

Insert for Aluminium (2011)

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Aluminium carbide grade performances and applications

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Grade	Density (g/cm ³)	Hardness (HRA)	Bending Strength (N/mm ²)	Performances&Applications
ZU810	14.5~15.0	≥92.8	3200	Ultra-fine grain cemented carbide, be used for continuously and discontinuously cutting for Reflectal 、Birmasil(Si ≤12%)
ZPU109	Cemented carbide coating grade with DLC coating. It can minimize Built-up edge and get a good finished surface in a wide range of cutting speed. With little cutting resistance,it applies to High speed cutting for all Aluminium Alloy.			

Turning Data Recommended

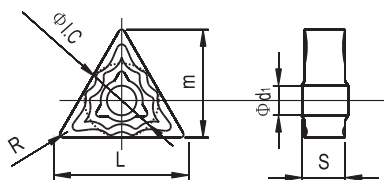
Fit work piece	Condition		Hardness (HB)	ZU810			ZPU109		
				V _c (m/min)	a _p (mm)	f _n (mm/r)	V _c (m/min)	a _p (mm)	f _n (mm/r)
Reflectal	Unhardening		60	800~2500	0.3-7.0	0.03-0.8	800-2500	0.1-5.0	0.03-0.8
	Hardening		100	300~1000			600-2500		
Reflectal	Si ≥ 12%	Unhardening	75	300~1000			600-2500		
		Hardening	90	200~1000			600-2500		
	Si ≥ 12%	high temperature	130				200-1000	0.05-3.0	0.03-0.3

Milling Data Recommended

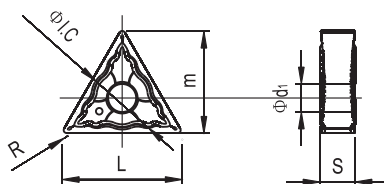
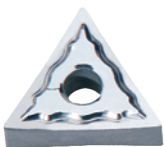
Fit work piece	Condition		Hardness (HB)	ZU810			ZPU109		
				V _c (m/min)	a _p (mm)	f _n (mm/r)	V _c (m/min)	a _p (mm)	f _n (mm/r)
Reflectal	Unhardening		60	300-3000	0.5-5.0	0.1-0.35	300-3000	0.5-5.0	0.05-0.35
	Hardening		100	100-2500			100-2500		
Birmasil	Si ≥ 12%	Unhardening	75	100-2000			100-2000		
		Hardening	90	100-1800			100-1800		
	Si ≥ 12%	high temperature	130	100-1000			100-1000		

Important Statement: For reference only , please use it as your producing environment)

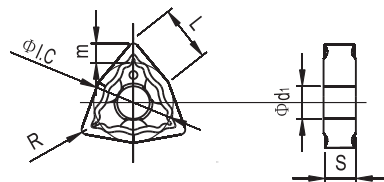
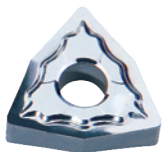
Remarks: we could also provide carbide inserts which are not in our catalogues machining aluminium materials as well as other metal cutting inserts according to your samples and drawings.



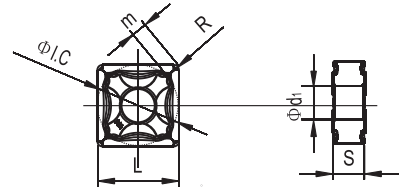
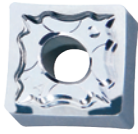
Type 型号			Dimension (mm) 基本尺寸						配件				
(ISO)		(inch)	L	$\Phi I.C \pm 0.05$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	$R \pm 0.05$	$m \pm 0.08$	刀杆	销钉	压板	双头螺钉	扳手
TNMP	160404-TK	331-TK	16.5	9.525	4.76	3.81	0.4	13.888	PTFNR/L PTGNR/L PTENR/L WTJNR/L	CTM513	HL1814	ML0625	L2.0, L3.0
	160408-TK	332-TK					0.8	13.488					



