

## TORQUE UNITS - TORQUE CONVERSION FACTORS

### Torque units

Torque is the application of a Force acting at a radial Distance and tending to cause rotation.

The International Standards Organisation (ISO) recommend the use of the Newton metre (N.m) to denote the 'base' torque unit.

The following note and the table (fig1) are taken from International Standards ISO 1000 - 1981 (BS 5555; 1981) Confirmed December 1987.

The Newton metre should be written as N.m with prefixes to denote multiples of the with prefixes to denote multiples of the base unit e.g. MN.m (mega Newton metre). Divisions of the base unit are also denoted by prefixes e.g. cN.m (centi Newton metre) - see table (fg1) for full list of prefixes.

An interesting note: the use of capitals to denote an ISO unit is reserved for those named after their Inventor or Founder, for example, capital N is used after Isaac Newton.

Factor	Prefix	Symbol
$10^{18}$	exa	E
$10^{15}$	peta	P
$10^{12}$	tera	T
$10^9$	giga	G
$10^6$	mega	M
$10^3$	kilo	k
$10^2$	hecto	h
10	deca	da
$10^{-1}$	deci	d
$10^{-2}$	centi	c
$10^{-3}$	milli	m
$10^{-6}$	micro	$\mu$
$10^{-9}$	nano	n
$10^{-12}$	pico	p
$10^{-15}$	femto	f
$10^{-18}$	atto	a

Torque conversion factors (fig1)

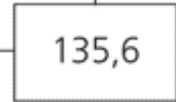
**Example 1**

Convert 10 lbf.ft into cN.m

lbf.ft

$10 \times 135,6 = 1356 \text{ cN.m}$

cN.m



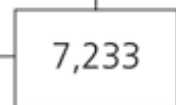
**Example 2**

Convert 14 kgf.m into lbf.ft

kgf.m

$14 \times 7,233 = 101.26 \text{ lbf.ft}$

lbf.ft



Units to be converted	Conversion Factors								
	mN.m	ISO cN.m	N.m	ozf.in	Imperial lbf.in	lbf.ft	gf.cm	Metric kgf.cm	kgf.m
1 mN.m	1	0.1	0.001	0.142	0.009	0.0007	10.2	0.01	0.0001
1 cN.m	10	1	0.01	1.416	0.088	0.007	102	0.102	0.001
1 N.m	1000	100	1	141.6	8.851	0.738	10197	10.20	0.102
1 ozf.in	7.062	0.706	0.007	1	0.0625	0.005	72	0.072	0.0007
1 lbf.in	113	11.3	0.113	16	1	0.083	1152.1	1.152	0.0115
1 lbf.ft	1356	135.6	1.356	192	12	1	13826	13.83	0.138
1 gf.cm	0.098	0.01	0.0001	0.014	0.0009	0.00007	1	0.001	0.00001
1 kgf.cm	98.07	9.807	0.098	13.89	0.868	0.072	1000	1	0.01
1 kgf.m	9807	980.7	0.9807	1389	86.8	7.233	100000	100	1