

Pressure & Temperature Conversion

Using the Table

1. Find the units you wish to convert FROM in the left hand column. 2. Find the units you wish to convert TO in the top row.
3. Insert the multiplier shown at the intersection into the following formula: FROM units x MULTIPLIER = TO units
Example: 100 psi x 6.894757 = 689.475 kPa

TO FROM	psi	in H ₂ O	mm H ₂ O	cm H ₂ O	oz/in ²	mbar	bar	mm Hg	cm Hg	in Hg	kg/cm ²	kPa	MPa	ft H ₂ O	m H ₂ O	atm
psi	1	27.68068	703.8	70.308927	16	68.95	0.06894757	51.71486	5.71486	2.03602	0.070306958	6.894757	0.0069	2.306723	0.70308927	0.0689460
in H ₂ O	0.03612628	1	25.4	0.578020	2.488	0.00249	0.00249	0.0735539	0.187	0.0735539	0.00254219	0.2490819	0.00025	0.08333	0.0254	0.00245825
mm H ₂ O	0.001421	0.0394	1	0.0227	0.098	0.00098	0.00098	0.0735	0.00735	0.00289	0.0001	0.0098	0.00001	0.00328084	0.001	0.000097
cm H ₂ O	0.0142229	0.3937	10	0.227566	0.98	0.000980634	0.000980634	0.7355372	0.0735	0.0289581	0.00099997	0.980634	0.0001	0.032808	0.01	0.000967814
oz/in ²	0.0625	1.73004	43.986	4.394308	1	4.31	0.004309223	3.23218	0.323	0.12725125	0.04394308	0.4309223	0.00043	0.14417	0.04394308	0.004252875
mbar	0.0145	0.4012	10.21	1.021	0.2321	1	0.001	0.75	0.075	0.0295	0.00102	0.1	0.0001	0.03345622	0.00101972	0.000987
bar	14.5038	401.8596	10,210	1019.7466	232.0608	1000	1	750.0626	75	29.53	1.019716	100	0.1	33.4833	10.197466	0.986923
mm Hg	0.0193368	0.535255	13.61	1.359554	0.3093888	1.333	0.001333225	1	0.1	0.039370079	0.00135951	0.1333225	0.000133	0.0446046	0.01359554	0.0013157895
cm Hg	0.1934	5.358	136.1	13.61	3.10	13.33	0.01333	10	1	0.394	0.0136	1.333	0.00133	0.44604625	0.13595509	0.01316
in Hg	0.4911542	13.595484	345.7	34.53253	7.85847	33.86	0.03386389	25.4	2.54	1	0.0345316	3.386389	0.00339	1.132957	0.3453253	0.0334211
kg/cm ²	14.223343	393.711806	100,010	1000.028	227.57349	980.7	0.98066494	735.5588	73.56	28.95901	1	98.066494	0.0981	32.809312	10.00028	0.967841598
kPa	0.1450377	4.014742	102.07	10.19745	2.320603	10	0.01	7.500610	0.75	0.2952997	0.01019716	1	0.001	0.3345618	0.1019745	0.009869235
MPa	145.04	4019	102,074	10,207	2321	10,000	10	7500	750	295.3	10.2	1000	1	334.56218	101.9748043	9.869
ft H ₂ O	0.433515	12	304.80	30.48	6.93624	29.88981	0.02988981	22.4192	2.24192	0.882646	0.03047912	2.988981	0.002988981	1	0.3048	0.02949896
m H ₂ O	1.42229	39.370079	1000	100	22.7566	980.66494	0.98066494	73.55372	7.35537	2.89581	0.099997	9.8063439	0.0098063439	3.2808399	1	0.0967814
atm	14.696	406.794	10,343	1033.2633	235.136	1013	1.0132535	760	76	299.213	1.033231	101.32535	0.1013	33.8995	10.332633	1

All units of H₂O at 39.2°F(4°C), all units of Hg at 32°F(0°C)

Hydraulic Ram Conversion

Use the formulas below to convert tons on a given diameter ram to psi.

$$(\text{Tons on ram} \times 2000) / (0.7854 \times \text{dia.}^2) = \text{psi}$$

$$(\text{Dia.}^2 \times 0.7854 \times \text{psi}) / 2000 = \text{Tons on ram}$$

Temperature Conversion

°F = Degrees Fahrenheit

°C = Degrees Celsius

°R = Degrees Reaumur

$$°F = (°C \times 1.8) + 32$$

$$°C = (°F - 32) \times 0.5555$$

$$°R = (°F - 32) \times 0.4444$$

$$°F = (°R \times 2.25) + 32$$

$$°C = (°R \times 1.25)$$

$$°R = (°C \times 0.80)$$

At sea level:

Water boils at 212°F, 100°C and 80°R

Water freezes at 32°F, 0°C and 0°R