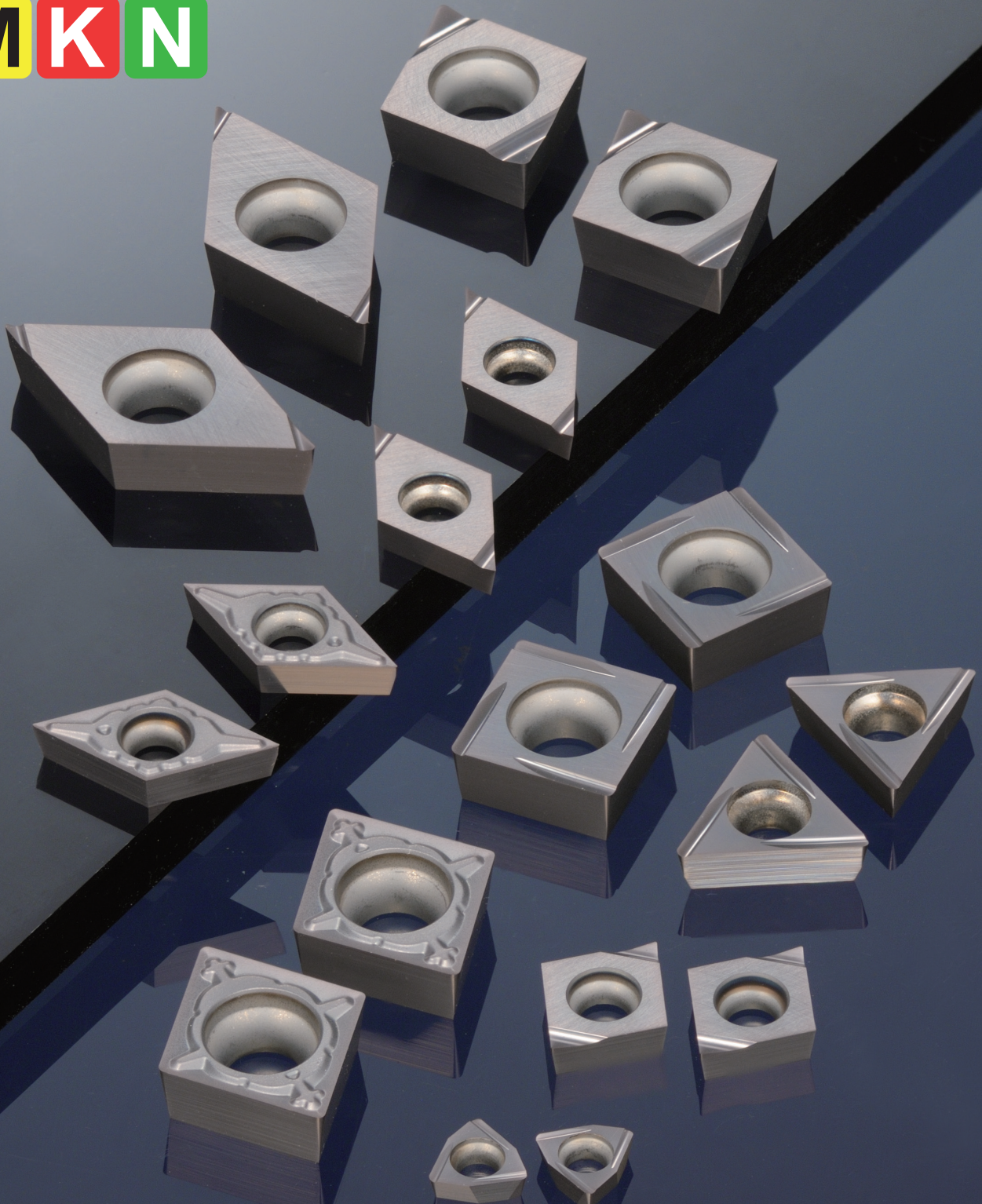


Grade for Small Parts Machining
AC1030U Series

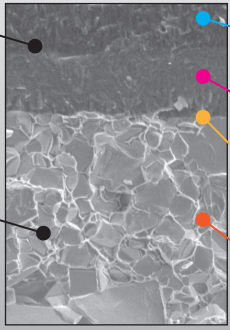
P M K N



New Grade for High Precision Machining

■ Features & Benefits

Superior Wear & Chipping Resistance



New Multi-layer Coating

New Carbide Substrate

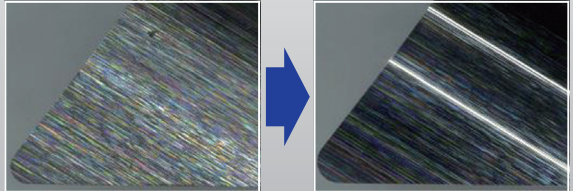
- Smooth Anti-chipping Layer**
Excellent surface finish
- High Hardness/Heat Resistance**
Better wear resistance
- High Adhesion Technology**
Superior peeling resistance
- Tough Carbide Substrate**
Improved chipping resistance

