



CARBIDE INSERTS

SERIES 978:

Please order in package quantity, 10 inserts in a package.
TiN Coated is C5/C6 grade unless otherwise specified.



CUTTING TOOLS - CARBIDE INSERTS

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TPG-220	1/4	1/8	0	9785585		9785586		9785884	
TPG-221	1/4	1/8	1/64	9784820		9784821		9784822	
TPG-222	1/4	1/8	1/32	9785589		9785590		9785838	
TPG-223	1/4	1/8	3/64	9785591		9785592		9785839	
TPG-320	3/8	1/8	0	9785887		9785888		9785046	
TPG-321	3/8	1/8	1/64	9784823		9784824		9784826	
TPG-322	3/8	1/8	1/32	9784925		9784926		9784927	
TPG-323	3/8	1/8	3/64	9784929		9784930		9784931	
TPG-324	3/8	1/8	1/16	9784933		9784934		9784935	
TPG-430	1/2	3/16	0	9785608		9785609		9785845	
TPG-431	1/2	3/16	1/64	9785610		9785611		9785846	
TPG-432	1/2	3/16	1/32	9785612		9785613		9785847	
TPG-433	1/2	3/16	3/64	9785614		9785615		9785848	
TPG-434	1/2	3/16	1/16	9785616		9785617		9785849	
TPG-542	5/8	1/4	1/32	9785618		9785619		9785885	
TPG-543	5/8	1/4	3/64	9785620		9785621		9785850	
TPG-544	5/8	1/4	1/16	9785622		9785623		9785851	



TRIANGLE — POSITIVE RAKE
GROUND ALL OVER

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TNG-221	1/4	1/8	1/64	9785467		9785468		9785777	
TNG-222	1/4	1/8	1/32	9785469		9785470		9785778	
TNG-321	3/8	1/8	1/64	9785471		9785472		9785779	
TNG-322	3/8	1/8	1/32	9785473		9785474		9785780	
TNG-323	3/8	1/8	3/64	9785475		9785476		9785781	
TNG-324	3/8	1/8	1/16	9785477		9785478		9785782	
TNG-332	3/8	3/16	1/32	9785479		9785480		9785783	
TNG-333	3/8	3/16	3/64	9785481		9785482		9785784	
TNG-432	1/2	3/16	1/32	9785483		9785484		9785785	
TNG-433	1/2	3/16	3/64	9785485		9785486		9785786	
TNG-434	1/2	3/16	1/16	9785487		9785488		9785787	
TNG-544	5/8	1/4	1/16	9785489		9785490		9785788	



TRIANGLE — NEGATIVE RAKE
GROUND ALL OVER

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TPU-222	1/4	1/8	1/32	9785642		9785643		9785861	
TPU-321	3/8	1/8	1/64	9785644		9785645		9785862	
TPU-322	3/8	1/8	1/32	9785646		9785647		9785863	
TPU-323	3/8	1/8	3/64	9785648		9785649		9785864	
TPU-431	1/2	3/16	1/64	9785650		9785651		9785865	
TPU-432	1/2	3/16	1/32	9785652		9785653		9785866	
TPU-433	1/2	3/16	3/64	9785654		9785655		9785867	
TPU-434	1/2	3/16	1/16	9785656		9785657		9785868	
TPU-543	5/8	1/4	3/64	9785658		9785659		-	
TPU-544	5/8	1/4	1/16	9785660		9785661		9785869	



TRIANGLE — POSITIVE RAKE
GROUND TOP AND BOTTOM

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TNU-222	1/4	1/8	1/32	9785563		9785564		9785828	
TNU-322	3/8	1/8	1/32	9785565		9785566		9785829	
TNU-323	3/8	1/8	3/64	9785567		9785568		9785830	
TNU-332	3/8	3/16	1/32	9785569		9785570		-	
TNU-333	3/8	3/16	3/64	9785571		9785572		9785831	
TNU-432	1/2	3/16	1/32	9785573		9785574		9785832	
TNU-433	1/2	3/16	3/64	9785575		9785576		9785833	
TNU-434	1/2	3/16	1/16	9785577		9785578		9785834	
TNU-544	5/8	1/4	1/16	9785579		9785580		9785835	



TRIANGLE — NEGATIVE RAKE
GROUND TOP AND BOTTOM

Insert Number	I.C.	Thickness	Grade					
			C-2		C-5 & C-6		TiN Coated	
			Order No.	Price	Order No.	Price	Order No.	Price
TPC-32ZR	3/8	1/8	9784937		9784938		9784939	



TRIANGLE — POSITIVE RAKE
GROUND ALL OVER WITH
WIPING FLATS ON THREE
CORNERS

CARBIDE INSERTS

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Please order in package quantity, 10 inserts in a package.
TiN Coated is C5/C6 grade unless otherwise specified.



Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TNMG-221	1/4	1/8	1/64	9785519		9785520		9785803	
TNMG-222	1/4	1/8	1/32	9785521		9785522		9785804	
TNMG-321	3/8	3/8	1/64	9785523		9785524		9785805	
TNMG-322	3/8	1/8	1/32	9785525		9785526		9785806	
TNMG-323	3/8	1/8	3/64	9785527		9785528		9785807	
TNMG-324	3/8	1/8	1/16	9785529		9785530		9785808	
TNMG-331	3/8	3/16	1/64	9785531		9785532		9785809	
TNMG-332	3/8	3/16	1/32	9785533		9785534		9785810	
TNMG-333	3/8	3/16	3/64	9785535		9785536		9785811	
TNMG-431	1/2	3/16	1/64	9785021		9785022		9785023	
TNMG-432	1/2	3/16	1/32	9785024		9785025		9785026	
TNMG-433	1/2	3/16	3/64	9785027		9785028		9785029	
TNMG-434	1/2	3/16	1/16	9785030		9785031		9785032	
TNMG-438	1/2	3/16	1/8	9785033		9785034		9785035	
TNMG-542	5/8	1/4	1/32	9785547		9785548		9785816	
TNMG-543	5/8	1/4	3/64	9785549		9785550		9785817	
TNMG-544	5/8	1/4	1/16	9785551		9785552		9785818	
TNMG-666*	3/4	3/8	3/32	9785553		9785554		9785819	



TNMG

TRIANGLE — NEGATIVE RAKE
WITH CHIP CONTROL

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TNMA-222	1/4	1/8	1/32	9785491		9785492		9785789	
TNMA-322	3/8	1/8	1/32	9785493		9785494		9785790	
TNMA-323	3/8	1/8	3/64	9785495		9785496		9785791	
TNMA-432	1/2	3/16	1/32	9785499		9785500		9785793	
TNMA-433	1/2	3/16	3/64	9785501		9785502		9785794	
TNMA-434	1/2	3/16	1/16	9785503		9785504		9785795	
TNMA-438	1/2	3/16	1/8	9785505		9785506		9785796	
TNMA-542	5/8	1/4	1/32	9785509		9785510		9785798	
TNMA-544	5/8	1/4	1/16	9785511		9785512		9785799	
TNMA-666*	3/4	3/8	3/32	9785513		9785514		9785800	



TNMA

*5pcs per pkg
TRIANGLE — NEGATIVE RAKE
LAPPED TOP AND BOTTOM
WITH HOLE

Insert Number	I.C.	Thickness	Radius	Grade			
				C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price
TNMP-321	3/8	1/8	1/64	9785555		9785820	
TNMP-322	3/8	1/8	1/32	9785556		9785821	
TNMP-323	3/8	1/8	3/64	9785557		9785822	
TNMP-331	3/8	3/16	1/64	9785558		9785823	
TNMP-332	3/8	3/16	1/32	9785559		9785824	
TNMP-333	3/8	3/16	3/64	9785560		9785825	
TNMP-431	1/2	3/16	1/64	9785561		9785826	
TNMP-432	1/2	3/16	1/32	9785562		9785827	



TNMP

*5pc per pkg
TRIANGLE — NEGATIVE RAKE
5° POSITIVE

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TPGH-21.50	1/4	3/32	0	9785624		9785625		9785852	
TPGH-21.51	1/4	3/32	1/64	9785626		9785627		9785853	
TPGH-21.52	1/4	3/32	1/32	9785628		9785629		9785854	
TPGH-321	3/8	1/8	1/64	9785630		9785631		9785855	
TPGH-322	3/8	1/8	1/32	9785632		9785633		9785856	



TPGH

TRIANGLE — POSITIVE RAKE
GROUND ALL OVER WITH
CHIP GROOVE ON ONE SIDE

Insert Number	I.C.	Thickness	Radius	Hole	Grade	
					C-2	
					Order No.	Price
TNUC-21.52	1/4	3/32	1/32	.136	9785581	
TNUC-222	1/4	1/8	1/32	.136	9785582	



TNUC

TRIANGLE — NEGATIVE RAKE
BRAKE TURNING INSERT



CARBIDE INSERTS

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CUTTING TOOLS - CARBIDE INSERTS

Insert Number	I.C.	Thickness	Hole Size	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TPMA-32NV	3/8	.125	.150	9785634		9785635		9785857	
TPMA-43NV	1/2	.188	.203	9785636		9785637		9785858	



TPMA-NV

TRIANGLE— POSITIVE RAKE
60° V-THREAD

Insert Number	I.C.	Thickness	Hole Size	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TPMC-32NV	3/8	.125	.150	9785638		9785639		9785859	
TPMC-43NV	1/2	.188	.203	9785640		9785641		9785860	



TPMC-NV

TRIANGLE— POSITIVE RAKE
60° V-THREAD

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
SPG-321	3/8	1/8	1/64	9785423		9785424		9785754	
SPG-322	3/8	1/8	1/32	9785425		9785426		9785755	
SPG-323	3/8	1/8	3/64	9785427		9785428		9785756	
SPG-420	1/2	1/8	0	9785429		9785430		9785889	
SPG-421	1/2	1/8	1/64	9785431		9785432		9785881	
SPG-422	1/2	1/8	1/32	9785433		9785434		9785757	
SPG-423	1/2	1/8	3/64	9785435		9785436		9785758	
SPG-424	1/2	1/8	1/16	9785437		9785438		9785759	
SPG-432	1/2	3/16	1/32	9785439		9785440		9785760	
SPG-433	1/2	3/16	3/64	9785441		9785442		9785761	
SPG-632	3/4	3/16	1/32	9785443		9785444		9785762	
SPG-633	3/4	3/16	3/64	9785445		9785446		9785763	
SPG-634	3/4	3/16	1/16	9785447		9785448		9785764	



SPG

SQUARE — POSITIVE RAKE
GROUND ALL OVER

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
SPU-322	3/8	1/8	1/8	9785453		9785454		9785767	
SPU-421	1/2	1/8	1/8	9785455		9785456		9785768	
SPU-422	1/2	1/8	1/8	9785457		9785458		9785769	
SPU-423	1/2	1/8	1/8	9785459		9785460		9785770	
SPU-632	3/4	3/16	3/16	9785461		9785462		9785771	
SPU-633	3/4	3/16	3/16	9785463		9785464		9785772	
SPU-634	3/4	3/16	3/16	9785465		9785466		9785773	



SPU

SQUARE — POSITIVE RAKE
GROUND TOP AND BOTTOM

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
SNMA-322	3/8	1/8	1/32	9785367		9785368		9785726	
SNMA-432	1/2	3/16	1/32	9785369		9785370		9785727	
SNMA-433	1/2	3/16	3/64	9785371		9785372		9785728	
SNMA-543	5/8	1/4	3/64	9785373		9785374		9785729	
SNMA-633	3/4	1/4	3/64	9785375		9785376		9785730	
SNMA-643	3/4	1/4	3/64	9785377		9785378		9785731	
SNMA-644	3/4	1/4	1/16	9785379		9785380		9785732	
SNMA-866	1	3/8	3/32	9785381		9785382		9785733	



SNMA

SQUARE — NEGATIVE RAKE
LAPPED TOP AND BOTTOM
WITH HOLE

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
SNMG-322	3/8	1/8	1/32	9785383		9785384		9785734	
SNMG-323	3/8	1/8	3/64	9785385		9785386		9785735	
SNMG-432	1/2	3/16	1/32	9785387		9785388		9785736	
SNMG-433	1/2	3/16	3/64	9785389		9785390		9785737	
SNMG-434	1/2	3/16	1/16	9785391		9785392		9785738	
SNMG-543	5/8	1/4	3/64	9785393		9785394		9785739	
SNMG-642	3/4	1/4	1/32	9785395		9785396		9785740	
SNMG-643	3/4	1/4	3/64	9785397		9785398		9785741	
SNMG-644	3/4	1/4	1/16	9785399		9785400		9785742	
SNMG-866	1	3/8	3/32	9785401		9785402		9785743	



SNMG

SQUARE — NEGATIVE RAKE
WITH CHIP CONTROL

*C-5 & C-6 Grade TiN Coated

CARBIDE INSERTS

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TIN Coated is C5/C6 grade unless otherwise specified.



CUTTING TOOLS - CARBIDE INSERTS

Insert Number	I.C.	Thickness	Hole Size	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TNMA-32NV	3/8	.125	.150	9785497		9785498		9785792	
TNMA-43NV	1/2	.188	.203	9785507		9785508		9785797	



TNMA-NV

TRIANGLE— NEUTRAL RAKE
60° V-THREAD

Insert Number	I.C.	Thickness	Hole Size	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
TNMC-32NV	3/8	.125	.150	9785515		9785516		9785801	
TNMC-43NV	1/2	.188	.203	9785517		9785518		9785802	



TNMC-NV

TRIANGLE— NEUTRAL RAKE
60° V-THREAD

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
SNG-321	3/8	1/8	1/64	9785342		9785343		9785713	
SNG-322	3/8	1/8	1/32	9785344		9785345		9785714	
SNG-323	3/8	1/8	3/64	9785346		9785347		9785715	
SNG-332	1/8	3/16	1/32	-		9785348		9785716	
SNG-422	1/2	1/8	1/32	9785349		9785350		9785717	
SNG-423	1/2	1/8	3/64	9785351		9785352		9785718	
SNG-424	1/2	1/8	1/16	9785353		9785354		9785719	
SNG-432	1/2	3/16	1/32	9785355		9785356		9785720	
SNG-433	1/2	3/16	3/64	9785357		9785358		9785721	
SNG-434	1/2	3/16	1/16	9785359		9785360		9785722	
SNG-632	3/4	3/16	1/32	9785361		9785362		9785723	
SNG-633	3/4	3/16	3/64	9785363		9785364		9785724	
SNG-634	3/4	3/16	1/16	9785365		9785366		9785725	



SNG

SQUARE — NEGATIVE RAKE
GROUND ALL OVER

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
SNU-422	3/8	1/8	1/32	9785403		9785404		9785744	
SNU-423	1/2	1/8	1/32	9785405		9785406		9785745	
SNU-424	1/2	1/8	3/64	9785407		9785408		9785746	
SNU-432	1/2	1/8	1/16	9785409		9785410		9785747	
SNU-433	1/2	3/16	1/32	9785411		9785412		9785748	
SNU-434	1/2	3/16	3/64	9785413		9785414		9785749	
SNU-633	3/4	3/16	3/64	9785415		9785416		9785750	
SNU-634	3/4	3/16	1/16	9785417		9785418		9785751	
SNU-634	3/4	3/16	1/16	9785419		9785420		9785752	



SNU

SQUARE — NEGATIVE RAKE
GROUND TOP AND BOTTOM

Insert Number	I.C.	Thickness	Grade					
			C-2		C-5 & C-6		TiN Coated	
			Order No.	Price	Order No.	Price	Order No.	Price
SPC-42ZR	1/2	1/8	9785008		9785009		9785010	



SPC

SQUARE — POSITIVE RAKE
GROUND ALL OVER W/ WIPING
FLATS ON FOUR CORNERS

Insert Number	I.C.	Thickness	Grade					
			C-2		C-5 & C-6		TiN Coated	
			Order No.	Price	Order No.	Price	Order No.	Price
SEC-422	1/2	1/8	9785338		9785339		9785711	
SEC-422J	1/2	1/8	9785340		9785341		9785712	



SEC

SQUARE — 20° POSITIVE RAKE
GROUND ALL OVER

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
SPGH-432	1/2	1/32	3/64	9785449		9785450		9785765	
SPGH-433	1/2	3/16	3/64	9785451		9785452		9785766	



SPGH

SQUARE — POSITIVE RAKE
GROUND ALL OVER
CHIP GROOVE ONE SIDE



CARBIDE INSERTS

SERIES 978:

Please order in package quantity. 10 inserts in a package.
TiN Coated is C5/C6 grade unless otherwise specified.



CUTTING TOOLS - CARBIDE INSERTS

Insert Number	Dia. ± .001	Thickness	Grade					
			C-2		C-5 & C-6		TiN Coated	
			Order No.	Price	Order No.	Price	Order No.	Price
RNG-32	3/8	1/8	9785310		9785311		9785694	
RNG-42	1/2	1/8	9785312		9785313		9785695	
RNG-43	1/2	3/16	9785314		9785315		9785696	



RNG

ROUND — NEGATIVE RAKE
GROUND ALL OVER

Insert Number	Dia. ± .001	Thickness	Grade					
			C-2		C-5 & C-6		TiN Coated	
			Order No.	Price	Order No.	Price	Order No.	Price
RNMA-32	3/8	1/8	9785318		9785319		9785698	
RNMA-43	1/2	3/16	9785320		9785321		9785699	
RNMA-64	3/4	1/4	9785322		9785323		9785700	
RNMA-86*	1	3/8	9785324		9785325		9785701	
RNMA-106*	1-1/4	3/8	9785316		9785317		9785702	



RNMA

ROUND — NEGATIVE RAKE
LAPPED TOP AND BOTTOM
WITH HOLE

*5pcspkr pkg

Insert Number	I.C.	Thickness	Radius	Grade			
				C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price
DNMG-431	1/2	3/16	1/64	9785953		9785686	
DNMG-432	1/2	3/16	1/32	9785954		9785687	
DNMG-532	5/8	3/16	1/32	9785305		9785688	
DNMG-533	5/8	3/16	3/64	9785307		9785689	
DNMG-542	5/8	1/4	1/32	9785308		9785690	
DNMG-543	5/8	1/4	3/64	9785309		9785691	



DNMG

55° DIAMOND — NEGATIVE RAKE
WITH CHIP CONTROL

Insert Number	I.C.	Thickness	Radius	Grade					
				C-2		C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price	Order No.	Price
CNMG-431	1/2	3/16	1/64	9785955		9785959		9785672	
CNMG-432	1/2	3/16	1/32	9785956		9785960		9785673	
CNMG-433	1/2	3/16	3/64	9785957		9785961		9785674	
CNMG-542	5/8	1/4	1/32	-		9785962		9785675	
CNMG-543	5/8	1/4	3/64	-		9785963		9785676	
CNMG-643	3/4	1/4	3/64	9785958		9785964		9785677	
CNMG-644	3/4	1/4	1/16	-		9785965		9785678	



CNMG

80° DIAMOND — NEGATIVE
LAPPED WITH HOLE AND
CAST CHIPBREAKER

Insert Number	Dia. ± .001	Thickness	Grade					
			C-2		C-5 & C-6		TiN Coated*	
			Order No.	Price	Order No.	Price	Order No.	Price
RPG-42	1/2	1/8	9785336		9785337		9785708	



RPG

ROUND — POSITIVE RAKE
GROUND ALL OVER

Insert Number	Dia. ± .001	Thickness	Grade					
			C-2		C-5 & C-6		TiN Coated*	
			Order No.	Price	Order No.	Price	Order No.	Price
RNMG-32	3/8	1/8	9785328		9785329		9785703	
RNMG-43	1/2	3/16	9785330		9785331		9785704	
RNMG-64	3/4	1/4	9785332		9785333		9785705	
RNMG-86*	1	3/8	9785334		9785335		9785706	

*5pcspkr pkg



RNMG

ROUND — NEGATIVE RAKE
WITH CHIP CONTROL

Insert Number	I.C.	Thickness	Radius	Grade			
				C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price
VNMG-331	3/8	3/16	1/64	9785663		9785872	
VNMG-332	3/8	3/16	1/32	9785665		9785966	
VNMG-333	3/8	3/16	3/64	9785666		9785774	
VNMG-431	1/2	3/16	1/64	9785667		9785775	
VNMG-432	1/2	3/16	1/32	9785668		9785776	



VNMG

35° DIAMOND — NEGATIVE RAKE
WITH CHIP CONTROL

Insert Number	I.C.	Thickness	Radius	Grade			
				C-5 & C-6		TiN Coated	
				Order No.	Price	Order No.	Price
CNMP-431	1/2	3/16	1/64	9785967		9785679	
CNMP-432	1/2	3/16	1/32	9785968		9785680	
CNMP-642	3/4	1/4	1/32	9785969		9785681	
CNMP-643	3/4	1/4	3/64	9785970		9785682	



CNMP

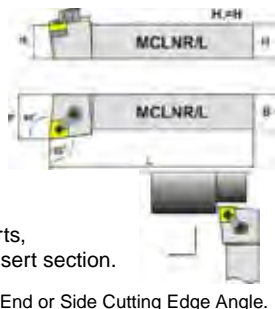
80° DIAMOND — 5° POSITIVE
LAPPED WITH HOLE
AND CAST CHIPBREAKER

CARBIDE INSERT TOOLHOLDERS

SERIES 804:

MCLN R/L TOOLHOLDER SYSTEM M & C FOR NEGATIVE 80° DIAMOND CNM... INSERTS

Sets include
RH HOLDER
&
10 TiN Coated Inserts

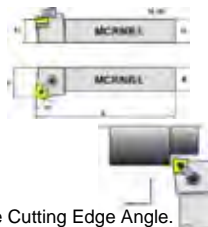


For a full list of available inserts,
please refer to our Carbide Insert section.

5° End or Side Cutting Edge Angle.

Description	Shank H=B	OAL L	Head F	CNM Insert	Order No.		Price	Order No. RH Sets	Price
					RH	LH			
MCLNR/L 12-4B	3/4	4 1/2	1.0	432	7100121	7100122		7105121	
MCLNR/L 16-4D	1	6	1.25		7100161	7100162		7105161	
MCLNR/L 20-4D	1-1/4	6	1.50		7100201	7100202		-	
MCLNR/L 24-4D	1-1/2	6	2		7100241	7100242		-	
MCLNR/L 16-5D	1	6	1.25	543	7101161	7101162		-	
MCLNR/L 20-5D	1-1/4	6	1.50		7101201	7101202		-	
MCLNR/L 24-5D	1-1/2	6	2		7101241	7101242		-	
MCLNR/L 16-6D	1	6	1.25		7102161	7102162		-	
MCLNR/L 20-6D	1-1/4	6	1.50	643	7102201	7102202		-	
MCLNR/L 24-6E	1-1/2	7	2		7102241	7102242		-	

MCRN R/L TOOLHOLDERS SYSTEM M & C FOR NEGATIVE 80° DIAMOND CNM... INSERTS



For a full list of available inserts,
please refer to our Carbide Insert section.

15° Side Cutting Edge Angle.

Description	Shank H=B	OAL L	Head F	CNM Insert	Order Number		Price
					RH	LH	
MCRNR/L 16-4D	1	6	1.25	432	7120161	7120162	
MCRNR/L 20-5D	1-1/4		1.50	543	7121201	7121202	
MCRNR/L 20-6D	1-1/4		1.50	643	7122201	7122202	

MDJN R/L TOOLHOLDERS SYSTEM M & C FOR NEGATIVE 55° DIAMOND DNM... INSERTS



For a full list of available inserts,
please refer to our Carbide Insert section.

3° Side Cutting Edge Angle.

Description	Shank		OAL L	Head F	DNM Insert	Order Number		Price
	H	B				RH	LH	
MDJNR/L 12-4B	3/4	3/4	4 1/2	1	432	7151241	7151242	
MDJNR/L 16-4D	1	1	6	1-1/4		7151651	7151652	
MDJNR/L 20-4D	1-1/4	1-1/4	6	1-1/2		7152041	7152042	
MDJNR/L 24-4D	1-1/2	1-1/2	6	2		7152441	7152442	
MDJNR/L 85-4D	1-1/4	1	6	1-1/4	543	7152851	7152852	
MDJNR/L 16-5D	1	1	6	1-1/4		7154161	7154162	
MDJNR/L 20-5D	1-1/4	1-1/4	6	1-1/2		7154201	7154202	
MDJNR/L 24-5D	1-1/2	1-1/2	6	2		7154241	7154242	
MDJNR/L 86-5E	1-1/2	1	7	1-1/4		7154861	7154862	

MDPNN TOOLHOLDERS System M & C for negative 55° Diamond DNM... INSERTS

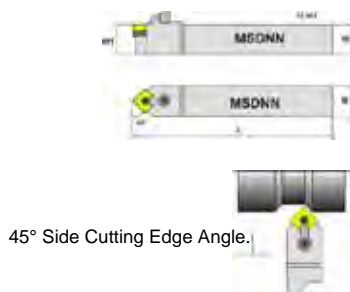


For a full list of available inserts,
please refer to our Carbide Insert section.

27.5° Side Cutting Edge Angle.

Description	Shank H = B	OAL L	DNM Insert	Order No.	Price
MDPNN 16-4D	1	6	432	6714165	
MDPNN 20-4D	1-1/4			6714204	
MDPNN 20-5D	1-1/4	6	543	6714320	
MDPNN 24-5D	1-1/2			6714324	

MSDNN TOOLHOLDERS SYSTEM M & C FOR NEGATIVE SQUARE SNM... INSERTS

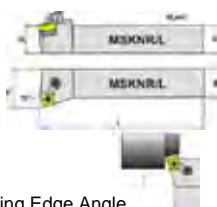


For a full list of available inserts,
please refer to our Carbide Insert section.

45° Side Cutting Edge Angle.

Description	Shank		OAL L	SNM... Insert	Order No.	Price
	B	H				
MSDNN 12-4B	3/4	3/4	4-1/2	432	6734412	
MSDNN 16-4D	1	1	6		6734416	
MSDNN 85-4D	1	1-1/4	6		6734485	
MSDNN 16-5D	1	1	6	543	6734516	
MSDNN 20-5D	1-1/4	1-1/4	6		6734520	
MSDNN 85-5D	1	1-1/4	6		6734585	
MSDNN 86-5E	1	1-1/2	7	643	6734586	
MSDNN 16-6D	1	1	6		6734616	
MSDNN 20-6D	1-1/4	1-1/4	6		6734620	
MSDNN 24-6E	1-1/2	1-1/2	7		6734624	
MSDNN 85-6D	1	1-1/4	6		6734685	
MSDNN 86-6E	1	1-1/2	7		6734686	

MSKN R/L TOOLHOLDERS SYSTEM M & C FOR NEGATIVE SQUARE SNM... INSERTS



For a full list of available inserts,
please refer to our Carbide Insert section.

15° End Cutting Edge Angle.

