

Appendix A-1a Conversion Factors for British Gravitational, English, and SI Units

Quantity	British Gravitational and English Units ^a	SI Unit ^a	Conversion Factor Equalities
Length	inch (in. or ")	meter (m)	*1 in. = 0.0254 m = 25.4 mm
	foot (ft or')	meter (m)	*1 ft = 0.3048 m = 304.8 mm
	mile (mi U.S. statute)	kilometer (km)	1 mile = 1.609 km = 1609 m
Volume	gallon (gal U.S.)	meter ³ (m ³)	1 gal = 0.003785 m ³ = 3.785 liters
Force (weight)	pound (lb)	newton ^d (N)	1 lb = 4.448 N
Torque	pound-foot (lb·ft)	newton-meter (N·m)	1 lb·ft = 1.356 N·m
Work, Energy	foot-pound (ft·lb)	joule ^c (J)	1 ft·lb = 1.356 J
Power	foot-pound/second (ft·lb/s)	watt ^e (W)	1 ft·lb/s = 1.356 W
	horsepower ^b (hp)	kilowatt (kW)	1 hp = 0.746 kW
	pounds/in. ² (psi)	pascal ^c (Pa)	1 psi = 6895 Pa
Stress, Pressure	thousand pounds/in. ² (ksi)	megapascal (MPa)	1 ksi = 6.895 MPa
	Mass (British)	slug ^f	1 slug = 14.59 kg
Mass (English)	lbm ^h	kilogram (kg)	1 lbm = 0.454 kg = 454 grams

^aThe larger unit is underlined.

^b1 hp = 550 ft·lb/s; ^c1 J = 1 N·m; ^d1 N = 1 kg·m/s²; ^e1 Pa = 1 N/m²; ^f1 slug = 1 lb·s²/ft; ^g1 W = 1 J/s; ^h1 slug = 32.2 lbm.

*An exact definition.