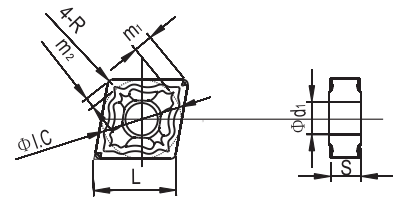
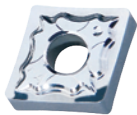
Type 型号			Dimension (mm) 基本尺寸						配件				
(ISO)		(inch)	L	$\Phi I.C \pm 0.05$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	$R \pm 0.05$	$m \pm 0.08$	刀杆	销钉	压板	双头螺钉	扳手
TNMG	160404-LH	331-LH	16.5	9.525	4.76	3.81	0.4	13.888	PTFNR/L PTGNR/L PTENR/L WTJNR/L	CTM513	HL1814	ML0625	L2.0, L3.0
	160408-LH	332-LH					0.8	13.488					
	220408-LH	432-LH	22	12.7		5.16	0.8	18.25		CTM617	HL1917	ML0803	L2.5, L4.0



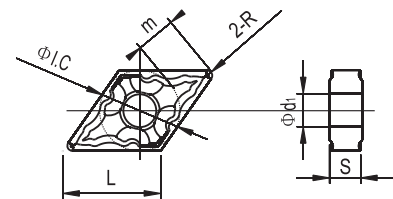
Type 型号			Dimension (mm) 基本尺寸						配件				
(ISO)		(inch)	L	Φ I.C±0.08	S±0.13	Φ d ₁ ±0.08	R±0.05	m±0.13	刀杆	销钉	压板	双头螺钉	扳手
WNMG	060404-LH	331-LH	6.52	9.525	4.76	3.81	0.4	2.426	PWLNR/L WWLNR/L	CTM510	HL1511	ML0518	L2.0,L2.5
	060408-LH	332-LH					0.8	2.206					
	080404-LH	431-LH	10.86	12.7		5.16	0.4	3.308	CTM613 CTM617	HL1810 HL1814	ML0520 ML0620	L2.5 L2.5 L3.0	
	080408-LH	432-LH					0.8	3.088					
	080412-LH	433-LH					1.2	2.867					



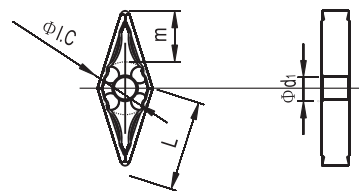
Type 型号			Dimension (mm) 基本尺寸						配件				
(ISO)		(inch)	L	$\Phi I.C \pm 0.08$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	$R \pm 0.05$	$m \pm 0.13$	刀杆	销钉	压板	双头螺钉	扳手
SNMG	120404-LH	431-LH	12.7	12.7	4.76	5.16	0.4	2.466	PSBNR/L	CTM617	HL1814	ML0625	L2.5, L3.0
	120408-LH	432-LH					0.8	2.31	PSTNN/L				
	120412-LH	433-LH					1.2	2.137	PSKNR/L				
SNMM	120408-LH	432-LH					0.8	2.301	PSSNR/L				



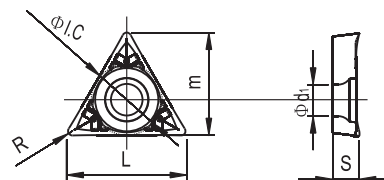
Type 型号			Dimension (mm) 基本尺寸							配件				
(ISO)		(inch)	L	Φ I.C $\pm$ 0.08	S $\pm$ 0.13	Φ d ₁ $\pm$ 0.08	R $\pm$ 0.05	m ₁ $\pm$ 0.13	m ₂ $\pm$ 0.13	刀杆	销钉	压板	双头螺钉	扳手
CNMG	120404-LH	431-LH	12.9	12.7	4.76	5.16	0.4	3.308	1.818	PCBNR/L	CTM613	HL1810	ML0620	L2.5,L3.0
	120408-LH	432-LH					0.8	3.088	1.697					
	120412-LH	433-LH					1.2	2.867	1.576					
CNMM	120408-LH	432-LH					0.8	3.088	1.697	PCLNR/L	CTM617	HL1814	ML0625	



