Recommended Cutting Conditions

Chipbreaker	Workpiece Material	Toolholder fz (ipt) MEC0500~MEC0750 MEC10~MEC19	Toolholder fz (ipt) MEC20	Recommended Insert Grade Vc (sfm) Cermet TN100M	MEGACOAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1210	PVD Coated Carbide PR830	CVD Coated Carbide CA6535
JT	Carbon Steel	0.002~**0.004**~0.006	0.003~**0.006**~0.010	☆390~**530**~660	390~**590**~820	★390~**590**~820	-	☆390~**520**~660	-
	Alloy Steel	0.002~**0.004**~0.005	0.003~**0.006**~0.008	☆330~**460**~590	☆330~**520**~720	★330~**520**~720	-	☆330~**460**~590	-
	Mold Steel	0.002~**0.003**~0.004	0.003~**0.005**~0.008	260~☆**390**~490	☆260~**460**~590	★260~**460**~590	-	☆260~**390**~490	-
	Austenitic Stainless Steel	0.002~**0.003**~0.004	0.003~**0.005**~0.006	-	☆330~**520**~660	☆330~**520**~660	-	☆330~**460**~590	-
	Martensitic Stainless Steel	0.002~**0.003**~0.004	0.003~**0.005**~0.008	-	☆490~**660**~820	-	-	-	★590~**790**~980
	Precipitation Hardened Stainless Steel	0.002~**0.003**~0.004	0.003~**0.005**~0.008	-	★300~**390**~490	-	-	-	-
	Gray Cast Iron	0.002~**0.004**~0.006	0.003~**0.007**~0.010	-	-	-	★390~**590**~820	-	-
	Nodular Cast Iron	0.002~**0.003**~0.004	0.003~**0.006**~0.008	-	-	-	★330~**490**~660	-	-
	Ni-base Heat Resistant Alloy	0.002~**0.003**~0.004	0.003~**0.005**~0.006	-	☆70~**100**~160	-	-	-	★70~**100**~160
	Titanium Alloy	0.002~**0.003**~0.004	0.003~**0.006**~0.008	-	☆130~**200**~260	-	☆100~**160**~230	-	-
JS	Carbon Steel	0.002~**0.004**~0.005	0.003~**0.006**~0.007	-	☆390~**590**~820	★390~**590**~820	-	☆390~**520**~660	-
	Alloy Steel	0.002~**0.003**~0.004	0.003~**0.005**~0.006	-	☆330~**520**~720	★330~**520**~720	-	☆330~**460**~590	-
	Mold Steel	0.002~**0.003**~0.004	0.003~**0.004**~0.005	-	☆260~**460**~590	★260~**460**~590	-	☆260~**390**~490	-
	Austenitic Stainless Steel	0.002~**0.003**~0.004	0.003~**0.004**~0.005	-	★330~**520**~660	☆330~**520**~660	-	☆330~**460**~590	-
	Martensitic Stainless Steel	0.002~**0.003**~0.004	0.003~**0.004**~0.005	-	☆490~**660**~820	-	-	-	★590~**790**~980
	Precipitation Hardened Stainless Steel	0.002~**0.003**~0.004	0.003~**0.004**~0.005	-	☆300~**390**~490	-	-	-	-
	Ni-base Heat Resistant Alloy	0.002~**0.003**~0.004	0.003~**0.004**~0.005	-	☆70~**100**~160	-	-	-	☆70~**100**~160
	Titanium Alloy	0.002~**0.003**~0.004	0.003~**0.004**~0.005	-	★130~**200**~260	-	-	-	-

※ Machining with coolant is recommended for Ni-base Heat Resistant Alloys and Titanium Alloys.

★ 1st Recommendation ☆ 2nd Recommendation

JA Chipbreaker

Workpiece Material	fz (ipt)	Insert Grades (Cutting Speed: sfm) Carbide GW25
Aluminum Alloys (Si 13% or less)	0.002~0.012	660~2620
Aluminum Alloys (Si 13% or above)	0.002~0.008	660~980

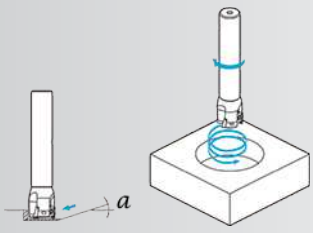
PCD

Workpiece Material	fz (ipt)	Insert Grades (Cutting Speed: sfm) PCD KPD230 (KPD001)
Aluminum Alloys (Si 13% or less)	0.002~0.008	1640~4920
Aluminum Alloys (Si 13% or above)	0.002~0.006	980~3280

Ramping, Helical Milling and Plunge Milling

Ramping, Helical Milling

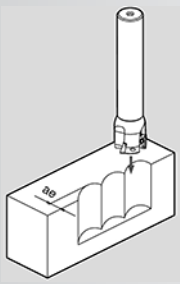
- Ramping angle is recommended to be less than α°.
- Refer to each tool's cutting performance list for the depth of helical milling. Use compressed air during cutting.



Cutting Dia.	Applicable Inserts	Maximum Ramping Angle (α°)
Ø0.625" Ø16~Ø18	BDMT11T3 type BDGT11T3 type	3°
Ø0.750" Ø19~Ø20		5°

BDMT1103 type is not recommended for ramping and helical milling.

Plunge Milling



Cutting Dia.	Applicable Inserts	Maximum Width of Cut (ae)
Ø0.625" Ø16~Ø19	BDMT11T3 type BDGT11T3 type	0.0591"
Ø0.750" Ø20	BDMT11T3 type BDGT11T3 type	0.1969"

BDMT/BDGT1103 type is not recommended for plunge milling.

Guidance of minimum cutting dia. for helical cutting.

MEC	Toolholder Dia.	Ø16	Ø18	Ø20
BD_T11T3 type	Guidance of minimum cutting dia. for helical cutting.	Ø21	Ø25	Ø29
	Guidance of minimum cutting dia. to have flat bottom by helical cutting.	Ø28	Ø32	Ø36