Description	Shank H=B	OAL L	Head F	SNM... Insert	Order Number		Price
					RH	LH	
MSKNR/L12-4B	3/4	4-1/2	1	432	7370121	7370122	
MSKNR/L 16-4D	1	6	1-1/4		7370161	7370162	
MSKNR/L 16-5D	1	6	1-1/4	543	7371161	7371162	
MSKNR/L 20-5D	1-1/4	6	1-1/2		7371201	7371202	
MSKNR/L20-6D	1-1/4	6	1-1/2	643	7372201	9372202	
MSKNR/L 24-6E	1-1/2	7	2		7372241	9372242	

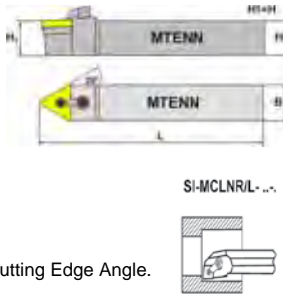
CARBIDE INSERT TOOLHOLDERS
SERIES 804:



MTENN TOOLHOLDERS
SYSTEM M & C FOR NEGATIVE 60°
TRIANGLE **TNM...** INSERTS



For a full list of available inserts, please refer to our Carbide Insert section.



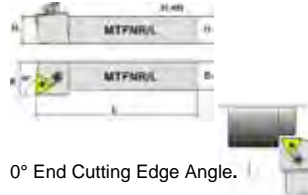
30° Side Cutting Edge Angle.

Description	Shank H=B	OAL L	Head F	TNM Insert	RH	Price
MTENN 10-3B	5/8	5/8	4-1/2		6741310	
MTENN 12-3B	3/4	3/4	4-1/2	332	6741312	
MTENN 64-3D	3/4	1	6		6741364	
MTENN 12-4B	3/4	3/4	4-1/2		6741412	
MTENN 16-4D	1	1	6	432	6741416	
MTENN 85-4D	1	1-1/4	6		6741485	
MTENN 86-4E	1	1-1/2	7		6741486	
MTENN 16-5D	1	1	6		6741516	
MTENN 20-5D	1-1/4	1-1/4	6	543	6741520	
MTENN 24-5E	1-1/2	1-1/2	7		6741524	
MTENN 86-5E	1	1-1/2	7		6741585	

MTFN R/L TOOLHOLDERS
SYSTEM M & C FOR NEGATIVE 60°
TRIANGLE **TNM...** INSERTS.



For a full list of available inserts, please refer to our Carbide Insert section.



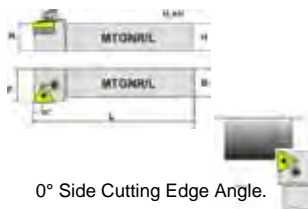
0° End Cutting Edge Angle.

Description	Shank H=B	OAL L	Head F	TNM Insert	Order Number		Price
					RH	LH	
MTFNR/L 12-3B	3/4	4-1/2	1	332	7460121	7460122	
MTFNR/L 16-3D	1	6	1-1/4		7460161	7460162	
MTFNR/L 16-4D	1	6	1-1/4	432	7462161	7462162	
MTFNR/L 20-4D	1-1/4	6	1-1/2		7462201	7462202	
MTFNR/L 20-5D	1-1/4	6	1-1/2	543	7463201	7463202	

MTGN R/L TOOLHOLDERS
SYSTEM M & C FOR NEGATIVE 60°
TRIANGLE **TNM...** INSERTS



For a full list of available inserts, please refer to our Carbide Insert section.



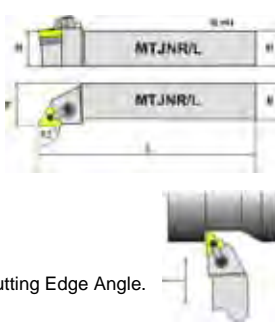
0° Side Cutting Edge Angle.

Description	Shank H=B	OAL L	Head F	TNM Insert	Order Number		Price
					RH	LH	
MTGNR/L 12-3B	3/4	4-1/2	1	332	7420121	7420122	
MTGNR/L 16-3D	1	6	1-1/4		7420161	7420162	
MTGNR/L 16-4D	1	6	1-1/4	432	7422161	7422162	
MTGNR/L 20-4D	1-1/4	6	1-1/2		7422201	7422202	
MTGNR/L 20-5D	1-1/4	6	1-1/2	543	7423201	7423202	

MTJN R/L TOOLHOLDERS
SYSTEM M & C FOR NEGATIVE 60°
TRIANGLE **TNM...** INSERTS



For a full list of available inserts, please refer to our Carbide Insert section.



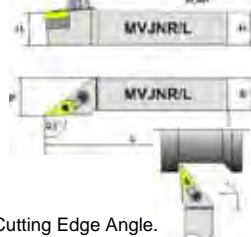
3° Side Cutting Edge Angle.

Description	Shank		OAL L	Head F	TNM Insert	Order Number		Price
	H	B				RH	LH	
MTJNR/L 10-3B	5/8	5/8	4-1/2	5/8		7400101	7400102	
MTJNR/L 12-3B	3/4	3/4	4-1/2	1	332	7400121	7400122	
MTJNR/L 16-3D	1	1	6	1-1/4		7400161	7400162	
MTJNR/L 16-4D	1	1	6	1-1/4	432	7401161	7401162	
MTJNR/L 20-4D	1-1/4	1-1/4	6	1-1/4		7401201	7401202	
MTJNR/L 16-5D	1	1	6	1-1/4		7402161	7402162	
MTJNR/L 20-5D	1-1/4	1-1/4	6	1-1/2		7402201	7402202	
MTJNR/L 24-5D	1-1/2	1-1/2	6	2	543	7402241	7402242	
MTJNR/L 24-5E	1-1/2	1-1/2	7	2		7402261	7402262	
MTJNR/L 85-5D	1	1-1/4	6	1-1/4		7402301	7402302	
MTJNR/L 86-5E	1	1-1/2	7	1-1/4		7402351	7402352	

MVJN R/L TOOLHOLDERS
SYSTEM M & C FOR NEGATIVE 35°
DIAMOND **VNM...** INSERTS



For a full list of available inserts, please refer to our Carbide Insert section.



3° Side Cutting Edge Angle.

Description	Shank H=B	OAL L	Head F	TNM Insert	Order Number		Price
					RH	LH	
MVJNR/L 12-3B	3/4	4-1/2	1		7550121	7550122	
MVJNR/L 16-3D	1	6	1-1/4	332	7550161	7550162	
MVJNR/L 20-3D	1-1/4	6	1-1/2		7550201	7550202	
MVJNR/L 16-4D	1	6	1-1/4		7551161	7551162	
MVJNR/L 20-4D	1-1/4	6	1-1/2	432	7552201	7552202	
MVJNR/L 24-4E	1-1/2	7	2		7552241	7552242	

MWLN R/L TOOLHOLDERS
SYSTEM M & C FOR NEGATIVE 80°
TRIGON **WNM...** INSERTS

*Sets include RH HOLDER and 10 TiN Coated Inserts.



For a full list of available inserts, please refer to our Carbide Insert section.



5° End or Side Cutting Edge Angle.

Description	Shank H=B	OAL L	Head F	WNM Insert	Order No.		Price	Ord. No RH Set	Price
					RH	LH			
MWLN R/L 12-3B	3/4	4-1/2	1	332	7500121	7500122		-	
MWLN R/L 12-4B	3/4	4-1/2	1		7501121	7501122		7505121	
MWLN R/L 16-4D	1	6	1-1/4	432	9551161	7501162		7505161	
MWLN R/L 20-4D	1-1/4	6	1-1/2		7501201	7501202		-	
MWLN R/L 24-4E	1-1/2	7	2		7501241	7501242		-	
MWLN R/L 16-5D	1	6	1-1/4		7502161	7502162		-	
MWLN R/L 20-5D	1-1/4	6	1-1/2	543	7502201	7502202		-	
MWLN R/L 24-5E	1-1/2	7	2		7502241	7502242		-	

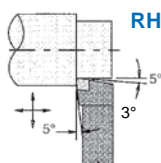
5-PC MINI TOOLHOLDER AND BORING BAR SET

(ALSO AVAILABLE INDIVIDUALLY)

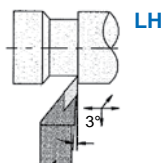
SERIES 530:

CUTTING TOOLS - INDEXABLE

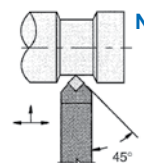
Ideal for precision turning and boring.



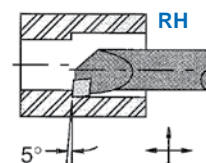
6800042



8050422



6810042



8700421



Torx Key



Screw

Toolholder Style	Square Shank	Lgth.	Insert Style	Right Hand Order No.	Left Hand Order No.	Neutral Order No.	Price
SCLCR 4-2	.315	2.36	CCMT 21.51	6800042	-	-	
SDJCR/L 4-2	.315	2.36	DCMT 21.51	8050421	8050422	-	
SSDCN 4-2	.315	2.36	SCMT 21.51	-	-	6810042	

Complete Set

Order No.	Description	Price
6890500	Without inserts	
6890510	10 Inserts included	

Boring Bar Style	Dia.	Min. Bore	Lgth.	Insert Style	Boring Bar Order No.	Price
SI-SCLCR 4-2	.315	.354	3.98	CCMT 21.51	8700421	

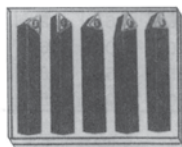
Quality storage case includes 1 wrench and 2 spare screws.

INDEXABLE TOOL BITS AND SETS

SERIES 619:

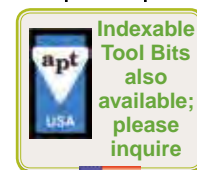
Hardened and ground steel shanks for maximum rigidity. Sets include inserts and wrenches in a fitted case.

Individual tools are supplied without wrenches or inserts.



Usage Applications:
Right Hand cuts from right to left.
Left Hand cuts from left to right.

MEGA
Superior Import



Indexable Tool Bits also available; please inquire



STYLE AR

Style AR

Right Hand suitable for machining to a 90° square shoulder.



STYLE BR

Style BR

Right Hand 15° Lead Angle for rough turning where a square shoulder is not required.



STYLE E

Style E

Neutral Threading Tool 60° included angle; used for U.S. Standard universal threading, V-grooving, Chamfering, turning, boring and facing.



STYLE AL

Style AL

Left Hand suitable for facing to a square shoulder.



STYLE BL

Style BL

Left Hand 15° Lead Angle for rough facing to center or where no shoulder is needed.

Replacement Screw



For Size	Order No.	Price
3/8	6190005	
1/2, 5/8, 3/4	6190010	

SIZE : 3/8 Square x 2-1/2 OL
INSERT I.C. : 1/4

Style	Order Number	Price
AR-6	6190061	
AL-6	6190062	
BR-6	6190063	
BL-6	6190064	
E-6	6190067	
5 pc. 3/8 Sk. Set	6190060	

SIZE : 1/2 Square x 3-1/2 OL
INSERT I.C. : 3/8

Style	Order Number	Price
AR-8	6190081	
AL-8	6190082	
BR-8	6190083	
BL-8	6190084	
E-8	6190087	
5 pc. 1/2 Sk. Set	6190080	

SIZE : 5/8 Square x 4 OL
INSERT I.C. : 3/8

Style	Order Number	Price
AR-10	6190101	
AL-10	6190102	
BR-10	6190103	
BL-10	6190104	
E-10	6190107	
5 pc. 5/8 Sk. Set	6190100	

SIZE : 3/4 Square x 4-1/2 OL
INSERT I.C. : 3/8

Style	Order Number	Price
AR-12	6190121	
AL-12	6190122	
BR-12	6190123	
BL-12	6190124	
E-12	6190127	
5 pc. 3/4 Sk. Set	6190120	

INSERTS FOR INDEXABLE TOOL BITS

Style of Insert	Insert I.C.	General Purpose		Steel		Gold (TN) Coated	
		Order No.	Price	Order No.	Price	Order No.	Price
TBI-221	1/4	6190150		6190151		6190152	
TBI-222	1/4	6190160		6190161		6190162	
TBI-321	3/8	6190230		6190231		6190232	
TBI-322	3/8	6190240		6190241		6190242	



MEGA
Superior Import

INDEXABLE BORING BARS

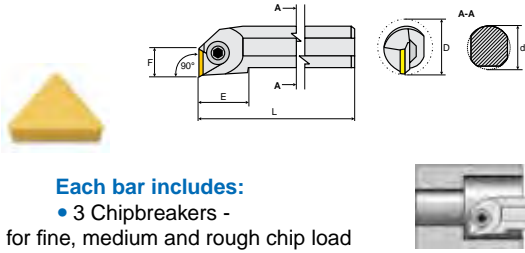
SERIES 804:



• EUROPEAN MADE •

SI-CTFPR

SYSTEM C FOR POSITIVE
TRIANGLE TP_INSERTS



Each bar includes:

- 3 Chipbreakers -

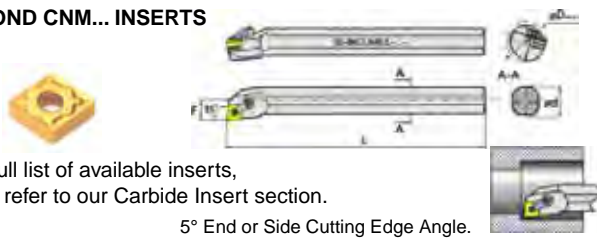
1 each for fine, medium and rough chip load

d	D	L	C	E	Inserts	Right Hand Order No.	Price
5/8	.827	8-1/4	.709	1.181	TP_-21	6939172	
3/4	1.063	9-7/8	.925	1.378	TP_-32	6939173	
1	1.339	11-3/4	1.201	1.575		6939174	
1-1/4	1.693	14	1.516	1.772		6939175	
1-1/2	2.086	15	1.889	1.968	TP_-43	6939176	
2	2.559	16	2.362	1.968		6939178	

Boring bars with coolant hole available. See our website or inquire.

SI-MCLN R/L

SYSTEM M & C FOR NEGATIVE 80°
DIAMOND CNM... INSERTS



For a full list of available inserts, please refer to our Carbide Insert section.

5° End or Side Cutting Edge Angle.

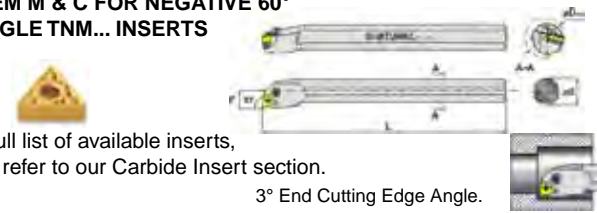
Positive, 2° End Cutting Edge Angle

Description	Shank Size	Min. Bore	OAL L	Center Line F	CNM_ Insert	Order Number		Price
						RH	LH	
SI-MCLNR/L 16-4	1	1.401	12	.640	432	7601641	7601642	
SI-MCLNR/L 20-4	1-1/4	1.530	14	.765		7602041	7602042	
SI-MCLNR/L 24-4	1-1/2	1.780	14	.890		7602441	7602442	
SI-MCLNR/L 28-4	1-3/4	2.030	14	1.015	543	7602841	7602842	
SI-MCLNR/L 32-4	2	2.562	16	1.281		7602941	7602942	
SI-MCLNR/L 24-5	1-1/2	2.374	14	1.187	643	7603151	7603152	
SI-MCLNR/L 32-6	2	2.562	18	1.281		7603261	7603262	

Boring bars with coolant hole available. See our website or inquire.

SI-MTUN R/L

SYSTEM M & C FOR NEGATIVE 60°
TRIANGLE TNM... INSERTS



For a full list of available inserts, please refer to our Carbide Insert section.

3° End Cutting Edge Angle.

Description	Shank Size	Min. Bore	OAL L	Center Line F	TNM_ Insert	Order Number		Price
						RH	LH	
SI-MTUNR/L 12-3	3/4	1	10	0.5	332	7830121	7830122	
SI-MTUNR/L 16-3	1	1.280	12	.640	332	7830161	7830162	
SI-MTUNR/L 20-3	1-1/4	1.530	14	.765		7830201	7830202	
SI-MTUNR/L 24-3	1-1/2	2.060	14	.890		7830241	7830242	
SI-MTUNR/L 20-4	1-1/4	1.530	14	.765	432	7831201	7831202	
SI-MTUNR/L 24-4	1-1/2	2.060	14	.890		7831241	7831242	
SI-MTUNR/L 32-4	2	2.562	14	1.281		7831321	7831322	

SI-MWLN R/L

SYSTEM M & C FOR NEGATIVE 80°
TRIGON WNM... INSERTS



For a full list of available inserts, please refer to our Carbide Insert section.

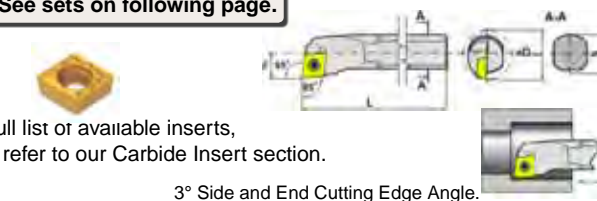
3° Side and End Cutting Edge Angle.

Description	Shank Size	Min. Bore	OAL L	Center Line F	WNM_ Insert	Order Number		Price
						RH	LH	
SI-MWLN R/L 12-3	3/4	.93	10	.500	332	7651231	7651232	
SI-MWLN R/L 12-4	3/4	1.083	10	.500	432	7651241	7651242	
SI-MWLN R/L 16-4	1	1.280	12	.640		7651641	7651642	
SI-MWLN R/L 20-4	1-1/4	1.530	14	.765		7652041	7652042	
SI-MWLN R/L 24-4	1-1/2	1.780	14	.890		7652441	7652442	

SI-SCLC R/L

SYSTEM S FOR POSITIVE 80° DIAMOND
CCMT OR CCGT INSERTS

See sets on following page.



For a full list of available inserts, please refer to our Carbide Insert section.

3° Side and End Cutting Edge Angle.

Description	Shank Size	Min. Bore	OAL L	Center Line F	CC_T Insert	Order Number		Price
						RH	LH	
SI-SCLCR/L 4-2	.315	.354	4	.1875	- 21.51	8700421	8700422	
SI-SCLCR/L 6-2	.375	.468	6	.2500		8700621	8700622	
SI-SCLCR/L 8-2	.500	.560	7	.290		8700821	8700822	
SI-SCLCR/L 10-2	.625	.850	8	.405	- 32.52	8700851	8700852	
SI-SCLCR/L 8-3	.500	.625	7	.312		8700931	8700932	
SI-SCLCR/L 10-3	.625	.812	8	.4060		8701031	8701032	
SI-SCLCR/L 12-3	.750	1.000	10	.5000		8701231	8701232	
SI-SCLCR/L 16-3	1.000	1.250	12	.6094		8701631	8701632	

Boring bars with coolant hole available. See our website or inquire.

CUTTING TOOLS - INDEXABLE

INDEXABLE BORING BARS

SERIES 804:



• EUROPEAN MADE •

(Continued)

SI-SCLC R/L

SYSTEM S FOR POSITIVE 80° DIAMOND CCMT OR CCGT INSERTS

Includes:

- 3/8", 1/2" & 5/8" RH Boring Bars
- 2 pcs CCMT-21.51, TiN
- 4 pcs CCMT-32.52, TiN
- 2 Torx Keys
- 2 Spare Screws

3 Pc. Boring Bar Set

Order No. 6870515

Price



Includes:

- 1/2", 5/8" & 3/4" RH Boring Bars
- 6 pcs CCMT-32.52, TiN
- 1 Torx Key
- 1 Spare Screw

3 Pc. Boring Bar Set

Order No. 6870510

Price



Includes:

- .315", 3/8", 1/2", 5/8" & 3/4" RH Boring Bars
- 4 pcs CCMT-21.51, TiN
- 6 pcs CCMT-32.52, TiN
- 2 Torx Keys
- 2 Spare Screws

5 Pc. Boring Bar Set

Order No. 6870505

Price



MINI SI-SCLC RH KIT

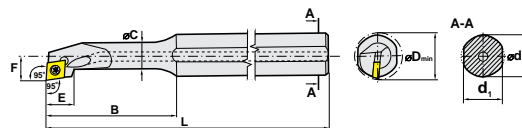
SYSTEM S FOR POSITIVE 80° DIAMOND CCMT, CCGT INSERTS.

SET - 4 PC. INCLUDES:

- Boring Bars .315, .375, .500, & .625
- 10 pcs CCMT-21.51, 1 Torx Key

Order No. 6871524

Price



3° End & Side Cutting Edge Angle.

Boring Bar Style	Shank Size	Min. Bore	Length L	Center Line F	B	E	C	d1	Insert CC_T
SI-0608H-SCLCR-02	.315	.315	4.00	.1575	1.000	.3150	.2362	.2756	21.51
SI-0810J-SCLCR-02	.375	.433	4.500	.2362	1.260	.4134	.3150	.3543	
SI-1012K-SCLCR-02	.500	.512	5.000	.2756	1.496	.4528	.3937	.4331	
SI-1216M-SCLCR-02	.625	.669	6.000	.3543	1.969	.3937	.4724	.5901	

Boring bars with coolant hole available. See our website or inquire.

SI-SDUC R/L 3 PIECE KIT

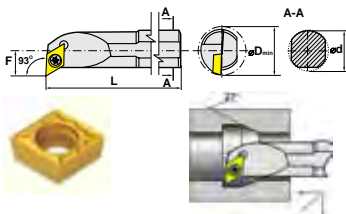
SYSTEM S FOR NEGATIVE 55° DIAMOND DCMT OR DCGT INSERTS.

SET - 3 PC. INCLUDES:

- RH Boring Bars 3/8", 1/2" & 5/8"
- 6 pcs DCMT-21.51 TiN,
- 1 Torx Key & 1 Spare Screw

Order No. 6875500

Price



3° End Cutting Edge Angle.

Description	Shank Size	Min. Bore	OAL L	Center Line F	DC_T Insert	Order Number		Price
						RH	LH	
SI-SDUCR/L 06-2	3/8	.625	6.0	.375	21.5	8750061	8750062	
SI-SDUCR/L 08-2	1/2	.780	6.0	.437		8750081	8750082	
SI-SDUCR/L 10-2	5/8	.840	8.0	.500		8750101	8750102	
SI-SDUCR/L 12-3	3/4	1.125	10.0	.562	32.5	8750121	8750122	
SI-SDUCR/L 16-3	1	1.500	12.0	.750		8750161	8750162	
SI-SDUCR/L 20-3	1-1/4	1.750	14.0	.875		8750201	8750202	

Boring bars with coolant hole available; please inquire.

SI-STUC R/L

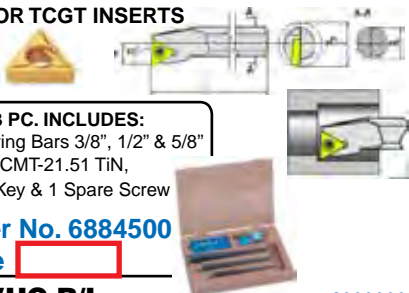
SYSTEM S FOR POSITIVE 60° TRIANGLE TCMT OR TCGT INSERTS

SET - 3 PC. INCLUDES:

- RH Boring Bars 3/8", 1/2" & 5/8"
- 6 pcs TCMT-21.51 TiN,
- 1 Torx Key & 1 Spare Screw

Order No. 6884500

Price



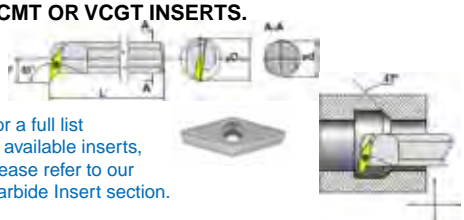
Boring Bar Style	Shank Dia	Min. Bore	OAL L	Center Line F	TC...T Inserts	Order No.		Price
						RH	LH	
SI-STUCR 06-2	3/8	0.500	5	.208	21.51	8840061	8840062	
SI-STUCR 08-2	1/2	0.625	6	.287		8840081	8840082	
SI-STUCR 10-2	5/8	0.750	8	.350		8840101	8840102	
SI-STUCR 12-3	3/4	0.845	10	.422	32.52	8840121	8840122	
SI-STUCR 16-3	1	1.115	12	.555		8840161	8840162	
SI-STUCR 20-3	1-1/4	1.370	12	.682		8840201	8840202	
SI-STUCR 24-3	1-1/2	1.680	12	.840		8840241	8840242	

3° End Cutting Edge Angle.

SI-SVUC R/L

SYSTEM S FOR POSITIVE 35° DIAMOND VCMT OR VCGT INSERTS.

For a full list of available inserts, please refer to our Carbide Insert section.

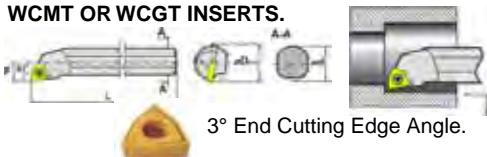


Boring Bar Style	Shank Dia	Min. Bore	OAL L	Center Line F	VC...T Inserts	Order No.		Price
						RH	LH	
SI-SVUCR/L 12-2	3/4	1-1/4	10	.625	221	8871221	8871222	
SI-SVUCR/L 16-2	1	1-1/2	12	.750		8871621	8871622	
SI-SVUCR/L 16-3	1	2	12	.750	332	8871631	8871632	
SI-SVUCR/L 20-3	1-1/4	2-1/4	14	1.000		8872031	8872032	

3° End Cutting Edge Angle.

SI-SWUC R / L

SYSTEM S FOR POSITIVE 80° TRIGON WCMT OR WCGT INSERTS.



Boring Bar Style	Shank Dia.	Min. Bore	OAL L	Center Line F	WC...T Inserts	Order No.		Price
						RH	LH	
SI-SWUCR/L 08-3	1/2	.625	6	.311	32.52	8890831	8890832	
SI-SWUCR/L 10-3	5/8	.812	8	.405		8891031	8891032	
SI-SWUCR/L 12-3	3/4	1.000	10	.500		8891231	8891232	

3° End Cutting Edge Angle.

INDEXABLE BORING BARS - "MB" STYLE

SERIES 530:



MBN 8 TYPE 1



MBN 8-2 TYPE 2



MBS 12-3 TYPE 2

Tool No.	Type	Shank Dia.	Overall Length	Entry Angle	Minimum Bore	Style of Insert	Insert I.C.	Order No.	Price
MBN 6-2	2	1/2	5	95°	0.435	TPGB-221,222 TPGC-221,222	1/4	5300062	
MBS 6-2	2	1/2	5	91°	0.435			5300162	
MBN 8-2	2	1/2	6	95°	0.590			5300082	
MBS 8-2	2	1/2	6	91°	0.590			5300182	
MBN 10-2	2	5/8	8	95°	0.710			5300012	
MBS 10-2	2	5/8	8	91°	0.710			5300112	
MBN 12-3	2	3/4	10	95°	0.850	TPGB-321,322 TPGC-321,322	3/8	5300033	
MBS 12-3	2	3/4	10	91°	0.850			5300133	
MBN 8	1	1/2	6	95°	0.590			5300079	
MBS 8	1	1/2	6	91°	0.590			5300180	
MBL 8	1	1/2	6	85°	0.590			5300280	
MBN10	1	5/8	7	95°	0.710			5300010	
MBS10	1	5/8	7	91°	0.710			5300110	
MBL10	1	5/8	7	85°	0.710			5300210	

"MB" STYLE BORING BAR SET
SERIES 530:



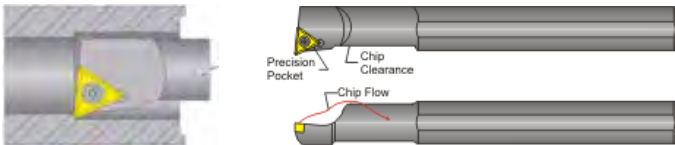
Set No.	Consisting of	Order No.	Price
IBBS4	MBN 6-2, 8, 10 & 12-3	5305004	

Set includes (15) inserts, wrenches, and screws in a fitted case.



