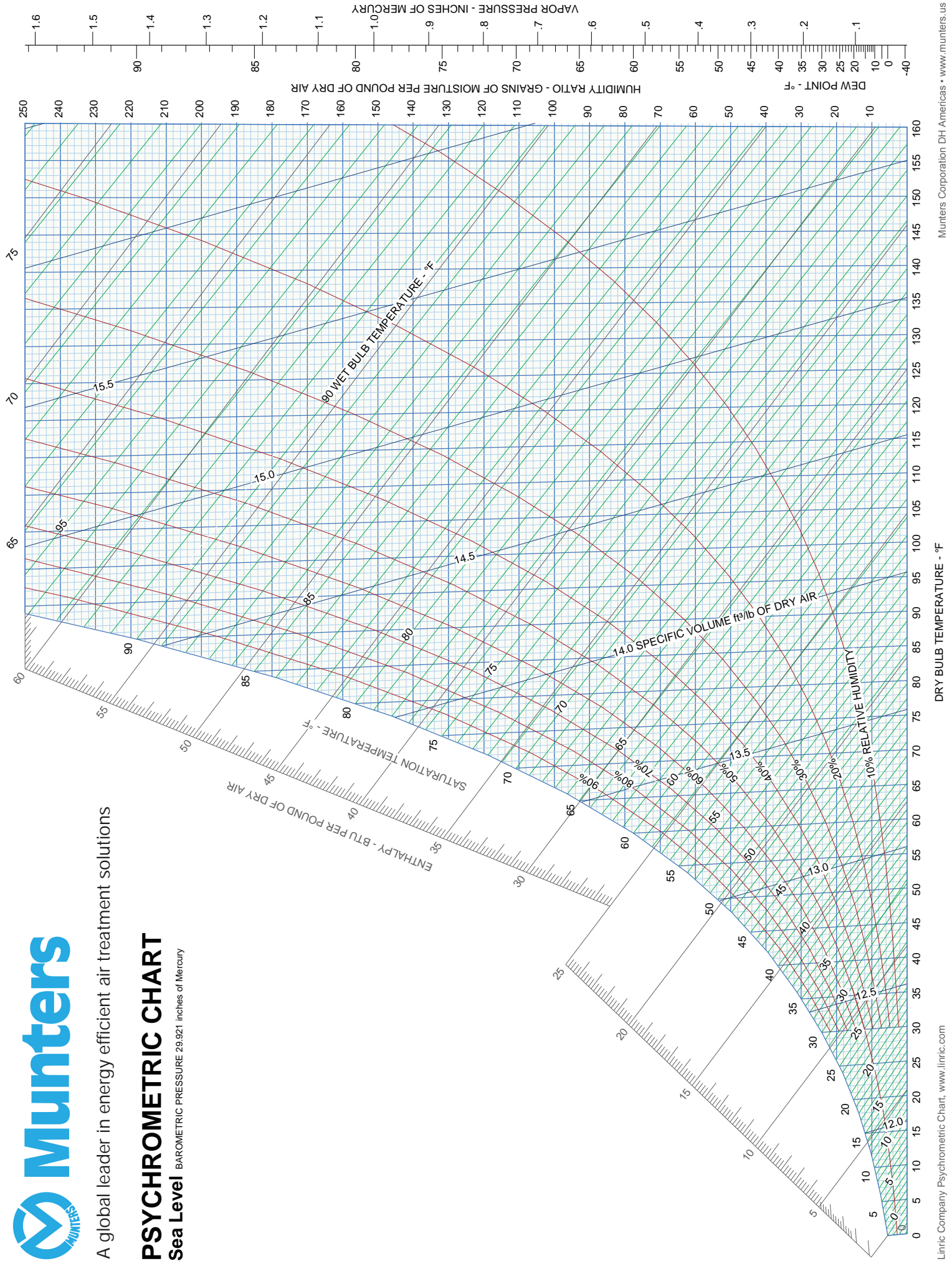




A global leader in energy efficient air treatment solutions

# PSYCHROMETRIC CHART

Sea Level BAROMETRIC PRESSURE 29.921 inches of Mercury



**DEW POINT SCALE**  
DEGREES °F °C TO GRAINS PER POUND

DEWPOINT		DEWPOINT		DEWPOINT		DEWPOINT		DEWPOINT						
DEGREES °F	DEGREES °C	GRAINS/ POUND	DEGREES °F	DEGREES °C	GRAINS/ POUND	DEGREES °F	DEGREES °C	GRAINS/ POUND	DEGREES °F					
120	48.89	570.4	72	22.22	118.8	24	-4.44	18.24	-24	-31.11	1.461	-72	-57.78	.06383
119	48.33	562.8	71	21.67	114.7	23	-5.00	17.40	-25	-31.67	1.375	-73	-58.33	.05934
118	47.78	555.6	70	21.11	110.7	22	-5.56	16.58	-26	-32.22	1.289	-74	-58.89	.05486
117	47.22	549.0	69	20.56	107.0	21	-6.11	15.81	-27	-32.78	1.222	-75	-59.44	.05037
116	46.67	503.0	68	20.00	103.2	20	-6.67	15.06	-28	-33.33	1.154	-76	-60.00	.04721
115	46.11	487.3	67	19.44	99.88	19	-7.22	14.36	-29	-33.89	1.090	-77	-60.56	.04404
114	45.55	472.2	66	18.89	96.18	18	-7.78	13.67	-30	-34.44	1.025	-78	-61.11	.04086
113	45.00	457.5	65	18.33	92.82	17	-8.33	13.03	-31	-35.00	.9668	-79	-61.67	.03769
112	44.44	443.3	64	17.78	89.60	16	-8.89	12.40	-32	-35.56	.9086	-80	-62.22	.03451
111	43.89	429.4	63	17.22	86.45	15	-9.44	11.81	-33	-36.11	.8564	-81	-62.77	.03228
110	43.33	416.1	62	16.67	83.37	14	-10.00	11.24	-34	-36.67	.8043	-82	-63.33	.03006
109	42.78	403.1	61	16.11	80.43	13	-10.56	10.70	-35	-37.22	.7578	-83	-63.89	.02784
108	42.22	390.5	60	15.56	77.56	12	-11.11	10.18	-36	-37.78	.7112	-84	-64.44	.02562
107	41.66	378.3	59	15.00	74.83	11	-11.67	9.681	-37	-38.33	.6699	-85	-65.00	.02340
106	41.11	366.4	58	14.44	72.10	10	-12.22	9.205	-38	-38.89	.6286	-86	-65.56	.02186
105	40.56	354.9	57	13.89	69.54	9	-12.78	8.751	-39	-39.44	.5917	-87	-66.11	.02033