Edge Type	AC1030U	Conventional	Competitor
Pre Cut Edge			
Worn Edge			

Excellent Surface Finish!

High Quality Ground Insert
Greatly Improved Ground Edge Finish

Conventional **AC1030U**



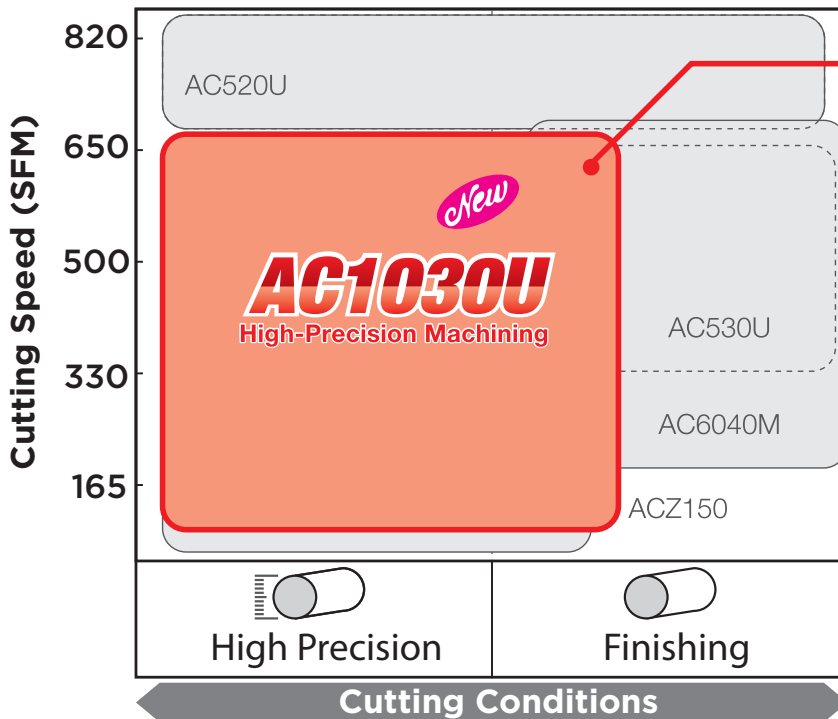
$R_z = 1.20 \mu\text{m}$ $R_z = 0.65 \mu\text{m}$

Controlled micro-chipping & adhesion for improved surface finish!

Surface Finish	AC1030U	Conventional	Competitor
R_z	$R_z = 2.0 \mu\text{m}$	$R_z = 4.1 \mu\text{m}$	$R_z = 4.3 \mu\text{m}$
Quality	No Tearing! Good Surface Roughness	Tearing	Tearing

