (psig)

Temp. °F	Suva® MP39 R-401A	Suva® MP66 R-401B	Suva® HP80 R-402A	Suva® HP81 R-402B	Suva® 407C R-407C	Suva® 408A R-408A	Suva® 409A R-409A	Temp °C
-40	13.8"	12.4"	5.7	3.7"	4.6"	3.1	14.8"	-40
-38	12.9"	11.3"	6.8	4.7"	3.2"	4.0	13.9"	-39
-36	11.9"	10.3"	7.8	5.7"	1.6"	5.0	13.0"	-38
-34	10.9"	9.2"	9.0	6.7"	0.1"	5.9	12.0"	-37
-32	9.8"	8.0"	10.1	7.8"	0.8	7.0	10.9"	-36
-30	8.7"	6.8"	11.4	8.9"	1.6	8.0	9.9"	-34
-28	7.5"	5.5"	12.6	10.1	2.5	9.1	8.8"	-33
-26	6.2"	4.2"	13.9	11.3	3.4	10.3	7.6"	-32
-24	5.0"	2.8"	15.3	12.5	4.4	11.5	6.4"	-31
-22	3.6"	1.4"	16.7	13.8	5.4	12.7	5.1"	-30
-20	2.2"	0.1	18.2	15.1	6.5	14.0	3.8"	-29
-18	0.8"	0.8	19.7	16.5	7.5	15.3	2.4"	-28
-16	0.3	1.6	21.2	18.0	8.7	16.7	0.9"	-27
-14	1.1	2.4	22.9	19.4	9.9	18.1	0.3	-26
-12	1.9	3.3	24.5	21.0	11.1	19.6	1.0	-24
-10	2.8	4.2	26.3	22.6	12.3	21.1	1.8	-23
-8	3.6	5.1	28.0	24.2	13.7	22.7	2.7	-22
-6	4.5	6.1	29.9	25.9	15.0	24.3	3.5	-21
-4	5.4	7.1	31.8	27.7	16.4	26.0	4.4	-20
-2	6.4	8.1	33.8	29.5	17.9	27.7	5.3	-19
0	7.4	9.2	35.8	31.4	19.4	29.5	6.3	-18
2	8.5	10.3	37.9	33.3	21.0	31.3	7.3	-17
4	9.5	11.5	40.0	35.3	22.6	33.2	8.3	-16
6	10.7	12.7	42.3	37.3	24.3	35.2	9.4	-14
8	11.8	13.9	44.6	39.5	26.1	37.2	10.5	-13
10	13.0	15.2	46.9	41.6	27.9	39.3	11.6	-12
12	14.2	16.5	49.4	43.9	29.7	41.4	12.8	-11
14	15.5	17.9	51.9	46.2	31.7	43.6	14.0	-10
16	16.9	19.3	54.4	48.6	33.7	45.9	15.3	-9
18	18.2	20.8	57.1	51.1	35.7	48.2	16.6	-8
20	19.6	22.3	59.8	53.6	37.9	50.6	18.0	-7
22	21.1	23.8	62.6	56.2	40.1	53.1	19.4	-6
24	22.6	25.4	65.5	58.9	42.3	55.7	20.8	-4
26	24.2	27.1	68.5	61.6	44.7	58.3	22.3	-3
28	25.8	28.8	71.5	64.4	47.1	61.0	23.9	-2
30	27.4	30.6	74.7	67.3	49.6	63.7	25.5	-1
32	29.1	32.4	77.9	70.3	52.1	66.6	27.1	0
34	30.9	34.2	81.2	73.4	54.8	69.5	28.8	1
36	32.7	36.2	84.6	76.5	57.5	72.5	30.5	2
38	34.6	38.2	88.1	79.8	60.3	75.6	32.3	3
40	36.5	40.2	91.6	83.1	63.2	78.7	34.2	4
42	38.5	42.3	95.3	86.5	66.1	81.9	36.1	6
44	40.5	44.5	99.0	90.0	69.2	85.3	38.0	7
46	42.6	46.7	102.9	93.5	72.3	88.7	40.1	8
48	44.8	49.0	106.8	97.2	75.5	92.2	42.1	9
50	47.0	51.4	110.9	101.0	78.8	95.7	44.3	10

"Denotes inches of mercury ("Hg)

**Subcooling –
Saturated Liquid
Pressures**

Typical
PH Diagram
Subcooling–
Reference Point



Bubble Point — Saturated Liquid (psig)