104	40.00	343.8	56	13.33	67.02	8	-13.33	8.323	-40	-40.00	.5548	-88	-66.67	.01877
103	39.44	332.9	55	12.78	64.60	7	-13.89	7.91	-41	-40.56	.5219	-89	-67.22	.01723
102	38.89	322.4	54	12.22	62.26	6	-14.44	7.518	-42	-41.11	.4890	-90	-67.78	.01569
101	38.33	312.2	53	11.67	59.98	5	-15.00	7.140	-43	-41.67	.4597	-91	-68.33	.01463
100	37.78	302.3	52	11.11	57.79	4	-15.56	6.784	-44	-42.22	.4304	-92	-68.89	.01358
99	37.22	292.7	51	10.56	55.66	3	-16.11	6.443	-45	-42.78	.4043	-93	-69.44	.01253
98	36.67	283.4	50	10.00	53.61	2	-16.67	6.117	-46	-43.33	.3784	-94	-70.00	.01147
97	36.11	274.4	49	9.44	51.62	1	-17.22	5.806	-47	-44.89	.3554	-95	-70.56	.01042
96	35.55	265.6	48	8.89	49.70	0	-17.78	5.510	-48	-44.44	.3323	-96	-71.11	.009704
95	35.00	257.1	47	8.33	47.84	-1	-18.33	5.228	-49	-45.00	.3118	-97	-71.67	.008988
94	34.44	248.9	46	7.78	46.05	-2	-18.89	4.960	-50	-45.56	.2914	-98	-72.22	.008272
93	33.89	240.9	45	7.22	44.32	-3	-19.44	4.704	-51	-46.11	.2749	-99	-72.78	.007556
92	33.33	233.1	44	6.67	42.64	-4	-20.00	4.460	-52	-46.67	.2583	-100	-73.33	.006840
91	32.78	225.6	43	6.11	41.02	-5	-20.56	4.228	-53	-47.22	.2418	-101	-73.89	.006360
90	32.22	218.3	42	5.55	39.47	-6	-21.11	4.007	-54	-47.78	.2253	-102	-74.44	.005879
89	31.67	211.2	41	5.00	37.95	-7	-21.67	3.796	-55	-48.33	.2088	-103	-75.00	.005399
88	31.11	204.3	40	4.44	36.49	-8	-22.22	3.596	-56	-48.89	.1967	-104	-75.56	.004918
87	30.55	197.7	39	3.89	35.08	-9	-22.78	3.406	-57	-49.44	.1846	-105	-76.11	.004438
86	30.00	191.2	38	3.33	33.73	-10	-23.33	3.224	-58	-50.00	.1725	-106	-76.67	.004119
85	29.44	184.9	37	2.78	32.42	-11	-23.89	3.051	-59	-50.56	.1604	-107	-77.22	.003800