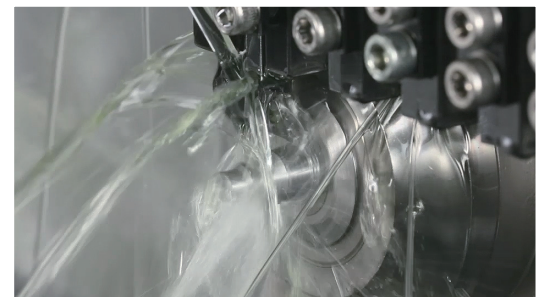
Work Material: 4137 Steel OD Finishing Insert: DCGT32.50.5RFY
Cutting Conditions: $V_c = 160$ SFM $f = 0.002$ IPR $a_p = 0.004$ ", Wet

■ Application Range



AC1030U *New*

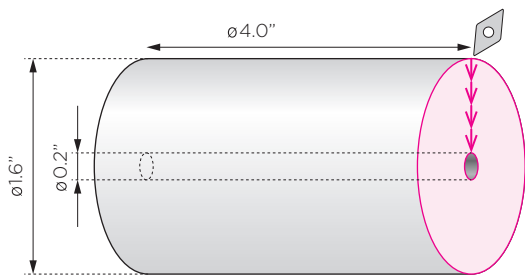
New PVD Coating "Absotech Bronze" and special substrate. High quality cutting edge yields excellent resistance against adhesion and micro-chipping, resulting in better surface finish.



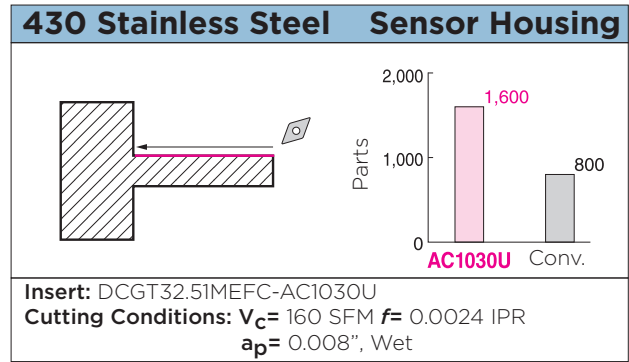
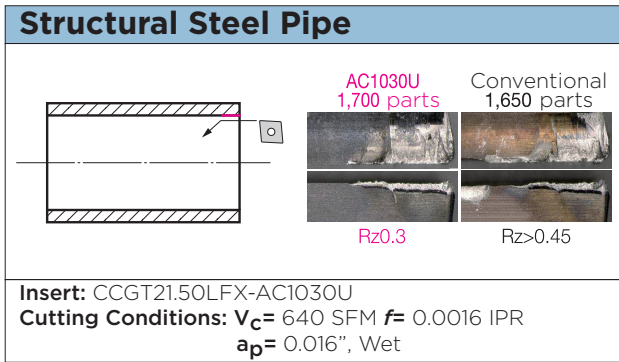
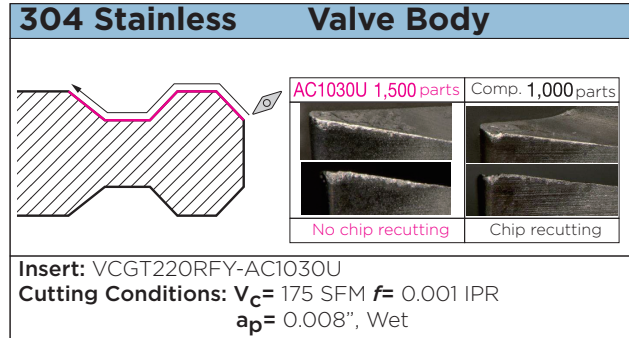
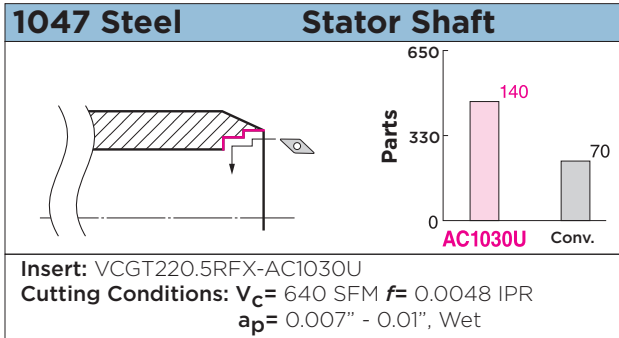
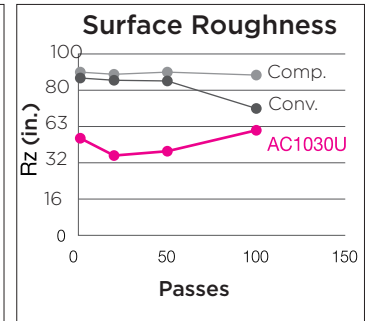
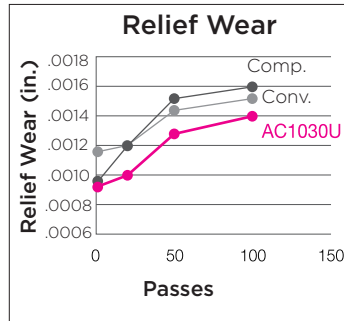
■ Recommended Cutting Conditions