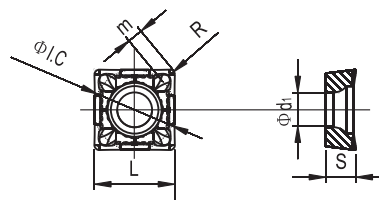
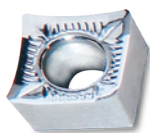
Type 型号			Dimension (mm) 基本尺寸						配件					
(ISO)		(inch)	L	ΦI.C±0.08	S±0.13	Φd₁±0.08	R±0.05	m±0.15	刀杆	销钉	压板	双头螺钉	扳手	
DNMG	150404-LH	431-LH	15.5	12.7	4.76	5.16	0.4	6.939	PDJNR/L PDNNR/L	CTM613 CTM617	HL2114	ML0625	L2.0,L3.0	
	150408-LH	432-LH					0.8	6.477						
	150604-LH	441-LH			6.35		0.4	6.939						
	150608-LH	442-LH					0.8	6.477						



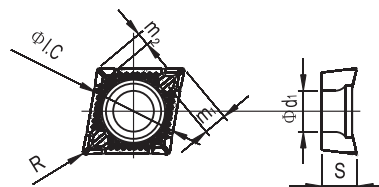
Type 型号			Dimension (mm) 基本尺寸						配件				
	(ISO)	(inch)	L	$\Phi I.C \pm 0.08$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	$R \pm 0.05$	$m \pm 0.15$	刀杆	销钉	压板	双头螺钉	扳手
VNMG	160408-LH	332-LH	16.6	9.525	4.76	3.81	0.8	9.229	MVJNR/L	CTM513	HL2414	ML0625	L2.0,L4.0
VNMG	160404-LH	331-LH					0.4	10.152					
	160408-LH	332-LH					0.8	9.229					



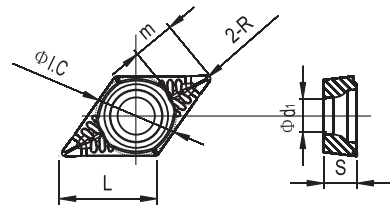
Type 型号			Dimension (mm) 基本尺寸						配件		
	(ISO)	(inch)	L	$\Phi I.C \pm 0.025$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	$R \pm 0.05$	$m \pm 0.03$	刀杆	螺钉	扳手
TCGT	090202-LH	1.8 (1.5) 0-LH	9.6	5.56	2.38	2.5	0.2	8.14	STFCR/L STGCR/L STECR/L	M2.5*8	T-8
	090204-LH	1.8 (1.5) 1-LH					0.4	7.94			
	110202-LH	2(1.5)0-LH					0.2	9.322			
	110204-LH	2(1.5)1-LH	11	6.35		2.8	0.4	9.128		M2.5*8	T-8
	110208-LH	2 (1.5) 2-LH					0.8	8.725			
	16T302-LH	3(2.5)0-LH					0.2	14.088		M3.5*9	T-15
	16T304-LH	3(2.5)1-LH	16.5	9.525	3.97	4.4	0.4	13.888			
	16T308-LH	3(2.5)2-LH					0.8	13.488			
	16T312-LH	3(2.5)3-LH					1.2	13.088			
	16T316-LH	3(2.5)4-LH					1.6	12.688			



