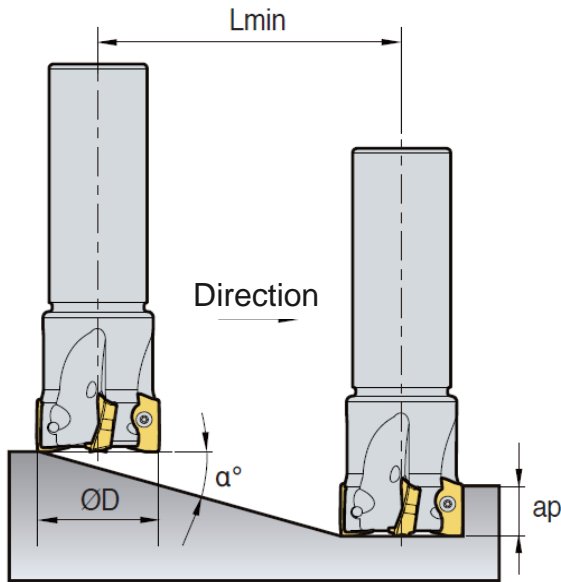


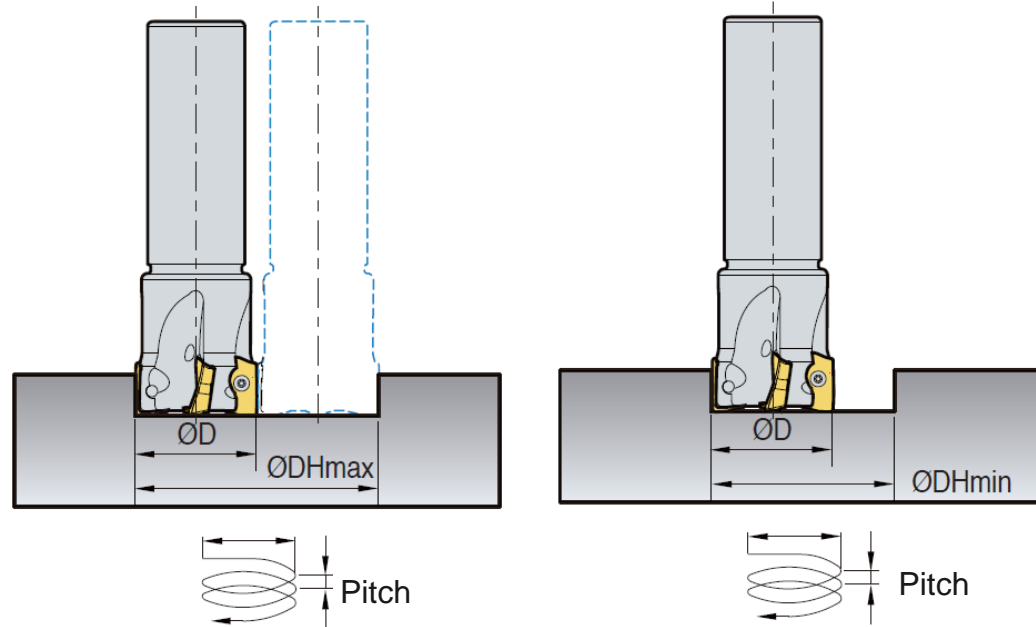
Technical Details



1. Ramping



2. Helical Ramping



* In ramping and helical machining, use coolant and air. $L_{min} = ap / \tan(\alpha^\circ)$

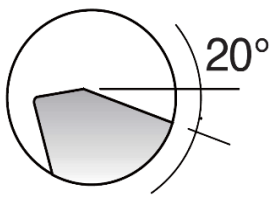
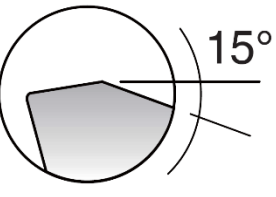
(mm)

Tool Diameter ØD	ap	1. Ramping		2. Helical Cutting					
		Max. Rake Angle α°	L min.	Blind Hole				Through Hole	
				Minimum Machining Dia. ØDHmin	Maximum Pitch	Maximum Machining Dia. ØDHmax	Maximum Pitch	Minimum Machining Dia. ØDmin	Maximum Pitch
40	16.5	2.6	363.4	78.4	3.6	70.4	3.2	60.8	2.8
50		1.9	497.4	98.4	3.3	90.4	3.0	80.8	2.7
63		1.3	727.1	124.4	2.8	116.4	2.6	106.8	2.4
80		1.1	859.3	158.4	3.0	150.4	2.9	140.8	2.7



Technical Details



Chip Breaker	Cutting Edge Shape	Recommended chip breaker and grade by work piece material (✓ 1st recommendation)							
		P				M		K	
		Low carbon steel Mild steel		High Carbon steel Alloy steel		Stainless steel		Cast iron	
		C.B.	Grades	C.B.	Grades	C.B.	Grades	C.B.	Grades
HS		-	✓ HP25	-	✓ HP25	-	✓ HU30	-	-
		-	HU30	-	HU30	✓	-	-	-
		-	MKP30	-	MKP30	-	-	-	-
MHS		✓	✓ HP25	✓	✓ HP25	-	✓ HU30	-	-
		✓	HU30	✓	HU30	-	-	✓	✓ MKP30
		✓	MKP30	✓	MKP30	-	-	✓	✓ HKP40