Material	Soft Steel		Carbon Steel		Stainless Steel		Brass		Cast Iron		Exotic Material	
	V_c (SFM)	f (IPR)	V_c (SFM)	f (IPR)	V_c (SFM)	f (IPR)	V_c (SFM)	f (IPR)	V_c (SFM)	f (IPR)	V_c (SFM)	f (IPR)
AC1030U	160 - 650	.0008 - .006	160 - 650	.0008 - .004	160 - 500	.0008 - .004	230 - 980	.002 - .008	160 - 650	.0008 - .004	100 - 200	.0008 - .004

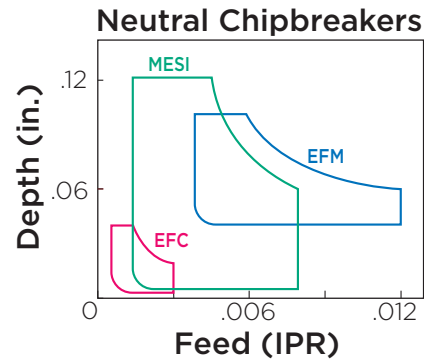
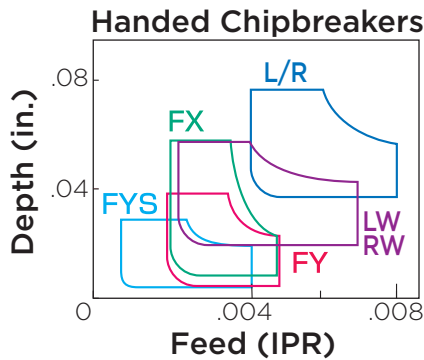
Application Examples



Work Material: 304 Stainless Insert: DCGT32.50.5RFY
 Cutting Conditions: $V_c = 330$ SFM $f = 0.002$ IPR
 $a_p = 0.004$ ", Wet

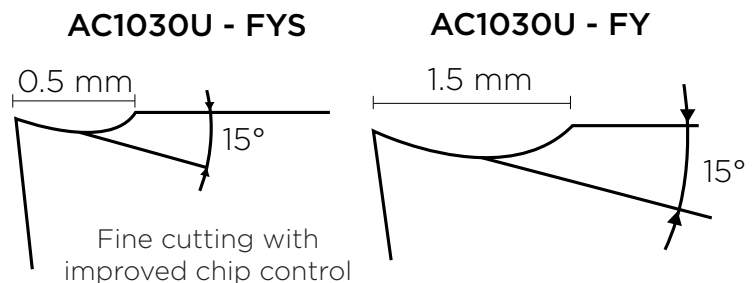


Chipbreaker Application Range



New FYS Chipbreaker

- Improved chip control and crater wear in soft material machining
- Less damage on cutting edge with AC1030U



