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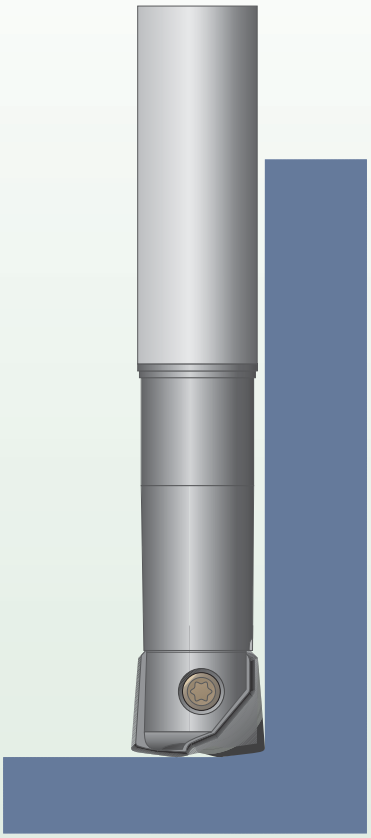
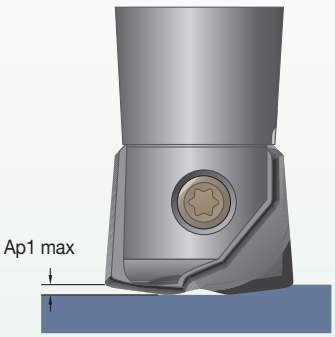
Applying High-Feed Tools

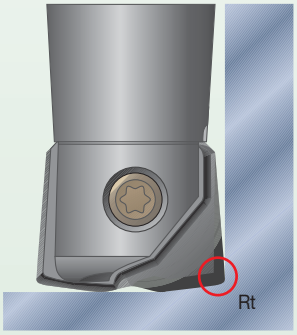
The high-feed concept bases its strategy in small depth of cut and high fz values, which results in a higher MRR and productivity with low radial forces.



Recommended when long overhang is necessary due to lower radial forces. Maximum L/D ratio of 10 x D.



Small Ap1 values and higher feed rate generate lower cutting forces versus traditional milling strategies.



For CAM programming, the tools can be programmed as a toroidal tool type by using the Rt value as the insert radius.

L/D ratio	% of Ap1 max to reduce	% of vc to reduce
<4	0%	0%
4<L/D<7	55–65%	10–15%
>8	65–75%	20–30%

General Programming Information for Applying M270 High-Feed

tool diameter	Ø10	Ø12	Ø13	Ø16	Ø17	Ø20
recommended starting Ap1 (mm)	0,40	0,40	0,40	0,60	0,60	0,75
Rt CAM programming	1,15	1,40	1,40	1,90	1,90	2,30
fz recommended for general purpose	0,45	0,55	0,55	0,60	0,60	0,70
fz recommended for 45 HRC (approx.)	0,40	0,45	0,45	0,55	0,55	0,65
fz recommended for 55 HRC (approx.)	0,30	0,35	0,35	0,45	0,45	0,50

NOTE: Use two effective teeth for feed calculations.
For materials above 45 HRC, we recommend adjusting the ae max to 55% of cutting diameter and using no more than 50% of Ap1 max.
While centre cutting is possible, we recommend using a ramp angle of 0.5°–1.0° to ensure smooth operation.

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