CTCB·AP®
艾博合金

株洲艾博硬质合金有限公司

Zhuzhou Apple Carbide Tools Co.,Ltd

Wechat

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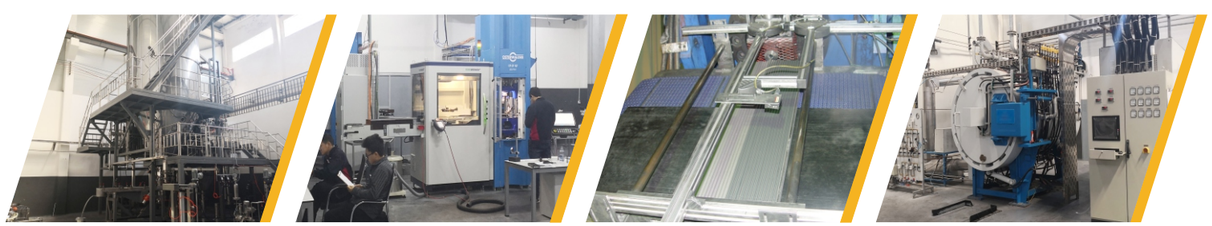
About us ▸

Apple carbide is located in ZhuZhou City ,HuNan Province and was founded in 2005 .With years of experience and professional ,ongoing research and development, as well as good quality control system,Apple Carbide competitively offers the best quality with short delivery time .The product line covers : carbide for woodworking ,metalworking, mining ,construction , molding and customized service is also accepted .

With the special know-how and skilled workers , the products from APPLE CARBIDE have been exported to many countries and have gained high reputation among customers for the stable quality competitive price and fast delivery .

Welcome to visit our site and contact us for more details , we are happy to help you at anytime .



主要生产设备 The Main Production Equipment

CNC刀具磨削中心
CNC Tool Grinding Center

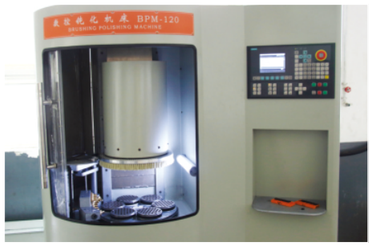
高精密的刃磨设备确保产品具 有很高的换位精度
The high accurate equipment ensure the prod
high precision of transportation.

400 COMBI周边磨床

400 COMB Fully Automatic CNC Indexable Insert Periphery Grinding Machine

数控刃口钝化机床
NC Tool Cutting Edge Honed Machine

先进的刃口钝化处理确保刀具具有良好的刃口质量
The high cutting edge quality is guaranteed by our advanced honing treatment technolo