AC1030U Availability

TPGT Triangle/ 11° Relief Angle					
Sumitomo Catalog Number	AC1030U	Inscribed Circle	Thickness	Nose Radius	Insert Hole Diameter
TPGT220.5MEFC	★	.250	.125	.0078	.130
TPGT221MEFC	●	.250	.125	.0156	.130
TPGT630.5L	●	.1875	.094	.0078	.090
TPGT630.5R	●	.1875	.094	.0078	.090
TPGT631L	●	.1875	.094	.0156	.090
TPGT631R	●	.1875	.094	.0156	.090
TPGT220.5L	●	.250	.125	.0078	.130
TPGT220.5R	●	.250	.125	.0078	.130
TPGT221L	★	.250	.125	.0156	.130
TPGT221R	●	.250	.125	.0156	.130
TPGT222L	●	.250	.125	.0313	.130
TPGT222R	●	.250	.125	.0313	.130
TPGT63.001LFY	●	.1875	.094	.0012	.090
TPGT63.001RFY	●	.1875	.094	.0012	.090
TPGT630LFY	●	.1875	.094	.0039	.090
TPGT630RFY	●	.1875	.094	.0039	.090
TPGT630.5LFY	★	.1875	.094	.0078	.090
TPGT630.5RFY	★	.1875	.094	.0078	.090
TPGT631LFY	★	.1875	.094	.0156	.090
TPGT631RFY	★	.1875	.094	.0156	.090
TPGT1.81.50LFY	★	.219	.094	.0039	.102
TPGT1.81.50RFY	★	.219	.094	.0039	.102
TPGT1.81.50.5LFY	★	.219	.094	.0078	.102
TPGT1.81.50.5RFY	★	.219	.094	.0078	.102
TPGT1.81.51LFY	★	.219	.094	.0156	.102
TPGT1.81.51RFY	★	.219	.094	.0156	.102
TPGT22.001LFY	★	.250	.125	.0012	.130
TPGT22.001RFY	★	.250	.125	.0012	.130
TPGT220LFY	★	.250	.125	.0039	.130
TPGT220RFY	★	.250	.125	.0039	.130
TPGT220.5LFY	★	.250	.125	.0078	.130
TPGT220.5RFY	●	.250	.125	.0078	.130
TPGT221LFY	★	.250	.125	.0156	.130
TPGT221RFY	●	.250	.125	.0156	.130
TPGT222LFY	●	.250	.125	.0313	.130
TPGT222RFY	●	.250	.125	.0313	.130
TPGT630.5LFX	★	.1875	.094	.0078	.090
TPGT630.5RFX	★	.1875	.094	.0078	.090
TPGT631LFX	★	.1875	.094	.0156	.090
TPGT631RFX	★	.1875	.094	.0156	.090
TPGT220.5LFX	●	.250	.125	.0078	.130
TPGT220.5RFX	●	.250	.125	.0078	.130
TPGT221LFX	●	.250	.125	.0156	.130
TPGT221RFX	★	.250	.125	.0156	.130
TPGT222LFX	★	.250	.125	.0313	.130
TPGT222RFX	★	.250	.125	.0313	.130

● = USA Stocked item

★ = World Wide Warehouse Item

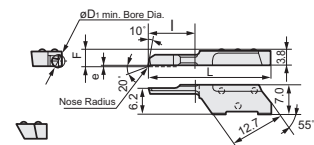
M = Negative nose radius tolerance (-0.0001" to -0.0004")