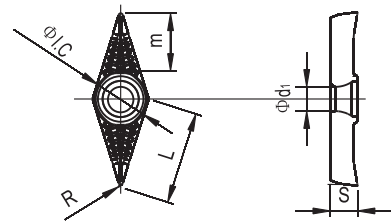
Type 型号			Dimension (mm) 基本尺寸							配件		
(ISO)		(inch)	L	Φ I.C ±0.025	S ±0.13	Φ d ₁ ±0.08	R ±0.05	m ±0.03	刀杆	螺钉	扳手	
SCGT	09T302-LH	3 (2.5) 0-LH	9.525	9.525	3.97	4.4	0.2	1.89	SSBCR/L	M3.5*9	T-15	
	09T304-LH	3 (2.5) 1-LH					0.4	1.808				
	09T308-LH	3 (2.5) 2-LH					0.8	1.644				
	120404-LH	431-LH	12.7	12.7	4.76	5.5	0.4	2.466	SSDCN/L	M5*12	T-20	
	120408-LH	432-LH					0.8	2.301	SSSCR/L			
	120412-LH	433-LH					1.2	2.137				
	120416-LH	434-LH					1.6	1.973				



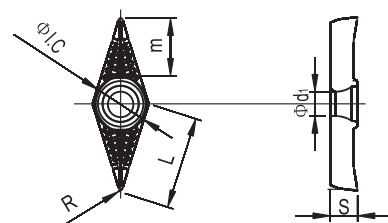
Type 型号			Dimension (mm) 基本尺寸							配件		
(ISO)		(inch)	L	$\Phi I.C \pm 0.025$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	$R \pm 0.05$	$m_1 \pm 0.03$	m_2	刀杆	螺钉	扳手
CCGT	060202-LH	2(1.5)0-LH	6.4	6.35	2.38	2.8	0.2	1.652	0.908	SCLCR/L	M2.5*8	T-8
	060204-LH	2(1.5)1-LH					0.4	1.544	0.848			
	060208-LH	2(1.5)2-LH					0.8	1.328	0.728			
	09T302-LH	3(2.5)0-LH	9.7	9.525	3.97	4.4	0.2	2.536	1.394		M3.5*9	T-15
	09T304-LH	3(2.5)1-LH					0.4	2.426	1.333			
	09T308-LH	3(2.5)2-LH					0.8	2.206	1.212			
	120402-LH	430-LH	12.9	12.7	4.76	5.5	0.2	3.418	1.879		M5*12	T-20
	120404-LH	431-LH					0.4	3.308	1.818			
	120408-LH	432-LH					0.8	3.088	1.697			
	120412-LH	433-LH					1.2	2.867	1.576			



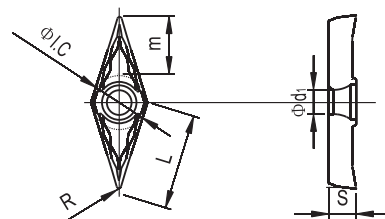
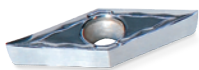
Type 型号			Dimension (mm) 基本尺寸						配件		
(ISO)		(inch)	L	$\Phi LC \pm 0.025$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	$R \pm 0.05$	$m \pm 0.03$	刀杆	螺钉	扳手
DCGT	070202-LH	2(1.5)0-LH	7.7	6.35	2.38	2.8	0.2	3.464	SDJCR/L	M2.5*8	T-8
	070204-LH	2(1.5)1-LH					0.4	3.238			
	070208-LH	2(1.5)2-LH					0.8	2.786	SDNCR/L	M3.5*9	T-15
	11T302-LH	3(2.5)0-LH	11.6	9.525	3.97	4.4	0.2	5.321			
	11T304-LH	3(2.5)1-LH					0.4	5.089			
	11T308-LH	3(2.5)2-LH					0.8	4.626			
	11T312-LH	3(2.5)3-LH					1.2	4.164			