84	28.89	178.8	36	2.22	31.15	-12	-24.44	2.888	-60	-51.11	.1483	-108	-77.78	.003482
83	28.33	173.0	35	1.67	29.93	-13	-25.00	2.732	-61	-51.67	.1395	-109	-78.33	.003163
82	27.78	167.2	34	1.11	28.75	-14	-25.55	2.584	-62	-52.22	.1307	-110	-78.89	.002844
81	27.22	161.7	33	0.56	27.61	-15	-26.17	2.444	-63	-52.78	.1220	-111	-79.44	.002635
80	26.67	156.3	32	0.00	26.52	-16	-26.67	2.311	-64	-53.33	.1132	-112	-80.00	.002426
79	26.11	151.1	31	-0.56	25.32	-17	-27.22	2.184	-65	-53.89	.1044	-113	-80.56	.002218
78	25.55	146.0	30	-1.11	24.19	-18	-27.78	2.064	-66	-54.44	.09808	-114	-81.11	.002009
77	25.00	141.1	29	-1.67	23.08	-19	-28.33	1.950	-67	-55.00	.09176	-115	-81.67	.001800
76	24.44	136.4	28	-2.22	22.03	-20	-28.89	1.841	-68	-55.56	.08544	-116	-82.22	.001665
75	23.89	131.7	27	-2.78	21.02	-21	-29.44	1.741	-69	-56.11	.07912	-117	-82.78	.001530
74	23.33	127.3	26	-3.33	20.06	-22	-30.00	1.641	-70	-56.67	.07280	-118	-83.33	.001394
73	22.78	123.0	25	-3.89	19.13	-23	-30.56	1.551	-71	-57.22	.06831	-119	-83.89	.001259

**FORMULAS AND CONVERSION FACTORS**

**MOISTURE REMOVAL OR LATENT WORK**

1050 BTU/H = 1 LB/HR

**WATER VAPOR**

7000 GRAINS = 1 LB OF WATER

**WORK TO WATT**

3.414 BTU/H = 1 WATT

**GAS**

1 THERM = 100,000 BTU/H

**TONS**

12,000 BTU'S = 1 TON

**SENSIBLE COOLING**

1.08 X (SCFM) (TEMP 1 - TEMP 2) = BTU/H

**LATENT COOLING**

[4.5 X (SCFM) X (GRAINS/LB 1 - GRAINS/LB 2)] / 7000 = LB/HR

[4.5 X (SCFM) X (GRAINS/LB 1 - GRAINS/LB 2) X 1050] / 7000 = BTU/H

**TOTAL COOLING**

4.5 X (SCFM) X (ENTHALPY 1 - ENTHALPY 2) = BTU/H

**COEFFICIENT OF PERFORMANCE (COP)**

WORK DONE (BTU/H) / ENERGY REQUIRED (BTU/H)

**BLENDING AIR STREAMS**

[(CFM 1 X TEMP 1) + (CFM 2 X TEMP 2)] / (CFM 1 + CFM 2)