INDEXABLE BORING BARS - TPBN
SERIES 915 :

- For 11° positive triangle TPGH or TPGB inserts



From Roughing to Finishing,
Square Shoulders to Through Bores

- Small Hole Capacity- to a minimum of .430
- High Performance- Positive rake for fast material removal, as well as finishing
- Rigidity-Bar made of heat treated, precision ground alloy steel
- Insert Locking- The insert is securely held with the Torx screw to reduce tool slipping
- Chip Control- Advanced precision chip clearance allows for maximum boring capacity
- Inserts - TiN coated with added chip breaker

Description	Order No.	Price	Min. Bore B	Gage C	Insert D	Torx E	F	TPG Insert	TorxScrew	Key
TPBN06-2	6155658		.430	5.00	0.500	1.25	.166			
TPBN08-2	6155660		.590	6.00	0.500	1.50	.287	21.51	TS-25.45-6M1	T-7
TPBN10-2	6155662		.682	8.00	0.625	2.25	.350			
TPBN12-3	6155664		.845	10.0	0.750	2.50	.422			
TPBN16-3	6155666		1.115	12.0	1.000	3.00	.555	322	TS-44-3-M	T-15
TPBN20-3	6155668		1.370	12.0	1.250	3.50	.682			
TPBN20-4	6155670		1.370	12.0	1.250	3.50	.682	432	TS-83-4M1	T-20

INSERTS FOR MEDA "MB" STYLE BORING BARS
SERIES 530:



TPGB

TPGC

Insert	Grade	Order No.	Price
TPGB 221	Gen. Purp. Steel	5302210	
TPGB 221	Steel	5302211	
TPGB 221	TN Coated	5302212	
TPGB 222	Gen. Purp. Steel	5302220	
TPGB 222	Steel	5302221	
TPGB 222	TN Coated	5302222	
TPGB 321	Gen. Purp. Steel	5303210	
TPGB 321	Steel	5303211	
TPGB 321	TN Coated	5303212	
TPGB 322	Gen. Purp. Steel	5303220	
TPGB 322	Steel	5303221	
TPGB 322	TN Coated	5303222	
TPGC 221	Gen. Purp. Steel	5342210	
TPGC 221	Steel	5342211	
TPGC 221	TN Coated	5342212	
TPGC 222	Gen. Purp. Steel	5342220	
TPGC 222	Steel	5342221	
TPGC 222	TN Coated	5342222	
TPGC 321	Gen. Purp. Steel	5343210	
TPGC 321	Steel	5343211	
TPGC 321	TN Coated	5343212	
TPGC 322	Gen. Purp. Steel	5343220	
TPGC 322	Steel	5343221	
TPGC 322	TN Coated	5343222	

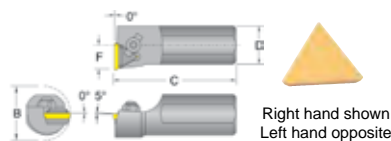


SERIES 915:

CUTTING TOOLS - INDEXABLE

S-CTFP R

Style F - 0° End Cutting Edge Angle for positive triangle TPG inserts



Description	Order No. R H	Price	Min. Bore B	C	D	F	TPG Gage Insert	Seat	Seat Screw	Clamp	Clamp Clip	Clamp Screw
S12S-CTFPR/L-3	6155360		1.00	10.0	0.75	.500	322	-	-	HC-12	CLP-12	CS-126
S16T-CTFPR/L-3	6155364		1.28	12.0	1.00	.640	322	SM-41	S-4			
S20U-CTFPR/L-3	6155368		1.53	14.0	1.25	.765						
S20U-CTFPR/L-4	6155380		1.53	14.0	1.25	.765	432	SM-37	S-6	HC-12	CLP-12	CS-1

S-MCLN R/L

Style L - Negative 5° Side & End Cutting Edge Angle for negative 80° diamond CNMG inserts



Description	Order No.		Price	Min. Bore B	C	D	F	K	CNM Gage Insert	Seat	Lock Pin	Clamp	Clamp Screw	Seat Screw
	R H	L H												
S16T-MCLNR/L-4	6155010	6155011		1.28	12.0	1.00	.640	14°	432	—	NL-44	CL-20	XNS-47	—
S20U-MCLNR/L-4	6155014	6155015		1.53	14.0	1.25	.765	14°	432	CSN-433	NL-46	CL-20	XNS-47	S-46
S24U-MCLNR/L-4	6155018	6155019		1.78	14.0	1.50	.890	11°						

S-MTUN R/L

Style U - Negative 3° End Cutting Edge Angle for negative triangle TNMG inserts



Description	Order No.		Price	Min. Bore B	C	D	F	K	TNM Gage Insert	Seat	Lock Pin	Clamp	Clamp Screw	Seat Screw
	R H	L H												
S12S-MTUNR/L-3	6155204	6155205		1.00	10.0	0.75	.500	14°	322	—	NL-33	CL-7	XNS-35	—
S16T-MTUNR/L-3	6155208	6155209		1.28	12.0	1.00	.640	14°	322	ITSN-333			XNS-35	S-34
S20U-MTUNR/L-3	6155212	6155213		1.53	14.0	1.25	.765	14°	332	ITSN-322	NL-34L	CL-7	XNS-35	S-34
S20U-MTUNR/L-4	6155220	6155221		1.53	14.0	1.25	.765	14°	432	ITSN-432	NL-46	CL-9	XNS-59	S-46

S-MWLN R/L

Style L - Negative 5° Side & End Cutting Edge Angle for negative 80° trigon WNMG inserts



Description	Order No.		Price	Min. Bore B	C	D	F	K	WNM Gage Insert	Seat	Lock Pin	Clamp	Clamp Screw
	R H	L H											
S12S-MWLN R/L-3	6155318	6155319		0.93	10.0	0.75	.500	14°	332	—	NL-33L	HC-7	SHC-7
S16T-MWLN R/L-4	6155322	6155323		1.28	12.0	1.00	.640	14°	432	—	NL-44	CL-20	XNS-47
S20U-MWLN R/L-4	6155326	6155327		1.53	14.0	1.25	.765	14°	432	IWSN-432	NL-46	CL-20	XNS-47

S-SCLC R/L

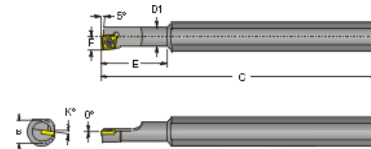
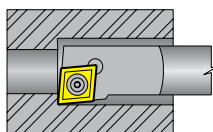
Style L - Negative 5° Side & End Cutting Edge Angle for 7° positive 80° diamond CCMT or CCGT inserts



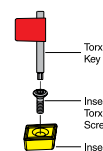
Description	Order No.		Price	Min. Bore B	C	D	F	K	CC_T Gage Insert	Insert Torx Screw	Torx Key
	R H	L H									
S06M-SCLCR/L-2	6155470	6155471		0.500	6.00	0.375	.250	-11°	21.51	TS-25.45-6M1	T-7
S08M-SCLCR/L-2	6155474	6155475		0.625	6.00	0.500	.312	-9°			
S10R-SCLCR/L-2	6155478	6155479		0.812	8.00	0.625	.406	-7°			
S12S-SCLCR/L-3	6155490	6155491		1.000	10.0	0.750	.500	-10°	32.52	TS-4.7-10M1	T-15
S16T-SCLCR/L-3	6155494	6155495		1.250	12.0	1.000	.625	-5°			

MINI S-SCLC R/L MINIATURE BORING

Style L - Negative 5° End and Side Cutting Edge Angle for 7° positive 80° diamond CC_T inserts.

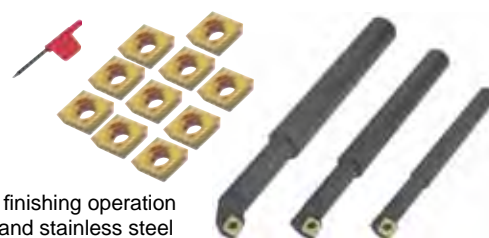
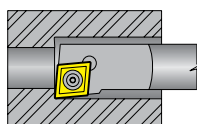


Description	Order No.		Price	Min. Bore B	C	D	E	F	F1	K°	DC_T Gage Insert	Torx Screw	Torx Key
	RH	LH											
S06H-SCLCR/L-2	6155450	6155451		.394	4.0	.375	.315	1.25	.236	-11°		TS-	T-7
S08K-SCLCR/L-2	6155454	6155455		.550	5.0	.500	.390	1.50	.275	-9°	21.51	25.45-	T-7
S010M-SCLCR	6155458	-		.708	6.0	.625	.472	2.00	.354	-7°	6M1		



SCLCR SET MINIATURE BORING SET

Negative 5° End Cutting Edge Angle for 7° Positive 80° Diamond Inserts



Order No.	Price	Shank Size	Min. Bore	15 pc. Set Includes		(10) Key	Torx (1)
				(3) Boring Boring Bars	Inserts		
6185064		.375 .500 .625	.394 .550 .708	S06H-SCLCR-2 S08K-SCLCR-2 S10M-SCLCR-2	CCMT-21.51-UF-DHCP25	T-7	Storage Box

- Precision finishing operation
- For steel and stainless steel
- Sharp cutting edge
- Good chip control



INDEXABLE BORING BARS

SERIES 915:



STCMB



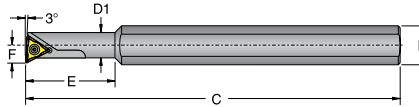
From Roughing to Finishing,
Square Shoulders to Through Bores

• For 7° Positive Triangle TCMT Inserts.

Description	Order No.	Price	Min. Bore B	Gage C	D	Insert E	Torx F	TC_T Insert	Torx Screw	Key
STCMB06-2	6155738		.500	5.00	.500	1.25	.208			
STCMB08-2	6155740		.590	6.00	.500	1.50	.287	21.51	TS-25.45-6M1	T-7
STCMB10-2	6155742		.750	8.00	.625	2.25	.350			
STCMB12-3	6155744		.845	10.0	.750	2.50	.422	32.52	TS-4.7-10M1	T-15
STCMB16-3	6155746		1.115	12.0	1.000	3.00	.555			
STCMB20-4	6155748		1.370	12.0	1.250	3.50	.682	432	TS-5.8-	T-20

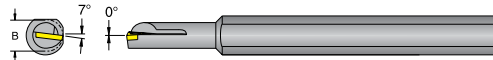
- Small Hole Capacity - to a minimum of .500
- High Tech- Insert pocket has been scientifically designed to eliminate vibration and maximize the depth of cut.
- Rigidity-Bar made of heat treated, precision ground alloy steel
- Insert Locking- The insert is securely held with the Torx screw to reduce tool slipping
- Better Finish-The clearance angle of the insert, in relation to the cutting edge, gives the best micro finish
- Fast Material Removal-The positive insert with advanced chip breaker design allows for heavier cuts.

MINI S-STUCR MINIATURE BORING

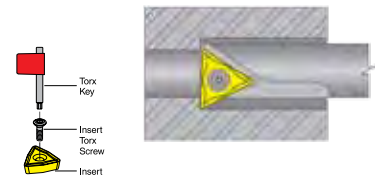


STYLE U

Negative 3° End Cutting Edge Angle for 7° positive triangle TC_T inserts

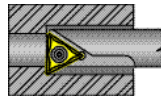


Description	Order No.	Price	Min. Bore B	C	D	D1	E	F	Gage Insert	TC_T Torx Screw	Torx Key
S08H-STUCR-1.2-2	6155724		.286	4.0	.50	.265	1.125	.143			
S08H-STUCR-1.2-3	6155726		.313	4.0	.50	.300	1.125	.157	52.50	TS-06M	T-6
S08H-STUCR-1.2-4	6155728		.374	4.0	.50	.358	1.125	.189			



STUCR SET MINIATURE BORING

Negative 3° End Cutting Edge Angle for 7° Positive 60° Triangle Inserts



Order No.	Price	Shank Size	Min. Bore	15 pc. Set Includes		(1) Torx Key	(1)
				(3) Boring Bars	(10) Inserts		
6185076		.500	.286	S08H-STUCR-1.2-2	TCMT-	T-6	Storage Box
		.500	.313	S08H-STUCR-1.2-3	520-UF-		
		.500	.374	S08H-STUCR-1.2-4	DHCP25		

- Small hole boring without the use of reamers
- Greater productivity through better tool utilization
- Close tolerances
- Eliminates reamers
- Better surface finish
- Alloy steel boring bar



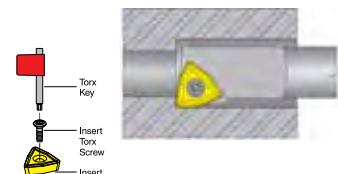
MINI S-SWUCR MINIATURE BORING

STYLE U

Negative 3° End Cutting Edge Angle for 7° Positive 60° Triangle Inserts



Description	Order No.	Min. Price	Bore B	C	D	D1	E	F	Gage Insert	WC_T Torx Screw	Torx Key
S08H-SWUCR-1.2-2	6155900		0.228	4.0	.50	.197	0.750	.114			
S08H-SWUCR-1.2-3	6155902		0.308	4.0	.50	.236	1.000	.154	520	TS-06	T-6
S08H-SWUCR-1.2-4	6155904		0.374	4.0	.50	.300	1.125	.189			



PRECISION S-WUCR BORING SET MINIATURE BORING

Order No.	Price	Shank Size	Min Bore	(3) Boring Bars		(10) Inserts	(1) Torx Key	(1)
				(3) Boring Bars	(10) Inserts			
6185070		.500	.228	S08H-SWUCR-1.2-2	WCMT-520-	T-6	Box	
		.308	.500	S08H-SWUCR-1.2-3	UF-DHCP25			
		.500	.374	S08H-SWUCR-1.2-4	-			

- Precision finishing operation
- For steel & stainless steel
- Sharp cutting edge
- Good chip control



CARBIDE INDEXABLE END MILLS & SETS

SERIES 622:

Features :

- Positive rake 90° right hand cut.
- Uses standard triangular inserts.
- Cutting rake angle 0°.
- Adaptable for N.C. machining.
- Axial rake angle 0°
- Setting angle 90°.
- Inserts included.

3 Piece Sets

Each Set Includes

- 3 Indexable end mills.
- Two hex wrenches.
- Attractive hardwood block.
- Packed in a specially designed box for protection in transit.



Indexable End Mill Sets:

Shank	Includes Sizes	Order No.	Price
Weldon Shank			
3/4"	3/4", 7/8", 1"	6224700	
3/4"	1-1/4", 1-1/2", 2"	6224800	
1	1-1/4", 1-1/2", 2"	6226400	
R8 Bridgeport Shank			
R8	1-1/4", 1-1/2", 2"	6220801	
R8	2", 2-1/2", 3"	6220802	

Indexable End Mills:

Shank	Cut Dia.	No. of Inserts	Insert Style	Order No.	Price
Weldon 3/4"	3/4	2	TPG/TPU-21	6224848	
	1	2	TPG/TPU-22	6224864	
	1-1/4	2	TPG/TPU-32	6224880	
	1-1/2	3	TPC-32	6224896	
	1-3/4	3	TPC-32	6221484	
R8 Bridgeport Type	2	3	TPG/TPU-43	2248200	
	1-1/4	2	TPG/TPU-32	6220880	
	1-1/2	3	TPC-32	6220896	
	2	3	TPC-32	2208200	
	2-1/2	4	TPG/TPU-43	2208232	
	3	5	TPC-43	2208300	

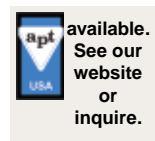


INDEXABLE COUNTERSINK & CHAMFERING TOOLS

SERIES 798:

Features :

- Overall length 2-3/8".
- Positive rake for smooth cutting without chatter.
- Uses standard inserts.



Sets - 3 Piece:

Description	Order No.	Price
60° with Stand	7980060	
82° with Stand	7980082	
90° with Stand	7980090	

Individual Pieces:

Cutter Body	Shank	Insert	60° Order No.	82° Order No.	90° Order No.	Price
1/4 - 3/4	1/2"	TPGH321	9816480	9816481	9816482	
1/2 - 1-3/4	1/2"	SPGH433	8321480	8321481	8321482	
1-1/4 - 2-1/2	3/4"	SPGH433	8802960	8802961	8802962	

Insert:

Style	Radius	I.C.	Thick-ness	Grade C5		Grade C5 (Tin) Ctd.	
				Order No.	Price	Order No.	Price
TPGH321	1/64"	3/8"	1/8"	7983211		7983212	
SPGH433	3/64"	1/2"	3/16"	7984331		7984332	

Replacement Hold Down Screw:	Price
Order No. 7980000	

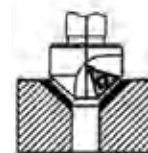
When ordering replacement screws, please specify size of countersink.

INDEXABLE COUNTERSINK END MILLS, TGDW INSERTS

SERIES 798:



Cutter Body		Shank Dia. d	L	L ₁	a	Angle	No. of Inserts	Insert Style	Order No.	Price
D Min.	D ₁ Min.									
1/4	9/16	3/8	2-1/4	1	.355	45°	1	TDGW-21.51	6945410	
1/2	31/32	1/2	2-1/2	1	.559		1	TDGW-321	6945415	
3/4	1-15/64	3/4	3-1/2	1-1/4	.559		1		6945420	
1/4	21/32	3/8	2-1/4	1	.335	60°	1	TDGW-21.51	6945610	
1/2	1-1/8	1/2	2-1/2	1	.524		1	TDGW-321	6945615	
3/4	1-3/8	3/4	3-1/2	1-1/4	.524		3		6945620	
1/4	51/64	3/8	2-1/4	1	.291	82°	1	TDGW-21.51	6945810	
1/2	1-11/32	1/2	2-1/2	1	.453		1	TDGW-321	6945815	
3/4	1-9/16	3/4	3-1/2	1-1/4	.453		3		6945820	
1/4	53/64	3/8	2-1/4	1	.272	90°	1	TDGW-21.51	6945910	
1/2	1-25/64	1/2	2-1/2	1	.425		1	TDGW-321	6945915	
3/4	1-41/64	3/4	3-1/2	1-1/4	.425		3		6945920	



45, 60, 82 & 90°, RH Cut with Weldon Shanks

Tool Angles:
Cutting Rake Angle: +15°
Radial Rake Angle: 0°
Axial Rake Angle: 0°

NOTE: End mills are furnished without cutting inserts.
For a full listing of available inserts, please refer to our Carbide Insert section.



• EUROPEAN MADE •

INDEXABLE END MILLS, TP_ INSERTS

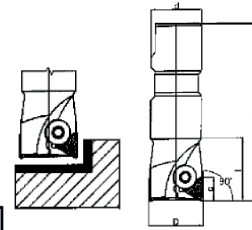
SERIES 148:

RH Cut with Weldon, R8 and NST Shanks

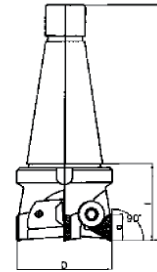
Tool Angles:

• Standard triangular utility lock-down inserts make this cutter a good, economical, general purpose choice.

Cutting Rake Angle: 0°
Axial Rake Angle: 0°
Setting Angle: 90°



Weldon shank



NST shank



Dia. D	OAL L	Cutting Length I	Shank Type	a	No. of Inserts	Insert Style	Order No.	Price
WELDON SHANK								
1/2	2-25/32	1	1/2	7/16	1	TPG/TPU-21	6901002	
3/4	3-1/4	1-7/32	3/4	21/32	1	TPG/TPU/TPC-32	6901004*	
3/4	3-1/4	1-7/32	3/4	7/16	2	TPG/TPU-21	9901005	
1	3-1/4	1-7/32	3/4	7/16	2	TPG/TPU-22	9901010	
1-1/4	3-1/4	1-7/32	3/4	21/32	2	TPG/TPU/TPC-32	6901015	
1-3/8	3-1/4	1-7/32	3/4	21/32	2	TPG/TPU/TPC-32	6901017*	
1-1/2	3-1/4	1-7/32	3/4	21/32	3	TPG/TPU/TPC-32	9901020	
1-5/8	3-1/4	1-7/32	3/4	21/32	3	TPG/TPU/TPC-32	9901023*	
1-3/4	3-1/4	1-7/32	3/4	21/32	3	TPG/TPU/TPC-32	9901025*	
2	3-1/4	1-7/32	3/4	21/32	3	TPG/TPU/TPC-32	9901030	
1	3-31/64	1-13/64	1	7/16	2	TPG/TPU-22	6901060*	
1-1/4	3-11/16	1-13/32	1	21/32	2	TPG/TPU/TPC-32	6901065*	
1-3/8	3-11/16	1-13/32	1	21/32	2	TPG/TPU/TPC-32	6901067*	
1-1/2	3-11/16	1-13/32	1	21/32	3	TPG/TPU/TPC-32	6901070	
1-5/8	3-11/16	1-13/32	1	21/32	3	TPG/TPU/TPC-32	6901073*	
1-3/4	3-11/16	1-13/32	1	21/32	3	TPG/TPU/TPC-32	6901075*	
2	3-11/16	1-13/32	1	21/32	3	TPG/TPU/TPC-32	6901080	
3	3-11/16	1-13/32	1-1/4	21/32	3	TPG/TPU/TPC-32	6901090*	
NST SHANK								
2	5	2-19/64	NST-30	21/32	3	TPG/TPU/TPC-32	6901330*	
2	5-63/64	2-9/32	NST-40	21/32	3	TPG/TPU/TPC-32	6901430*	
2-1/2	5-63/64	2-9/32	NST-40	21/32	4	TPG/TPU/TPC-32	6901435*	
3	5-63/64	2-9/32	NST-40	21/32	5	TPG/TPU/TPC-32	6901440*	
R8 SHANK								
1	5-3/8	1-21/64	R8	7/16	2	TPG/TPU-22	6901510	
1-1/4	5-37/64	1-33/64	R8	21/32	2	TPG/TPU/TPC-32	6901515	
1-3/8	5-37/64	1-33/64	R8	21/32	2	TPG/TPU/TPC-32	6901517*	
1-1/2	5-37/64	1-33/64	R8	21/32	3	TPG/TPU/TPC-32	6901520	
1-5/8	5-37/64	1-33/64	R8	21/32	3	TPG/TPU/TPC-32	6901523*	
1-3/4	5-37/64	1-33/64	R8	21/32	3	TPG/TPU/TPC-32	6901525	
2	5-37/64	1-33/64	R8	21/32	3	TPG/TPU/TPC-32	6901530	
2-1/2	5-37/64	1-33/64	R8	21/32	3	TPG/TPU/TPC-32	6901535	
3	5-37/64	1-33/64	R8	21/32	3	TPG/TPU/TPC-32	6901540	

*Limited quantity available.

SETS

Shank	Consists of Sizes	Order No.	Price
3/4"	3/4", 7/8", 1"	9910500	
3/4"	1-1/4", 1-1/2", 2"	9910501	
3/4"	1", 1-1/4", 1-1/2"	9010502	
R-8	1", 1-1/4", 1-1/2"	9015500	
R-8	1-1/4", 1-1/2", 2"	9015501	
R-8	2", 2-1/2", 3"	9015505	

INDEXABLE END MILLS,

APKT & CCMT INSERTS

SERIES 148:

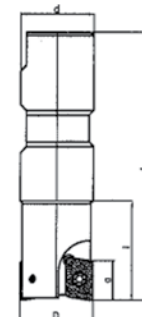
RH Cut with R8 Shank

Tool Angles:

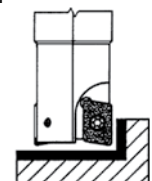
Cutting, Radial and Axial Angles:
Setting angle: 90°

- 90° multi-purpose end mill for low horsepower machines.
- Rigid, chatterless performance on CNC and conventional milling machines.

R8 shank



Weldon shank



Dia. D	OAL L	Cutting Length I	Shank Dia. d	a	No. of Insert	Cutting Rake Angle	Axial Rake Angle	Radial Rake Angle	Order No.	Price
R8 SHANK: INSERT APKT 1604; TORX KEY 6998015										
1	5-27/32	1-43/64	R8	5/8	2	-11°	4°, 6°	-11°	6941105	
1-1/4	5-27/32	1-43/64	R8	5/8	3	-10°	6°, 8°, 6°	-10°	6941110	
1-1/2	6-1/8	1-61/64	R8	5/8	4	-12°	6°, 8°, 6°, 8°	-12°	6941115	
2	6-1/8	1-61/64	R8	5/8	5	-10°	6°, 8°, 6°, 8°, 6°	-10°	6941120	
2-1/2	6-1/8	1-61/64	R8	5/8	6	-8°	6°, 8°, 6°, 8°, 6°, 8°	-8°	6941125	

CUTTING TOOLS - INDEXABLE



MAXI-MIZER LONG EDGE END MILLS, APKT INSERTS

SERIES 198:

RH, Heavy Duty with Weldon, NST and CAT Shanks

- 90° heavy duty deep slotting
- Side milling and flush pocketing
- Ideal for high speed machining with low power consumption



NST shank



Dia. D	OAL L	Cutting Length I	Projection Length L1	Shank Dia. d	No. of Flutes	No. of Inserts	Insert Style	Order No.	Price
WELDON SHANK									
3/4	3-1/2	1-5/32	1-15/32	3/4	1	4	APKT 1003	6958010	
1	4-1/4	1-15/32	1-31/32	1	2	8		6958015	
1-1/4	4-1/2	1-53/64	2-7/32	1-1/4	3	15	6958025		
1-1/2	5	2-13/64	2-23/32	1-1/4	4	24	6958035		
1-1/4	4	1	1-23/32	1-1/4	2	4	6958040		
1-1/2	4-1/2	1-1/2	2-7/32	1-1/4	2	6	6958045		
1-3/4	5-5/32	2	2-15/32	1-1/2	2	8	6958050		
2	5-13/32	2-9/32	2-23/32	1-1/2	3	12	6958055		
2	5-15/16	2-13/16	3-1/4	1-1/2	3	15	6958060		
2	6-1/2	2-13/16	3-1/4	2	3	15	6958065		
2-1/2	6-15/32	3-11/32	3-25/32	1-1/2	4	24	6958070		
CAT SHANK									
2	7-7/16	2-9/32	4-3/4	CAT-40	3	12	APKT 1604	6958220	
2	9-1/2	2-13/16	5-1/2	CAT-50	3	15		6958320	
2-1/2	10-1/2	3-11/32	6-1/2	CAT-50	4	24		6958325	
3	11-1/16	3-29/32	7-1/16	CAT-50	5	35		6958330	

NOTE: End Mills are furnished without cutting inserts.