VBGT 35° Diamond/ 5° Relief Angle					
Sumitomo Catalog Number	AC1030U	Inscribed Circle	Thickness	Nose Radius	Insert Hole Diameter
VBGT220MESI	★	.250	.125	.0039	.134
VBGT220.5MESI	●	.250	.125	.0078	.134
VBGT221MESI	●	.250	.125	.0156	.134
VBGT222MESI	★	.250	.125	.0313	.134
VBGT330MESI	★	.375	.1875	.0039	.1732
VBGT330.5MESI	●	.375	.1875	.0078	.1732
VBGT331MESI	★	.375	.1875	.0156	.1732
VBGT332MESI	★	.375	.1875	.0313	.1732
VBGT22.001LFYS	★	.250	.125	.0012	.134
VBGT22.001RFYS	★	.250	.125	.0012	.134
VBGT220LFYS	★	.250	.125	.0039	.134
VBGT220RFYS	★	.250	.125	.0039	.134
VBGT220.5LFYS	★	.250	.125	.0078	.134
VBGT220.5RFYS	★	.250	.125	.0078	.134
VBGT221LFYS	★	.250	.125	.0156	.134
VBGT221RFYS	★	.250	.125	.0156	.134
VBGT222LFYS	★	.250	.125	.0313	.134
VBGT222RFYS	★	.250	.125	.0313	.134
VBGT220LFY	★	.250	.125	.0039	.134
VBGT220RFY	★	.250	.125	.0039	.134
VBGT220.5LFY	★	.250	.125	.0078	.134
VBGT220.5RFY	★	.250	.125	.0078	.134
VBGT221LFY	★	.250	.125	.0156	.134
VBGT221RFY	★	.250	.125	.0156	.134
VBGT220LFX	★	.250	.125	.0039	.134
VBGT220RFX	★	.250	.125	.0039	.134
VBGT220.5LFX	★	.250	.125	.0078	.134
VBGT220.5RFX	★	.250	.125	.0078	.134
VBGT221LFX	★	.250	.125	.0156	.134
VBGT221RFX	★	.250	.125	.0156	.134

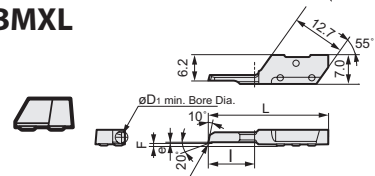
VCGT 35° Diamond/ 7° Relief Angle					
Sumitomo Catalog Number	AC1030U	Inscribed Circle	Thickness	Nose Radius	Insert Hole Diameter
VCGT220MEFC	●	.250	.125	.0039	.134
VCGT220.5MEFC	●	.250	.125	.0078	.134
VCGT221MEFC	●	.250	.125	.0156	.134
VCGT220MESI	●	.250	.125	.0039	.134
VCGT220.5MESI	●	.250	.125	.0078	.134
VCGT221MESI	●	.250	.125	.0156	.134
VCGT222MESI	●	.250	.125	.0313	.134
VCGT330MESI	●	.375	.1875	.0039	.1732
VCGT330.5MESI	●	.375	.1875	.0078	.1732
VCGT331MESI	●	.375	.1875	.0156	.1732
VCGT332MESI	●	.375	.1875	.0313	.1732
VCGT220LFY	★	.250	.125	.0039	.134
VCGT220RFY	★	.250	.125	.0039	.134
VCGT220.5LFY	★	.250	.125	.0078	.134
VCGT220.5RFY	★	.250	.125	.0078	.134
VCGT221LFY	★	.250	.125	.0156	.134
VCGT221RFY	★	.250	.125	.0156	.134
VCGT220LFX	●	.250	.125	.0039	.134
VCGT220RFX	●	.250	.125	.0039	.134
VCGT220.5LFX	★	.250	.125	.0078	.134
VCGT220.5RFX	★	.250	.125	.0078	.134
VCGT221LFX	●	.250	.125	.0156	.134
VCGT221RFX	★	.250	.125	.0156	.134

WBGT 80° Trigon/ 5° Relief Angle					
Sumitomo Catalog Number	AC1030U	Inscribed Circle	Thickness	Nose Radius	Insert Hole Diameter
WBGT520.5LFY	●	.156	.0625	.0078	.090
WBGT520.5RFY	★	.156	.0625	.0078	.090
WBGT521LFY	★	.156	.0625	.0156	.090
WBGT521RFY	★	.156	.0625	.0156	.090
WBGT520.5LFX	★	.156	.0625	.0078	.090
WBGT520.5RFX	★	.156	.0625	.0078	.090
WBGT521LFX	★	.156	.0625	.0156	.090
WBGT521RFX	★	.156	.0625	.0156	.090
WBGT630.5LFX	★	.1875	.094	.0078	.090
WBGT630.5RFX	★	.1875	.094	.0078	.090
WBGT631LFX	★	.1875	.094	.0156	.090
WBGT631RFX	★	.1875	.094	.0156	.090