Temp. °F	Suva® MP39 R-401A	Suva® MP66 R-401B	Suva® HP80 R-402A	Suva® HP81 R-402B	Suva® 407C R-407C	Suva® 408A R-408A	Suva® 409A R-409A	Temp °C
50.0	57.9	62.4	115.4	106.3	97.9	96.8	60.9	10
52.0	60.4	65.1	119.6	110.3	101.7	100.5	63.4	11
54.0	63.0	67.8	123.9	114.3	105.6	104.3	66.1	12
56.0	65.7	70.6	128.3	118.4	109.6	108.1	68.8	13
58.0	68.4	73.5	132.8	122.6	113.7	112.1	71.6	14
60.0	71.2	76.5	137.4	127.0	117.9	116.1	74.5	16
62.0	74.1	79.5	142.1	131.4	122.3	120.3	77.4	17
64.0	77.0	82.6	147.0	135.9	126.7	124.5	80.4	18
66.0	80.0	85.7	151.9	140.6	131.2	128.8	83.4	19
68.0	83.1	89.0	157.0	145.3	135.8	133.3	86.6	20
70.0	86.3	92.3	162.1	150.1	140.5	137.8	89.8	21
72.0	89.5	95.7	167.4	155.1	145.4	142.5	93.1	22
74.0	92.8	99.2	172.8	160.1	150.3	147.2	96.5	23
76.0	96.2	102.8	178.3	165.3	155.4	152.1	99.9	24
78.0	99.7	106.4	183.9	170.6	160.5	157.0	103.4	26
80.0	103.2	110.2	189.7	176.0	165.8	162.1	107.0	27
82.0	106.8	114.0	195.5	181.5	171.2	167.3	110.7	28
84.0	110.6	117.9	201.5	187.1	176.8	172.6	114.4	29
86.0	114.4	121.9	207.7	192.9	182.4	178.0	118.3	30
88.0	118.2	125.9	213.9	198.7	188.2	183.5	122.2	31
90.0	122.2	130.1	220.3	204.7	194.1	189.2	126.2	32
92.0	126.2	134.3	226.8	210.8	200.1	194.9	130.3	33
94.0	130.4	138.7	233.5	217.1	206.3	200.8	134.5	34
96.0	134.6	143.1	240.2	223.4	212.5	206.8	138.8	36
98.0	138.9	147.7	247.1	229.9	219.0	212.9	143.1	37
100.0	143.3	152.3	254.2	236.5	225.5	219.2	147.6	38
102.0	147.8	157.0	261.4	243.3	232.2	225.5	152.1	39
104.0	152.4	161.8	268.7	250.2	239.0	232.0	156.7	40
106.0	157.1	166.7	276.2	257.2	245.9	238.7	161.4	41
108.0	161.9	171.8	283.9	264.4	253.0	245.4	166.3	42
110.0	166.8	176.9	291.6	271.7	260.3	252.3	171.2	43
112.0	171.8	182.1	299.6	279.1	267.6	259.4	176.2	44
114.0	176.8	187.4	307.7	286.7	275.1	266.6	181.3	46
116.0	182.0	192.9	315.9	294.4	282.8	273.9	186.5	47
118.0	187.3	198.4	324.3	302.3	290.6	281.3	191.8	48
120.0	192.7	204.0	332.9	310.3	298.6	288.9	197.2	49
122.0	198.2	209.8	341.6	318.5	306.7	296.7	202.7	50
124.0	203.8	215.7	350.5	326.8	315.0	304.6	208.3	51
126.0	209.5	221.6	359.5	335.3	323.4	312.6	214.0	52
128.0	215.3	227.7	368.7	343.9	332.0	320.8	219.8	53
130.0	221.2	233.9	378.1	352.7	340.7	329.2	225.7	54
132.0	227.2	240.3	387.7	361.7	349.7	337.7	231.8	56
134.0	233.4	246.7	397.5	370.8	358.7	346.3	237.9	57
136.0	239.7	253.3	407.4	380.1	368.0	355.2	244.2	58
138.0	246.0	259.9	417.5	389.6	377.4	364.1	250.5	59
140.0	252.5	266.7	427.8	399.2	387.0	373.3	257.0	60
142.0	259.1	273.6	438.3	409.0	396.7	382.6	263.6	61
144.0	265.9	280.7	449.0	419.0	406.6	392.1	270.3	62
146.0	272.7	287.9	459.9	429.1	416.7	401.8	277.1	63
148.0	279.7	295.2	471.0	439.5	427.0	411.7	284.0	64
150.0	286.8	302.6	482.4	450.0	437.5	421.7	291.1	66