强力平面磨床

Powerful Surface Grinder

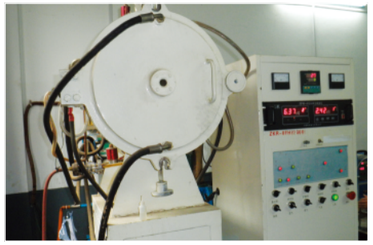
双端面精密研磨机床

Parallel Surface Grinder

主要生产设备
The Main Production Equipment

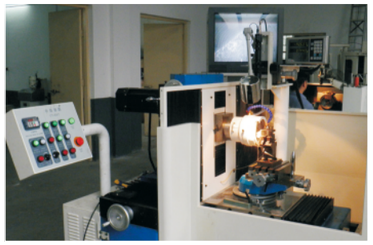
真空焊接设备

Vacuum Welding Machine



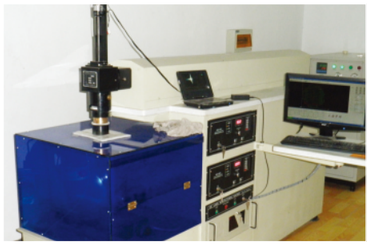
万能超硬刀具磨床

Universal Tool Grinder



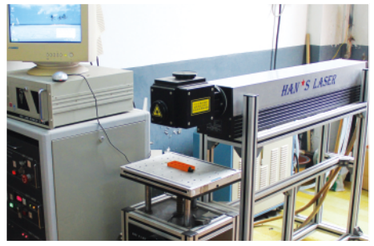
激光切割设备

Laser Cutting Machine



激光打标设备

Laser Marking Machine



原材料分级设备

Raw Material Grade and Treatment Equipment

CBN 刀片牌号介绍 CBN Grades

产品牌号 Type	CBN含量近似值 Content(Wt%)	平均颗粒度值 Size(um)	粘结剂 Binding Type	表层 Coating	供应的形式 Product Form		
					APS	APC	APW
APS11	90-92	8-12	AI陶瓷	(Ti,Si)N	●		●
	发动机缸体、缸盖等普通灰口铸铁高速切削加工 Machining normal gray cast iron with high speed,like engine cylinder and cover etc.						
APS25	89-91	30-40	AI陶瓷	(Ti,Si)N	●		●
	轧辊、渣浆泵、矿山机械等合金铸铁、合金铸钢切削加工 Machining alloy cast iron and alloy cast steel,like roller,slurry pump and mine machines etc.						
APS2502	88-90	30-40	AI陶瓷	Optional (Ti,Si)N+Tin	●		●
	锰钢 Manganese steels						
APS2503	89-91	8-10	AI陶瓷	-(Ti,Si)N+Tin	●		●
	烧结铁 Sintered iron						
APS51	93-95	20	Co+AI陶瓷	(Ti,Si)N	●		●
	刹车盘、制动鼓等耐磨合金铸铁高速切削加工 Machining wear resistant alloy cast iron with high speed,like brake disc and brake drum etc.						
APS301	68-70	2-4	TiN陶瓷	CrN、(Ti,Si)N +TiN	●		●
	淬火钢、轴承钢、模具钢等韧性材料切削加工 Machining some tough materiels,like hardened stwwl,bearing steel and die steel etc.						
APS610	88-90	1-3	TiN陶瓷	(Ti,Si)N+TiN			
	航空发动机高温合金切削加工 Machining some high temperalure alloy,like aeroengine 刹车盘精加工 Brake disc finishing						
APC601	55-60	2-4	Co-w-AI(backed) +Tin陶瓷	CrN、(Ti,Ai)N +TiN		●	●
	用于加工淬火钢、轴承钢、模具钢等材料 Used for machining hardened steel,baring steel and die steel						
APC702	65-70	2	Co-w-AI(backed) +Tin陶瓷	CrN、(Ti,Ai)N +TiN		●	●
	用于加工淬火钢、轴承钢、模具钢等材料 Used for machining hardened steel,baring steel and die steel						
APC9501	90-95	4-12	Co-w-AI(backed)	(Ti,Si)N		●	●
	用于加工普通灰口铸铁类材料 Used for normal gray cast iron materials						

