

# SI UNIT CONVERSION TABLE / CUTTING SYMBOLS

## Inch / Metric Conversion Chart

### • Cutting Speed (Vc)

Cutting Speed (Vc)	
SFM	m/min
300	91
600	183
900	274

SFM = (0.262 x rpm) x dia.(inch)  
3.28feet/min (SFM) = 1m/min

SFM (Surface Feet per Minute)

### • D.O.C. (ap)

D.O.C. (ap)	
inch	mm
0.02	0.5
0.04	1.0
0.08	2.0

1inch = 25.4mm  
0.04inch = 1mm

### • IPR Feed Rate (f)

Feed Rate (f)	
ipr	m/min
0.002	0.05
0.004	0.1
0.008	0.2

1ipr = 25.4mm/rev  
0.004ipr = 0.1mm/rev

ipr (Inch per Revolution)  
mm/rev (mm per Revolution)

### • IPT Feed Rate (fz)

Feed Rate (fz)	
ipt	mm/t
0.002	0.05
0.004	0.1
0.008	0.2

1ipt = 25.4mm/t  
0.004ipt = 0.1mm/t

ipt (Inch per Tooth)  
mm/t (mm per Tooth)

### • Torque

lbft	Nm
0.738	1

lbft (Pound x Feet)  
Nm (Newton x Meter)

## SI Derived Units Conversion Chart

(Extracted from JIS Handbook "Iron & Steel")

### • Force

N	kgf	dyn
1	1.019 72X10 <sup>-1</sup>	1X10 <sup>5</sup>
9.806 65	1	9.806 65X10 <sup>5</sup>
1X10 <sup>-5</sup>	1.019 72X10 <sup>-6</sup>	1

### • Stress

Pa or N/m <sup>2</sup>	MPa or N/mm <sup>2</sup>	kgf/mm <sup>2</sup>	kgf/cm <sup>2</sup>	kgf/m <sup>2</sup>
1	1X10 <sup>-6</sup>	1.019 72X10 <sup>-7</sup>	1.019 72X10 <sup>-5</sup>	1.019 72X10 <sup>-1</sup>
1X10 <sup>6</sup>	1	1.019 72X10 <sup>-1</sup>	1.019 72X10	1.019 72X10 <sup>5</sup>
9.806 65X10 <sup>6</sup>	9.806 65	1	1X10 <sup>-2</sup>	1X10 <sup>-6</sup>
9.806 65X10 <sup>4</sup>	9.806 65X10 <sup>-2</sup>	1X10 <sup>-2</sup>	1	1X10 <sup>-4</sup>
9.806 65	9.806 65X10 <sup>-6</sup>	1X10 <sup>-6</sup>	1X10 <sup>-4</sup>	1

### • Pressure

Pa	kPa	MPa	bar	kgf/cm <sup>2</sup>
1	1X10 <sup>-3</sup>	1X10 <sup>-6</sup>	1X10 <sup>-5</sup>	1.019 72X10 <sup>-5</sup>
1X10 <sup>3</sup>	1	1X10 <sup>-3</sup>	1X10 <sup>-2</sup>	1.019 72X10 <sup>-2</sup>
1X10 <sup>6</sup>	1X10 <sup>3</sup>	1	1X10	1.019 72X10
1X10 <sup>5</sup>	1X10 <sup>2</sup>	1X10 <sup>-1</sup>	1	1.019 72
9.806 65X10 <sup>4</sup>	9.806 65X10	9.806 65X10 <sup>-2</sup>	9.806 65X10 <sup>-1</sup>	1

### • Power

W	kW	kgf · m/s	PS	kcal/h
1	1X10 <sup>-3</sup>	1.019 72X10 <sup>-1</sup>	1.359 62X10 <sup>-3</sup>	8.600 00X10 <sup>-1</sup>
1X10 <sup>3</sup>	1	1.019 72X10 <sup>-2</sup>	1.359 62	8.600 00X10 <sup>2</sup>
9.806 65	9.806 65X10 <sup>-3</sup>	1	1.333 33X10 <sup>-2</sup>	8.433 71
7.355X10 <sup>2</sup>	7.355X10 <sup>-1</sup>	7.5X10	1	6.325 29X10 <sup>2</sup>
1.162 79	1.162 79X10 <sup>-3</sup>	1.185 72X10 <sup>-1</sup>	1.580 95X10 <sup>-3</sup>	1

### • Revolution

min <sup>-1</sup>	s <sup>-1</sup>	r.p.m.
1	0.0167	1
60	1	60