



Specification Sheet

Effects of Atmospheric Pressure on Vacuum Level

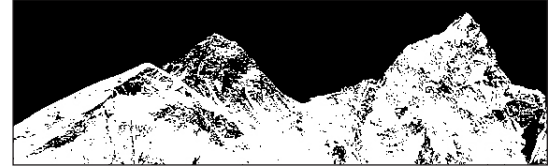
130 00 129

Effective Date: January 2002

Revision B

Basic Formula: Current atmospheric Pressure \times $\frac{\text{Max rated level of a vacuum pump}}{29.92" \text{ Hg (absolute vacuum)}}$

It is important to consider the relationship between atmospheric pressure and altitude as it affects vacuum pump performance. Because free air is less dense at higher altitudes (i.e. lower atmospheric pressures) operation at these higher altitudes has the effect of reducing the capacity and maximum vacuum levels attainable. Refer to the following table to correct for performance at various altitudes.



Vacuum Gauge Reading When Read at Altitude

Altitude Above Sea Level (Feet)	Altitude Above Sea Level (Meters)	Atmospheric Pressure (psi)	Maximum Vacuum Level Attainable (inches Hg)	Vacuum Level Loss at Altitude	Maximum Vacuum Level Possible at this Altitude
0'	0 M	14.70 psi	29.92" Hg	-	-
1000'	305 M	14.16 psi	28.9" Hg	3.4%	96.6%
2000'	610 M	13.66 psi	27.8" Hg	7.1%	92.9%
3000'	914 M	13.16 psi	26.8" Hg	10.4%	89.6%
4000'	1219 M	12.68 psi	25.8" Hg	13.8%	86.2%
5000'	1524 M	12.22 psi	24.9" Hg	16.8%	83.2%
6000'	1829 M	11.77 psi	24.0" Hg	19.8%	80.2%
7000'	2134 M	11.33 psi	23.1" Hg	22.8%	77.2%
8000'	2438 M	10.91 psi	22.2" Hg	25.9%	74.1%
9000'	2743 M	10.50 psi	21.4" Hg	28.6%	71.4%
10,000'	3048 M	10.10 psi	20.6" Hg	31.3%	68.7%
11,000'	3353 M	9.71 psi	19.8" Hg	33.9%	66.1%
12,000'	3658 M	9.34 psi	19.0" Hg	36.5%	63.5%
13,000'	3962 M	8.97 psi	18.3" Hg	39.0%	61.0%
14,000'	4267 M	8.62 psi	17.5" Hg	41.4%	58.6%
15,000'	4572 M	8.28 psi	16.9" Hg	43.6%	56.4%

Pressure Below Atmospheric

Pg-psig	Pa-psia	in. Hg	-mbar	Torr	-mm Hg	% Vacuum
0.00	14.70	0	0.00	760.00	0.00	0.00
0.49	14.24	1	33.86	734.60	25.40	3.30
0.98	13.75	2	67.72	709.20	50.80	6.60
1.47	13.26	3	101.58	683.80	76.20	9.90
1.96	12.76	4	135.44	658.40	101.60	13.20
2.45	12.27	5	169.30	633.00	127.00	16.50
2.95	11.78	6	203.16	607.60	152.40	19.80
3.44	11.29	7	237.02	582.20	177.80	23.10
3.93	10.80	8	270.88	556.80	203.20	26.40
4.42	10.31	9	304.74	531.40	228.60	29.70
4.91	9.82	10	338.60	506.00	254.00	33.00
5.40	9.33	11	372.46	480.60	279.40	36.30
5.89	8.84	12	406.32	455.20	304.80	39.60
6.38	8.35	13	440.18	429.80	330.20	42.90
6.87	7.86	14	474.04	404.40	355.60	46.20
7.36	7.36	15	507.90	379.00	381.00	49.50
7.86	6.87	16	541.76	353.60	406.40	52.80
8.35	6.38	17	575.62	328.20	431.80	56.10
8.84	5.89	18	609.48	302.80	457.20	59.40
9.33	5.40	19	643.34	277.40	482.60	62.70
9.82	4.91	20	677.20	252.00	508.00	66.00
10.31	4.42	21	711.06	226.60	533.40	69.30
10.80	3.93	22	744.92	201.20	558.80	72.60
11.29	3.44	23	778.78	175.80	584.20	75.90
11.78	2.95	24	812.64	150.40	609.60	79.20
12.27	2.45	25	846.50	125.00	635.00	82.50
12.76	1.96	26	880.36	99.60	660.40	85.80
13.26	1.47	27	914.22	74.20	685.80	89.10
13.75	0.98	28	948.08	48.80	711.20	92.40
14.24	0.49	29	981.94	23.40	736.60	95.70
14.70	0.00	29.92	1013.00	0.00	760.00	100.00

Absolute Vacuum

13000129b(I/Instr)