

Speeds and Feeds



- 1) Select your material in the ISO colored chart.
 - 2) Start with the recommended cutting speed, v_c (m/min) and feed per tooth, f_z (mm). Adjust the cutting speed and/or feed based on your cutting conditions. Calculated RPM may exceed the maximum RPM of the cutter body.
- WARNING:** Never exceed the maximum RPM rating of the cutter body.

				HONP – Haas Octagon Negative Positive		
ISO	Inserts			Recommended Cutting Conditions		
	Grades	Designation	Haas PN	v_c (m/min)	f_z (mm)	
P Steel	HU30	ONM(H)X080608	02-0969	150 - 250	0.05 - 0.3	
	HU40		02-0970	120 - 220	0.05 - 0.3	
	MKP30		02-0972	250 - 320	0.10 - 0.35	
	HMP40C		02-0973	200 - 280	0.10 - 0.35	
M Stainless Steel	HU30		02-0969	90 - 150	0.05 - 0.3	
	HU40		02-0970	70 - 120	0.05 - 0.3	
K Cast Iron	HU30		02-0969	120 - 200	0.05 - 0.3	
	HU40		02-0970	100 - 180	0.05 - 0.3	
	MKP30		02-0972	190 - 250	0.10 - 0.4	
	HMP40C		02-0973	150 - 220	0.10 - 0.4	
N Aluminum & Non-Ferrous	HN25A			02-0971	450 - 750	0.05 - 0.2

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Feed Rate, Per Revolution (mm/min)
$v_f = f_n \cdot n$

Feed Rate, Per Tooth (mm/min)
$v_f = f_z \cdot n \cdot Z$

Feed Per Revolution (mm/rev)
$f_n = \frac{v_f}{n}$

Feed Per Tooth (mm)
$f_z = \frac{v_f}{n \cdot Z}$

Cutting Speed (m/min)
$v_c = \frac{\pi \cdot D_{tool} \cdot n}{1000}$

Spindle Speed (rev/min)
$n = \frac{v_c \cdot 1000}{\pi \cdot D_{tool}}$

Material Removal Rate (cm ³ /min)
$MMR = \frac{a_p \cdot a_e \cdot v_f}{1000}$

Metric

Symbol	Definition	Unit
v_f	Feed rate	<i>mm/min</i>
f_n	Feed per revolution	<i>mm/rev</i>
f_z	Feed per tooth	<i>mm</i>
v_c	Cutting speed	<i>m/min (SMM)</i>
n	Spindle speed	<i>rev/min (RPM)</i>
D_{tool}	Tool cutting diameter	<i>mm</i>
MRR	Material removal rate	<i>(cm³/min)</i>
a_e	Radial depth of cut	<i>mm</i>
a_p	Axial depth of cut	<i>mm</i>
Z	Number of teeth/flutes	