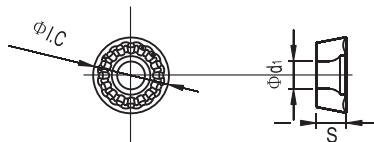
Type 型号			Dimension (mm) 基本尺寸						配件		
(ISO)		(inch)	L	$\Phi LC \pm 0.025$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	$R \pm 0.05$	$m \pm 0.03$	刀杆	螺钉	扳手
VBGT	110302-LH	220-LH	11	6.35	3.18	2.8	0.2	6.92	SVJBR/L SVVBN	M2.5	T-8
	110304-LH	221-LH					0.4	6.455			
	110308-LH	222-LH					0.8	5.525			
	130302-LH	(2.5)20-LH	13.8	7.93	3.4	3.4	0.2	8.765		M3*8	T-10
	130304-LH	(2.5)21-LH					0.4	8.3			
	130308-LH	(2.5)22-LH					0.8	7.37			
	160402-LH	330-LH	16.6	9.525	4.76	4.4	0.2	10.614		M3.5*9	T-15
	160404-LH	331-LH					0.4	10.152			
	160408-LH	332-LH					0.8	9.229			
	160412-LH	333-LH					1.2	8.306			
	220516-LH	4(3.5)4-LH	22.1	12.7	5.56	5.5	1.6	7.383		M5*12	T-20
	220525-LH						2.5	8.955			
	220530-LH						3	7.79			



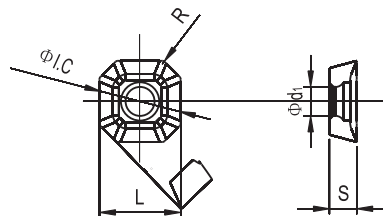
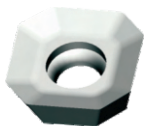
Type 型号			Dimension (mm) 基本尺寸						配件		
(ISO)		(inch)	L	Φ I.C ±0.025	S ±0.13	Φ d ₁ ±0.08	R ±0.05	m ±0.03	刀杆	螺钉	扳手
VCGT	110302-LH	220-LH	11	6.35	3.18	2.8	0.2	6.92	SVJCR/L SWCN	M2.5	T-8
	110304-LH	221-LH					0.4	6.455			
	110308-LH	222-LH					0.8	5.525			
	130302-LH	(2.5)20-LH	13.8	7.93		3.4	0.2	8.765		M3*8	T-10
	130304-LH	(2.5)21-LH					0.4	8.3			
	130308-LH	(2.5)22-LH					0.8	7.37			
	160402-LH	330-LH	16.6	9.525	4.76	4.4	0.2	10.614		M3.5*9	T-15
	160404-LH	331-LH					0.4	10.152			
	160408-LH	332-LH					0.8	9.229			
	160412-LH	333-LH					1.2	8.306			
	220516-LH	4(3.5)4-LH	22.1	12.7	5.56	5.5	1.6	7.383		M5*12	T-20
	220525-LH			12.7			2.5	8.955			
	220530-LH			12.7			3	7.79			



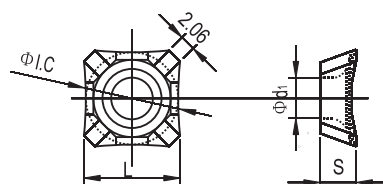
Type 型号			Dimension (mm) 基本尺寸						配件		
(ISO)		(inch)	L	$\Phi I.C \pm 0.025$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	$R \pm 0.05$	$m \pm 0.03$	刀杆	螺钉	扳手
VCGT	160404-DL	331-DL	16.6	9.525	4.76	4.4	0.4	10.152	SVJCR/L SWCN	M3.5*9	T-15
	160408-DL	332-DL					0.8	9.229			



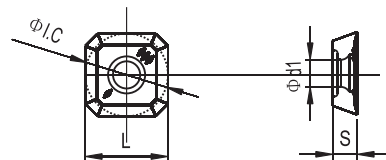
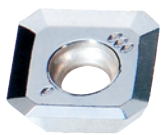
Type 型号		Dimension (mm) 基本尺寸					配件		
(ISO)	(inch)	L	$\phi I.C \pm 0.025$	$S \pm 0.13$	$\phi d_1 \pm 0.08$		刀杆	螺钉	扳手
RCGT	0602MO-LH		6	2.38	2.2		SRDCN SRGCR/L	M2.5*6	T-8
	0803MO-LH		8	3.18	3.35			M2.5*8	T-10
	1003MO-LH		10	3.18	4			M3.5*9	T-15
	10T3MO-LH		10	3.97					T-15
	1204MO-LH		12	4.76	4.4			M5*12	T-20



