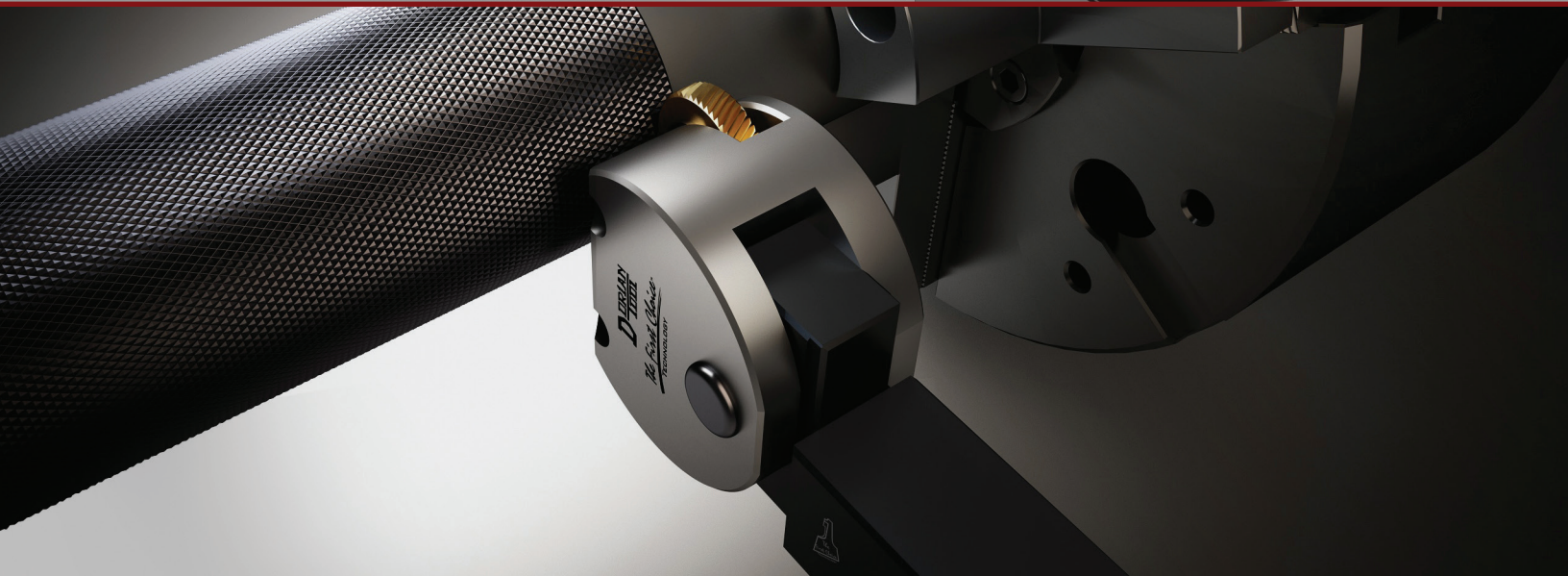


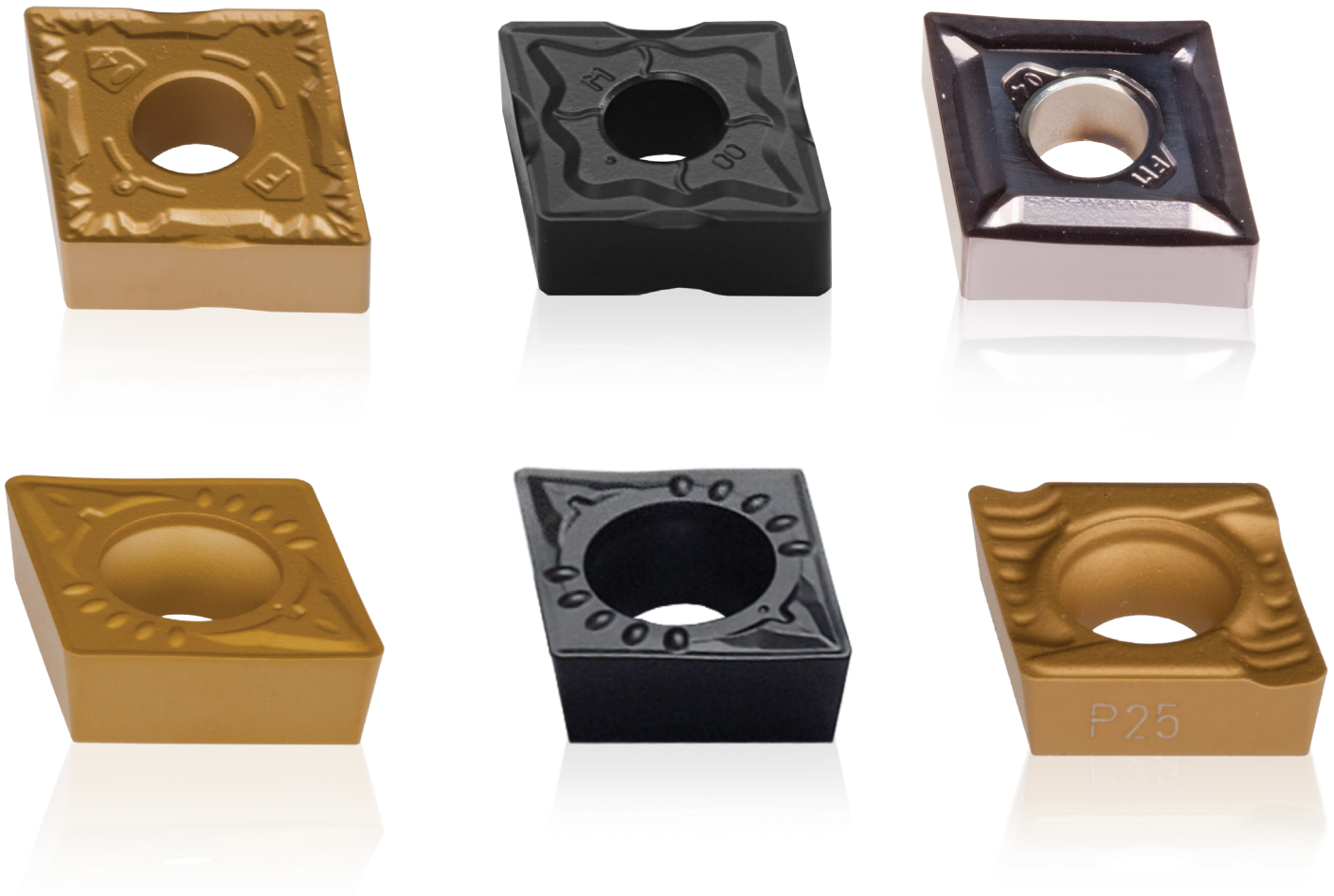
DORIAN[®]
INTERNATIONAL
TOOL 2024
METRIC

TOOL GUIDE

FOR EVERYDAY MACHINING



CARBIDE INSERTS & TURNING TOOLS



TECHNOLOGY, QUALITY & PERFORMANCE
WILL TURN MACHINING INTO **PROFIT!**

Insert Grades

- 1 If inserts wear, reduce Spindle Speed RPM (n) increase Feed (fn) or change to a harder insert grade.
- 2 If inserts chip, increase Spindle Speed (n), decrease Feed (fn), or change to tougher insert grade.
- 3 For uninterrupted, continuous cuts, use hard and wear resistant insert.
- 4 For forgings, castings and interrupted cuts, use tough and impact resistant insert with larger nose radius.

DPP30GT

General Purpose for Alloy Steels. Second choice for Stainless Steels
P30 (P15-P35) Substrate
Thermal deformation and abrasion resistant substrate with PVD TiN

DPC15HT

For high speed turning of Alloy Steels, up to $305 + V_c$
Most wear resistant steel grade
Second choice for machining cast irons
Second choice for finishing operation on Duplex, 316 and 316L (positive geometries only)