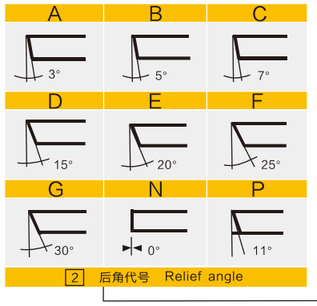
CBN加工参数
CBN Cutting Parameters

切削参数
The Cutting Parameters

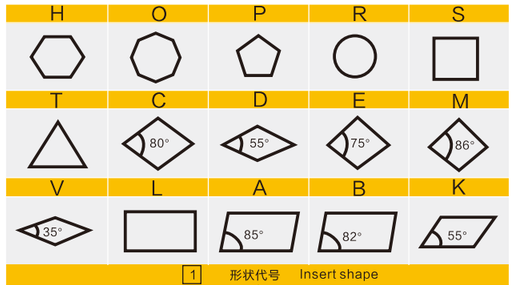
工件材质 Material	加工方式 Processing way	刀片牌号 type	切削参数 The Cutting Parameters		
			切削速度 Vc(mm/min)	进给量 f(mm/r)	切削深度 Ap(mm)
灰铸铁 Gray Cast Iron FC200-FC300	粗加工 roughing	★APS11 APC9501	400-1500	0.3-0.6	2.0-5.0
	半精加工 Semi-finshing		400-1500	0.2-0.35	1.5-2.5
	精加工 finishing		600-1200	0.1-0.2	0.1-1.0
冷硬铸铁 Hardened Cast Iron	粗加工 roughing	★ APS25 ▲ APS11 APC9502	50-80	0.35-0.5	0.35-0.5
	半精加工 Semi-finshing		70-120	0.2-0.35	0.2-0.35
	精加工 finishing		70-150	0.1-0.2	0.1-0.2
合金铸铁 Alloy Cast Iron	粗加工 roughing	★ APS50 APC9502	400-1500	0.35-0.5	1.5-3.5
	半精加工 Semi-finshing		400-1500	0.2-0.35	0.5-1.5
	精加工 finishing	APS60	600-1200	0.1-0.2	0.1-0.5
淬火钢 Hardened Steel 轴承钢 Bearing Steel 模具钢 Die Steel	粗加工 roughing	★ APS60 APC6001	80-200	0.25-0.35	1.0-2.0
	半精加工 Semi-finshing		80-240	0.15-0.25	0.5-1.0
	精加工 finishing	APS30	200-300	0.03-0.15	0.1-0.5
高温合金 High-Temperature Alloy	粗加工 roughing	APS60	60-100	0.2-0.35	1.0-1.5
	半精加工 Semi-finshing		80-140	0.1-0.2	0.5-1.0
	精加工 finishing		150-240	0.05-0.1	0.1-0.5
硬质合金 Cemented Carbide	粗加工 roughing	★ APS25 APC9501	20-40	0.35-0.5	1.0-2.0
	半精加工 Semi-finshing		40-80	0.2-0.35	0.5-1.0
	精加工 finishing	APS60	80-200	0.05-0.2	0.1-0.5
粉末冶金材料 Powder metallurgy material	粗加工 roughing	★ APS60 ▲ APS50 APC9501	150-300	0.2-0.35	1.0-2.5
	半精加工 Semi-finshing		200-400	0.1-0.25	0.5-1.5
	精加工 finishing		400-600	0.1-0.2	0.1-1.0

注释：★：第一优选The first selection ▲：第二优选The Second selection

刀片规格标准 CBN Inserts Specifications



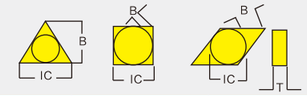
2 后角代号 Relief angle



1 形状代号 Insert shape

tolerances

IC：theoretical diameter of the insert inseribed circle
T：thickness
B：see figure below



tolerance class	tolerance on "IC"		tolerance on "B"		tolerance on "T"	
	in	mm	in	mm	in	mm
C	±0.010	±0.025	±0.0005	±0.013	±0.001	±0.025
H	±0.005	±0.013	±0.0005	±0.013	±0.001	±0.025
E	±0.010	±0.025	±0.0010	±0.025	±0.001	±0.025
G	±0.010	±0.025	±0.0010	±0.025	±0.005	±0.13
M	±0.005	±0.13	±0.005	±0.13	±0.005	±0.13
U	±0.005	±0.13	±0.005	±0.13	±0.005	±0.13

3 精度等级代号 Tolerance

代号 code number	有无孔 bore has to have to	孔的形状 bore's shape	断削槽 chpbeaker	形状 shape	代号 code number	有无孔 bore has to have to	孔的形状 bore's shape	断削槽 chpbeaker	形状 shape
N	无 have no		无 have no		W	有 have	圆柱孔+单面40°-60° cylinder bore+one sind	无 have no	
R	无 have no		单面 one side		T	有 have	圆柱孔+单面40°-60° cylinder bore+one sind	单面 one side	
F	无 have no		双面 double		Q	有 have	圆柱孔+单面40°-60° cylinder bore+one sind	无 have no	
A	有 have	圆柱孔 cylinder bore	无 have no		U	有 have	圆柱孔+双面40°-60° cylinder bore+double	双面 double	
M	有 have	圆柱孔 cylinder bore	单面 one side		B	有 have	圆柱孔+单面70°-90° cylinder bore+one sind	无 have no	
G	有 have	圆柱孔 cylinder bore	双面 double		H	有 have	圆柱孔+单面70°-90° cylinder bore+one sind	单面 one side	
X					C	有 have	圆柱孔+双面70°-90° cylinder bore+double	无 have no	
					J	有 have	圆柱孔+双面70°-90° cylinder bore+double	双面 double	

4 槽孔代号 Insert type

inch	C	N	M	G	–	4	3	2	□	□
(metric)	C	N	M	G		12	04	08	□	□
Position	1	2	3	4		5	6	7	8	9

