

Conversion Charts

% Vacuum	inHg (rel)	ft H2O (rel)	Torr (abs) mmHg (abs)	mbar (abs)	psia (abs)
0%	0	0	760	1013.3	14.7
10%	2.99	3.39	684	911.7	13.23
20%	5.98	6.78	608	810.4	11.76
30%	8.98	10.17	532	709.1	10.29
40%	11.97	13.56	456	607.8	8.82
50%	14.96	16.95	380	506.5	7.35
60%	17.95	20.34	304	405.2	5.88
70%	20.94	23.73	228	303.9	4.41
80%	23.94	27.12	152	202.6	2.94
90%	26.93	30.51	76	101.3	1.47
91%	27.23	30.85	68.4	91.2	1.32
92%	27.53	31.19	60.8	81	1.18
93%	27.83	31.53	53.2	70.9	1.03
94%	28.13	31.87	45.6	60.8	0.88
95%	28.42	32.21	38	50.6	0.73
96%	28.72	32.54	30.4	40.5	0.59
97%	29.02	32.88	22.8	30.4	0.44
98%	29.32	33.22	15.2	20.3	0.29
99%	29.62	33.56	7.6	10.1	0.15
99.10%	29.65	33.59	6.8	9.1	0.13
99.20%	29.68	33.63	6.1	8.1	0.12
99.30%	29.71	33.66	5.3	7.1	0.1
99.40%	29.74	33.7	4.6	6.1	0.09
99.50%	29.77	33.73	3.8	5.1	0.07
99.60%	29.8	33.76	3	4.1	0.06
99.70%	29.83	33.8	2.3	3	0.04
99.80%	29.86	33.83	1.5	2	0.03
99.90%	29.89	33.87	0.8	1	0.01
<100%	29.92	33.9	0	0	0

LENGTH	to mm	to cm	to m	to ft	to in
from mm	1	0.1	0.001	0.0033	0.0394
from cm	10	1	0.01	0.0328	0.0394
from m	1000	100	1	3.281	39.37
from ft	304.8	30.48	0.304	1	12
from in	25.4	2.54	0.0254	0.0833	1

Temperature: $F=9/5C+32$ $C=5/9(F-32)$

VOLUME	to cc	to L	to cu in	to cu ft	to US gal
from cc	1	0.001	0.061	0.0000353	0.00026
from L	1000	1	61	0.0353	0.264
from cu in	16.39	0.0164	1	0.00058	0.0043
from cu ft	28317	28.32	1730	1	7.47
from US gal	3785.4	3.785		0.1337	1

PRESSURE	to bar	to lb/sq in	to atm	to mm Hg Torr	to m Hg	to in Hg	to ft water	to m water	to in water
from bar	1	14.5	0.986	750	0.75	29.53	33.46	10.2	401.5
from lb/sq in	0.068	1	0.068	51.7	0.051	2.036	2.307	0.703	27.68
from atm	1.01	14.7	1	760	0.76	29.921	33.9	10.3	406.8
mm Hg/Torr	0.0013	0.019	0.001	1	0.001	0.039	0.045	0.0135	0.535
from m Hg	1.33	19.34	1.32	1000	1	39.37	44.6	13.6	535.25
from in Hg	0.034	0.491	0.033	25.4	0.0254	1	1.133	0.345	13.59
from ft water	0.029	0.433	0.0259	22.42	0.022	0.882	1	0.305	12
from m water	0.098	1.422	0.096	73.55	0.0735	2.89	3.28	1	39.37
from in water	0.00249	0.0361	0.00245	1.868	0.00186	0.073	0.083	0.0225	1

Conversion Tables for Vacuum

PRESSURE UNITS

	mbar	bar	torr	Pa(Nm ⁻²)	atm	lbf in ⁻²	kgf cm ⁻²	in Hg	mmHg	in H ₂ O	mm H ₂ O
1 mbar =	1	1x10 ⁻³	0.75	102	9.869 x 10 ⁻⁴	1.45 x 10 ⁻²	1.02 x 10 ⁻³	2.953 x 10 ⁻²	0.75	0.402	10.197
1 bar =	103	1	7.5 x 10 ²	1 x 10 ⁵	0.987	14.5	1.02	29.53	7.5 x 10 ²	4.015 x 10 ²	1.02 x 10 ⁴
1 torr =	1.333	1.333 x 10 ⁻³	1	1.333 x 10 ²	1.316 x 10 ⁻¹	1.934 x 10 ⁻²	1.36 x ⁻³	3.937 x ⁻²	1	0.535	13.59
1 Pa (Nm ⁻²)=	0.01	1 x 10 ⁻⁵	7.5 x 10 ⁻³	1	9.87 x 10 ⁻⁶	1.45 x 10 ⁻⁴	1.02 x 10 ⁻⁵	2.953 x 10 ⁻⁴	7.5 x 10 ⁻³	4.015 x 10 ⁻³	0.102
1 atm =	1.013 x 10 ³	1.013	7.6 x 10 ²	1.013 x 10 ⁵	1	14.7	1.033	29.92	7.6 x 10 ²	4.068 x 10 ²	1.033x10 ⁴
1 lbin ⁻² =	68.95	6.895 x 10 ⁻²	51.71	6.895 x 10 ³	6.805 x 10 ⁻²	1	7.03 x 10 ⁻²	2.036	51.71	27.68	7.03 x 10 ²
1 kgf cm ⁻² =	9.807 x 10 ²	0.981	7.356 x 10 ²	9.807 x 10 ⁴	0.968	14.22	1	28.96	7.356 x 10 ²	3.937 x 10 ²	104
1 in Hg =	33.86	3.386 x 10 ⁻²	25.4	3.386 x 10 ³	3.342 x 10 ⁻²	0.491	3.453 x 10 ⁻²	1	25.4	13.6	3.45 x 10 ²
1 mm Hg =	1.333	1.333 x 10 ⁻³	1	1.333 x 10 ²	1.316 x 10 ⁻³	1.934 x 10 ⁻²	1.36 x 10 ⁻³	3.937 x 10 ⁻²	1	0.535	13.59
1 in H ₂ O =	2.491	2.491 x 10 ⁻³	1.868	2.491 x 10 ²	2.458 x 10 ⁻³	3.613 x 10 ⁻²	2.54 x 10 ⁻³	7.356 x 10 ⁻²	1.868	1	25.4
1 mm H ₂ O=	9.807 x 10 ⁻²	9.807 x 10 ⁻⁵	7.354 x 10 ⁻²	9.807	9.677 x 10 ⁻⁵	1.42 x 10 ⁻³	10-Apr	2.896 x 10 ⁻³	7.354 x 10 ⁻²	3.394 x 10 ⁻²	1

Note also: 1 dyn cm⁻² (barye) = 0.1 Pa (Nm⁻²) = 10⁻³ mbar.

PUMPING SPEED UNITS

	l s ⁻¹ =	l min ⁻¹	ft ³ min ⁻¹	m ³ h ⁻¹
1 l s ⁻¹ =	1	60	2.12	3.6
1 l min ⁻¹ =	0.0167	1	0.0353	0.06
1 ft ³ min ⁻¹ =	0.472	28.32	1	1.7
1 m ³ h ⁻¹ =	0.278	16.67	0.589	1