P15 (P10-P25) Fine Grain Substrate (1600 Vickers)
Not for interrupted cuts
CVD Al₂O₃/TiN/TiCN/Alpha Al₂O₃/Nano-TiCN/MT-TiCN/TiN Nanolock Coating Technology (22 microns)

DPC25UT

Universal Turning Grade for Alloy Steels and easy to machine Stainless Steels (316, 316L)
Medium Cutting Speeds, ideally at $122 - 250 V_c$
For light interrupted and continuous cuts
P25 (P15-P35) Substrate (1550 Vickers)
CVD Al₂O₃/TiN/TiCN/Alpha-Al₂O₃/Nano-TiCN/MT-TiCN/TiN Nanolock Coating Technology (22 microns)

DPC35RT

For heavily interrupted cuts, forgings, castings and uneven surfaces
Tough and impact resistant substrate
Slow cutting speeds, ideally at $49 - 149 V_c$
P40 (P25-P40) Substrate (1450 Vickers)
For Steels and Stainless Steels
CVD TiN/Al₂O₃/TiCN Nanolock Technology Coating

DMC20HT

High Performance Machining of austenitic stainless steels at higher SFM
M20 (M10-M25) Substrate
Not for interrupted cuts
High cutting speeds, ideally at $160 - 219 V_c$
Nanolock black MT-CVD Al₂O₃/TiCN/TiN