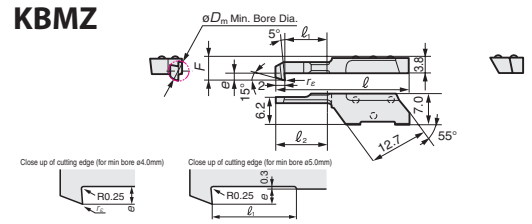
KBMXR



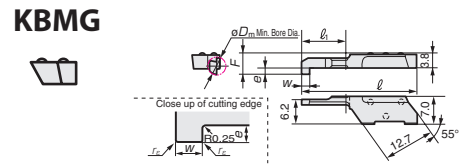
KBMXL



KBMZ



KBMG



KBMXR - Boring Rough Inserts							
Sumitomo Catalog #	AC1030U	Dimensions (mm)					
		Min. Bore Dia.	F	e	Nose Radius	L	ℓ
KBMXR0103-05	★	1.0	4.00	0.20	0.05	20.5	3
KBMXR0103-20	★	1.0	4.00	0.20	0.20	20.5	3
KBMXR01506-05	★	1.5	4.05	0.25	0.05	23.5	6
KBMXR01506-20	★	1.5	4.05	0.25	0.20	23.5	6
KBMXR0206-05	★	2.0	4.05	0.25	0.05	23.5	6
KBMXR0206-20	★	2.0	4.05	0.25	0.20	23.5	6
KBMXR0311-05	★	3.0	4.10	0.30	0.05	28.5	11
KBMXR0311-20	★	3.0	4.10	0.30	0.20	28.5	11
KBMXR0411-05	★	4.0	4.30	0.50	0.05	28.5	11
KBMXR0411-20	★	4.0	4.30	0.50	0.20	28.5	11
KBMXR0420-05	★	4.0	4.30	0.50	0.05	37.5	20
KBMXR0420-20	★	4.0	4.30	0.50	0.20	37.5	20
KBMXR0511-05	★	5.0	4.50	0.70	0.05	28.5	11
KBMXR0511-20	★	5.0	4.50	0.70	0.20	28.5	11
KBMXR0520-05	★	5.0	4.50	0.70	0.05	37.5	20
KBMXR0520-20	★	5.0	4.50	0.70	0.20	37.5	20

KBMXL - Boring Rough Inserts Right Hand Cut							
Sumitomo Catalog #	AC1030U	Dimensions (mm)					
		Min. Bore Dia.	F	e	Nose Radius	L	ℓ_1
KBMXL0206-05R	★	2.0	0.50	0.25	0.05	23.5	6
KBMXL0206-20R	★	2.0	0.50	0.25	0.20	23.5	6
KBMXL0311-05R	★	3.0	0.50	0.30	0.05	28.5	11
KBMXL0311-20R	★	3.0	0.50	0.30	0.20	28.5	11
KBMXL0411-05R	★	4.0	0.50	0.50	0.05	28.5	11
KBMXL0411-20R	★	4.0	0.50	0.50	0.20	28.5	11
KBMXL0420-05R	★	4.0	0.50	0.50	0.05	37.5	20
KBMXL0420-20R	★	4.0	0.50	0.50	0.20	37.5	20
KBMXL0511-05R	★	5.0	0.50	0.50	0.05	28.5	11
KBMXL0511-20R	★	5.0	0.50	0.50	0.20	28.5	11
KBMXL0520-05R	★	5.0	0.50	0.50	0.05	37.5	20
KBMXL0520-20R	★	5.0	0.50	0.50	0.20	37.5	20

KBMZ - Back Boring								
Sumitomo Catalog #	AC1030U	Dimensions (mm)						
		Min. Bore Dia.	F	e	Nose Radius	L	ℓ_1	ℓ_2
KBMZR0411-05	★	4.0	5.10	1.30	0.05	28.5	9	11
KBMZR0411-20	★	4.0	5.10	1.30	0.20	28.5	9	11
KBMZR0511-05	★	5.0	5.10	1.30	0.05	28.5	9	11
KBMZR0511-20	★	5.0	5.10	1.30	0.20	28.5	9	11