- For a full listing of available inserts, please refer to our Carbide Insert section.



MADE IN USA - EXCLUSIVELY BY A.P.T.

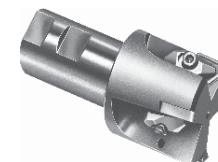
DYNA-MILL INDEXABLE END MILLS & FACEMILL - HEAVY DUTY

SERIES 978 :

TRIANGLE INSERTED — NEGATIVE RAKE — 90° CUT



- For use in heavy duty milling application
- Higher metal removal rates
- Both styles use standard 1/2" I.C. inserts
- Unique clamping mechanism, one clamp fits all sizes



FACE MILLS						
Cutting Diameter	Length of Cut	Hole Size	No. of Inserts	Tool Number	Order No.	Price
4	2-3/4	1-1/4	6	DM24	9785017	
5	2-3/4	1-1/2	7	DM25	9785018	
6	2-3/4	2	8	DM26	9785019	
8	2-3/4	2-1/2	10	DM28	9785020	

Inserts sold separately.

END MILLS						
Cutting Diameter	Length of Cut	Shank Diameter	No. of Inserts	Tool Number	Order No.	Price
1-1/4	2-1/8	1-1/4	2	DM19	9785011	
1-1/2	2-1/8	1-1/4	2	DM20	9785012	
1-3/4	2-1/8	1-1/4	3	DM21	9785013	
2	2-1/8	1-1/4	3	DM22	9785014	
2-1/2	2-1/8	1-1/4	3	DM22.5	9785015	
3	2-1/8	1-1/4	5	DM23	9785016	

Inserts sold separately.

TNMG TRIANGLE Negative rake with chip control									
CARBIDE INSERTS									
Insert Number	Radius	I.C.	Thickness	C-2		C-5 & C-6		TiN Coated*	
				Order No.	Price	Order No.	Price	Order No.	Price
TNMG-431	1/64	1/2	3/16	9785021		9785022		9785023	
TNMG-432	1/32	1/2	3/16	9785024		9785025		9785026	
TNMG-433	3/64	1/2	3/16	9785027		9785028		9785029	
TNMG-434	1/16	1/2	3/16	9785030		9785031		9785032	
TNMG-438	18	1/2	3/16	9785033		9785034		9785035	

*C-5 & C-6 Grade TiN Coated.

REPLACEMENT PARTS LIST			
Part No.	Description	Order No.	Price
CDM	Hold Down Clamp	9785036	
CB1032-12	Clamp Screw for DM19 only	9785037	
CS1032-58	Clamp Screw	9784829	
AS5818-2	Arbor Screw for DM24 only	9785038	



MADE IN USA - EXCLUSIVELY BY A.P.T.

TRI-DEX INDEXABLE END MILLS REGULAR LENGTH

SERIES 978:

TRIANGLE INSERTED — POSITIVE RAKE — 90° CUT



Sets supplied in wood block.

- Low cost
- Finest quality and workmanship
- A large range of standard diameters available
- A wide variety of shanks to choose from
- All sizes use standard 3/8" I.C. triangle inserts
- One clamp fits all tool sizes
- Used effectively on low horsepower milling machines
- Simple, rugged clamp design
- Versatile - can be used for many different types of cuts
- Can be used with inserts with wiping flats for improved finish



TRI-DEX SET				
Shank Styles	Cutting Diameter	Set No.	Order No.	Price
3/4	3/4, 7/8, 1"	EM34	9784907	
3/4	1-1/4, 1-1/2, 2"	EM750	9784908	
1	1-1/4, 1-1/2, 2"	EM1000	9784909	
R-8	1, 1-1/4, 1-1/2"	EM8R1	9784910	
R-8	2, 2-1/2, 3"	EM8R2	9784911	
R-8	2, 2-1/4, 2-1/2"	EM8R3	9784912	
R-8	2-3/4, 3, 3-1/2"	EM8R4	9784913	
V-Flange	1-1/4, 1-1/2, 3"	EMV1000	9785932	

END MILLS					
Cutting Diameter	Shank Dia. or Style	No. of Inserts	Tool Number	Order No.	Price
3/4	1/2	1	EM075-50	9784866	
3/4	3/4	1	EM075-34	9784867	
3/4	R-8	1	EM075-R8	9784868	
7/8	3/4	1	EM087-34	9784869	
1	1	1	EM100-1	9784871	
1	3/4	1	EM100-34	9784870	
1	R-8	1	EM100-R8	9784872	
1-1/4	1	2	EM125-1	9784873	
1-1/4	3/4	2	EM125-34	9784874	
1-1/4	R8	2	EM125-R8	9784875	
1-1/4	40V-Flange	2	EM125-V40	9784876	
1-3/8	1	2	EM137-1	9784877	
1-3/8	3/4	2	EM137-34	9784878	
1-3/8	R-8	2	EM137-R8	9784879	
1-1/2	1	3	EM150-1	9784880	
1-1/2	3/4	3	EM150-34	9784881	
1-1/2	R-8	3	EM150-R8	9784882	
1-1/2	40V-Flange	3	EM150-V40	9784883	
1-5/8	3/4	3	EM162-34	9784884	
1-5/8	1	3	EM162-1	9784885	
1-5/8	R-8	3	EM162-R8	9784886	
1-3/4	1	3	EM175-1	9784887	
1-3/4	3/4	3	EM175-34	9784888	
1-3/4	R-8	3	EM175-R8	9784889	
2	1	3	EM20-1	9784890	
2	3/4	3	EM20-34	9784891	
2	R-8	3	EM20-R8	9784892	
2	30 NST	3	EM20-S30	9784893	
2	40 NST	3	EM20-S40	9784894	
2	40V-Flange	3	EM20-V40	9784895	
2-1/4	R-8	4	EM225-R8	9784896	
2-1/2	1-1/4	5	EM250-125	9784897	
2-1/2	R-8	5	EM250-R8	9784898	
2-3/4	R-8	5	EM275-R8	9784899	
3	1-1/4	5	EM300-125	9784900	
3	R-8	5	EM300-R8	9784901	
3	40 NST	5	EM300-S40	9784902	
3	40V-Flange	5	EM300-V40	9784903	
3-1/2	R-8	5	EM350-R8	9784904	
4	R-8	6	EM400-R8	9784905	

Inserts sold separately. Cutter body length 1-5/8".

TPG TRIANGLE — Positive rake — Ground all over									
CARBIDE INSERTS									
Insert Number	Radius	I.C.	Thickness	C-2		C-5 & C-6		TiN Coated*	
				Order No.	Price	Order No.	Price	Order No.	Price
TPG-321	1/64	3/8	1/8	9784823		9784824		9784826	
TPG-322	1/32	3/8	1/8	9784925		9784926		9784927	
TPG-323	3/64	3/8	1/8	9784929		9784930		9784931	
TPG-324	1/16	3/8	1/8	9784933		9784934		9784935	

*C-5 & C-6 Grade TiN Coated

TPC TRIANGLE — Positive rake ground all over with wiping flats on three corners									
CARBIDE INSERTS									
Insert Number	Radius	I.C.	Thickness	C-2		C-5 & C-6		TiN Coated*	
				Order No.	Price	Order No.	Price	Order No.	Price
TPC 32ZR	-	3/8	1/8	9784937		9784938		9784939	

*C-5 & C-6 Grade TiN Coated

REPLACEMENT PARTS LIST			
Part No.	Description	Order No.	Price
CTD-2	Hold Down Clamp	9784940	
CS832-12	Clamp Screw	9784941	
CSW	9/64 Allen Wrench for 8-32 Screw	9784942	



MADE IN USA - EXCLUSIVELY BY A.P.T.

TRI-DEX INDEXABLE END MILLS - MINIATURE SERIES

SERIES 978:

TRIANGLE INSERTED — POSITIVE RAKE — 90° CUT



- One clamp fits all sizes
- Uses standard 1/4" I.C.
- Triangle inserts
- Fine surface finishes

END MILLS						
Cutting Diameter	Shank Diameter	Body Length	Overall Length	Tool Number	Order No.	Price
STANDARD						
1/2	1/2	1	3	EMM500-5	9784971	
9/16	1/2	1	3	EMM562-5	9784972	
5/8	1/2	1	3	EMM625-5	9784973	
METRIC						
12mm	1/2	1	3	EMM12M5	9784974	
15mm	1/2	1	3	EMM15M-5	9784975	
18mm	1/2	1	3	EMM18M-5	9784976	



SETS	
STANDARD Contains 1 piece of each: 1/2, 9/16, 5/8 Set No. EMM500	
Order No. 9784978	Price
METRIC Contains 1 piece of each: 12mm, 15mm, 18mm Set No. EMM500A	
Order No. 9784977	Price

*Torx® wrench included. Set supplied in wood block. Inserts sold separately.



TPG TRIANGLE — Positive rake ground all over

CARBIDE INSERTS									
Insert Number	Radius	I.C.	Thick-ness	C-2		C-5 & C-6		TiN Coated*	
				Order No.	Price	Order No.	Price	Order No.	Price
TPG-221	1/64	1/4	1/8	9784820		9784821		9784822	
TPG-222	1/32	1/4	4/8	9785589		9785590		9785838	
TPG-223	3/64	1/4	1/8	9785591		9785592		9785839	

REPLACEMENT PARTS LIST			
Part No.	Description	Order No.	Price
CTM	Hold Down Clamp	9784979	
CB632-38	Torx® Clamp Screw	9784980	
CTW-10	T-10 Torx® Wrench for 6-32 Screw	9784743	

*C-5 & C-6 Grade TiN Coated

MADE IN USA - EXCLUSIVELY BY A.P.T.

TRI-DEX INDEXABLE END MILLS - EXTRA LONG LENGTH

TRIANGLE INSERTED — POSITIVE RAKE — 90° CUT
CUTTER BODY LENGTH 4"



- Used where extra long reach is required
- Available in a wide range of diameters
- A large variety of shank styles
- Uses standard 3/8" I.C. triangle inserts
- One clamp fits all size

END MILLS						
Cutting Diameter	Shank Dia. or Style	Overall Length	No. of Inserts	Tool Number	Order No.	Price
3/4	3/4	6-1/4	3	EML075-34	9784943	
1	3/4	6-1/4	1	EML100-34	9784944	
1-1/4	1	6-1/4	2	EML125-1	9784945	
1-1/4	R-8	8-1/4	2	EML125-R8	9784946	
1-1/2	1	6-1/4	3	EML150-1	9784947	
1-1/2	R-8	8-1/4	3	EML150-R8	9784948	
2	1	6 1/4	3	EML20-1	9784949	
2	1-1/4	6-1/4	3	EML20-125	9784950	
2	R-8	8-1/4	3	EML20-R8	9784951	
2-1/2	1-1/4	6-1/4	5	EML250-125	9784952	
2-1/2	R-8	8-1/4	5	EML250-R8	9784953	
3	1-1/4	6-1/4	5	EML300-125	9784954	
3	R-8	8-1/4	5	EML300-R8	9784955	

Inserts sold separately.

REPLACEMENT PARTS LIST			
Part No.	Description	Order No.	Price
CTD-2	Hold Down Clamp	9784940	
CS832-12	Clamp Screw	9784941	
CSW	9/64 Allen Wrench for 8-32 Screw	9784942	

*Inserts sold separately.

SETS	
R-8 SHANK Contains 1 piece of each: 2, 2-1/2, 3 Supplied in wood block. Set No. EML8R2	1-1/4" SHANK Contains 1 piece of each: 2, 2-1/2, 3 Supplied in wood block. Set No. EML12500
Order No. 9784956	Order No. 9784957
Price	Price

CARBIDE INSERTS									
Insert Number	Radius	I.C.	Thickness	C-2		C-5 & C-6		TiN Coated*	
				Order No.	Price	Order No.	Price	Order No.	Price
TPG-321	1/64	3/8	1/8	9784823		9784824		9784826	
TPG-322	1/32	3/8	1/8	9784925		9784926		9784927	
TPG-323	3/64	3/8	1/8	9784929		9784930		9784931	
TPG-324	1/16	3/8	1/8	9784933		9784934		9784935	

*C-5 & C-6 Grade TiN Coated



TPC TRIANGLE — Positive rake ground all over with wiping flats on three corners

CARBIDE INSERTS									
Insert Number	Radius	I.C.	Thickness	C-2		C-5 & C-6		TiN Coated*	
				Order No.	Price	Order No.	Price	Order No.	Price
TPC 32ZR	-	3/8	1/8	9784937		9784938		9784939	

*C-5 & C-6 Grade TiN Coated



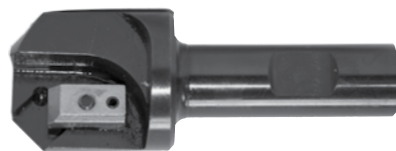
MADE IN USA - EXCLUSIVELY BY A.P.T.
QUAD-MILL INDEXABLE END MILLS

SERIES 978:

SQUARE INSERTED — POSITIVE RAKE — 15° AND 45° LEADS



- Finest quality and workmanship
- Uses standard 1/2" I.C. square inserts
- One clamp fits all tools
- Easy stock removal on low horsepower equipment
- Higher metal removal rates
- Fine surface finishes



END MILLS					
Cutting Diameter	Shank Dia. or Style	No. of Inserts	Tool Number	Order No.	Price
15° LEAD**					
1	3/4	1	QM100-34	9784981	
1	R-8	1	QM100-R8	9784982	
2	1	3	QM20-100	9784983	
2	R-8	3	QM20-R8	9784984	
2	1-1/4	3	QM20-125	9784985	
2-1/2	R-8	5	QM250-R8	9784986	
2-1/2	1-1/4	5	QM250-125	9784987	
3	R-8	5	QM30-R8	9784988	

END MILLS					
Cutting Diameter	Shank Dia. or Style	No. of Inserts	Tool Number	Order No.	Price
45° LEAD					
3/4	3/4	1	QMD075-34	9784990	
1	3/4	1	QMD100-34	9784991	
1	R-8	1	QMD100-R8	9784992	
1-1/4	3/4	1	QMD125-34	9784993	
1-1/4	R-8	1	QMD125-R8	9784994	
1-1/2	3/4	1	QMD150-34	9784995	
1-1/2	R-8	1	QMD150-R8	9784996	
2	3/4	3	QMD20-34	9784997	
2	R-8	3	QMD20-R8	9784998	
2	1-1/4	3	QMD20-125	9784999	
2-1/2	R-8	4	QMD250-R8	9785000	
3	R-8	5	QMD30-R8	9785001	

Inserts sold separately.
 ** Note: Do Not Use SPG-424 — 1/16 Radius on 15° Lead End Mills

	SPG	SQUARE Positive rake — Ground all over
	SPU	SQUARE Positive rake — Ground top and bottom

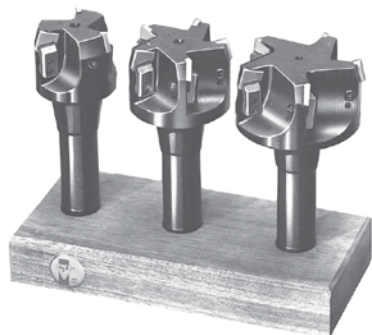
CARBIDE INSERTS									
Insert Number	Radius	I.C.	Thickness	C-2		C-5 & C-6		TiN Coated*	
				Order No.	Price	Order No.	Price	Order No.	Price
SPG-422	1/32	1/2	1/8	9785433		9785434		9785757	
SPG-423	3/64	1/2	1/8	9785435		9785436		9785758	
**SPG-424	1/16	1/2	1/8	9785437		9785438		9785759	
SPU-422	1/32	1/2	1/8	9785457		9785458		9785769	
SPU-423	3/64	1/2	1/8	9785459		9785460		9785770	

*C-5 & C-6 Grade TiN Coated
 ** Note: Do Not Use SPG-424 — 1/16 Radius on 15° Lead End Mills

REPLACEMENT PARTS LIST			
Part No.	Description	Order No.	Price
CTD-2	Hold Down Clamp	9784940	
CS832-12	Clamp Screw	9784941	
CSW	9/64 Allen Wrench for 8-32 Screw	9784942	

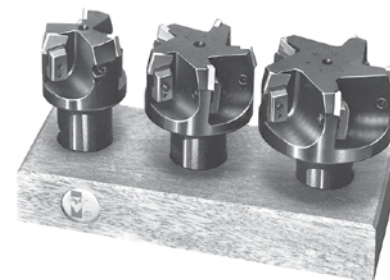
	SPC	SQUARE — Positive rake ground all over with wiping flats on four corners.							
CARBIDE INSERTS WITH WIPIN G FLATS									
Insert Number	Radius	I.C.	Thickness	C-2		C-5 & C-6		TiN Coated*	
				Order No.	Price	Order No.	Price	Order No.	Price
SPC-42ZR	-	1/2	1/8	9785008		9785009		9785010	

*C-5 & C-6 Grade TiN Coated



QUAD-MILLS SETS				
Shank Dia. or Style	Cutting Diameter	Set Number	Order No.	Price
15° LEAD				
R-8	2, 2-1/2, 3	QMS15-R82	9785003	
1-1/4	2, 2-1/2, 3	QMS15-125	9785004	
45° LEAD				
R-8	1, 1-1/4, 11/2	QMS45-R81	9785005	
R-8	2, 2-1/2, 3	QMS45-R82	9785006	
3/4	1, 1-1/4, 1-1/2	QMS45-34	9785007	

Inserts sold separately.



CUTTING TOOLS - INDEXABLE



90° END MILL

High Positive

Cutting Rake - 20° for 11°
for positive 85° parallelogram
AP__ inserts
(Sold separately)



- 90° end mill
- Torx screw locking system
- Easy to index
- Two cutting edges
- Square shoulder & slotting
- Increase productivity & quality

Description	Order No.	Price	C	D	Shank Size	F	H	No. Inserts	APKT Gage Inserts
E90-100-AP16-075	6165646		4.000	1.00	0.75	.618	1.625	2	1604
E90-100-AP16-100	6165648		4.500	1.00	1.00	.618	1.750	2	
E90-125-AP16-100	6165650		4.500	1.25	1.00	.618	1.625	3	
E90-150-AP16-100	6165652		4.500	1.50	1.00	.618	1.625	3	
E90-150-AP16-125	6165654		4.500	1.50	1.25	.618	1.625	3	
E90-200-AP16-125	6165656		4.500	2.00	1.25	.618	1.625	4	
E90-200-AP16-R8	6165658		5.625	2.00	R 8	.618	1.640	4	

T-SLOT CUTTER

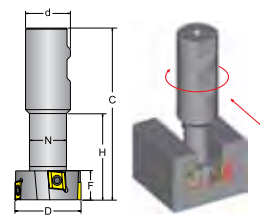
SERIES 915:

CUTTING RAKE - 20° / FOR 20° POSITIVE CEHW INSERTS

(Sold separately)

In order for the T-Slot cutter to be properly used, a 90° slot must first be cut into the material. This first cut allows clearance for the neck of the T-Slot cutter during the final cut.

- Cutting Rake.....20°
- Axial Rake.....+/- 6°
- Radial Rake.....-14°



SLOT-000-CE00-000

Description	Order No.	Price	C	D	d	F	H	N	No. of Inserts R/L	Gage Insert	Insert Torx Screw	Torx Key
SLOT-056-TE06-050	6165171		2.594	0.563	0.50	0.234	0.69	0.266	2	TEHW-0602	TS-06	T-6
SLOT-066-TE06-050	6165172		2.688	0.656	0.50	0.266	0.81	0.328	2	CEHW-0602	TS-25.45-6M1	T-15
SLOT-078-CE06-075	6165173		3.250	0.781	0.75	0.328	1.04	0.406	2/2	CEHW-0602	TS-25.45-6M1	T-15
SLOT-097-CE06-075	6165174		3.438	0.969	0.75	0.390	1.30	0.531	2/2	CEHW-1204	TS-5.8-10M1	T-20
SLOT-125-CE06-100	6165175		3.938	1.250	1.00	0.484	1.48	0.656	3/2	CEHW-1204	TS-5.8-10M1	T-20
SLOT-147-CE12-100	6165176		4.438	1.469	1.00	0.625	2.01	0.781	2/2	CEHW-1204	TS-5.8-10M1	T-20
SLOT-184-CE12-125	6165177		4.813	1.844	1.25	0.828	2.42	1.031	2/2	CEHW-1204	TS-5.8-10M1	T-20
SLOT-222-CE12-125	6165178		5.375	2.219	1.25	1.094	3.08	1.281	3/3	CEHW-1204	TS-5.8-10M1	T-20
SLOT-266-CE12-125	6165179		5.906	2.656	1.25	1.344	3.48	1.531	4/4	CEHW-1204	TS-5.8-10M1	T-20

- Available in 12mm, 16mm, 25mm, & 32mm Weldon shank sizes
- Industry standard sizes
- High rate of material removal
- Staggered tooth design
- Torx screw locking system
- Two cutting edges

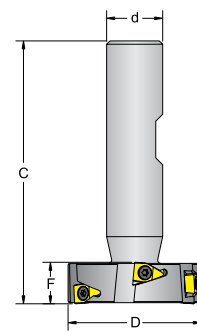
WOODRUFF KEY SEAT CUTTER

SERIES 915:

CUTTING RAKE - 20° / FOR 20° POSITIVE TEHW INSERTS

(Sold separately)

Description	Order No.	Price	C	D	d	F	No. Inserts	TEHW Gage Insert	Insert Torx Screw	Torx Key
DWKC-606-TE06-050	6165140		2.188	.750	.500	.188	2	0602	TS-06	T-6
DWKC-806-TE06-050	6165141		2.250	.750	.500	.250	2	0602	TS-06	T-6
DWKC-807-TE06-050	6165142		2.188	.875	.500	.188	2	0602	TS-06	T-6
DWKC-707-TE06-050	6165143		2.219	.875	.500	.219	2	0602	TS-06	T-6
DWKC-807-TE06-050	6165144		2.250	.875	.500	.250	2	0602	TS-06	T-6
DWKC-608-TE06-050	6165145		2.188	1.000	.500	.188	3	0602	TS-06	T-6
DWKC-708-TE06-050	6165146		2.219	1.000	.500	.219	3	0602	TS-06	T-6
DWKC-808-TE06-050	6165147		2.250	1.000	.500	.250	3	0602	TS-06	T-6
DWKC-1008-TE06-050	6165148		2.313	1.000	.500	.313	3	0602	TS-06	T-6
DWKC-1208-TE06-050	6165149		2.375	1.000	.500	.375	3	0602	TS-06	T-6
DWKC-609-TE06-050	6165150		2.188	1.125	.500	.188	4	0602	TS-06	T-6
DWKC-709-TE06-050	6165151		2.219	1.125	.500	.219	4	0602	TS-06	T-6
DWKC-809-TE06-050	6165152		2.250	1.125	.500	.250	4	0602	TS-06	T-6
DWKC-1009-TE06-050	6165153		2.313	1.125	.500	.313	4	0602	TS-06	T-6
DWKC-610-TE06-050	6165154		2.188	1.125	.500	.188	6	0602	TS-06	T-6
DWKC-710-TE06-050	6165155		2.219	1.125	.500	.219	6	0602	TS-06	T-6
DWKC-810-TE06-050	6165156		2.250	1.125	.500	.250	6	0602	TS-06	T-6
DWKC-1010-TE06-050	6165157		2.313	1.125	.500	.313	6	0602	TS-06	T-6
DWKC-1210-TE06-050	6165158		2.375	1.125	.500	.375	6	0602	TS-06	T-6
DWKC-811-TE06-050	6165159		2.250	1.125	.500	.250	6	0602	TS-06	T-6
DWKC-1011-TE06-050	6165160		2.313	1.375	.500	.313	6	0602	TS-06	T-6
DWKC-1211-TE06-050	6165161		2.375	1.375	.500	.375	6	0602	TS-06	T-6
DWKC-812-TE06-050	6165162		2.250	1.375	.500	.250	6	0602	TS-06	T-6
DWKC-1012-TE06-050	6165163		2.313	1.500	.500	.131	6	0602	TS-06	T-6
DWKC-1212-TE06-050	6165164		2.375	1.500	.500	.313	6	0602	TS-06	T-6



DWKC-0000-TE06-000

- Cutting Rake 20°
- Axial Rake +/- 6°
- Radial Rake -10°

- Available in 10mm & 12mm Weldon shank size
- High rate of material removal
- Staggered tooth design
- Torx screw locking system

INDEXABLE TOOLING

SERIES 915:

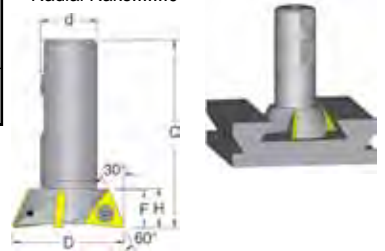


45° DOVETAIL CUTTER

Cutting Rake 11° for 11 positive TDEX inserts (Sold separately)

Description	Order No.	Price	C	D	d	F	H	No. Inserts	Gage Inserts	Insert Torx Screw	Torx Key
D45X-050-TD09-037	6165233		2.390	0.500	0.375	.247	.125	1			
D45X-075-TD09-037	6165234		2.390	0.750	0.375	.247	.214	2	090202	TS-25.45-6M1	T-7
D45X-100-TD09-050	6165235		2.390	1.000	0.500	.250	.244	3			
D45X-137-TD17-062	6165236		2.940	1.375	0.625	.375	.320	2	17T304	TS-4.7-8M1	T-15
D45X-187-TD17-075	6165237		2.940	1.875	0.750	.468	.444	3			
D45X-225-TD25-100	6165238		3.500	2.250	1.000	.700	.696	2	250404	TS-5.8-10M1	T-20
D45X-250-TD25-100	6165239		3.500	2.500	1.000	.700	.700	3			

- Cutting Rake...+11°
- Axial Rake.....0°
- Radial Rake.....0°



60° DOVETAIL CUTTER

Cutting Rake 15° for 15° positive TDEX inserts (Sold separately)

Description	Order No.	Price	C	D	d	F	H	No. Inserts	Gage Insert	Insert Torx Screw	Torx Key
D60X-050-TD11-037	6165244		2.390	0.500	0.375	.325	.142	1			
D60X-075-TD11-037	6165245		2.390	0.750	0.375	.325	.282	2	110204	TS-25.45-6M1	T-7
D60X-100-TD11-050	6165246		2.390	1.000	0.500	.325	.375	3			
D60X-137-TD16-062	6165247		2.862	1.375	0.625	.510	.550	3	160308	TS-4.7-8M1	
D60X-187-TD16-075	6165248		3.000	1.875	0.750	.510	.550	3	160308	TS-4.7-10M1	
D60X-225-TD22-100	6165249		3.500	2.250	1.000	.700	.750	3	220408	TS-5.8-1-M1	T-20
D60X-250-TD22-100	6165250		3.500	2.500	1.000	.700	.750	3			

- Cutting Rake.... +15°
- Axial Rake.....10°
- Radial Rake.....14°

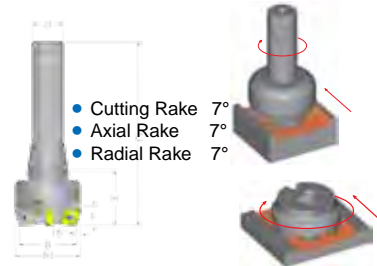
15° CNMG "RECYCLE" MILLING CUTTERS

Cutting rake - Negative 7°
For Negative 80° Diamond
CN__ inserts (Sold separately)

After the cutting edges are used on your turning toolholder, do not throw the insert away. It can be used in this milling cutter to utilize two more cutting edges that were not used in your lathe work.