DMC30UT

Tougher alternative to DMC20UT grade for stainless steels
General Purpose for interrupted and continuous cuts
For medium cutting speeds, ideally at $119 - 171 V_c$
M30 (M25-M40) Substrate (1475 Vickers)
CVD TiN/TiCN/TiN Coating

DKU10HT

Wear and abrasion resistant, uncoated substrate
Not for interrupted cuts
K10 Substrate
For hardened materials, and abrasive materials
For very fine cuts

DKC10UT

Most wear resistant substrate for Nodular, Ductile and Gray Cast Irons and Hardened Steels
K10 (K05-K15) Substrate (1700 Vickers)
Up to $396 V_c$ on Gray Cast Iron (GG)
For high cutting speeds, $305 V_c$ and above
TAG-Turbo CVD Al₂O₃/TiC/TiCN/TiN Coating with special adhesion interlocking layer
For uninterrupted cuts

DKC15RT

Tougher alternative to DKC10UT, for cast irons
Optimal grade for Nodular Cast Iron (GG) and Gray Cast Iron (GGG)
K15 (K10-K20) Substrate (1600 Vickers)
CVD Al₂O₃/TiC/TiCN/TiN Coating
Suitable for interrupted cuts in cast irons

DNU10GT

Uncoated, high wear resistant grade for aluminum, non-ferrous metals and plastics
K10 (K05-K15) Substrate

DNU25GT

Uncoated, high wear resistant grade for aluminum, non-ferrous metals and plastics
K25 Micrograin Substrate
For continuous and light interrupted cuts

DNX10UT

Coated version of DNU10GT
High wear resistant grade for machining aluminum, non-ferrous metals and plastics
Micro-pulse Plasma TiAlN coating, ideal for finish machining (fine cuts) of stainless steels and high temp alloys

DNP25GT

Universal grade for high temp alloys, aluminum, non-ferrous and ferrous materials
S25 Substrate with PVD TiN Coating
Not for interrupted cuts

DSP10HT

For Titanium and Titanium Alloys (unalloyed Ti, alpha-alloys, alpha-beta alloys, beta-alloys)
S10 Substrate (1700 Vickers) with CVD TiB₂/TiN coating
For cutting speeds $30 - 70 V_c$

DSP15HT

Hardest grade for High Temp Alloys
Medium to rough machining of high temp alloys and finish machining of stainless steels
With SER chip-breaker, also suitable for Interrupted machining of high temp alloys
With SEF & SEM chip-breakers, also use on aluminum, non-ferrous metals and plastics
Sub micron K30 Substrate with 3 micron PVD Super-Nitride AlTiN Coating

DSP20HT

Tougher alternative to DSP15HT grade
For high temp alloys Inconel 718, Inconel 625, Nimonic, Udimet, Hastelloy, Waspaloy
Submicron S20 Substrate (1700 Vickers) with 8 micron PVD AlTiN coating
For cutting speeds $30 - 67 V_c$

DUP15VT

Hard & wear resistant for high temp alloys, aluminum, non-ferrous and ferrous materials
S15 Substrate with PVD AlCrN Coating
Not for interrupted cuts

DUP25GT

Universal grade for high temp alloys, aluminum, non-ferrous and ferrous materials
S25 Substrate with PVD TiAlN/WC/C Coating
Not for interrupted cuts

Steel Chip Breakers

PEF Finishing

Depth of Cut	Min: 0,10mm	Max: 2,00mm
Feed Rate	Min: 0,05mm/rev	Max: 0,20mm/rev

Small chip-breaker for finishing applications. Very light honed, sharp cutting edge. Optimum chip breaking achieved at small depth of cuts and small feed rates.

UEM Precision Finishing to Light Roughing

Depth of Cut	Min: 0,50mm	Max: 4,00mm
Feed Rate	Min: 0,07mm/rev	Max: 0,33mm/rev

Small-Medium (intermediate) chip-breaker for both finishing and medium applications. Small honed, relatively sharp cutting edge, positive rake ensures lower cutting pressure than PEM chip breaker for boring applications. Optimum chip breaking achieved at small-medium depth of cut and small-medium feed rates.

PEM Light Roughing to Finishing

Depth of Cut	Min: 0,80mm	Max: 5,00mm
Feed Rate	Min: 0,15mm/rev	Max: 0,40mm/rev

Medium chip-breaker for finishing, medium and roughing applications. Medium honed, safe cutting edge for most cutting conditions with a wide range of depth of cut and feed rates. Most general purpose chip breaker for alloy steels.

