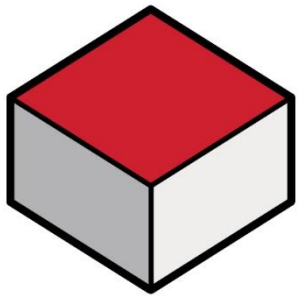
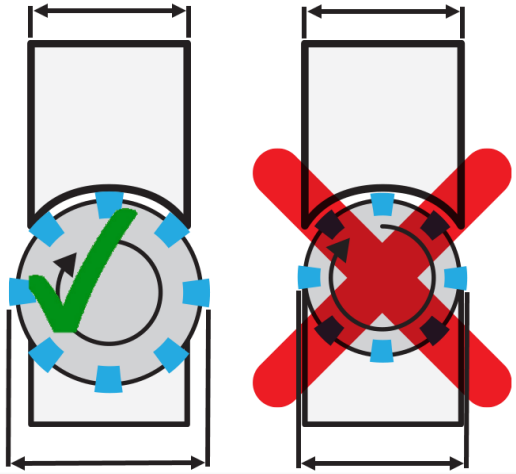
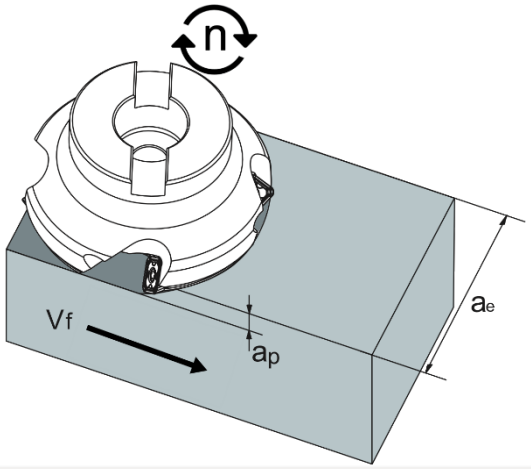
Speeds and Feeds

1. Select your material in the ISO colored chart.
2. Start with the recommended RPM, cutting speed, v_c (sfm) and feed rate, f_z (in/tooth). Adjust the cutting speed and/or feed rate based on your cutting conditions.
3. Warning: Calculated RPM may exceed the maximum RPM of the cutter body. Never exceed the maximum RPM rating of the cutter body.

Hass Milling Cutter Series	Insert Geometry	ISO	Haas Grades	Haas Inserts	vc (m/min)	fz (mm/t)
HCSNP	SNEX1206ANN	P	HU30	02-0975	140~240	0.05~0.3
			HU40	02-0978	130~210	0.05~0.3
			MKP30	02-0976	240~400	0.1~0.35
			HMP40C	02-0977	230~380	0.1~0.35
		M	HU30	02-0975	90~150	0.05~0.2
			HU40	02-0978	70~120	0.05~0.25
		K	HU30	02-0975	110~180	0.08~0.35
			HU40	02-0978	100~160	0.08~0.35
		S	HU30	02-0975	35~70	0.08~0.2
			HU40	02-0978	30~60	0.08~0.2
		N	HN25A	02-0974	330~550	0.1~0.3







Best practice when Facing Milling:
Cutter Diameter [ØDC] should be 1.2 to 1.5 times larger than width of cut (ae)
1.2 to 1.5 X [ØDC] ≥ ae

Speeds and Feeds

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	*mm/min*
f_n	Feed per revolution	*mm/rev*
f_z	Feed per tooth	*mm*
v_c	Cutting speed	*m/min (SMM)*
n	Spindle speed	*rev/min (RPM)*
D_{tool}	Tool cutting diameter	*mm*
MMR	Material removal rate	*(cm^3/min)*
a_e	Radial depth of cut	*mm*
a_p	Axial depth of cut	*mm*
Z	Number of teeth/flutes	