End Mill

Description	Order No.	Price	C	D	D1	d	F	H	No. of Inserts	CNMG Gage Insert	Insert Torx Screw	Torx Key
REC15-200-CN4-075	6165850		3.750	2.0	2.25	.75	.45	1.50	3	432	TS-1032-5M1	T-20
REC15-200-CN4-100	6165852		4.000	2.0	2.25	1.0	.45	1.50				
REC15-200-CN4-R8	6165854		5.625	2.0	2.25	R8	.45	1.75				



- Cutting Rake 7°
- Axial Rake 7°
- Radial Rake 7°

- Available in 3/4" & 1.0" Weldon & R8 shank sizes
- Recycles negative 80° diamond inserts
- High rate of material removal
- Torx screw locking system
- Two cutting edges

15° CNMG "RECYCLE" MILLING CUTTERS

Cutting Rake - Negative 7°
for negative 80° diamond
CN__ inserts (Sold separately)

After the cutting edges are used on your turning toolholder, do not throw the insert away. It can be used in this milling cutter to utilize two more cutting edges that were not used in your lathe work.

Face Mill

Description	Order No.	Price	C	D	D1	d	F	H	No. of Inserts	CNMG Gage Insert	Insert Torx Screw	Torx Key
REC15A-300-CN4-100	6165856		1.750	3.0	3.23	1.0	.45	.250	4	432	TS-1032-5M1	T-20
REC15A-400-CN4-150	6165858		2.000	4.0	4.23	1.5	.45	.375	6			
REC15A-500-CN4-150	6165860		2.000	5.0	5.23	1.5	.45	.375	8			



- Cutting Rake 7°
- Axial Rake 7°
- Radial Rake 7°

- Available in 3/4" & 1.0" Weldon & R8 shank sizes
- Recycles negative 80° diamond inserts
- High rate of material removal
- Torx screw locking system
- Two cutting edges

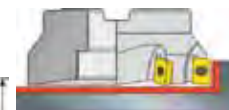
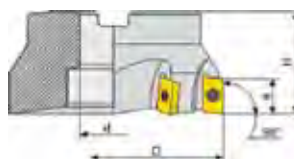
"TURBO" FACE MILLING CUTTERS - APKT

SERIES 150:

Inserts sold separately

Tool Angles:

Cutting Rake Angle:..... -11°, -8°-6°
Radial Rake Angle:..... -11°, -8°-6°
Axial Rake Angle:.....7°, 9°
Setting Angle:..... 90°



Dia.	Arbor Hole	Height H	Cutting Depth	No. of Inserts	Insert Style	Order No.	Price
2"	3/4	1.57	5/8	5	APKT 1604	6955020	
3"	1	1.97	5/8	6	APKT 1604	6955030	
4"	1-1/4	1.97	5/8	8	APKT 1604	6955040	
4"	1-1/2	1.97	5/8	8	APKT 1604	6955045	

- 90° APKT 1604 inserts compliment this cutter's unique geometry.
- Irregularly spaced flutes allow faster stock removal, reduced harmonics and chattering, thus minimizing heat and friction.
- The most efficient milling cutter body in our offering



INDEXABLE FACE MILLING CUTTERS, APKT INSERTS

SERIES 150:

RH Cut

Tool Angles:

Radial Rake Angle: -12° to -6°

Cutting Rake Angle: -12° to -6°

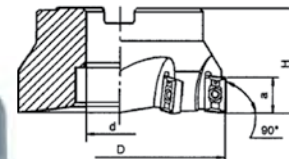
Axial Rake Angle: 7° to 10°

Setting Angle: 90°



• Wide flutes allow for excellent chip removal.

Dia. D	Arbor Hole d	Height H	a	No. of Inserts	Inserts	Order No.	Price
1-1/2	1/2	1-37/64		4		6954015	
2	3/4	1-37/64		5		6954020	
2-1/2	1	1-37/64		6		6954025	
3	1	1-31/32	5/8	6	APKT	6954030	
4	1-1/4	1-31/32		8	1604	6954040	
5	1-1/2	2-31/64		9		6954050	
6	2	2-31/64		10		6954060	
8	2-1/2	2-31/64		12		6954080	



NOTE: Milling Cutters are furnished without cutting inserts. For a full listing of available inserts, please refer to our Carbide Insert section.

INDEXABLE SQUARE SHOULDER MILLING CUTTERS

TP_ INSERTS

SERIES 149:

RH Cut

Tool Angles:

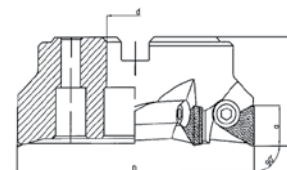
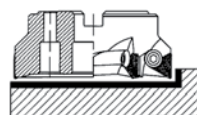
Radial Rake Angle: 0°

Cutting Rake Angle: 0°

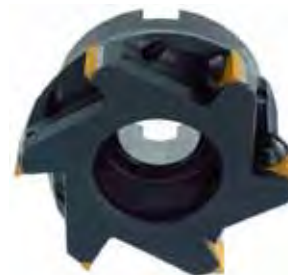
Axial Rake Angle: 0°

Setting Angle: 90°

• 90° square shoulder cutter body



Dia. D	Arbor Hole d	a	Height H	No. of Inserts	Insert	Order No.	Price
1-1/2	1/2	21/32	1-37/64	3	TPC-32	6902156	
2	3/4	21/32	1-21/32	3	TPU-32	6902157	
2-1/2	1	55/64	1-27/32	3	TPG-32	6902158	
3	1	55/64	1-31/32	4	TPC-43	6902159	
4	1-1/2	55/64	1-25/32	5		6902160	
5	1-1/2	55/64	2-31/64	6	TPN-43	6902161	
6	2	55/64	2-31/64	7		6902162	
8	2-1/2	55/64	2-31/64	8	TPU-43	6902163	



NOTE: Milling Cutters are furnished without cutting inserts. For a full listing of available inserts, please refer to our Carbide Insert section.

MAXI-MIZER FACE MILLING CUTTERS, SEHT INSERTS

SERIES 198:

45° Lead Angle

RH Cut, 1/2" Square Insert

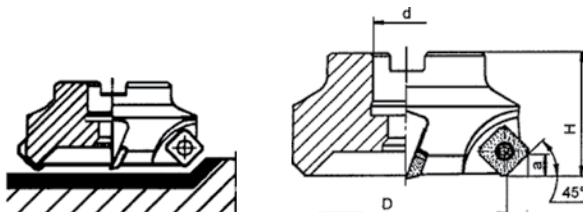
Tool Angles:

Radial Rake Angle: -9°

Cutting Rake Angle: $+10^{\circ}$

Axial Rake Angle: $+20^{\circ}$

Setting Angle: 45°



Dia. D	Arbor Hole d	a	Height H	No. of Inserts	Insert	Order No.	Price
2	3/4		1-37/64	4		6963020	
2-1/2	3/4		1-37/64	5		6963025	
3	1	15/64	1-31/32	5	SEHT	6963030	
4	1-1/4		1-31/32	6	1204	6963040	
5	1-1/2		2-31/64	7		6963050	
6	2		2-31/64	8		6963060	



• Multi-purpose, high speed, face mill and 45° chamfer cutter for difficult machining conditions.

NOTE: Milling Cutters are furnished without cutting inserts. For a full listing of available inserts, please refer to our Carbide Insert section.

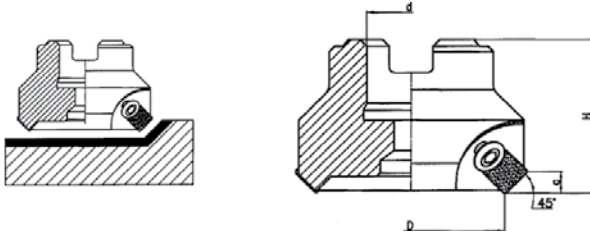


NOTE: Cutters are furnished without cutting inserts.
For a full listing of available inserts, please refer to our Carbide Insert section.



MAXI-MIZER FACE MILLING CUTTERS, SE_N INSERTS

SERIES 198:



RH Cut

Tool Angles:

- Radial Rake Angle: -9°
- Cutting Rake Angle: 10°
- Axial Rake Angle: 20°
- Setting Angle: 45°

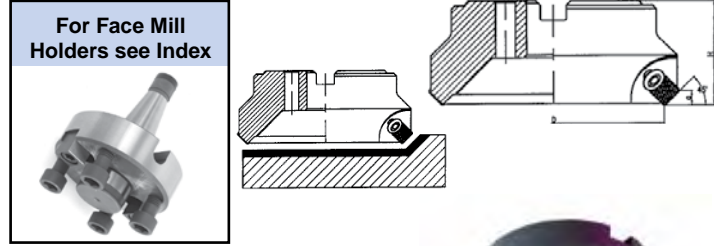


- 45° setting angle, shim supported 1/2" IC square utility inserts account for this cutter's stability and free cutting.

Dia. D	Arbor Hole d	a	Height H	No. of Inserts	Insert	Order No.	Price
1-1/2	3/4		2-3/32	3	SEAN-42AFN	6923001	
2	3/4		1-57/64	4	SEKN-42AFN	6923002	
2-1/2	3/4	15/64	1-37/64	5	SECN-A42AFN	6923003	
3	1		1-31/32	6		6923004	
4	1-1/4		1-31/32	6		6923005	

MAXI-MIZER FACE MILLING CUTTERS, SE_N INSERTS - HEAVY DUTY

SERIES 198:



Heavy Duty, RH

Tool Angles:

- Radial Rake Angle: -9°
- Cutting Rake Angle: 10°
- Axial Rake Angle: 20°
- Setting Angle: 45°



- 45° setting angle, shim supported 1/2" IC square utility inserts account for this cutter's stability and free cutting.

Dia. D	Arbor Hole d	a	Height H	No. of Inserts	Insert	Order No.	Price
2-1/2	3/4		1-37/64	5	SEAN-42AFN	6924001	
3	1		1-31/32	6		6924002	
4	1-1/4		1-31/32	6		6924003	
5	1-1/2	15/64	2-31/64	7	SEKN-42AFN	6924004	
6	2		2-31/64	7		6924005	
8	2-1/2		2-31/64	8		6924006	
10	2-1/2		2-31/64	9	SECN-A42AFN	6924010	



MADE IN USA - EXCLUSIVELY BY A.P.T.

TRI-DEX INDEXABLE FACE MILLS

SERIES 978 :

TRIANGLE INSERTED — POSITIVE RAKE — 90° CUT

MADE IN USA



- Achieve face milling cuts at higher R.P.M.'s
- Use in low horse power milling machines
- Results in finer finishes

- One clamp fits all sizes
- Uses standard 3/8" I.C. triangle inserts
- Use with standard shell end mill adapters



TPG TRIANGLE — Positive rake — Ground all over									
CARBIDE INSERTS									
Insert Number	Radius	I.C.	Thickness	C-2		C-5 & C-6		TiN Coated*	
				Order No.	Price	Order No.	Price	Order No.	Price
TPG-320	0	3/8	1/8	9785887		9785888		9785046	
TPG-321	1/64	3/8	1/8	9784823		9784824		9784826	
TPG-322	1/32	3/8	1/8	9784925		9784926		9784927	
TPG-323	3/64	3/8	1/8	9784929		9784930		9784931	
TPG-324	1/16	3/8	1/8	9784933		9784934		9784935	

*C-5 & C-6 Grade TiN Coated

FACE MILLS						
Cutting Diameter	Length of Cut	Hole Size	No. of Inserts	Tool Number	Order No.	Price
2	1-3/4	3/4	3	EMS200	9785043	
2-1/2	2	3/4	5	EMS250	9785044	
3	2	1	5	EMS300	9785045	

Inserts sold separately.

REPLACEMENT PARTS LIST			
Part No.	Description	Order No.	Price
CTD-2	Hold Down Clamp	9784940	
CSW	9/64 Allen Wrench for 8-32 Screw	9784942	
CS832-12	Clamp Screw	9784941	
AS3824-114	Shell Mill Arbor Screw EMS200	9785041	
AS3824-112	Shell Mill Arbor Screw EMS250	9785040	
AS1220-112	Shell Mill Arbor Screw EMS300	9785039	

CUTTING TOOLS - INDEXABLE

MADE IN USA

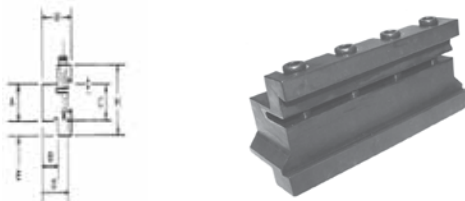
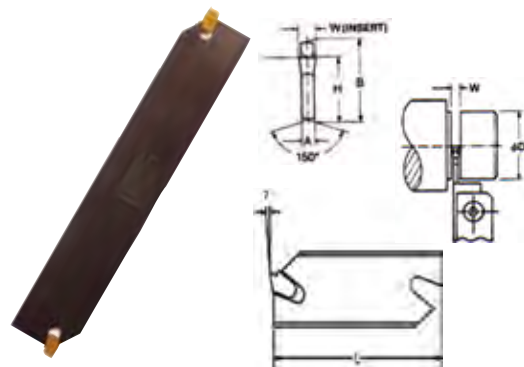
SELF LOCKING CUT-OFF AND GROOVING TOOL SYSTEM

SERIES 559:

Interchangeable with other brands of Cut-off and Grooving Tool Systems.

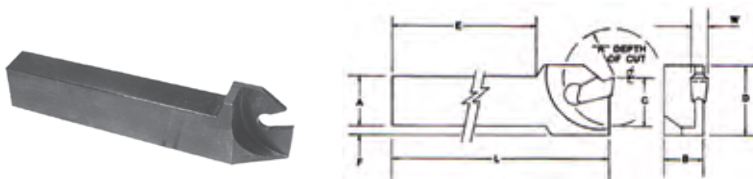
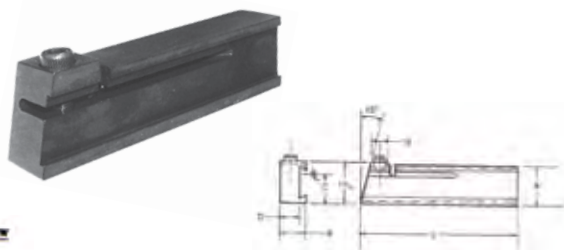
Insert extractor supplied with each blade.

CUT-OFF AND GROOVING BLADES										
Dimensions					Insert Width	Tool Number	Order No.	Price Each		
A	L	H	B	D-Max						
1/16	3-3/8	39/64	3/4	1-1/2	.087 & .094	GIH19-2	5591192			
1/16	4-5/16	53/64	1-1/32	2	.087 & .094	GIH26-2	5591262			
3/32	4-5/16	53/64	1-1/32	3	.120	GIH26-3	5591263			
1/8	4-5/16	53/64	1-1/32	3	.160	GIH26-4	5591264			
5/32	4-5/16	53/64	1-1/32	3	.187 & .200	GIH26-5	5591265			
13/64	4-5/16	53/64	1-1/32	3	.250	GIH26-6	5591266			
1/16*	5-7/8	63/64	1-1/4	2	.087 & .094	GIH32-2	5591322			
3/32	5-7/8	63/64	1-1/4	4	.120	GIH32-3	5591323			
1/8	5-7/8	63/64	1-1/4	4	.160	GIH32-4	5591324			
5/32	5-7/8	63/64	1-1/4	5	.187 & .200	GIH32-5	5591325			
13/64	5-7/8	63/64	1-1/4	5	.250	GIH32-6	5591326			
17/64	5-7/8	63/64	1-1/4	5.5	.315	GIH32-8	5591358			
5/16	5-7/8	63/64	1-1/4	5.5	.375	GIH32-9	5591329			



TOOL BLOCKS — NEUTRAL												
Dimensions									Use Blade Number	Tool Number	Order No.	Price Each
A	B	C	D	E	F	L	R					
5/8	5/8	5/8	31/32	11/64	1-3/16	1-1/16	3	GIH19-2	GTBN16-2	5591162		
5/8	5/8	5/8	1-1/32	7/16	1-1/2	1-3/16	3	GIH26-2,3,4,5,6	GTBN16-5	5591165		
3/4	3/4	3/4	1-1/8	21/64	1-17/32	1-5/16	3-3/8	GIH26-2,3,4,5,6	GTBN19-5	5591195		
3/4	3/4	3/4	1-1/8	1/2	1-7/8	1-3/8	4	GIH32-2,3,4,5,6,8,9	GTBN19-6	5591196		
1	1	1	1-13/32	5/16	1-7/8	1-5/8	4-3/8	GIH32-2,3,4,5,6,8,9	GTBN25-6	5593256		
1-1/4	1-1/4	1-1/4	1-11/16	1/8	1-7/8	1-7/8	4-11/16	GIH32-2,3,4,5,6,8,9	GTBN32-6	5590326		

TOOL BLOCKS — LEFT AND RIGHT HAND										
Dimensions					Use Blade Number	Tool Number	Order No.	Price Each		
A	B	C	D	L						
1	3/4	3/4	43/64	4	GIH19-2	GTBR19-2	5592192			
1	3/4	3/4	43/64	4	GIH19-2	GTBL19-2	5593192			
1-1/4	25/32	1	19/32	4-3/4	GIH26-2,3,4,5,6	GTBR25-6	5592256			
1-1/4	25/32	1	19/32	4-3/4	GIH26-2,3,4,5,6	GTBL25-6	5593256			



TOOL HOLDERS															
Dimensions										Insert Number	Tool Number				Price
A	B	C	D	E	F	L	R	Width	Left Hand		Order No.	Right Hand	Order No.		
3/8	3/8	3/8	3/4	2-3/4	3/16	3-3/8	1/2	.087, .094	ANN/R/L-2,2.4	GTHL10-2	5593102	GTHR10-2	5592102		
12mm	3/8	15/32	3/4	3-37/64	5/32	4-5/16	19/32	.087, .094	ANN/R/L-2,2.4	GTHL12-2	5593122	GTHR12-2	5592122		
1/2	3/8	1/2	3/4	3-37/64	5/32	4-5/16	19/32	.087, .094	ANN/R/L-2,2.4	GTHL12.7-2	5593124	GTHR12.7-2	5592124		
1/2	3/8	1/2	3/4	3-37/64	5/32	4-5/16	5/8	.120	ANN/R/L-3	GTHL12.7-3	5593125	GTHR12.7-3	5592125		
5/8	3/8	5/8	3/4	3-37/64	0	4-5/16	19/32	.087, .094	ANN/R/L-2,2.4	GTHL16-2	5593162	GTHR16-2	5592162		
5/8	1/2	5/8	1	3-29/64	11/64	4-5/16	5/8	.120	ANN/R/L-3	GTHL16-3	5593163	GTHR16-3	5592163		
5/8	1/2	5/8	1	3-29/64	11/64	4-5/16	5/8	.160	ANN/R/L-4	GTHL16-4	5593164	GTHR16-4	5592164		
3/4	1/2	3/4	1	3-29/64	0	4-5/16	5/8	.087, .094	ANN/R/L-2,2.4	GTHL19-2	5594192	GTHR19-2	5590192		
3/4	1/2	3/4	1	3-29/64	0	4-5/16	5/8	.120	ANN/R/L-3	GTHL19-3	5593193	GTHR19-3	5592193		
3/4	1/2	3/4	1	3-29/64	1/16	4-5/16	3/4	.160	ANN/R/L-4	GTHL19-4	5593194	GTHR19-4	5592194		
3/4	1/2	3/4	1	4-7/16	3/64	4-5/16	3/4	.187, .200	ANN/R/L-4.8,5	GTHL19-5	5593195	GTHR19-5	5592195		

CUTTING TOOLS - INDEXABLE





SELF LOCKING CUT-OFF AND GROOVING TOOL SYSTEM

SERIES 559:
(Continued)



Inserts are held securely by a tapered locking system. The unique design of inserts reduces machining forces, permits maximum speeds and feeds, thus resulting in greater productivity. Inserts are available in Standard and Coated carbide grades. Inserts can be used directly with tool holders but when used with a tool block, it is necessary to purchase an adjustable blade. One tool block accepts different adjustable blades for cutting different thicknesses.



CARBIDE INSERTS

N = Neutral R = Right Hand L = Left Hand

Insert No.	Lead Angle	Width	Gen. Purpose		Steel		TiN Coated*	
			Order No.	Price	Order No.	Price	Order No.	Price
MGTN-2	0°	.087	5592001		5592011		5592021	
MGTR-2	0°	.087	5592002		5592012		5592022	
MGTL-2	8°	.087	5592003		5592013		5592023	
MGTN-2.4	0°	.094	5592401		5592411		5592421	
MGTR-2.4	8°	.094	5592402		5592412		5592422	
MGTL-2.4	8°	.094	5592403		5592413		5592423	
MGTN-3	0°	.120	5593001		5593011		5593021	
MGTR-3	8°	.120	5593002		5593012		5593022	
MGTL-3	8°	.120	5593003		5593013		5593023	
MGTN-4	0°	.160	5594001		5594011		5594021	
MGTR-4	8°	.160	5594002		5594012		5594022	
MGTL-4	8°	.160	5594003		5594013		5594023	
MGTN-4.8	0°	.187	5594801		5594811		5594821	
MGTR-4.8	8°	.187	5594802		5594812		5594822	
MGTL-4.8	8°	.187	5594803		5594813		5594823	
MGTN-5	0°	.200	5595001		5595011		5595021	
MGTR-5	8°	.200	5595002		5595012		5595022	
MGTL-5	8°	.200	5595003		5595013		5595023	
MGTN-6	0°	.250	5596001		5596011		5596021	
MGTR-6	8°	.250	5596002		5596012		5596022	
MGTL-6	8°	.250	5596003		5596013		5596023	
MGTN-9	0°	.375	5599001		5599011		5599021	

*All TiN Coated inserts are C5/C6 grade unless otherwise specified.

CUTTING TOOLS - INDEXABLE



CUT-OFF SETS

SERIES 559:



Includes: Tool Block, Adjustable Blade & 10 TiN Coated Inserts



Includes: Adjustable Blade & 10 TiN Coated Inserts

Set No. 3	Set No. 4	Set No. 5
Tool Blade 26-3 Tool Block 19-5 10 Inserts MGTN-3	Tool Blade 26-4 Tool Block 19-5 10 Inserts MGTN-4	Tool Blade 26-5 Tool Block 19-5 10 Inserts MGTN-5
Order No. 6895903	Order No. 6895904	Order No. 6895905
Price:	Price:	Price:

Description	Order No.	Price
26-2 Blade + 10 MGTN-2TN Inserts	6895722	
26-3 Blade + 10 MGTN-3TN Inserts	6895723	
32-4 Blade + 10 MGTN-4TN Inserts	6895734	
32-5 Blade + 10 MGTN-5TN Inserts	6895735	
32-6 Blade + 10 MGTN-6TN Inserts	6895736	

QUALITY INDEXABLE TOOLS



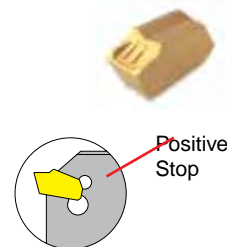
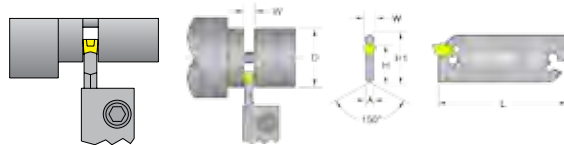
The Choice Is Yours!!!

SELF LOCKING CUT-OFF AND GROOVING TOOL SYSTEM

SERIES 915:
(Continued)



SGIH SLOT GRIP CUT-OFF BLADES FOR CUT-OFF SGTN INSERTS



CUTTING TOOLS - INDEXABLE

Description	Order No.	Price	Insert Use	W		D Max	A	L	H	H1
				Inches	Metric					
SGIH19-2	6162950		SGT(N/R/L)-2	.087	2	1.57"	.063	3.38	.618	0.75
SGIH26-2	6162951		SGT(N/R/L)-2	.087	2	2.0"	.063			
SGIH26-3	6162952		SGT(N/R/L)-3	.122	3	3.0"	.094			
SGIH26-4	6162953		SGT(N/R/L)-4	.161	4	3.15"	.125	4.33	.842	1.02
SGIH32-3	6162956		SGT(N/R/L)-3	.122	3	3.94"	.094			
SGIH32-4	6162957		SGT(N/R/L)-4	.161	4	3.94"	.125			
SGIH32-5	6162958		SGT(N/R/L)-5	.201	5	4.71"	.156	5.90	.984	1.25
SGIH32-6	6162959		SGT(N/R/L)-6	.252	6	4.72"	.203			

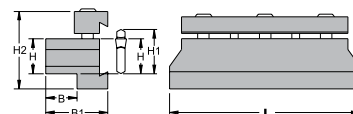
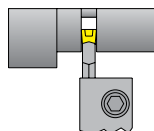
SLOT GRIP POSITIVE STOP BLADE

Improved blade design featuring a "Positive Stop". Inserts are securely held in Slot Grip Blades by a tapered locking system featuring a "Positive Stop" that prevents insert drift and the blade pocket from spreading once the insert is firmly in place.

The inserts' cutting edge location repeats accurately and, as a result, prevents insert splitting under heavy feed and shock loads. The blade and insert geometry permits free chip flow, minimizing insert breakage due to chip build-up. Clearance angle ranges from 4° to 7°.

SGTBN NEUTRAL CUT-OFF TOOLHOLDERS

Neutral Hand Cut-Off Toolholder
for Cut-Off SGIH blades



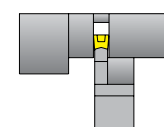
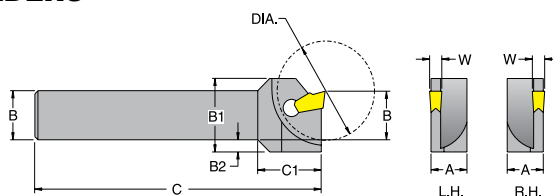
Description	Order No.	Price	H	H1	H2	B	B1	L	Used Blade
SGTBN12,7-2	6162970		0.500	0.75	1.375	0.500	1.000	3.0	SGIH19-2
SGTBN19-5	6162973		0.625	1.02	1.375	0.750	1.375	3.5	SGIH26-6
SGTBN19-6	6162974		0.625	1.25	1.750	0.750	1.375	4.5	SGIH32-3
SGTBN25,4-6	6162975		0.750	1.25	2.000	0.875	1.500	4.5	thru
SGTBN31,8-6	6162976		0.750	1.25	2.000	1.125	1.750	4.5	SGIH32-9

NEUTRAL CUT-OFF TOOLHOLDER

The two piece clamp style of this tool provides precise and rigid blade locking and easy mounting of the tool into CNC turrets. Simple block design accommodates Slot Grip and competitive blade systems. Slot Grip Cut-Off toolholders come in a broad selection of shank sizes.