切削刃长度及内接圆代号 5 尺寸 Size

inch	IC		metric outting edge length						
	in	mm	C	D	R	S	T	V	W
1.2(5)	5/32	3.97	–	04	03	03	06	–	–
1.5(6)	3/16	4.76	04	05	04	04	08	08	–
1.8(7)	7/32	5.56	05	06	05	05	09	09	03
–	0.236	6.00	–	–	06	–	–	–	–
2	1/4	6.35	06	07	06	06	11	11	04
2.5	5/16	7.94	08	09	07	07	13	13	05
–	0.315	8.00	–	–	08	–	–	–	–
3	3/8	9.52	09	11	09	09	16	16	06
–	0.394	10.00	–	–	10	–	–	–	–
3.5	1/16	11.11	11	13	11	11	19	19	07
–	0.472	12.00	–	–	12	–	–	–	–
4	1/2	12.70	12	15	12	12	22	22	08
4.5	9/16	14.29	14	17	14	14	24	24	09
5	5/8	15.88	16	19	15	15	27	27	10
–	0.630	16.00	–	–	16	–	–	–	–
5.5	11/16	17.46	17	21	17	17	30	30	11
6	3/4	19.05	19	23	19	19	33	33	13
–	0.787	20.00	–	–	20	–	–	–	–
7	7/8	22.22	22	27	22	22	38	38	15
–	0.984	25.00	–	–	25	–	–	–	–
8	1	25.40	25	31	25	25	44	44	17
10	1-1/4	31.75	32	38	31	31	54	54	21
–	1.260	32.00	–	–	32	–	–	–	–

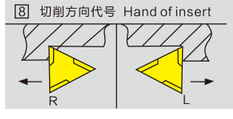
NOTE：Inch sizes in parenthesis for "altermate sizes"D or E (under 1/4 inch IC.

6 刀片厚度代号 Thickness

in	mm	inch	metric
1/32	0.79	0.5(1)	–
1/16	1.59	1(2)	01
5/64	1.98	1.2	T1
3/32	2.38	1.5(3)	02
1/8	3.18	2	03
5/32	3.97	2.5	T3
3/16	4.76	3	04
7/32	5.56	3.5	05
1/4	6.35	4	06
5/16	7.94	5	07
3/8	9.52	6	09
7/16	11.11	7	11
1/2	12.70	8	12

NOTE：Inch sizes in parenthesis for " alternate sizes"D or E (under 1/4 inch IC.

8 切削方向代号 Hand of insert



9 刃口处理代号
Symbols of major outting

T-负倒棱处理 Negative land
F-尖锐刃口 Sharp edge
E-刃口钝化处理
Honed rounded edge
s-倒棱加钝化双重处理
Combination honed edge

7 刀尖圆弧半径 Corner radius

corner radius		symbol	
in	mm	Inch	metric
0.004	0.1	0	01
0.008	0.2	0.5	02
1/64	0.4	1	04
1/32	0.8	2	08
3/64	1.2	3	12
1/16	1.6	4	16
5/64	2.0	5	20
3/32	2.4	6	24
7/64	2.8	7	28
1/8	3.2	8	32
round insert (inch)		–	00
round insert(metric)		–	m0

CBN整体刀片常用系列
Solid CBN Inserts Series

型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
SNM(G)N0903	√	√	√	√				
SNM(G)N0904	√	√	√	√				
SNM(G)N1204		√	√	√	√	√		
SNM(G)N1207		√	√	√	√	√		
SNM(G)N1504		√	√	√	√	√		
SNM(G)N1507		√	√	√	√	√		
SNM(G)N1907		√	√	√	√	√	√	√
SNM(G)N2010		√	√	√	√	√	√	√

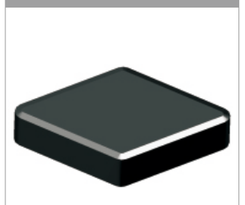
SNG(M)N

型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
SNM(G)A0903	√	√	√	√				
SNM(G)A0904	√	√	√	√				
SNM(G)A1204		√	√	√	√	√		
SNM(G)A1504		√	√	√	√	√	√	

SNG(M)A

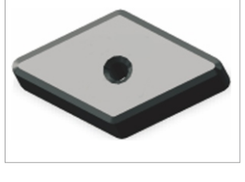
型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
CNM(G)N0903	√	√	√	√				
CNM(G)N0904	√	√	√	√				
SNM(G)N1204	√	√	√	√	√	√		
CNM(G)N1207		√	√	√	√	√		
CNM(G)N1604		√	√	√	√	√	√	
CNM(G)N1607		√	√	√	√	√	√	√

