



Conversion of SI Units



Quantity	Conventional		SI Unit	Conversion Factors
	Inch Unit	Metric Unit		
Length	Inch inch	Meter m	Metre m	1 inch = 25.4 mm 1 mm = 0.03937 inch 1 m = 3.2808 ft 1 ft = 0.3048 m
Area	Square Inch inch ²	Square Centimeter cm ²	Square Metre m ²	1 inch ² = 6.4516 cm ² 1 cm ² = 0.155 inch ² 1 m ² = 10.764 ft ² 1 ft ² = 0.092903 m ²
Mass	Pound Mass lb	Kilogram Mass kg	Kilogram Mass kg	1 lb = 0.45359237 kg 1 kg = 2.2046 lb
Force	Pound Force lbf	Kilogram Force kgf	Newton N	1 lbf = 0.45359237 kgf 1 lbf = 4.44822 N 1 kgf = 2.2046 lbf 1 kgf = 9.80665 N 1 N = 0.1019716 kgf 1 N = 0.224809 lbf
Stress Pressure	Pounds Per Square Inch lbf/inch ²	Kilogram Per Square Centimeter kgf/cm ²	Pascal N/m ² (Pa)	1 MPa (megapascal) = 10 ⁶ N/m ² = N/mm ² 1 kPa (kilopascal) = 10 ³ N/m ² 1 lbf/inch ² = 0.070307 kgf/cm ² 1 lbf/inch ² = 7.0307 • 10 ⁻⁴ kgf/mm ² 1 lbf/inch ² = 6.8947 • 10 ⁻³ N/mm ² (MPa) 1 kgf/cm ² = 14.2233 lbf/inch ² 1 kgf/cm ² = 9.80665 • 10 ⁻³ N/mm ² (MPa)
Torque Work	Inch • Pounds lbf • inch	Kilogram-Meters kgf • m	Newton-Metres N • m	1 lbf • inch = 1.1521 kgf • cm 1 kgf • cm = 0.8679 lbf • inch 1 lbf • inch = 0.1129848 N • m 1 kgf • m = 9.80665 N • m 1 kgf • cm = 9.80665 • 10 ⁻² N • M 1 N • m = 8.85 lbf • inch 1 N • m = 10.19716 kgf • cm
Power	lbf • ft/min	kgf • m/s	N • m/s	1 kW = 1000 N • m/s 1 kW = 60,000 N • m/min 1 kW = 44,220 lbf • ft/min 1 kW = 1.34 hp 1 hp = 75 kgf • m/s 1 hp = 44,741 N • m/min 1 hp = 33,000 lbf • ft/min 1 hp = 0.7457 kW
Velocity	Feet Per Second ft/sec	Meters Per Second m/sec	Metres Per Second m/s	1 ft/sec = 0.3048 m/sec 1 inch/sec = 2.54 cm/sec 1 ft/min = 0.00508 m/sec 1 mile/hr = 0.44704 m/sec 1 km/hr = 0.27777 m/sec 1 mile/hr = 1.609344 km/hr
Acceleration	Feet Per Second Squared	Meter Per Second Squared	Metre Per Second Squared	1 ft/sec ² = 0.3048 m/sec ²

	square ft/sec ²	square m/sec ²	square m/sec ²	
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