SGTHR R CUT-OFF TOOLHOLDERS

TOOLHOLDER FOR
CUT-OFF SGTN INSERTS



Description	Order No. RH	Price	A	B	Max. Dia.	B1	B2	C1	C	W	Insert Used
SGTHR 9,5-2	6163000		.375	0.375	1.109	0.750	.187	0.703	3.375		
SGTHR 12,7-2	6163002		.391	0.500	1.172	0.828	.156	0.703	4.328	.087 & .093	SGTN/R/L-2-2,4
SGTHR 16-2	9163004		.391	0.625	1.172	0.750	-	0.703	4.328		
SGTHR 19-2	9163006		.469	0.750	1.266	0.937	-	0.781	4.328		
SGTHR 12,7-3	9163010		.391	0.500	1.266	0.828	.234	0.828	4.328		
SGTHR 16-3	9163012		.469	0.625	1.406	0.937	.156	0.781	4.328	.120	SGTN/R/L-3
SGTHR 19-3	9163014		.469	0.750	2.062	0.937	-	0.828	4.328		
SGTHR 25,4-3	9163016		.984	1.000	1.328	1.187	-	0.984	5.875		
SGTHR 19-5	9163024		.469	0.750	1.531	0.937	-	0.906	4.328	.187 & .200	SGTN/R/L-4,8-5
SGTHR 25,4-5	6163026		.984	1.000	3.000	1.187	-	1.328	5.875		

The square shank design of the Cut-Off toolholder ensures a precise center line of the insert with respect to the center of the working part, when the toolholder is mounted directly on the CNC turret.

Inserts are securely held in Slot Grip blades by a tapered locking system. No additional clamping devices are required. Slot Grip Cut-Off toolholders come in a broad selection of shank sizes.



CUT-OFF SYSTEM

SERIES 915:
(Continued)



SGT SLOT GRIP CUT-OFF AND GROOVING SETS

POSITIVE STOP

Blade Set



Description	Order No.	Price	Max. Dia	Insert Width	Lgth	12 pc. Set Includes		(1)
						(1) Blade	(10) Inserts	
SGIH26-3S	6185360		3.0	.120	4.312	SGIH26-3	SGTN-3-DC656	Storage Box
SGIH32-3S	6185364		4.0	.120	5.875	SGIH32-3	SGTN-3-DC656	

Inserts are securely held in slot grip positive stop blades by a tapered locking system featuring a "Positive Stop" that prevents insert drift and the blade pocket from spreading once the insert is firmly in place.



NEUTRAL

Cut-Off and Grooving
Toolholder Set for
SGIH blades.



Description	Order	Price	Shank	Insert	13 pc. Set Includes			(1)
					(1) Toolholder	(1) Blade	(10) Inserts	
SGTBN19-5S	6185326		.750	.120	SGTBN19-5	SGIH26-3	SGTN-3-	Storage Box
SGTBN25,4-6S	6185330		1.00	.120	SGTBN25,4-6	SGIH32-3	DC-656	

- Includes:**
- 1 Toolholder
 - 1 Blade
 - 10 Inserts



CUTTING TOOLS - INDEXABLE



INDEXABLE THREADING & GROOVING TOOLHOLDERS

SERIES 915:

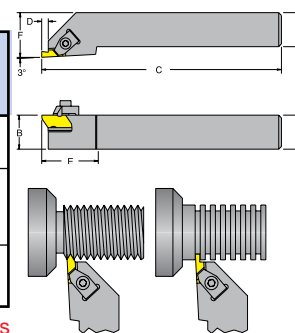


NS R/L THREADING & GROOVING TOOLHOLDER

External DorNotch Toolholder
for Threading and Grooving DorNotch Inserts

Description	Order Number		Price	A	B	C	D	E	F	Gage Insert	Seat	Seat Screw	Clamp	Clamp Screw
	RH	LH												
NSR/L12-2B	6158782	6158783		0.750	0.750	4.5	.138	0.75	1.000	NG-2R*	-		CM-74*	S-310
NSR/L16-2C	6158786	6158787		1.000	1.000	5.0	.138	0.75	1.250	NG-2L*	-		CM-75*	
NSR/L12-3B	6158794	6158795		0.750	0.750	4.5	.210	1.25	1.000	NG-3R*			CM-72*	
NSR/L16-3D	6158802	6158803		1.000	1.000	6.0	.210	1.25	1.250	NG-3L*			CM-73*	S-412
NSR/L20-3D	6158806	6158807		1.250	1.250	6.0	.210	1.25	1.500					
NSR/L16-4D	6158814	6158815		1.000	1.000	6.0	.294	1.38	1.250	NG-4R*	SM-420	SL-344	CM-72*	S-412
NSR/L20-4D	6158822	6158823		1.250	1.250	6.0	.294	1.38	1.500	NG-4L*			CM-73*	

* For right hand tools * For left hand tools



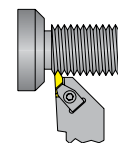
NSR THREADING TOOLHOLDER SET

- DorNotch locking system
- For O.D. threading
- The insert nested in the holder is held extremely secure with a top clamp



Order No.	Price	Shank Size	Tool Lgth	TPI	12 pc. Set Includes		(1)
					(1) Toolholder	(10) Inserts	
6185316		0.75	4.50	6-20	NSR12-3B	NT-3R-DC656	Storage Box
6185320		1.00	6.00	6-20	NSR16-3D	NT-3R-DC656	

- Two cutting edges
- Clamp locking system
- General tooth form to handle a variety of sizes
- 60° "V" threading





INDEXABLE THREADING & GROOVING TOOLHOLDERS

SERIES 915:
(Continued)

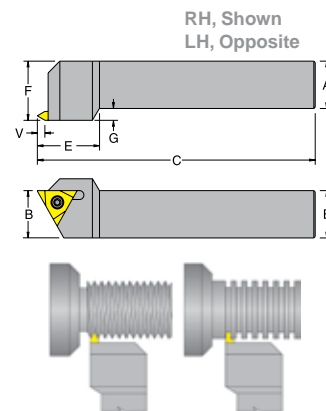


STVO R/L THREADING

TOOLHOLDERS

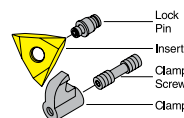
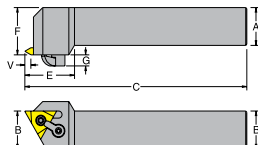
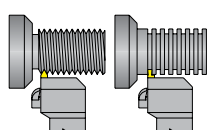
Style V - O.D. threading and shallow grooving for triangle TNMA inserts

Description	Order Number		Price	A	B	C	E	F	G	Max. Grv. Dpth V	Gage Insert	Insert Torx Screw
	RH	LH										
STVOR/L08-3A	6158070	6158071		0.500	0.500	4.0	1.00	0.625	.125	.150		
STVOR/L10-3B	6158074	6158075		0.625	0.625	4.5	1.00	0.750	.125	.150	322	GTS-1
STVOR/L12-3B	6158078	6158079		0.750	0.750	4.5	1.00	0.875	.125	.150		
STVOR/L16-3D	6158082	6158083		1.000	1.000	6.0	1.25	1.250	.250	.150		
STVOR/L12-4B	6158086	6158087		0.750	0.750	4.5	1.25	0.875	.125	.230		
STVOR/L16-4D	6158090	6158091		1.000	1.000	6.0	1.43	1.250	.250	.230	432	GTS-2
STVOR/L20-4D	6158094	6158095		1.250	1.250	6.0	1.25	1.500	.250	.230		
STVOR/L16-5D	6158102	6158103		1.000	1.000	6.0	1.50	1.250	.250	.292	543	GTS-3
STVOR/L20-5D	6158106	6158107		1.250	1.250	6.0	1.50	1.500	.250	.292		



STVOR THREADING TOOLHOLDER SET available. See our website or inquire.

MTVO-A R/L THREADING TOOLHOLDERS



Description	Order No.		Price	A	B	C	E	F	G	Max. Grv. Dpth V	Gage Insert	Lock Pin	Clamp	Lock Screw
	RH	LH												
MTVOR/L08-3B-A	6158126	6158127		0.500	0.500	4.5	1.020	0.625	.250	.150	322	NL-33		XNS-35
MTVOR/L16-3D-A	6158138	6158139		1.000	1.000	6.0	1.155	1.250	.250	.150	322	NL-33		
MTVOR/L12-4B-A	6158142	6158143		0.750	0.750	4.5	1.250	0.875	.250	.230				
MTVOR/L16-4D-A	6158146	6158147		1.000	1.000	6.0	1.250	1.250	.250	.230	432	NL-44	CL-6	XNS-36
MTVOR/L20-4D-A	6158150	6158151		1.250	1.250	6.0	1.250	1.500	.250	.230				
MTVOR/L16-5D-A	6158158	6158159		1.000	1.000	6.0	1.500	1.250	.250	.292	543	NL-56		
MTVOR/L20-5D-A	6158162	6158163		1.250	1.250	6.0	1.500	1.500	.250	.292				

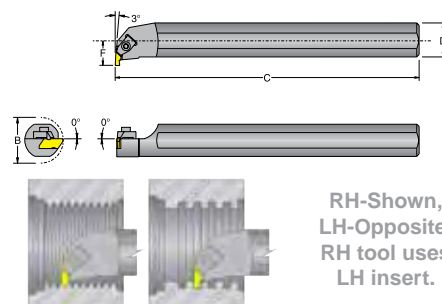
Style V - O.D. threading and shallow grooving for triangle TNMA inserts

S-NE R/L THREADING & GROOVING BORING BAR

Internal DorNotch Boring Bar

for Threading and Grooving DorNotch Inserts

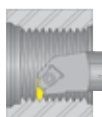
Description	Order Number		Price	Min. Bore B	C	D	F	Gage Insert	Clamp	Clamp Screw
	RH	LH								
S10S-NER/L-2	6158970	6158971		1.000	10.0	0.625	0.500	NG-2L*	CM-75*	S-310
S16T-NER/L-3	6158978	6158979		1.375	12.0	1.000	0.688			
S20U-NER/L-3	6158982	6158983		1.750	14.0	1.250	0.875	NG-3L*	CM-73*	S-412
S24U-NER/L-3	6158986	6158987		2.000	14.0	1.500	1.000	NG-3R*	CM-72*	



RH-Shown, LH-Opposite. RH tool uses LH insert.

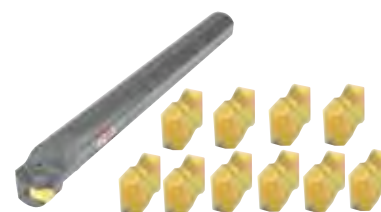
NER THREADING BAR SET

- DorNotch locking system
- For I.D. threading
- The insert nested in the holder is held extremely secure with a top clamp



Order No.	Price	Shank Size	Min. Bore	TPI	12 pc. Set Includes		(1)
					(1) Boring Bar	(10) Inserts	
6185284		0.75	1.125	7-20	S12S-NER-2	NT-2L-DC656	Storage
6185288		1.00	1.375	5-12	S16T-NER-3	NT-3L-DC656	Box

- Two cutting edges
- Clamp locking system
- Compact insert allows for threading smaller bores
- General tooth form to handle a variety of sizes
- 60° "V" threading





THREADING TOOL SYSTEM
SERIES 359:



INSERT GRADE SELECTION

- P25C** For treated and hard Alloy Steels (25HRC & up) at medium to low cutting speeds.
- MXC** Coated Micrograin, for Free Cutting untreated Alloy Steels (Below 30HRC). For Stainless Steels and Cast Iron.
- BXC** For low cutting speed. Works well with wide range of Stainless Steels.



A 10% surcharge will apply when ordering less than 5 inserts per Order No.

Materials	Coated Grades		
	MXC	P25C	BXC
Low & Medium Carbon Steels	100-250 330-830	100-200 330-660	20-100 70-330
High Carbon Steels	80-180 260-590	80-160 260-530	30-80 100-260
Alloy Steels Treated Steels	90-120 300-390	50-120 160-400	40-90 130-300
Stainless Steels	90-160 300-520		30-90 100-300
Cast Steels	130-170 430-560	90-150 300-500	40-90 130-300
Cast Iron	70-150 230-500		40-90 130-300
Non Ferrous & Aluminium	150-300 490-980		20-120 70-400

THREAD TURNING SPEED SELECTION

After selecting a suitable grade, please refer to the speed selection chart to select a recommended cutting speed. Top number is Meters/Min, bottom number is Feet/Min.

PARTIAL PROFILES 60°

L mm	I.C. inch	Pitch Range		EXTERNAL Right Hand*				INTERNAL Right Hand*			
		mm	TPI	Model No.	Order No. P25C	Order No. MXC	Price	Model No.	Order No. P25C	Order No. MXC	Price
11	1/4	0.5-1.5	48-16	11 ER A60	1110150	9110151		11 IR A60	9120150	9120151	
		0.5-1.5	48-16	16 ER A60	1610150	9610151		16 IR A60	9620150	9920151	
16	3/8	1.75-3.0	14-8	16 ER G60	1610100	9610161		16 IR G60	9620160	9620161	
		0.5-3.0	48-8	16 ER AG60	1610170	9610171		16 IR AG60	9620170	9620171	
22	1/2	3.5-5.0	7-5	22 ER N60	2210180	2210181		22 IR N60	2220180	2220181	
27	5/8	5.5-6.0	4.5-4	27 ER Q60	2710190	2710191		27 IR Q 60	2720190	2720191	



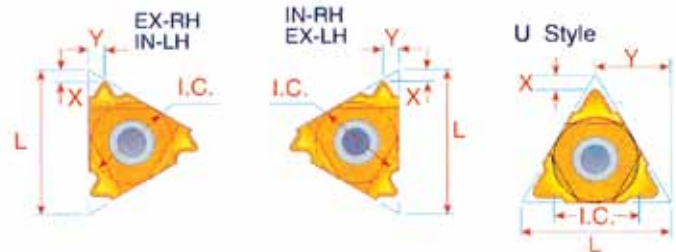
* Left Hand available. See our website or inquire.

PARTIAL PROFILES 60°

INTERNAL, RIGHT HAND*
ULTRA MINIATURE AND MINIATURE THREADING

L mm	I.C. inch	Pitch Range		Model	Order No.	BXC	Price
		mm	TPI				
6	5/32	0.5-1.25	48-20	061RA60	0620152		
8	3/16	0.5-1.5	48-16	081RA60	0820152		

* Left Hand available. See our website or inquire.



NPT

Pitch TPI	L mm	I.C. inch	External Right Hand				Internal Right Hand			
			Model No.	Order No. P25C	Order No. MXC	Price	Model No.	P25C Order No.	Order No. MXC	Price
27 18 14	11	1/4	11 ER 27 NPT	9110270	9110271		11 IR 27 NPT	9120270	9120271	
			11 ER 18 NPT	1110180	9110181		11 IR 18 NPT	9120180	9120181	
			11 ER 14 NPT	1110140	9110141		11 IR 14 NPT	9120140	9120141	
27 18 14 11.5 8	16	3/8	16 ER 27 NPT	1610270	9610271		16 IR 27 NPT	9620270	9620271	
			16 ER 18 NPT	1610180	9610181		16 IR 18 NPT	9620180	9620181	
			16 ER 14 NPT	1610140	9610141		16 IR 14 NPT	9620140	9620141	
			16 ER 11.5 NPT	1610110	9610111		16 IR 11.5 NP	9620110	9620011	
			16 ER 8 NPT	1610080	9610081		6 IR 8 NPT	9620080	9620081	



NPT - INTERNAL, RIGHT HAND

ULTRA MINIATURE AND MINIATURE THREADING

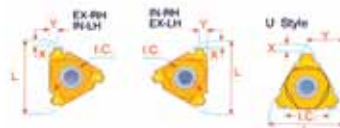
Pitch TPI	L mm	I.C. inch	Model No.	Order No. BXC	Price
27	8	3/16	081R27NPT	0820271	
18	8	3/16	081R18NPT	0820181	





THREADING TOOL SYSTEM

SERIES 359:
(Continued)



ACME

Pitch TPI	L mm	I.C. in	External Right Hand*				Internal Right Hand			
			Model No.	Order No. P25C	Order No. MXC	Price	Model No.	Order No. P25C	Order No. MXC	Price
16	11	1/4	11ER16 ACME	9110160	9110161		-	-	-	
16	16	3/8	16ER 16 ACME	9610160	9910161		-	-	-	
14	16	3/8	16ER 14 ACME	9990140	9910141		16 IR 14 ACME	9920140	9920141	
12	16	3/8	16ER 12 ACME	9990120	9610121		16 IR 12 ACME	9920120	9920121	
10	16	3/8	16ER 10 ACME	9990100	9610101		16 IR 10 ACME	1620110	9620111	
8	16	3/8	16ER 8 ACME	6100811	9910081		16 IR 8 ACME	2008016	6200811	
6	22	1/2	22 ER 6 ACME	9210060	2210061		22 IR 6 ACME	9220060	9920061	
5	22	1/2	22 ER 5 ACME	2100501	2210051		22 IR 5 ACME	9220050	9920051	
4	27	5/8	27 ER 4 ACME	9710040	2710041		27 IR 4 ACME	9720040	9920041	

ACME
INTERNAL, RIGHT HAND
MINIATURE THREADING
Grade: BXC

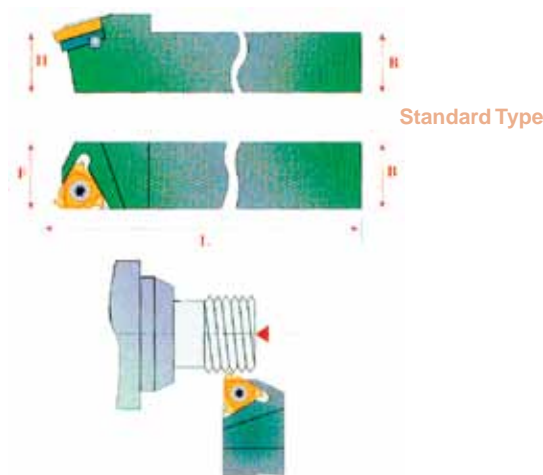
Pitch TPI	L mm	I.C. Inch	Model No.	Order No.	Price
16	8	3/16	08IR16 ACME*	0820162	

*One Cutting Edge

* One Cutting Edge

EXTERNAL TOOLHOLDERS, RIGHT HAND LEFT HAND AND METRIC TOOLHOLDERS AVAILABLE; PLEASE INQUIRE

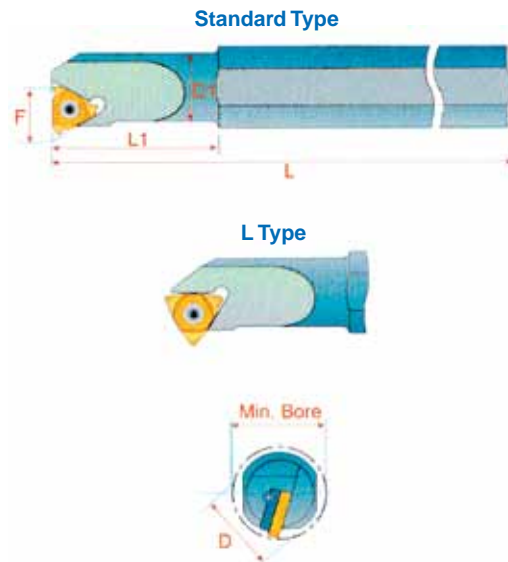
Model No.	Insert IC.	B = H Inch	L Inch	F Inch	Order No.	Price
*SER 0310 H11	1/4	0.31	4.00	0.43	1610310	
*SER 0375 H11	1/4	0.38	4.00	0.43	1610375	
SER 0375 D16	1/4	0.38	2.50	0.63	1611375	
SER 0500 F16	3/8	0.50	3.25	0.63	9990500	
SER 0625 H 16	3/8	0.63	4.00	0.63	9910625	
SER 0750 K16	3/8	0.75	5.00	0.75	2410750	
SER 1000 M16	3/8	1.00	6.00	1.00	2411000	
SER 1250 P16	3/8	1.25	7.00	1.25	2411250	
SER 1000 M22	1/2	1.00	6.00	1.00	3211000	
SER 1250 P22	1/2	1.25	7.00	1.25	3211250	
SER 1500 R22	1/2	1.50	8.00	1.50	3211500	
SER 1000 M27	5/8	1.00	6.00	1.25	4011000	
SER 1250 P27	5/8	1.25	7.00	1.25	4011250	
SER 1500 R27	5/8	1.50	8.00	1.50	4011500	



*Toolholders without anvil

INTERNAL TOOLHOLDERS, RIGHT HAND LEFT HAND AND METRIC TOOLHOLDERS AVAILABLE; PLEASE INQUIRE

Model No.	Insert IC.	D Inch	Min Bore Dia.	L Inch	F Inch	Order No.	Price
*SIR 0205 H06	5/32	0.50	0.24	4.0	0.17	1020205	
*SIR 0265 K08	3/16	0.62	0.31	5.0	0.21	1220265	
*SIR 0375 H11	1/4	0.38	0.47	4.0	0.28	1620375	
*SIR 0375 K11	1/4	0.62	0.47	5.0	0.28	1621375	
*SIR 0500 L11	1/4	0.62	0.58	5.5	0.34	1620500	
*SIR 0500 M16	3/8	0.62	0.64	6.0	0.39	2420500	
*SIR 0625 P16	3/8	0.75	0.75	7.0	0.45	2420625	
SIR 0750 P16	3/8	0.75	0.90	7.0	0.51	2420750	
SIR 1000R16	3/8	1.00	1.16	8.0	0.65	2421000	
SIR 1250 S16	3/8	1.25	1.40	10	0.77	2421250	
SIR 1500 T16	3/8	1.50	1.65	12	0.90	2421500	
*SIR 0750 P22	1/2	0.75	0.90	7.0	0.59	3220750	
SIR 1000 R22	1/2	1.00	1.16	8.0	0.71	3221000	
SIR 1250 S22	1/2	1.25	1.50	10	0.85	3221250	
SIR 1500 T22	1/2	1.50	1.75	12	0.98	3221500	
SIR 1250 S27	5/8	1.25	1.56	10	0.88	4021250	
SIR 1500 T27	5/8	1.50	1.80	12	1.00	4021500	
SIR 2000 U27	5/8	2.00	2.30	14	1.25	4022000	
SIR 2500 V27	5/8	2.50	2.80	16	1.50	4022500	



*Toolholders without anvil

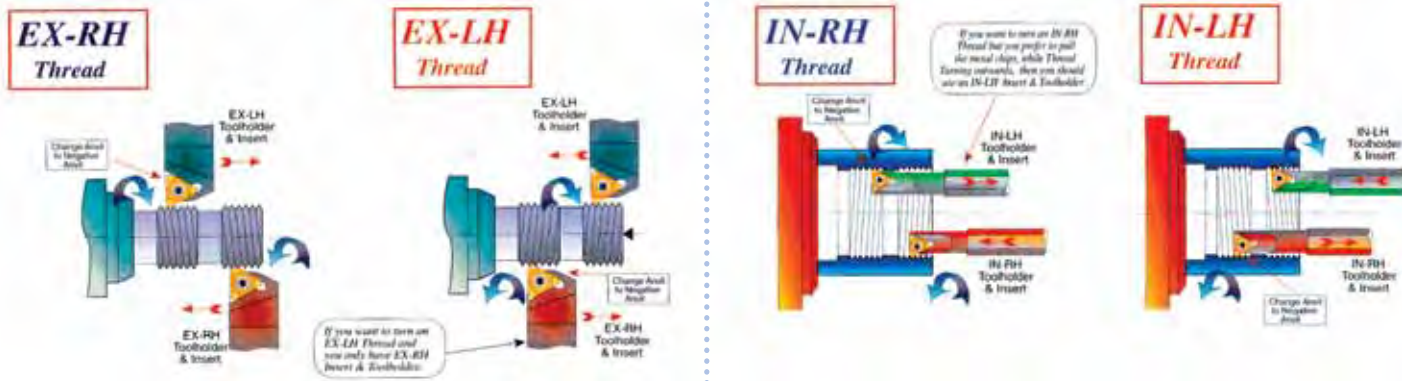


THREADING TOOL SYSTEM



SERIES 359:
(Continued)

THREAD TURNING METHODS



THREADING KITS

Threading Kits are a versatile solution for those who cut a variety of thread types in limited quantity and do not want to sacrifice thread quality. Kits Includes: 10 inserts, toolholder, screw, wrench and fitted case. Metric kits available; please inquire.