CNG(M)N



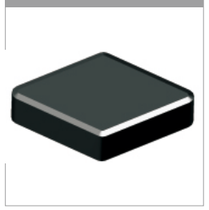
型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
CNM(G)A0903	√	√	√	√				
CNM(G)A0904	√	√	√	√				
CNM(G)A1204		√	√	√	√	√		
CNM(G)A1604		√	√	√	√	√	√	

CNG(M)A



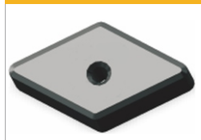
CBN整体刀片常用系列
Solid CBN Inserts Series

DNG(M)N



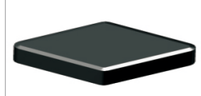
型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
DNM(G)N0903	√	√	√	√				
DNM(G)N0904	√	√	√	√				
DNM(G)N1104	√	√	√	√	√	√		
DNM(G)N1504		√	√	√	√	√		
CNM(G)N1506		√	√	√	√	√	√	√

DNG(M)A



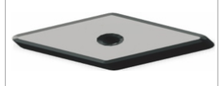
型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
DNM(G)A0903	√	√	√	√				
DNM(G)A0904	√	√	√	√				
DNM(G)A1104		√	√	√	√	√		
DNM(G)A1504		√	√	√	√	√	√	

VNG(M)N



型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
VNM(G)N0903	√	√	√	√				
VNM(G)N0904	√	√	√	√				
VNM(G)N1104	√	√	√	√	√	√		
VNM(G)N1604		√	√	√	√	√		
VNM(G)N1606		√	√	√	√	√	√	√

VNG(M)A



型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
VNM(G)A0903	√	√	√	√				
VNM(G)A0904	√	√	√	√				
VNM(G)A1104		√	√	√	√	√		
VNM(G)A1604		√	√	√	√	√	√	

WNG(M)N

型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
WNM(G)N0603	√	√	√	√				
WNM(G)N0604	√	√	√	√				
VNM(G)N0803		√	√	√	√	√		
VNM(G)N0804		√	√	√	√	√	√	

CBN整体刀片常用系列
Solid CBN Inserts Series

型号 Type	02	04	06	08	10	12	16	20
WNM(G)A0603	√	√	√	√				
WNM(G)A0604	√	√	√	√				
VNM(G)A0803	√	√	√	√	√	√		
VNM(G)A0804		√	√	√	√	√		

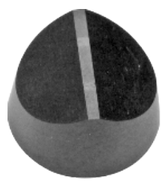
WNG(M)A

型号 Type	负倒棱 Negative land							
	T01	T02	T03	T04	T05	T06	T08	T10
RNM(G)N0903	√	√	√	√				
RNM(G)N0904	√	√	√	√				
RNM(G)N1204		√	√	√	√	√		
RNM(G)N1207		√	√	√	√	√		
RNM(G)N1504		√	√	√	√	√		
RNM(G)N1507		√	√	√	√	√	√	
RNM(G)N1904		√	√	√	√	√	√	
RNM(G)N1907		√	√	√	√	√	√	
RNM(G)N2008		√	√	√	√	√	√	√
SNM(G)N2010		√	√	√	√	√	√	√

RNG(M)N

型号 Type	负倒棱 Negative land							
	T01	T02	T03	T04	T05	T06	T08	T10
RCM(G)N0607-V		√	√	√	√	√		
RCM(G)N0907-V		√	√	√	√	√	√	
RCM(G)N1207-V		√	√	√	√	√	√	
RCM(G)N1507-V				√	√	√	√	√
RCM(G)N1910-V				√	√	√	√	√
RCM(G)N2012-V				√	√	√	√	√