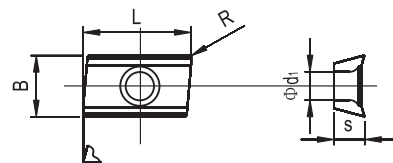
Type 型号		Dimension (mm) 基本尺寸						配件			
(ISO)	(inch)	L	$\phi I.C \pm 0.025$	$S \pm 0.13$	$\phi d_1 \pm 0.08$	R	a_0	刀盘	螺钉	扳手	
SDKT0903AEFN-LH		9.525	9.525	3.18	3.4	0.4	15°				



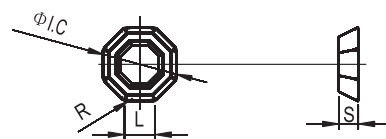
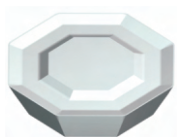
Type 型号		Dimension (mm) 基本尺寸						配件		
(ISO)	(inch)	L	Φ I.C ±0.025	S ±0.13	Φ d ₁ ±0.08	R	a°	刀盘	螺钉	扳手
SDHT1204AEFN-LH-2		12.7	12.7	4.76	5.5	0.8	15			
SEKT1204AFFN-LH-1							20			
SEKT1204AFFN-LH-2										



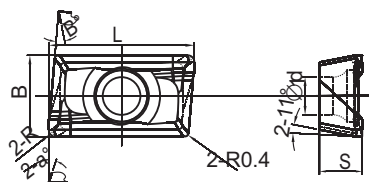
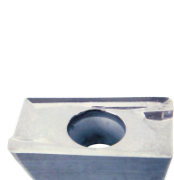
Type 型号		Dimension (mm) 基本尺寸						配件			
(ISO)	(inch)	L	$\Phi I.C \pm 0.025$	$S \pm 0.13$	$\Phi d_1 \pm 0.08$	R	a_0	刀盘	螺钉	扳手	
SEKT13T3AEFN-LH		13.4	13.4	3.97	4.4	0	20°				



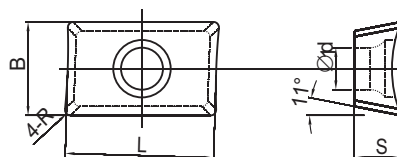
Type 型号		Dimension (mm) 基本尺寸						配件			
(ISO)	(inch)	L	B	S	Φd_1	$R \pm 0.05$		刀杆	螺钉	扳手	
APKT	1604PDFR-LH	16.8	9.525	4.76	4.4	0.4					



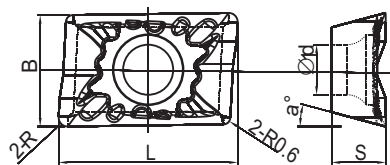
Type 型号		Dimension (mm) 基本尺寸					配件		
(ISO)	(inch)	L	ΦI.C±0.025	S±0.13	R	a°	刀盘	螺钉	扳手
OFGR070404-LH		7.45	17.94	4.76	0.4	26			
OFGR070408-LH					0.8				



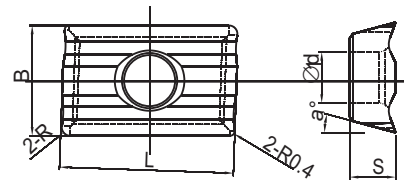
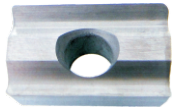
Type 型号		Dimension (mm) 基本尺寸								配件		
	(ISO)	(inch)	L	B	S	$\Phi d_1 \pm 0.08$	$r \pm 0.05$	a°	B°	刀杆	螺钉	扳手
APKT	1003PDFR-LH		11	6.7	3.5	2.8	0.4	15	15			
	16T4PDFR-LH-1		17	9.49	4.96	4.4	0.8	15	11			



