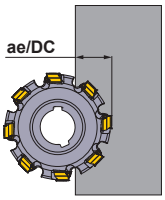
VAS300/400/500

Recommended Cutting Conditions (Dry Cutting)

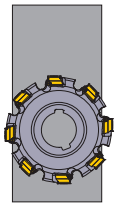
■ Shoulder Milling

(inch)

	Workpiece Material	Properties	Insert Grade	**vc** (SFM)	Depth of Cut **ap**	Depth of Cut **ae/DC**	Feed per Tooth **fz** (IPT)	Cutting Mode
P	Mild Steels	Hardness ≤180HB	MP6120 VP15TF	490(425—590)	≤APMX	<10%	.004(.003—.006)	
				490(425—590)	≤APMX	<30%	.004(.003—.006)	
				490(425—590)	≤APMX	≤50%	.004(.003—.006)	
	Carbon Steels Alloy Steels	Hardness 180—280HB	MP6120 VP15TF	490(425—590)	≤.079	≤50%	.005(.003—.008)	
				490(425—590)	≤.157	<10%	.005(.003—.008)	
				490(425—590)	≤.157	≤50%	.004(.003—.006)	
				490(425—590)	≤APMX	<10%	.004(.003—.006)	
				490(425—590)	≤APMX	≤50%	.004(.003—.005)	
K	Gray Cast Irons	Tensile Strength ≤350MPa	VP15TF	490(425—590)	≤.079	≤50%	.005(.003—.008)	
				490(425—590)	≤.157	<10%	.005(.003—.008)	
				490(425—590)	≤.157	≤50%	.004(.003—.006)	
				490(425—590)	≤APMX	<10%	.004(.003—.006)	
				490(425—590)	≤APMX	≤50%	.004(.003—.005)	
	Ductile Cast Irons	Tensile Strength ≤450MPa	VP15TF	425(360—525)	≤.079	≤50%	.005(.003—.008)	
				425(360—525)	≤.157	<10%	.005(.003—.008)	
				425(360—525)	≤.157	≤50%	.004(.003—.006)	
				425(360—525)	≤APMX	<10%	.004(.003—.006)	
				425(360—525)	≤APMX	≤50%	.004(.003—.005)	
	Ductile Cast Irons	Tensile Strength ≤800MPa	VP15TF	425(360—525)	≤.079	≤50%	.005(.003—.008)	
				425(360—525)	≤.157	<10%	.005(.003—.008)	
				425(360—525)	≤.157	≤50%	.004(.003—.006)	
				425(360—525)	≤APMX	<10%	.004(.003—.006)	
				425(360—525)	≤APMX	≤50%	.004(.003—.005)	

■ Face Milling (Center Cutting)

(inch)

	Workpiece Material	Properties	Insert Grade	**vc** (SFM)	Depth of Cut **ap**	Feed per Tooth **fz** (IPT)	Cutting Mode
P	Mild Steels	Hardness ≤180HB	MP6120 VP15TF	490(425—590)	≤APMX	.004(.003—.006)	
	Carbon Steels Alloy Steels	Hardness 180—280HB	MP6120 VP15TF	490(425—590)	≤.079	.005(.003—.008)	
				490(425—590)	≤.157	.004(.003—.006)	
				490(425—590)	≤APMX	.004(.003—.005)	
K	Gray Cast Irons	Tensile Strength ≤350MPa	VP15TF	490(425—590)	≤.079	.005(.003—.008)	
				490(425—590)	≤.157	.004(.003—.006)	
				490(425—590)	≤APMX	.004(.003—.005)	
	Ductile Cast Irons	Tensile Strength ≤450MPa	VP15TF	490(425—590)	≤.079	.005(.003—.008)	
				490(425—590)	≤.157	.004(.003—.006)	
				490(425—590)	≤APMX	.004(.003—.005)	
	Ductile Cast Irons	Tensile Strength ≤800MPa	VP15TF	425(360—525)	≤.079	.005(.003—.008)	
				425(360—525)	≤.157	.004(.003—.006)	
				425(360—525)	≤APMX	.004(.003—.005)	