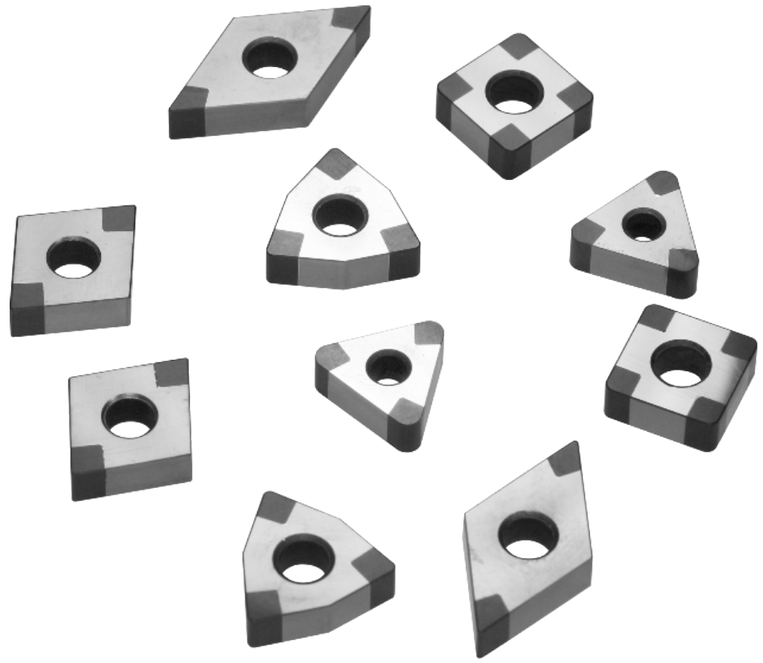
RCG(M)X-V



型号 Type	负倒棱 Negative land							
	T01	T02	T03	T04	T05	T06	T08	T10
RCM(G)N0607-Z		√	√	√	√	√		
RCM(G)N0907-Z		√	√	√	√	√	√	
RCM(G)N1207-Z		√	√	√	√	√	√	
RCM(G)N1507-Z				√	√	√	√	√
RCM(G)N1910-Z				√	√	√	√	√
RCM(G)N2012-Z				√	√	√	√	√

RCG(M)X-Z

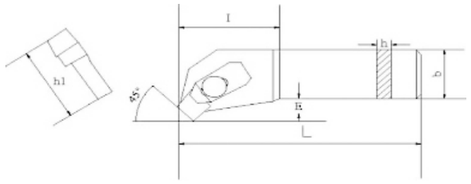
镶嵌焊接式CBN数控刀片
Welding CBN Inserts Series



常用系列
Commonly Used Series

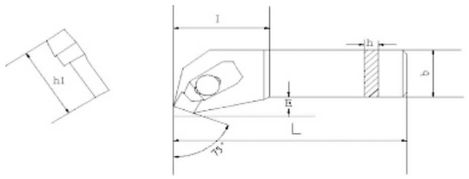
型号 Type	刀尖圆弧半径 Corner radius							
	02	04	06	08	10	12	16	20
CNM(G)A1204	√	√	√	√	√	√		
SNM(G)A1204	√	√	√	√	√	√		
TNM(G)A1604	√	√	√	√	√	√	√	
DNM(G)A1504	√	√	√	√	√	√	√	√
VNM(G)A1604	√	√	√	√	√	√	√	√
WNM(G)A0804	√	√	√	√	√	√	√	

刀杆常用系列
Holder Series



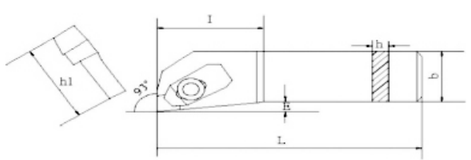
45° 外圆车刀CSSNR/L

刀具型号Type		基本尺寸Basic Size					配套刀片
右刀	左刀	h=h1	l	b	L	E	
CSSNR2020	CSSNL2020	20	30	20	100	5	SNMN0903 SNMN1204 SNMN1207 SNMN1507
CSSNR2525	CSSNL2525	25	30	25	125	5	
CSSNR3030	CSSNL3030	30	35	30	150	5	
CSSNR3225	CSSNL3225	32	35	25	170	7	
CSSNR3232	CSSNL3232	32	35	32	200	7	
CSSNR4040	CSSNL4040	40	38	40		7	



75° 外圆车刀CSRNR/L

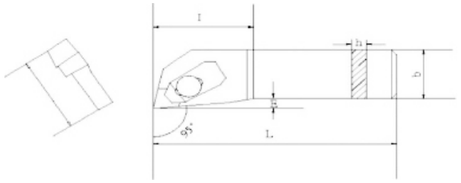
刀具型号Type		基本尺寸Basic Size					配套刀片
右刀	左刀	h=h1	l	b	L	E	
CSRNR2020	CSRNL2020	20	30	20	100	5	SNMN0903 SNMN1204 SNMN1207 SNMN1507
CSRNR2525	CSRNL2525	25	30	25	125	5	
CSRNR3030	CSRNL3030	30	35	30	150	5	
CSRNR3225	CSRNL3225	32	35	25	170	7	
CSRNR3232	CSRNL3232	32	35	32	200	7	
CSRNR4040	CSRNL4040	40	38	40		7	