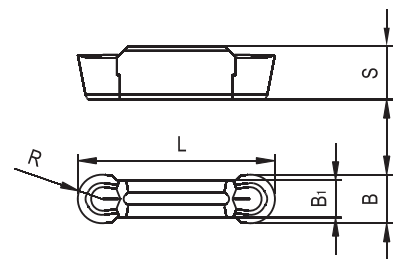
Type 型号		Dimension (mm) 基本尺寸								配件		
	(ISO)	(inch)	L	B	S	$\Phi d_1 \pm 0.08$	$r \pm 0.05$	a°		刀杆	螺钉	扳手
APHX	100304FR-LH		10.08	6.35	3.18	2.8	0.4	11				



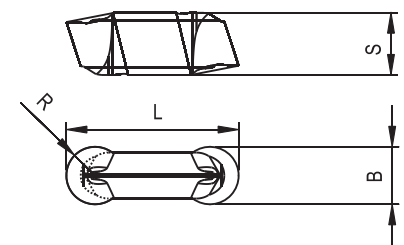
Type 型号		Dimension (mm) 基本尺寸								配件		
	(ISO)	(inch)	L	B	S	$\Phi d_1 \pm 0.08$	$r \pm 0.05$	a°		刀杆	螺钉	扳手
LDHT	1504PDFR-LH		15.74	9.8	4.76	4.4	0.8	15				



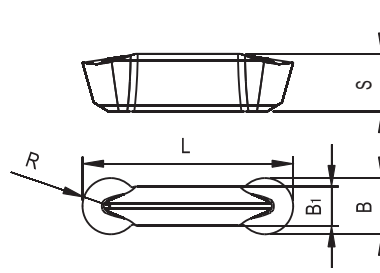
Type 型号		Dimension (mm) 基本尺寸						配件		
(ISO)	(inch)	L	B	S	$\Phi d_1 \pm 0.08$	$r \pm 0.05$	a°	刀杆	螺钉	扳手
LDHT	15T308FR-LH	15	9.5	3.97	4.4	0.8	15			



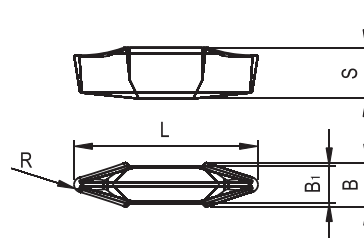
Type 型号		Dimension (mm) 基本尺寸						配件			
(ISO)	(inch)	L	B	B ₁	S	$R \pm 0.03$		刀杆	螺钉	扳手	
MRGN400-A-LH		21.0	4.0	3.3	4.8	2.0		MGEHR/L	BHA0616	HW50L	
MRGN500-A-LH		26.0	5.0	4.1	5.8	2.5		MGEUR/L			
MRGN600-A-LH		26.0	6.0	5.0	5.8	3.0		MGIVR/L			
MRGN800-A-LH		31.0	8.0	6.0	6.5	4.0		MGIUR/L			



Type 型号		Dimension (mm) 基本尺寸					配件	
(ISO)	(inch)	L	B	B ₁	S	$R \pm 0.03$	刀杆	螺钉
GIP600E-3.00-LH		18	6	4.8	6.5	3	GHIUR/L:40C-15A-6 40C-27.5A-6 40UC-6 50UC-6	M6*25



Type 型号		Dimension (mm) 基本尺寸					配件	
(ISO)	(inch)	L	B	B ₁	S	R±0.03	刀杆	螺钉
GDMA840-LH		30	8	5.6	8.2	4	GHIUR/L: 40C-15A-8 50C-15A-8 40C-27.5A-8 50C-27.5-8 40UC-8 50UC-8	M6*25



Type 型号		Dimension (mm) 基本尺寸					配件	
(ISO)	(inch)	L	B	B ₁	S	R±0.03	刀杆	螺钉
GIPA7YZ-35V-1.2-LH		30	7.2	6	8.2	1.2	GHIUR/L 40C-22.5A-8V	M6*25