KBMG - Internal Grooving								
Sumitomo Catalog #	AC1030U	Dimensions (mm)						
		Min. Bore Dia.	W	F	e	Corner Radius	L	ℓ
KBMGR0411-05	★	4.0	1.0	4.90	1.10	0.05	28.5	11
KBMGR0411-10	★	4.0	2.0	4.90	1.10	0.10	28.5	11
KBMGR0511-05	★	5.0	1.0	5.10	1.30	0.05	28.5	11
KBMGR0511-10	★	5.0	2.0	5.10	1.30	0.10	28.5	11

See pages 234-235 of 17-18 General Catalog for applicable holders

AC1030U Availability

■ Inserts (For Right-handed Holders)

Cat. No.	Coated Carbide AC1030U			Max. Cut-off Diameter (mm)	Dimensions (mm)				Toolholder	Insert	Orientation	Fig.	Holder Style							
	R	N	L		w	r _E	L	s												
CTR 050505 R/N/L	★	★	★	5	0.5	0.05	19	7	SCTR1010 SCTR1212 SCTR1616	R			SCTR							
CTR 050500 R/N/L	★	★		5										0						
CTR 121005 R/N/L	★	★	★	12	1.0	0.05														
CTR 121505 R/N/L	★	★	★	12	1.5															
CTR 122005 R/N/L	★	★		12	2.0															
CTR 121000 R/N/L	★	★		12	1.0															
CTR 121500 R/N/L	★	★		12	1.5															
CTR 122000 R/N/L	★	★		12	2.0															
CTR 161005 R/N/L				16	1.0	0.05								23.1	8.3	SCTR1010-16 SCTR1212-16 SCTR1616-16	CTR			SCTR
CTR 161505 R/N/L	★	★		16	1.5															
CTR 162005 R/N/L	★	★	★	16	2.0															
CTR 161000 R/N/L				16	1.0															
CTR 161500 R/N/L	★	★		16	1.5															
CTR 162000 R/N/L	★	★	★	16	2.0															
CTR121000R-NB	★			12	1.0	0	19	7	SCTR1010 SCTR1212 SCTR1616	CTR			SCTR							
CTR121500R-NB	★			12	1.5															
CTR122000R-NB	★			12	2.0															
CTR162000R-NB	★			16	2.0		23.1	8.3	SCTR1010-16 SCTR1212-16 SCTR1616-16											

R : Right
N : Neutral
L : Left

■ Inserts (For Left-handed Holders)

Cat. No.	Coated Carbide AC1030U			Max. Cut-off Diameter (mm)	Dimensions (mm)				Toolholder	Insert	Orientation	Fig.	Holder Style							
	R	N	L		w	r _E	L	s												
CTL 050505 R/N/L	★	★		5	0.5	0.05	19	7	SCTL1010 SCTL1212 SCTL1616	R			SCTL							
CTL 050500 R/N/L	★	★		5										0						
CTL 121005 R/N/L	★	★	★	12	1.0	0.05														
CTL 121505 R/N/L	★	★	★	12	1.5															
CTL 122005 R/N/L	★	★		12	2.0															
CTL 121000 R/N/L	★	★		12	1.0															
CTL 121500 R/N/L	★	★		12	1.5															
CTL 122000 R/N/L	★	★		12	2.0															
CTL 161005 R/N/L				16	1.0	0.05								23.1	8.3	SCTL1010-16 SCTL1212-16 SCTL1616-16	CTL			SCTL
CTL 161505 R/N/L	★	★		16	1.5															
CTL 162005 R/N/L	★	★	★	16	2.0															
CTL 161000 R/N/L				16	1.0															
CTL 161500 R/N/L	★	★		16	1.5															
CTL 162000 R/N/L	★	★		16	2.0															

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Torrance, CA 90501
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Plymouth, MI 48170
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