

Grandezas Físicas e suas Unidades

Grandeza Física	Unidades mais usadas para esta grandeza			
comprimento	metro (m) quilômetro (km)	centímetro (cm) pé (ft)	polegada (in)	milha (mi)
massa	quilograma (kg) onça (oz)	grama (g)	tonelada (ton)	libra (lb)
tempo	segundo (s)	minuto (min)	hora (h)	dia
velocidade	metros por segundo (m/s)	quilômetros por hora (km/h)	milhas por hora (mph)	nó
aceleração	metros por segundo ao quadrado (m/s ²)			
força	Newton (N)	quilograma-força (kgf)	dina	
densidade	quilograma por metro cúbico (kg/m ³)	quilograma por litro (kg/l)	grama por centímetro cúbico (g/cm ³)	
pressão	atmosfera (atm)	Pascal (Pa)	milímetros de mercúrio (mmHg)	libras por polegada quadrada (lb/in ²)
frequência	hertz (Hz)			
volume	metro cúbico (m ³)	litro (l)	mililitro (ml)	centímetro cúbico (cm ³)
área	metro quadrado (m ²)	centímetro quadrado (cm ²)	hectare	acre
energia, trabalho e calor	Joule (J) elétron-volt (eV)	caloria (cal) unidade térmica britânica (BTU)	quilocaloria (kcal)	quilowatt-hora (kWh)
temperatura	Kelvin (K)	Celsius (C)	Fahrenheit (F)	
potência	Watt (W)	horse power (hp)	caloria por segundo (cal/s)	
corrente elétrica	Ampère (A)	miliampère (mA)	microampère (µA)	
campo magnético	weber	maxwell		
fluxo magnético	tesla	gauss		
intensidade luminosa	candela (cd)			

Factores de Conversão de Unidades

1km = 1000m	1dia = 24h	1N.m = 1J
1m = 100cm	1h = 60min	1cal » 4,2J
1cm = 10mm	1min = 60s	1kWh = 3,6x10 ⁶ J
pol (in) = 2,54cm	1h = 3600s	
pé (ft) = 30,48cm		1m ³ = 10 ³ l
milha (mi) = 1609m	1ton = 10 ³ kg	1ml = 1cm ³
jarda (Yd) » 0,91m	1kg = 10 ³ g	1000ml = 1l
	onça (oz) = 28,7g	galão (gal) = 4,55 l
1kg/m ³ = 10 ³ g/m ³	libra (lb) = 454g	
1kg/l = 10 ³ kg/m ³		1A = 1C/s
1 g/cm ³ = 10 ³ kg/m ³	1m/s = 3,6km/h	1V = 1J/C
	1mph » 1,6 km/h	
1J/s = 1W		1Pa = 1N/m ²
1cv » 735W	1Kgf = 9,8N	1atm = 760mmHg
1HP » 746W		1atm » 10 ⁵ N/m ²
		1N/m ² » 10 ⁻⁵ kgf/cm ²

Factores de Conversão de Unidades

Summary table of conversion factors most often required

x means 'multiply by' . . . / means 'divide by' . . . # means it is an exact value

All other values given to an appropriate degree of accuracy.

To change . .	into . .	do this . .	To change . .	into . .	do this . .
acres	hectares	x 0.4047	kilograms	ounces	x 35.3
acres	sq. kilometres	/ 247	kilograms	pounds	x 2.2046
acres	sq. metres	x 4047	kilograms	tonnes	/ 1000 #
acres	sq. miles	/ 640 #	kilograms	tons (UK/long)	/ 1016
barrels (oil)	cu.metres	/ 6.29	kilograms	tons (US/short)	/ 907
barrels (oil)	gallons (UK)	x 34.97	kilometres	metres	x 1000 #
barrels (oil)	gallons (US)	x 42 #	kilometres	miles	x 0.6214
barrels (oil)	litres	x 159	litres	cu.inches	x 61.02
centimetres	feet	/ 30.48 #	litres	gallons (UK)	x 0.2200
centimetres	inches	/ 2.54 #	litres	gallons (US)	x 0.2642
centimetres	metres	/ 100 #	litres	pints (UK)	x 1.760
centimetres	millimetres	x 10 #	litres	pints (US liquid)	x 2.113
cubic cm	cubic inches	x 0.06102	metres	yards	/ 0.9144 #
cubic cm	litres	/ 1000 #	metres	centimetres	x 100 #
cubic cm	millilitres	x 1 #	miles	kilometres	x 1.609
cubic feet	cubic inches	x 1728 #	millimetres	inches	/ 25.4 #
cubic feet	cubic metres	x 0.0283	ounces	grams	x 28.35
cubic feet	cubic yards	/ 27 #	pints (UK)	litres	x 0.5683
cubic feet	gallons (UK)	x 6.229	pints (UK)	pints (US liquid)	x 1.201
cubic feet	gallons (US)	x 7.481	pints (US liquid)	litres	x 0.4732
cubic feet	litres	x 28.32	pints (US liquid)	pints (UK)	x 0.8327
cubic inches	cubic cm	x 16.39	pounds	kilograms	x 0.4536
cubic inches	litres	x 0.01639	pounds	ounces	x 16 #
cubic metres	cubic feet	x 35.31	square cm	sq. inches	x 0.1550
feet	centimetres	x 30.48 #	square feet	sq. inches	x 144 #
feet	metres	x 0.3048 #	square feet	sq. metres	x 0.0929
feet	yards	/ 3 #	square inches	square cm	x 6.4516 #
fl.ounces (UK)	fl.ounces (US)	x 0.961	square inches	square feet	/ 144 #
fl.ounces (UK)	millilitres	x 28.41	square km	acres	x 247
fl.ounces (US)	fl.ounces (UK)	x 1.041	square km	hectares	x 100 #
fl.ounces (US)	millilitres	x 29.57	square km	square miles	x 0.3861
gallons	pints	x 8 #	square metres	acres	/ 4047
gallons (UK)	cubic feet	x 0.1605	square metres	hectares	/ 10 000 #
gallons (UK)	gallons (US)	x 1.2009	square metres	square feet	10.76
gallons (UK)	litres	x 4.54609 #	square metres	square yards	x 1.196
gallons (US)	cubic feet	x 0.1337	square miles	acres	x 640 #
gallons (US)	gallons (UK)	x 0.8327	square miles	hectares	x 259
gallons (US)	litres	x 3.785	square miles	square km	x 2.590
grams	kilograms	/ 1000 #	square yards	square metres	1.196
grams	ounces	/ 28.35	tonnes	kilograms	x 1000 #
hectares	acres	x 2.471	tonnes	tons (UK/long)	x 0.9842
hectares	square km	/ 100 #	tonnes	tons (US/short)	x 1.1023
hectares	square metres	x 10000 #	tons (UK/long)	kilograms	x 1016
hectares	square miles	/ 259	tons (UK/long)	tonnes	x 1.016
hectares	square yards	x 11 960	tons (US/short)	kilograms	x 907.2
inches	centimetres	x 2.54 #	tons (US/short)	tonnes	x 0.9072
inches	feet	/ 12 #	yards	metres	x 0.9144 #