UN EXTERNAL KIT

MODEL NO: KEU

Order No. 3590001

Price

Kit includes:

INSERTS

- 16 ER A60 P25C
- 16 ER G60 P25C
- 16 ER AG60 P25C
- 16 ER 8 UN P25C
- 16 ER 12 UN P25C
- 16 ER 14 UN P25C
- 16 ER 16 UN P25C
- 16 ER 18 UN P25C
- 16 ER 20 UN P25C
- 16 ER 24 UN P25C
- TOOLHOLDER SER 0750 K16

UN INTERNAL KIT

MODEL NO: KIU

Order No. 3590002

Price

Kit includes:

INSERTS

- 16 IR A60 P25C
- 16 IR G60 P25C
- 16 IR AG60 P25C
- 16 IR 8 UN P25C
- 16 IR 12 UN P25C
- 16 IR 14 UN P25C
- 16 IR 16 UN P25C
- 16 IR 18 UN P25C
- 16 IR 20 UN P25C
- 16 IR 24 UN P25C
- TOOLHOLDER SIR 0750 P16

MINIATURE & ULTRA MINIATURE THREADING KITS

TYPE	Model No.	No. of Inserts	Inserts	Boring Bars	Order No.	Price
ULTRA	KU601-BXC	10	06 IR A60 BXC	SIR 0205 H06	3590102	<input type="text"/>
MINI	KM601-BXC	10	08 IR A60 BXC	SIR 0265 K08	3590202	



Other thread types available. See our website or inquire

- Partial Profiles 55°
- Whitworth 55°
- NPTF
- BSPT
- Stub ACME and Coarse Thread ACME
- Trapez (DIN 103)
- Round (DIN 405)
- UNJ
- American Buttress
- Oil Thread



SHAVIV THE ORIGINAL DEBURRING TOOLS

SERIES 434:

MATERIAL / APPLICATIONS / SELECTION CHART

Applications	Steel	Aluminum	Copper	Brass	Cast Iron	Stainless Steel	Sheet Metal	Hard Metal	Plastic	Rubber	Other
External inner-edge	B10, 11, 12, 25, 10P, 12P, 10C, E100, 110, 111, 250, 100P, 110P, 110C	B10, 11, 12, 25, 10P, 12P, 10C, E100, 110, 111, 250, 100P, 110P, 110C	B10, 11, 12, 25, 10P, 12P, 10C, E100, 110, 111, 250, 100P, 110P, 110C	B20, E200, 350, F12, 20, 30	B20, E200, 350, F12, 20, 30	B10P, 12P, E100P, 110P, F12, 20, 30	B10C, 20C, E100C, 200C	B10, 11, 12, 25, 10P, 12P, 10C, 100, 110, 111, 200, 250, 100P, 110P, 100C, F12, 20, 30	B100, 32, 30P, E300, 300	B100, F1000	
External & internal inner-edge	B30, E300	B30, E300	B30, E300	B32, E320	B32, E320	B30P, E300P					
Internal inner-edge	B60, E600, 601	B60, E600, 601	B60, E600, 601								
Flat surface	B50, E500C, C40, 42, 50, 60, R10, 20, 30	B50, E500C, C40, 42, 50, 60, R10, 20, 30	B50, E500C, C40, 42, 50, 60, R10, 20, 30	B50, E500C, C40, 42, 50, 60, R10, 20, 30	B50, E500C, C40, 42, 50, 60, R10, 20, 30	B50, E500C, C40, 42, 50, 60, R10, 20, 30	B50, E500C, C40, 42, 50, 60, R10, 20, 30	B50, E500C, C40, 42, 50, 60, R10, 20, 30	B50, E500C, C40, 42, 50, 60, R10, 20, 30		
Straight edge	B10, 11, 12, 25, 10P, 12P, 10C, E100, 110, 111, 250, 100P, 110P, 110C, R10, 20, 30	B10, 11, 12, 25, 10P, 12P, 10C, E100, 110, 111, 250, 100P, 110P, 110C, R10, 20, 30	B10, 11, 12, 25, 10P, 12P, 10C, E100, 110, 111, 250, 100P, 110P, 110C, R10, 20, 30	B20, E200, 350, R10	B20, E200, 350, R10	B10P, E100P, 110P, R10, R10, 20, 30	B10C, 20C, E100C, 200C	B10, 11, 12, 25, 10P, 12P, 10C, 100, 110, 111, 200, 250, 100P, 110P, 100C, F12, 20, 30		B100, E1000	
Straight edge (both sides) "bevel"	B70, D80, 82, 85, H10, R10, 20, 30	B70, D80, 82, 85, H10, R10, 20, 30	B70, D80, 82, 85, H10, R10, 20, 30	B70, D80, 82, 85, H10, R10	B70, D80, 82, 85, H10, R10	B70, D80, 82, 85, H10, R10, 20, 30	B70, D80, 82	B70, D80, 82, 85, H10, R10, 20, 30			
Lower surface "wall"	E700, C40, 42, 50, 60	E700, C40, 42, 50, 60	E700, C40, 42, 50, 60	E720, C40, 42, 50, 60	E720, C40, 42, 50, 60			E700, 720, C40, 42, 50, 60			
Straight edges (both sides) "channel"	G10, 20, 40C	G10, 20, 40C	G10, 20, 40C	G10, 20, 40C	G10, 20, 40C	G10, 20, 40C	G40C	G10, 20, 40C			
Straight corners	G30, 30C	G30, 30C	G30, 30C	G30, 30C	G30, 30C	G30, 30C	G30C	G30, 30C			
Outer edge	L10, F20X	L10, F20X	L10, F20X	L10, F20X	L10, F20X	L10, F20X		L10, F20X			

MANGO THE ULTIMATE DEBURRING TOOL

The engineers of the SHAVIV deburring tool, using advanced materials and ergonomic design, have produced a new handle which features unparalleled comfort, safety and high performance. The MANGO handle works with all SHAVIV blade holders and blades as well as the unique MANGO Adapter, designed to hold blades when you need an extra close grip.

SERIES B ROTATIONAL DEBURRING WORKHORSE



Order No.	Price
7700900	
7700902	

Set B
Set B
MANGO

Model No.	Description	Order No.	Quantity	Price
B10	H.S.S. blade excellent for materials with spiral chips such as aluminium plastic, steels, etc.	7700010	10-90 100-190 200-490 500+	\$1.35 \$1.25 \$1.15 \$1.00
B20	H.S.S. blade ideal for brass, cast iron and other metals with a powdery chip. Can deburr in both clockwise and counterclockwise directions.	7700020		
B10-S	Cobalt - Stronger, wear resistant, longer lasting	7700110		

- For deburring of holes, slots and edges in metals and plastics
- Contains: Blades B10, B20, Blade Holder B and Handle A.
- Blades can be inserted on the axis of the blade holder or perpendicular to it. Minimum hole diameter 3.0mm (0.12").

Order No.	Price
7700950	



- Set B with aluminium handle for rugged, extra heavy duty jobs. Contains: Blades B10, B20, Blade Holder B and Aluminium Handle A.

Order No.	Price
7700500	



Blade Holder B

Order No.	Price
7705500	



Blade Holder M

Blade Holder M can take all B Series & E Series Blades.

Model No.	Description	Order No.	Price
B10L	Left hand version of blade B10	7700103	
B10P	PVD Titanium Nitride Coated B10 for high wear conditions.	7700112	
B10PL	Left hand version of blade B10P.	7700104	
B10C*	Solid Carbide B10 for hardened steels (from HRC 38).	7700015	
B10D*	Diamond coated B10, used to break corners in hardened steel glass, plastic etc.	7700011	
B11	Excellent for aluminium, plastics and copper. Can deburr a minimum hole diameter of 2mm (0.08")	7700111	
B12	H.S.S. blade similar to the B10, with a shorter nose length.	7700012	
B12P	PVD Titanium Nitride coated B12 for high wear conditions.	7700212	

*All blades sold in packs of 10 except those marked with a *.

SHAVIV THE ORIGINAL DEBURRING TOOLS

SERIES 434: (Continued)

SERIES B ROTATIONAL DEBURRING WORKHORSE

(Continued)

Model No.	Description	Order No.	Price
B20P	PVD Titanium Nitride coated B20 for high wear conditions.	7700222	
B20C*	Solid Carbide B20 for hardened steels (from HRC 38).	7700025	
B25	Very thin, specially designed to deburr soft plastics.	7700026	
B25C*	Solid carbide B25 for abrasive plastics.	7700125	
B30	Hooked blade simultaneously removes both external and internal burrs from holes drilled into steel and plastics up to 4mm (0.16") thick.	7700030	
B30P	PVD Coated Titanium Nitride B30 for high wear conditions.	7700130	
B32	Like B30, specially designed for brass and cast iron. Can deburr in both clockwise and counterclockwise directions.	7700032	
B50*	Scriber, carbide tipped. Can be reground.	7700050	
B60	Can reach inside a wall up to 20mm (0.8") thick to remove internal burrs from slots or drilled holes.	7700060	
B70*	Carbide tipped deburring blade for sheet-metal up to 3mm (0.12") thick. Handguard 3G recommended.	7700070	

*All blades sold in packs of 10 except those marked with a *

SERIES M - THE TWO IN ONE DEBURRING SET

- For deburring of holes; slots and edges in metals and plastics. Using regular duty (B) as well as heavy duty (E) deburring blades.
- Contains: Blades B10, B20, B30, E100, E200, E111, Blade Holder M and Handle A.

Order No.	Price
7708000	



Set M

Order No.	Price
7705500	



Blade Holder M

Two applications in one tool holder.
Can take all B and E series blades.

UNIBURR

UB1

UNIBURR - A deburring tool of very low cost, disposable. UB1 carries non-replaceable E100 blade

Order No.	Price
7709600	



UB2

UNIBURR - A deburring tool of very low cost, disposable. UB2 carries non-replaceable B10 blade

Order No.	Price
7709010	



UB2000

Supplied with a replaceable B10 blade

Order No.	Price
7702010	



MB2000

Supplied with a replaceable E100 blade

Order No.	Price
7702001	



GLO - BURR SERIES

Lightweight, friendly-to-use, easy-to-grip tool produced from reinforced engineering plastic. Supplied with pocket clip for greater convenience, clip also prevents tool from rolling on the worktable. Interchangeable blades. Removable cap for blade storage.



SERIES GLO-BURR B

The new handy handle for all B blades. For light deburring of steels, aluminum and plastic. Interchangeable blades. Supplied with B10 blade.

Order No.	Price
7709610	

SERIES GLO-BURR E

The new handy handle for all E heavy duty blades. For deburring of corners, edges, holes, slots and tubes. Interchangeable blades. Supplied with E100 blade.

Order No.	Price
7709620	

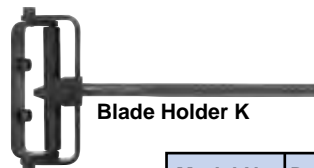
SERIES K THE INDUSTRIAL SURFACE SCRAPER

Order No.	Price
7708900	



Contains:

- Blade K10, Blade Holder K, Handle A & key.
- Designed to smooth surfaces and corners. With its pulling and pushing action, excellent for paint scraping.



Blade Holder K

Order No.	Price
7708950	

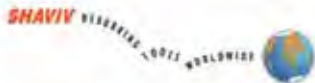


Model No.	Description	Order No.	Price
K10	Double Edge Carbide	7708910	

Handy-Kit 4E Item # 3K3MAA4E
A Tool 4 Every Deburring Job



Order No.	Price
7709640	



SHAVIV THE ORIGINAL DEBURRING TOOLS

SERIES 434: (Continued)

MATERIAL / APPLICATIONS / SELECTION CHART

SERIES E THE HEAVY DUTY ROTATIONAL DEBURRING TOOL

The tool for heavy duty deburring of holes, slots, and edges.
Contains Blades E100, E200, E300, Blade Holder E and Handle A

- * Minimum hole diameter 4.0mm (0.16")
- * All blades are High Speed Steel unless otherwise stated

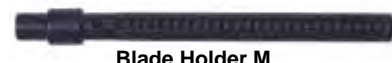


	Order No.	Price
Set E	7703900	
Set E MANGO	7700905	

	Order No.	Price
E	7703500	
M	7705500	



Blade Holder E



Blade Holder M
(Takes all B & E Series Blades.)

Model No.	Description	Order No	Price
E100	Excellent for materials with spiral chips such as aluminium, plastic steel, etc.	7703100	
E100L	Left hand version of blade E100	7703102	
E100C*	E100 - Carbide for hardened steels (from HRC 38)	7703009	
E100CL*	Left hand version of blade E100C.	7703112	
E100D*	Diamond Coated E100 Blade used to break corners in hardened steel, glass, carbide, etc.	7703101	
E100P	PVD coated Titanium Nitride E100 for high wear conditions.	7703103	
E100-S	Cobalt - Stronger, wear resistant, longer lasting	7703120	
E110	The B10's cutting edge, on the larger "E" shaft. Can deburr a minimum hole dia. of 2mm (.08")	7703110	
E110P	PVD coated Titanium Nitride E110 for high wear conditions.	7703115	
E111	Excellent for aluminium, plastics and copper. Can deburr a minimum hole diameter of 1.5 mm (0.06").	7703111	
E200	Ideal for brass, cast iron & other metals with a powdery chip. Can deburr in both clockwise and counterclockwise directions.	7703200	
E200C*	E200 Carbide for hardened steels (from HRC 38)	7703201	
E200P	PVD Coated Titanium Nitride E200 for high wear conditions	7703203	

*All blades sold in packs of 10 except those marked with a *

Model No.	Description	Order No.	Price
E300	Hooked blade simultaneously removes both external and internal burrs from holes drilled into steel and plastic up to 4mm (0.16") thick	7703300	
E320	Like E300, specially designed for brass and cast iron. Can deburr in both clockwise and counterclockwise directions.	7703320	
E350	Well suited for deburring straight edges, keyways etc.	7703350	
E500C*	Carbide tipped scribe. Can be reground.	7703501	
E600	Can reach inside a wall up to 20mm (0.8") thick to remove internal burrs.	7703600	
E601	An even longer version of the E600 blade for wall thicknesses up to 40mm (1.6").	7703601	
E700	Ideal for removing burrs from plastic workpieces Also designed to deburr the inside circumference of a thick walled hole	7703700	
E720	Like E700, specially designed for metal and plastics with powdery chips. Can deburr in both clockwise & counterclockwise directions.	7703720	
E750	Blade specially designed for rubber deburring.	7703750	

SET 1 (SHAVIV 1)

Order No.	Price
7707900	



With non-telescopic blade holder

Contains:

- Blades E100, E200, E300, Non-Telescopic blade holder Handle 1.
- Holds all "E" series blades. The blades proximity to the handle makes this the perfect tool for really tough jobs.

HANDLE A (Plastic)

Order No.	Price
7700000	
7699997 - Mango	



Accepts all blade holders.



HANDLE A (Aluminium)

Order No.	Price
7700005	



Accepts all blade holders.

HANDLE 1

Order No.	Price
7700001	



Accepts all E type blades.

HC-1

HANDY CHUCK PIN VISE

Order No.	Price
7709700	



3G HANDGUARD

Stainless steel hand protector that fits all Vargus base holders. Slides into position and locks where required. Recommended for Sets D, G and H.



Order No.	Price
7699999	

SHAVIV THE ORIGINAL DEBURRING TOOLS

SERIES 434: (Continued)



CUTTING TOOLS - DEBURRING

SERIES C - THE SCRAPER SET



	Order No.	Price
Set C	7701900	
Set C MANGO	7701905	

- Tools for quality finishing and scraping.

Contains:

- Blade C42, Blade Holder C, Handle A and a key.
- Triangular blade geometry provides 3 cutting edges to reach the most inaccessible locations.



Blade Holder C

Order No.	Price
7701500	

Model No.	Description	Order No.	Price
C40	H.S.S. small triangular scraper 4mm (0.16"). Excellent for delicate precision work. Precision ground after hardening.	7701040	
C42	H.S.S. standard triangular scraper 8mm (0.31"). Precision ground after hardening.	7701012	

SERIES G3 TriRel - CLEANS CORNERS OF SLOTS AND TAKES CARE OF UNWANTED RADII



Order No.	Price
7706033	

Set G3 (TriRel) Contains:

Blade G30C, Blade Holder G3, Handle and key.

- Designed to remove small radii left after machining, thereby enabling the flush mating of two components.
- The G3 blade holder provides easy access to the working area.

Blade Holder G3

Order No.	Price
7706023	



Model No.	Description	Order No.	Price
G30C	Solid Carbide G30 with 3 cutting corners.	7706031	



SERIES D - FOR SHEET METAL



	Order No.	Price
Set D	7702900	
Set D MANGO	7702905	

Contains:

- Blade D80, Blade Holder D, Handle A and a key.
- Designed to deburr sheet metal up to 3mm (0.12") thick. Handguard 3G is recommended as an extra safety precaution.



Blade Holder D

Order No.	Price
7702500	



Blade Holder D5

Order No.	Price
7702585	

Model No.	Description	Order No.	Price
D80	Solid Carbide Blade used to deburr sheet metal up to 3mm (0.12") thick. Can be used to scraper flat surfaces. Six cutting edges.	7702080	
D82	Heavy duty double edged carbide blade for sheet metal deburring up to 8mm (0.31") thick.	7702082	
D85	Extra tough blade for deburring sheet metal up to 7mm (0.28") thick. H.S.S. blade has 6 cutting edges. A special chip breaker provides unique chip flow for improved cutting quality. Requires a D5 blade holder.	7702085	



SERIES G - FOR SLOT DEBURRING

Cleans the edges of slots and keyways



Order No.	Price
7705900	

SET G Contains:

- Blade G10, Blade Holder G, Handle and key.
- Designed to deburr keyways and slots. Can be used for both internal and external slots.

Order No.	Price
7706013	



Blade Holder G

Order No.	Price
7706014	



Blade Holder G4

(Recommended for external sets)

Model No.	Description	Order No.	Price
G10	Standard H.S.S blade for slots up to 15mm (0.6") wide.	7706011	
G20	H.S.S blade for narrower keyways and slots up to 10 mm (.4") wide.	7706012	
G40C	Carbide blade with 4 cutting corners for slots from 1mm (0.04") up to 10mm (0.4") wide.	7706040	





SHAVIV THE ORIGINAL DEBURRING TOOLS

SERIES 434: (Continued)

SERIES L "EXCALIBUR" THE EXTERNAL DEBURRER



Set L Contains:

Blade L10, Blade Holder L with metal roller, Handle A and key.

Order No.	Price
7708960	

Set LP Contains:

Blade L10, Blade Holder LP with plastic roller, Handle A and key.

Order No.	Price
7708965	

Set L5 Contains:

Blade L10, Blade Holder L5, Handle A and key.

Order No.	Price
7708975	

Order No.	Price
7708990	

Blade Holder L5



Order No.	Price
7708980	

Blade Holder LP



Order No.	Price
7708985	

Blade Holder L



Order No.	Price
7708970	

L10 H.S.S. Blade with 4 cutting edges.
"A" side for materials with spiral chips.
"B" side for materials with powdery chips

SERIES F, FR HOLE DEBURRING & CHAMFERING TOOLS



SET FR Contains:

- Countersink tool F20, Blade holder FR and Handle A.
- Ratchet mechanism makes countersinking a breeze.
- Great where normal rotational deburring is impossible.

SET F Contains:

- Countersink tool F20, Blade holder F and Handle A.
- For regular non-repetitive deburring.

SET FR

Order No.	Price
7704950	

Order No.	Price
7704900	
7704905	

**SET F
Set F
MANGO**

Order No.	Price
7704500	

Order No.	Price
7704600	

Blade Holder F

Blade Holder FR

The H.S.S. countersinks are available in three different diameters



Model No.	Description	Order No.	Price
F12	12mm (0.5") Countersink	7704012	
F20	20mm (0.75") Countersink	7704020	
F30	30mm (1.25") Countersink	7704030	

"BURR-EX" FOR EXTERNAL DEBURRING OF TUBES AND CYLINDERS



For external deburring up to 26mm. Excellent for pipes and tubes. Gives smooth finish on external round workpieces, on a variety of materials. Effective on both wide and limited work areas. Easy to use with SHAVIV FR Blade Holder.

Set Contains: Blade holder FR, Blade Burr-Ex and Handle A.

Order No.	Price	Order No.	Price	Order No.	Price
7704970		7704600		7704975	

Set FR Blade Holder Burr-Ex Blade F26X

"BURR-BI" FOR DEBURRING OF HEAVY DUTY MATERIALS



The two-insert tool for double-edge deburring on heavy duty materials. Stays sharper longer, and can be used repeatedly. Supplied with a built-in hand guard for worker safety. For all thicknesses up to 14mm (0.56").

Burr-Bi SET



This set contains: Blade holder Burr-Bi, 2 universal blades R10, Handle A and key. Blades can be positioned in 2 ways for single and double straight edges.

Order No.	Price
7706901	

Burr-Bi Blade holder



R10
Side A

HSS double sided, round, universal blade with unique cutting angle.

Order No.	Price
7706910	

Side A: Deburrs steel, aluminium, stainless steel and hard metals. **Side B:** Deburrs brass and plastics.

Order No.	Price
7706920	

R20
HSS double - edged special angled blade for massive deburring tasks on: steel aluminum, stainless steel and hard metals.

Order No.	Price
7706930	

R30
Square blade for producing arc shaped finish. Has unique cutting angle for hard material with spiral chips. Suitable for:
Single Straight edge steel, aluminum, brass, hard metal and stainless steel
Double Straight edges steel, aluminum, hard metal and stainless steel. Deburrs up to 16 mm (0.63") thick.

SHAVIV THE ORIGINAL DEBURRING TOOLS

SERIES 434: (Continued)



Mango KPC Kit

The Favorite 5



Five top deburring sets, provided in one kit. Each set comes with the No. 1 ergonomic Mango Handle.

Kit contains:

- Set B: The Workhorse: Mango Adapter B for extra-close deburring
- Set C: The Scraper
- Set D: The Sheet Cleaner
- Set E: The Heavy DeBurr Set + Mango Adapter E for extra-close deburring
- Set F: The Countersink



Order No.	Price
7700906	

KIT KPC2

Time Saving Deburring Kit



The kit contains 5 standard sets:

- B - Rotational deburring workhorse
- C - The perfect set for scraping jobs
- D - For sheet metal deburring
- E - Heavy duty rotational deburring
- F - For easy deburring and chamfering of holes

Order No.	Price
7709500	

KIT KWC

Universal Deburring Kit



Includes: Handle A, Holders: B,C,D,E,F
Blades: B10, B20, B30, B50, B70, C40, C42, D80, E100, E200, E300, E350, E600 and F20

Model	Description	Order No.	Price
KWC	Kit in wooden case	7709000	
KWC 2	Kit in plastic case	4340002	

SERIES HC - 5

HANDY CHUCK PIN VISE SET



Order No.	Price
7709705	

Contains: • HC-1 Chuck*, C50 Blade

- Pin Vise versatility combined with high quality hollow ground scrapers.

FEATURES:

- Holds small files, drills, reamers, taps and countersink tools.
- Holds small wire brushes.
- Holds small polishing stones.
- Holds parts too small for hand holding.

Model No. C50



.30" (120 mm) Long

Model No. C60



.19" (80 mm) Long

Order No.	Price
7709750	
Order No.	Price
7709760	

*Adjustable holder for objects 1-8mm (0.4"-3.15") diameter. Widely used in repair and assembly of a wide range of small industrial appliances and miniaturized electronic equipment.

KIT KPA Plastic Deburring Kit



KPA kit contains the following tools:
Universal Handle A, UB38 deburring tool,
Holders: B, E, G3, LP Blades: B12, B25,
E110, E700, G30, L10

Order No.	Price
4340001	

TD KIT - MINIATURE DEBURRING & SCRAPING TOOLS



Order No.	Price
7709900	

- Deburring and finishing tools for dies & molds.

Model No.	Description	Order No.	Price
UF1	Flat diamond coated file	7709901	
US1	Triangular scraper	7709902	
US2	Flat Scraper	7709903	
US3	Round scraper	7709904	
US4	Hooked corner scraper	7709905	
UB34**	The UB38 with a shorter handle. Minimum hole diameter 2mm (0.08")	7709834	
UB38**	Miniature rotational deburring tool with a small handle. Minimum hole dia. 2mm (0.08")	7709838	

**Sold together as Set UBS.

Set Order No. 7709800 Price:

SERIES U - FOR FINE FINISH ON PRECISION WORKPIECES.

You need only one holder for interchangeable scrapers. 3 scrapers for hard to reach places - on surfaces, in slots, in holes & on gates.

Contains:

Scrapers BUS1, BUS31, BUS4, Holder U for non-rotating deburring, Plastic Handle A

Order No.	Price
7706000	

Order No.	Price
7706500	



Blade Holder U

Description	Order No.	Price
BUS1 Triangular Scraper	7706001	
BUS2 Flat Scraper	7706002	
BUS31 Round Scraper	7706003	
BUS4 Hooked corner scraper	7706004	



DEBURRING TOOLS

SERIES: 716



TOOLS

CERA-CUT TOOL

CR1100

Includes: Ceramic blade mounted in a modified soft grip handle. The blade is not replaceable. Ideal for deburring of all plastics and other soft materials. Extremely long life.



LIZA BURR

LB1000 - Includes: Uni-Handle, SN holder, N1 & N2 (B10 & B20) blades. Double sided blade holder to utilize both light duty "N" series and heavy duty "S" series blades. Telescopes from 20 to 110mm. Our most versatile unit. Blades stored inside the handle. Handle has lifetime guarantee.



NOGA BURR 3

NB3000 - Includes: NB handle and S10 (E100), S20 (E200), S35 (E350) blades. All "S" (E) blades mount directly into handle with press of safety button. Blade storage in handle. Handle has lifetime guarantee.



NOGA BURR 5

NB5000 - Includes NB handle and S10 (E100), S20 (E200), S35 (E350), S101 (E101), S202 (E102) blades. All "S" (E) blades mount directly into handle with press of safety button. Blade storage in handle.



EDGE OFF

EO1000 - Non removable S10 (E100) blade mounted in an 8mm hexagonal painted aluminum handle and pocket clip.



PLASTIC EDGE OFF

EO2000 - Includes S10 (E100) blade and plastic handle. Handle has rotating locking function to allow replacement of blade. Accepts all "S" (E) series blades.



TEDDY BURR

TB1000 - Includes: N1 (B10) blade, 8mm hexagonal painted aluminum handle and pocket clip. Will accept all "N" (B) series blades which can be replaced by putting sleeve back and taking blade out.



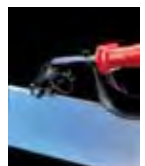
RAPID BURR

RB1000 - Includes S10 blade, 12mm hexagonal painted aluminum handle. Will accept all "S" (E) series blades which are replaced by pulling sleeve back into handle and taking blade out.



DOUBLE BURR

DB1000 - Simultaneously removes burrs from both sides of sheet metal. Range 0-12mm. Hand guard for safety. Includes Double Burr, hand guard and 2 N80 blades.



EXTERNAL ROTODRIVE

RD4000 - Includes NB Handle. External Roto-Drive Countersink. Chamfer the O.D. on bars and tubes. Quickest way to chamfer O.D. on almost all materials. Range: 4-18mm



SCRAPER

SC1000 - Includes Uni-handle. Double ended triangular scraper T-120. Has two sharp triangular ends for double tool life. Hollow ground. Can be locked in required position.



MINI SCRAPER

MS1000 - Includes: Uni-handle. L-noise, triangular mini-scraper D50. Hollow ground.



MINI REVERSIBLE COUNTERSINKS

RC 1000 - Includes: Steel handle and small blade R1. Very fine tool for deburring both back side and front side of holes. Unique 2 pairs of cutting edges. Cuts in both clockwise and counter-clockwise directions. Blade has two working positions. Range 3-5.5mm



REVERSIBLE COUNTERSINK

RC 2000 - Includes: Steel handle and small blade R2. Similar to RC1000, only larger. Range: 5-10mm



HANDLES

UNI HANDLE

UH 1000 - Can hold the total range of NOGA blade holders. Lifetime guarantee.



RB HANDLE

RB 1600 - Hexagonal aluminum 12mm handle. Holds all "S" (E) series blades.



NB HANDLE

NB1000 - Better grip. Large storage space for spare blades. Safety button for quick change of blades.



BLADE HOLDERS

SN BLADE HOLDER

SN 1000-Double headed telescoping blade holder which holds "S" (E) blades and "N" (B) blades. THE BEST HOLDER.



C BLADE HOLDER

CH 1000-Hexagonal cross section to prevent rotation inside handle. External M-7 thread accepts all 3 countersinks C12, C20, C30.



D BLADE HOLDER

DH 1000-Designed to hold D-50 and D-55 scraper blades.



Model No.	Order No.	Price
CR1100	9160005	
LB1000	9160010	
NB3000	9160015	
NB5000	7160021	
EO1000	7160026	
EO2000	7160031	
TB1000	7160036	
RB1000	7160041	
DB1000	9160045	
RD4000	7160050	

Model No.	Order No.	Price
SC1000	7160055	
MS1000	7160060	
RC1000	7160065	
RC2000	7160070	
UH1000	7160075	
RB1600	7160080	
NB1000	7160085	
SN1000	7160090	
CH1000	7160095	
DH1000	7160100	

DEBURRING TOOLS

SERIES: 716



BLADES

N1 Blade / B10 Blade

Most suitable for aluminum, plastic and steel.