93° 外圆车刀CSUNR/L

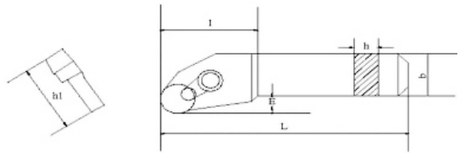
刀具型号Type		基本尺寸Basic Size					配套刀片
右刀	左刀	h=h1	l	b	L	E	
CSUNR2020	CSUNL2020	20	30	20	100	5	SNMN0903 SNMN1204 SNMN1207 SNMN1507
CSUNR2525	CSUNL2525	25	30	25	125	5	
CSUNR3030	CSUNL3030	30	35	30	150	5	
CSUNR3225	CSUNL3225	32	35	25	170	7	
CSUNR3232	CSUNL3232	32	35	32	200	7	
CSUNR4040	CSUNL4040	40	38	40		7	

刀杆常用系列
Holder Series



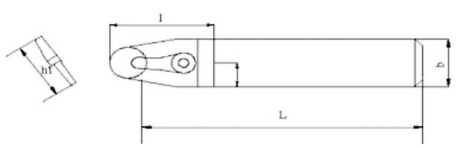
95° 外圆车刀CCLNR/L

刀具型号Type		基本尺寸Basic Size					配套刀片
右刀	左刀	h=h1	l	b	L	E	
CCLNR2020	CCLNL2020	20	30	20	100	5	CNMN0903 CNMN1204 CNMN1207 CNMN1507
CCLNR2525	CCLNL2525	25	30	25	125	5	
CCLNR3030	CCLNL3030	30	35	30	150	5	
CCLNR3225	CCLNL3225	32	35	25	170	7	
CCLNR3232	CCLNL3232	32	35	32	200	7	
CCLNR4040	CCLNL4040	40	38	40		7	



圆刀片偏头外圆车刀 CRSNR/L

刀具型号Type		基本尺寸Basic Size					配套刀片
右刀	左刀	h=h1	l	b	L	E	
CRSNR2020	CRSNL2020	20	30	20	100	5	RNMN0903 RNMN1204 RNMN1507 RNMN2008
CRSNR2525	CRSNL2525	25	30	25	125	5	
CRSNR3030	CRSNL3030	30	35	30	150	5	
CRSNR3225	CRSNL3225	32	35	25	170	7	
CRSNR3232	CRSNL3232	32	35	32	200	7	
CRSNR4040	CRSNL4040	40	38	40		7	



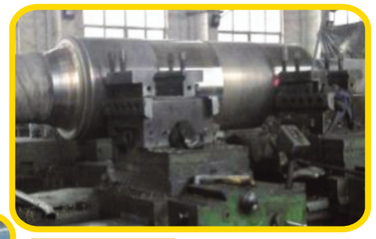
直头外圆车刀 CRDNN

刀具型号Type	基本尺寸Basic Size					配套刀片
右刀	h=h1	l	b	L	E	
CRDNN2020	20	30	20	100	10	RNMN1204 RNMN0903 RNMN1507 RNMN2010
CRDNN2525	25	30	25	125	12	
CRDNN3030	30	35	30	150	15	
CRDNN3225	32	35	25	170	16	
CRDNN3232	32	35	32	200	16	
CRDNN4040	40	38	40		20	

其它型号产品按用户要求生产

产品应用案例
Products Application

汽车零部件加工
Auto Parts



轧辊加工
Roller

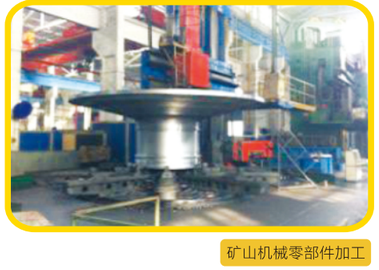
淬火钢零件加工
Chilled Steel

风电轴承加工
Wind Power Bearing

渣浆泵零件加工
Slurry Pump Parts

火车轮毂加工
Train Hub

飞机发动机零部件加
Airplane Engine Parts



矿山机械零部件加工
Mining Machine Parts