N1 TiN Blade / B10P Blade

Tin coating for longer blade life.



N2 Blade / B20 Blade

Suitable for brass and cast iron. Right/Left hand users.



N3 Blade / B30 Blade

Drilled into tubing or sheet metal. Maximum thickness 4.5mm.



N10 Blade / B10 Cobalt

Most suitable for stainless steel, copper & aluminum.



N10P Blade / E100 Cobalt Blade

Most suitable for steel, copper, PVC & aluminum.



N80 Blade

Cut along full circumference of each face.



S10 Blade / E100 Blade

For heavy cuts on aluminum, plastic & steel.



S20 Blade / E200 Blade

For heavy cuts on brass and cast iron. Right/left hand users.



S30 Blade / E300 Blade

Heavy duty blade simultaneously removes external and internal burrs from holes drilled into tubing or sheet metal. Maximum thickness 7mm.



S35 Blade / E350 Blade

Most suitable for deburring straight edges. Most suitable for brass & cast iron.



S100 Blade / E100 Blade

Most suitable for stainless steel.



S150 Blade / E111 Blade

Simultaneously removes external and internal burrs from holes. Most suitable for stainless steel.

D50 Blade

Mini scraper blade. Also available in carbide.



D55 Blade

Internal scraper blade. Most suitable for cross holes.



Model No.	Order No.	Price
N1	7160106	
N1 TiN	7160107	
N2	7160110	
N3	7160115	
N10	7160120	
N10P	7160125	
N80	7160131	
S10/E100	7160135	
S20/E200	7160140	
S30/E300	7160145	
S35/E350	7160150	
S100/E108	7160155	
S150/E111	7160160	
D50	7160165	
D55	7160170	

SETS

NOGA - BOX

NX 1000

Designed to meet the total requirements of tool and die makers and deburring specialists.

Includes: Keyway Burr, 2 Pcs Edge Off, Double Burr, D-Key, Uni-Handle, SN Holder, C Holder + C20 and C12 countersinks, D Holder + D50 + D66 scrapers, L Holder, with L1 blade for corner cleaning, N1 (B10), N2 (B20), S10 (E100), S101 (E101), S20 (E200) blades, 1.5mm Hex Key.

Order No. 7160175

Price



UNIKIT STANDARD

UK1000

Most economical deburring set for all machinists.

Includes: Uni-Handle, + SN blade-holder, C blade holder + C20 Countersink, T120 scraper, Swivel Blades N1, N2, S10, S20, S30 and S101.

Order No. 7160180

Price



UNIKIT EXTRA

UK3000

Most complete kit for professional machinists.

Includes: Uni-Handle, + SN blade-holder, D blade holder + D50 Scraper, D blade holder & D66 Scraper, L Blade-Holder (Include L1 blade), C Blade-holder + C20 and C12 Countersinks, T-120 Scraper, Swivel Blades N1, N2, S10, S20, S30, S101, 1.5mm Hex Key

Order No. 7160185

Price



SOFT GRIP SET

SG2001

Includes:

SG Handle.
N10 Blade (10 Pcs. in box + 1 Pc. inside SG handle).
S100 Blade (10 Pcs. in box + 1 Pc. inside SG handle).

Order No. 7160190

Price



NB ECONOMICAL SET

NB1900

Includes:

NB Handle.
S10 Blade (10 Pcs).
Available with S20 or S100 blade upon request.

Order No. 7160195

Price

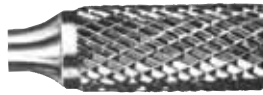




CARBIDE BURS
1/4" SHANK - DOUBLE CUT

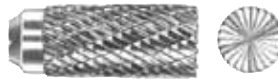


Single Cut available; please inquire.



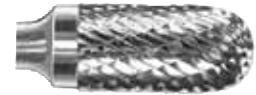
(SA) Cylinder Shape
SERIES 476:

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SA-11	1/8	1/2	8000011	
SA-14	3/16	5/8	8000014	
SA-1	1/4	5/8	8000001	
SA-1L	1/4	1	8000201	
SA-2	5/16	3/4	8000002	
SA-3	3/8	3/4	8000003	
SA-3L	3/8	1	8000203	
SA-3XL	3/8	1-1/2	8000213	
SA-4	7/16	1	8000004	
SA-5	1/2	1	8000005	
SA-6	5/8	1	8000006	
SA-16	3/4	3/4	8000216	
SA-7	3/4	1	8000007	
SA-9	1	1	8000009	



(SB) Cylinder Shape With End Cut
SERIES 477:

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SB-11	1/8	1/2	8050111	
SB-14	3/16	5/8	8050114	
SB-1	1/4	5/8	8050101	
SB-1L	1/4	1	8050201	
SB-2	5/16	3/4	8050102	
SB-3	3/8	3/4	8050103	
SB-3L	3/8	1	8050213	
SB-4	7/16	1	8050104	
SB-5	1/2	1	8050105	
SB-6	5/8	1	8050106	
SB-16	3/4	3/4	8050216	
SB-7	3/4	1	8050107	
SB-9	3/4	1	8050109	



(SC) Cylinder Shape With Radius End
SERIES 478:

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SC-11	1/8	1/2	8100312	
SC-12	1/8	5/8	8100312	
SC-14	3/16	5/8	8100314	
SC-1	1/4	5/8	8100301	
SC-1L	1/4	1	8100311	
SC-2	5/16	3/4	8100302	
SC-3	3/8	3/4	8100303	
SC-3L	3/8	1	8100323	
SC-4	7/16	1	8100304	
SC-5	1/2	1	8100305	
SC-6	5/8	1	8100306	
SC-7	3/4	1	8100307	
SC-9	1	1	8100309	



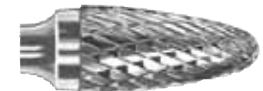
(SD) Ball Shape
SERIES 479:

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SD-11	1/8	1/8	8150411	
SD-14	3/16	3/16	8150414	
SD-1	1/4	1/4	8150401	
SD-2	5/16	5/16	8150402	
SD-3	3/8	3/8	8150403	
SD-4	7/16	7/16	8150404	
SD-5	1/2	1/2	8150405	
SD-6	5/8	5/8	8150406	
SD-7	3/4	3/4	8150407	
SD-9	1	1	8150409	



(SE) Oval Shape
SERIES 480:

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SE-11	3/16	5/16	8200511	
SE-1	1/4	3/8	8200501	
SE-3	3/8	5/8	8200503	
SE-5	1/2	7/8	8200505	
SE-6	5/8	1	8200506	
SE-7	3/4	1	8200507	



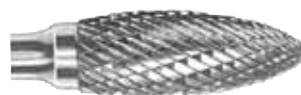
(SF) Tree Shape With Radius End
SERIES 481:

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SF-11	1/8	1/2	8250611	
SF-1	1/4	5/8	8250601	
SF-3	3/8	3/4	8250603	
SF-4	7/16	1	8250604	
SF-13	1/2	3/4	8250613	
SF-5	1/2	1	8250605	
SF-6	5/8	1	8250606	
SF-7	3/4	1	8250607	
SF-14	3/4	1-1/4	8250614	
SF-15	3/4	1-1/2	8250615	



(SG) Tree Shape With Pointed End
SERIES 482:

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SG-1	1/4	5/8	8300701	
SG-2	5/16	3/4	8300702	
SG-3	3/8	3/4	8300703	
SG-13	1/2	3/4	8300713	
SG-5	1/2	1	8300705	
SG-6	5/8	1	8300706	
SG-7	3/4	1	8300707	
SG-15	3/4	1-1/2	8300715	



(SH) Flame Shape
SERIES 483:

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SH-1	1/4	1/2	8300801	
SH-2	5/16	3/4	8350802	
SH-5	1/2	1-1/4	8350805	
SH-6	5/8	1-7/16	8350806	
SH-7	3/4	1-5/8	8350807	



(SJ) 60° Cone Shape
SERIES 484:

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SJ-1	1/4	3/16	8401001	
SJ-2	5/16	1/4	8401002	
SJ-3	3/8	1/4	8401003	
SJ-5	1/2	7/16	8401005	
SJ-6	5/8	1/2	8401006	
SJ-7	3/4	5/8	8401007	
SJ-9	1	3/4	8401009	



CARBIDE BURS

1/4" SHANK - DOUBLE CUT

Single Cut available; please inquire.



(SK) 90° Cone Shape

SERIES 485:

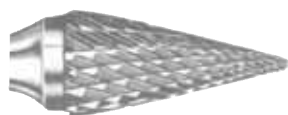
90° Included Angle				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SK-1	1/4	1/8	8451101	
SK-2	5/16	3/16	8451102	
SK-3	3/8	3/16	8451103	
SK-5	1/2	1/4	8451105	
SK-6	5/8	5/16	8451106	
SK-7	3/4	3/8	8451107	
SK-9	1	1/2	8451109	



(SL) Taper With Radius End

SERIES 486:

14° Included Angle				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SL-1	1/4	5/8	8501201	
SL-2	5/16	7/8	8501202	
SL-3	3/8	1-1/16	8501203	
SL-4	1/2	1-1/8	8501204	
SL-5	5/8	1-3/16	8501205	
SL-6	5/8	1-5/16	8501206	
SL-7	3/4	1-1/2	8501207	



SERIES 487: (SM) Cone Shape

Cone Shape				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SM-1	1/4	1/2	8551301	
SM-2	1/4	3/4	8551302	
SM-3	1/4	1	8551303	
SM-4	3/8	5/8	8551304	
SM-5	1/2	7/8	8551305	
SM-6	5/8	1	8551306	



(SN) Inverted Cone Shape

SERIES 488:

Inverted Cone				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SN-1	1/4	5/16	8601401	
SN-2	3/8	3/8	8601402	
SN-4	1/2	1/2	8601404	
SN-6	5/8	3/4	8601406	
SN-7	3/4	5/8	8601407	

BUR DISPENSER

Model No.13200



Dimensions:

Measures 14-5/8" W x 7-3/8" D
x 7-3/4" H

Weight: 10-1/2 lbs.



Holds these sizes:

- SA-1 SD-5 SG-3
- SA-3 SE-1 SG-4
- SA-5 SE-3 SL-1
- SB-1 SE-5 SL-3
- SB-3 SF-1 SL-4
- SB-5 SF-3 SM-2
- SD-1 SF-5 SM-3
- SD-3 SG-1 SM-5

Order No. 5613200

Price

Does not include burs



MINIATURE CARBIDE BURS

1/8" SHANK - DOUBLE CUT

Single Cut available; please inquire.



1-1/2" Overall Length

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SA-41	1/16	1/4	8000041	
SA-42	3/32	7/16	8000042	
SA-43	1/8	9/16	8000043	
SC-41	3/32	7/16	8100341	
SC-42	1/8	9/16	8100342	
SD-41	3/32	3/32	8150441	
SD-42	1/8	1/8	8150442	
SE-41	1/8	7/32	8200541	
SF-41	1/8	1/4	8250641	
SF-42	1/8	1/2	8250642	
SG-41	1/8	1/4	8300741	
SG-42	1/8	5/16	8300743	

1-1/2" Overall Length

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SG-43	1/8	3/8	8300743	
SG-44	1/8	1/2	8300744	
SH-41	1/8	1/4	8350841	
SJ-42	1/8	3/32	8401042	
SK-42	1/8	1/16	8451142	
SL-41	1/8	3/8	8501241	
SL-42	1/8	1/2	8501242	
SM-41	1/8	11/32	8551341	
SM-42	1/8	7/16	8551342	
SM-43	1/8	5/8	8551343	
SN41	3/32	5/32	8601441	
SN-42	1/8	3/16	8601442	

2" Overall Length

Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SA-51	1/4	1/2	8000051	
SB-51	1/4	3/16	8050151	
SC-51	1/4	1/2	8100351	
SD-51	1/4	7/32	8150451	
SE-51	1/4	3/8	8200551	
SF-51	1/4	1/2	8300751	
SG-51	1/4	1/2	8250751	
SM-51	1/4	1/2	8551351	
SN-51	1/4	1/4	8601451	

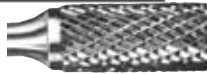


EXTRA LONG CARBIDE BURS



1/4" SHANK, 6" OVERALL — DOUBLE CUT

Single Cut available; please inquire.



SERIES 476:

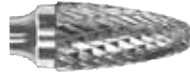
CYLINDRICAL SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SA-1L6	1/4	1/2	8000601	
SA-3L6	3/8	3/4	9000603	
SA-5L6	1/2	1	9000605	

SERIES 478:

CYLINDRICAL BALL NOSE SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SC-1L6	1/4	1/2	8100601	
SC-3L6	3/8	3/4	8100603	
SC-5L6	1/2	1	8100605	

SERIES 479:

BALL SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SD-1L6	1/4	7/32	8150601	
SD-3L6	3/8	5/16	8150603	
SD-5L6	1/2	7/16	8150605	



SERIES 482:

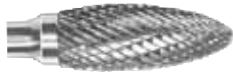
OVAL SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SE-1L6	1/4	3/8	8200601	
SE-3L6	3/8	5/8	8200603	
SE-5L6	1/2	7/8	8200605	

SERIES 481:

ROUND TREE SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SF-1L6	1/4	1/2	8256601	
SF-3L6	3/8	3/4	8256603	
SF-5L6	1/2	1	8256605	

SERIES 482:

POINTED TREE SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SG-1L6	1/4	1/2	8307601	
SG-3L6	3/8	3/4	8307603	
SG-5L6	1/2	1	8307605	



SERIES 483:

FLAME SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SH-2L6	5/16	3/4	8350602	
SH-5L6	1/2	1-1/4	8350605	

SERIES 486:

14° INCLUDED ANGLE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SL-1L6	1/4	5/8	8501601	
SL-3L6	3/8	1-1/16	8501603	
SL-4L6	1/2	1-1/8	8501604	



CARBIDE BURS FOR ALUMINUM

1/4" SHANK



SERIES 480:

OVAL SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SE-3NF	3/8	5/8	9001501	
SE-5NF	1/2	7/8	9001505	
SE-6NF	5/8	1	9001506	
SE-7NF	3/4	1	9001507	

SERIES 481:

ROUND TREE SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SF-1NF	1/4	3/4	8250701	
SF-3NF	3/8	3/4	8250703	
SF-5NF	1/2	1	8250705	
SF-6NF	5/8	1	8250706	
SF-14NF	3/4	1-1/4	8250714	

SERIES 486:

14° INCLUDED ANGLE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price Each
SL-3NF	3/8	1-1/16	8501303	
SL-4NF	1/2	1-1/8	8501304	
SL-5NF	5/8	1-3/16	8501305	
SL-6NF	5/8	1-5/16	8501306	
SL-7NF	3/4	1-1/2	8501307	



SERIES 476:

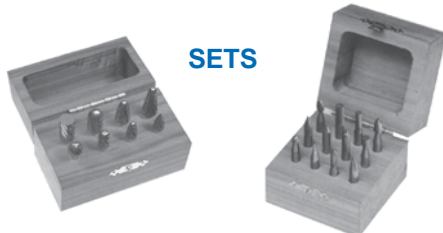
CYLINDRICAL				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price Each
SA-1NF	1/4	3/4	8000101	
SA-3NF	3/8	3/4	8000103	
SA-5NF	1/2	1	8000105	
SA-6NF	5/8	1	8000106	
SA-7NF	3/4	1	8000107	

SERIES 478:

CYLINDRICAL BALL NOSE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SC-1NF	1/4	3/4	8101301	
SC-3NF	3/8	3/4	8101303	
SC-5NF	1/2	1	8101305	
SC-6NF	5/8	1	8101306	
SC-7NF	3/4	1	8101307	

SERIES 479:

BALL SHAPE				
Tool No.	Cutter Dia.	Length of Cut	Order No.	Price
SD-1NF	1/4	7/32	8151401	
SD-3NF	3/8	5/16	8151403	
SD-5NF	1/2	7/16	8151405	
SD-6NF	5/8	9/16	8151406	
SD-7NF	3/4	11/16	8151407	



SETS

SERIES 490:

CARBIDE BUR BOX SETS — DOUBLE CUT				
Set Description	Pieces Per Set	Set No.	Order No.	Price
SA1, SC1, SD1, SE1, SF1, SG1, SH1, SJ1, SK1, SL1, SM1, SN1	12	CBS12	4900012	
SA51, SB51, SC51, SD51, SE51, SF51, SG51, SM51, SN51	9	CBS9	4900009	
SA1, SA3, SC1, SC3, SD1, SD3, SF1, SF3	8	CBS8	4900008	

UNGROUND CARBIDE BLANKS

SERIES 981: C2 GRADE*



STB CARBIDE RECTANGULAR STRIP

SERIES 981: GRADE C-2*



Quantity discounts available; please inquire.

Standard 1000 Blanks

Standard 2000 Blanks

Blank Style 1000	Order No.	Price	Blank Style 2000	Order No.	Price	Dimensions		
						T	W	L
1010	9811010		2010	9912010		1/16	1/8	5/8
1020	9991020		2020	9912020		1/16	3/16	1/4
1030	9911030		2030	9992030		1/16	1/4	5/16
1040	9911040		2040	9912040		3/32	3/16	5/16
1050	9911050		2050	9812050		3/32	3/16	1/2
1060	9911060		2060	9812060		3/32	1/4	3/8
1070	9911070		2070	9812070		3/32	1/4	1/2
1080	9911080		2080	9812080		3/32	5/16	3/8
1090	9911090		2090	9812090		3/32	3/8	3/8
1100	9991100		2100	9812100		3/32	3/8	1/2
1105	9911105		2105	9812105		3/32	7/16	1/2
1110	9811110		2110	9812110		1/8	3/16	3/4
1120	9911120		2120	9992120		1/8	1/4	1/2
1130	9811130		2130	9812130		1/8	1/4	5/8
1140	9811140		2140	9812140		1/8	1/4	3/4
1150	9991150		2150	9912150		1/8	5/16	7/16
1160	9811160		2160	9812160		1/8	5/16	1/2
1170	9811170		2170	9912170		1/8	5/16	5/8
1180	9811180		2180	9812180		1/8	3/8	1/2
1190	9811190		2190	9812190		1/8	3/8	3/4
1200	9811200		2200	9812200		1/8	1/2	1/2
1210	9811210		2210	9812210		1/8	1/2	3/4
1215	9811215		2215	9812215		1/8	3/4	3/4
1220	9811220					5/32	3/8	9/16
1230	9811230					5/32	3/8	3/4
1240	9811240					5/32	5/8	5/8
1250	9811250					3/16	5/16	7/16
1260	9811260					3/16	5/16	5/8
1270	9811270					3/16	3/8	1/2
1280	9811280					3/16	3/8	5/8
1290	9811290					3/16	3/8	3/4
1300	9811300					3/16	7/16	5/8
1310	9811310					3/16	7/16	13/16
1320	9811320					3/16	1/2	1/2
1330	9811330					3/16	1/2	3/4
1340	9811340					3/16	3/4	3/4
1350	9811350					1/4	3/8	9/16
1360	9811360					1/4	3/8	3/4
1370	9811370					1/4	7/16	5/8
1380	9811380					1/4	1/2	3/4
1390	9811390					1/4	9/16	1
1405	9811405					1/4	3/4	3/4
1410	9811410					1/4	3/4	1
1480	9811480					5/16	3/4	1-1/4
1490	9811490					3/8	1/2	3/4
1500	9811500					3/8	1/2	1
1510	9811510					3/8	5/8	1
1520	9811520					3/8	3/4	1-1/4

Blank No.	Order No.	Dimensions			Price
		T	W	L	
STB12	9810001	1/32	1/16	1	
STB13	9810004	3/64	3/32	1	
STB24A	9810005	1/16	1/8	1	
STB24C	9810006	1/16	1/8	1-1/4	
STB24B	9810008	1/16	1/8	3	
STB26A	9810009	1/16	3/16	1	
STB26C	9810010	1/16	3/16	3	
STB28A	9810011	1/16	1/4	1	
STB28B	9810012	1/16	1/4	1-1/4	
STB28D	9810013	1/16	1/4	3	
STB34	9810015	3/32	1/8	5	
STB36	9810016	3/32	3/16	1-1/8	
STB36A	9810017	3/32	3/16	1-1/4	
STB38A	9810018	3/32	1/4	1	
STB38B	9810019	3/32	1/4	1-1/2	
STB38D	9810020	3/32	1/4	5	
STB310A	9810021	3/32	5/16	2	
STB310B	9810022	3/32	5/16	3	
STB310C	9810023	3/32	5/16	5	
STB312	9810024	3/32	3/8	5	
STB46	9810025	1/8	3/16	6	
STB48A	9810026	1/8	1/4	1	
STB48B	9810027	1/8	1/4	1-1/4	
STB48C	9810029	1/8	1/4	2-1/4	
STB48E	9810031	1/8	1/4	6	
STB410A	9810032	1/8	5/16	1-1/2	
STB410	9810034	1/8	5/16	6	
STB412D	9990035	1/8	3/8	1	
STB412A	9810036	1/8	3/8	2	
STB412B	9810037	1/8	3/8	3	
STB412C	9810038	1/8	3/8	6	
STB416A	9810039	1/8	1/2	1	
STB416B	9990040	1/8	1/2	1-1/2	
STB416C	9810041	1/8	1/2	3	
STB416	9810042	1/8	1/2	6	
STB420	9810043	1/8	5/8	6	
STB424	9810044	1/8	3/4	6	
STB432	9990045	1/8	1	6	
STB68	9810047	3/16	1/4	6	
STB610	9810049	3/16	5/16	6	
STB612A	9990050	3/16	3/8	3	
STB612	9810051	3/16	3/8	6	
STB616A	9810052	3/16	1/2	3	
STB616	9810053	3/16	1/2	6	
STB620A	9810054	3/16	5/8	3	
STB620	9990055	3/16	5/8	6	
STB624	9810058	3/16	3/4	6	
STB812A	9810059	1/4	3/8	3	
STB812	9990060	1/4	3/8	6	
STB816A	9810062	1/4	1/2	3	
STB816	9810063	1/4	1/2	6	
STB820A	9810064	1/4	5/8	3	
STB820	9990065	1/4	5/8	6	
STB824A	9810067	1/4	3/4	3	
STB824	9810068	1/4	3/4	6	

*Other grades available; please inquire.

*Other grades available; please inquire.



While we show the most popular styles of **CARBIDE BLANKS**, we can supply a wide range of styles. We can also supply blanks with **metric** dimensions. Please inquire.

**STBL CARBIDE LONG
RECTANGULAR BLANKS**

SERIES 981:



**CY CENTERLESS GROUND
CARBIDE ROUNDS**

SERIES 981:



Quantity discounts available;
please inquire.



Grade C-2*

Blank No.	Order No.	Dimensions			Price
		T	W	L	
STB22L	9812001	1/16	1/16	6	
STB24L	9812002	1/16	1/8	6	
STB26L	9812003	1/16	3/16	6	
STB28L	9812004	1/16	1/4	6	
STB210L	9812005	1/16	5/16	6	
STB212L	9812006	1/16	3/8	6	
STB216L	9812007	1/16	1/2	6	
STB220L	9812008	1/16	5/8	6	
STB224L	9812009	1/16	3/4	6	
STB232L	9812010	1/16	1	6	
STB34L	9812011	3/32	1/8	8	
STB36L	9812012	3/32	3/16	8	
STB38L	9812013	3/32	1/4	8	
STB310L	9812014	3/32	5/16	8	
STB312L	9812015	3/32	3/8	8	
STB316L	9812016	3/32	1/2	8	
STB320L	9812017	3/32	5/8	8	
STB44L	9812018	1/8	1/8	12	
STB46L	9812019	1/8	3/16	12	
STB48L	9812020	1/8	1/4	12	
STB412L	9812021	1/8	3/8	12	
STB416L	9812022	1/8	1/2	12	
STB420L	9812023	1/8	5/8	12	
STB424L	9812024	1/8	3/4	12	
STB432L	9812025	1/8	1	12	
STB66L	9812026	3/16	3/16	12	
STB68L	9812027	3/16	1/4	12	
STB610L	9812028	3/16	5/16	12	
STB612L	9812029	3/16	3/8	12	
STB616L	9812030	3/16	1/2	12	
STB620L	9812031	3/16	5/8	12	
STB624L	9812032	3/16	3/4	12	
STB632L	9812033	3/16	1	12	
STB640L	9812034	3/16	1-1/4	12	
STB88L	9812035	1/4	1/4	12	
STB812L	9812036	1/4	3/8	12	
STB816L	9812037	1/4	1/2	12	
STB820L	9812038	1/4	5/8	12	
STB824L	9812039	1/4	3/4	12	
STB832L	9812040	1/4	1	12	
STB840L	9812041	1/4	1-1/4	12	
STB1212L	9812042	3/8	3/8	12	
STB1216L	9812043	3/8	1/2	12	
STB1224L	9812044	3/8	3/4	12	
STB1232L	9812045	3/8	1	12	
STB1616L	9812046	1/2	1/2	12	
STB1624L	9812047	1/2	3/4	12	

*Other grades available; please inquire.

Micro-Grain +.0000/- .0005"

Diameter	Length	Model No.	Order No.	Price
1/8	1-1/2	CY11	9814006	
1/8	2	CY13	9814008	
1/8	2-1/4	CY14	9814009	
1/8	3	CY16	9814011	
5/32	2	CY17A	9814002	
3/16	1-1/2	CY19	9814014	
3/16	2	CY20	9814015	
3/16	2-1/2	CY21	9814016	
3/16	3	CY22	9814017	
3/16	4	CY23	9814018	
1/4	2	CY24	9814019	
1/4	2-1/2	CY26	9814021	
1/4	3	CY27	9814022	
1/4	4	CY28	9814023	
5/16	2	CY29	9814024	
5/16	2-1/2	CY30	9814025	
5/16	3	CY30A	9814026	
5/16	4	CY32	9814027	
3/8	2	CY34	9814029	
3/8	2-1/2	CY35	9814030	
3/8	3	CY36	9814031	
3/8	3-1/2	CY37	9814032	
3/8	4	CY38	9814033	
7/16	2-1/2	CY40	9814035	
7/16	3	CY41	9814036	
7/16	4	CY41A	9814004	
1/2	2-1/2	CY43	9814038	
1/2	3	CY44	9814039	
1/2	3-1/2	CY45	9814040	
1/2	4	CY46	9814041	
1/2	6	CY47	9814042	
9/16	3-1/2	CY47A	9814005	
5/8	3-1/2	CY49	9814044	
5/8	4	CY50	9814045	
5/8	6	CY50A	9814010	
3/4	4	CY52	9814047	
3/4	5	CY52A	9814012	
3/4	6	CY53	9814013	
1	4	CY54	9814020	
1	6	CY55	9814028	

See Our Entire Selection of
Cooling Products in the

COOLANTS SECTION



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