PEU Chip Breaker

Depth of Cut	Min: 0,50mm	Max: 4,00mm
Feed Rate	Min: 0,07mm/rev	Max: 0,33mm/rev

Small-Medium chip breaker for finishing and medium applications. Small honed, relatively sharp cutting edge on 11 degree positive inserts for alloy steels and stainless steel materials

PER Roughing

Depth of Cut	Min: 1,20mm	Max: 8,00mm
Feed Rate	Min: 0,33mm/rev	Max: 0,76mm/rev

Large chip breaker for roughing and heavy roughing applications. Large honed, strong cutting edge for large depth of cuts and heavy feed rates allows for high material removal rates. Strong cutting edge ideal for interrupted cuts.

PEX Wiper

Depth of Cut	Min: 1,50mm	Max: 4,00mm
Feed Rate	Min: 0,20mm/rev	Max: 0,78mm/rev

Wiper nose with varying nose radii for better surface finish or higher feed rates, preferably on alloy steel materials.

PSH & PSS Roughing

Depth of Cut	Min: 2,00mm	Max: 12,5mm
Feed Rate	Min: 0,40mm/rev	Max: 1,60mm/rev

Large chip breaker for heavy roughing on single sided (flat bottom) negative inserts. Flat bottom of the insert provides the most rigid clamping due to maximum surface area on the tool-holder's insert pocket. Positive rake, negative land and heavily honed cutting edge for heavy roughing applications with large depth of cut and high feed rate (very high material removal rate). For continuous, varying and interrupted cuts. PSS chip breaker also suitable for heavy duty roughing of cast irons.

PST Extra Heavy Roughing

Depth of Cut	Min: 2,50mm	Max: 12,5mm
Feed Rate	Min: 0,78mm/rev	Max: 1,60mm/rev

Large chip breaker and very strong cutting edge for extra heavy duty roughing on single sided (flat bottom) negative inserts. Flat bottom of the insert provides the most rigid clamping due to maximum surface area on the tool-holder's insert pocket. Positive rake, negative land and heavily honed cutting edge for extra heavy duty roughing applications with large depth of cut and very high feed rate (very high material removal rate). For continuous, varying and interrupted cuts.

UEXR/UEXL High Performance Chip Breaker

Depth of Cut	Min: 1,00mm	Max: 3,20mm
Feed Rate	Min: 0,20mm/rev	Max: 0,45mm/rev

High positive and large scoop chip breaker allows free flowing chips with minimal cutting tool pressure. Ideal for boring applications or whenever chatter is a problem. The precise ground periphery, sharp cutting edge and deep chip channel makes this insert perfect on thin walled tubes or long, slender parts or deep bores. Also, use this insert on applications where chip breaking and chip control is a problem. Directional chip breaker (right hand – left hand), not good for facing.

UEN Chip Breaker

Depth of Cut	Min: 0,07mm	Max: 4,00mm
Feed Rate	Min: 0,07mm/rev	Max: 0,40mm/rev

General purpose, very light honed, positive cutting edge for finishing and general purpose machining of various materials.

Stainless Steel Chip Breakers

MEF Finishing

Depth of Cut	Min: 0,50mm	Max: 4,00mm
Feed Rate	Min: 0,10mm/rev	Max: 0,33mm/rev

Small chip-breaker for finishing applications. Very light honed, sharp cutting edge allows machining without work hardening on austenitic or precipitation hardening stainless steels. Optimum chip breaking achieved at small depth of cuts and small feed rates.

MEH High Performance

Depth of Cut	Min: 1,00mm	Max: 4,00mm
Feed Rate	Min: 0,17mm/rev	Max: 0,43mm/rev

Newly developed, high-performance chip breaker for finishing, medium and roughing applications. Sharp, positive edge prevents work hardening; ideal for stainless steels. Innovative Chip-Impact-Protector design prevents chip-damage to the cutting when machining up to shoulders.

MEM Medium

Depth of Cut	Min: 1,20mm	Max: 5,50mm
Feed Rate	Min: 0,15mm/rev	Max: 0,40mm/rev

Medium, general purpose chip-breaker for finishing, medium and roughing applications. Sharp, positive edge prevents work hardening; ideal for stainless steels.

MER Roughing

Depth of Cut	Min: 1,20mm	Max: 7,80mm
Feed Rate	Min: 0,33mm/rev	Max: 0,78mm/rev

Roughing chip-breaker for stainless steels for heavy material removal rate. Relatively sharp but strong cutting edge for large depth of cut and high feed rate. Use for interrupted cuts or heavy machining of stainless steels with heavy feed.

UEFR / UEFL Chip Breaker

Depth of Cut	Min: 0,05mm	Max: 1,00mm
Feed Rate	Min: 0,05mm/rev	Max: 0,20mm/rev

High positive and very sharp cutting edge with small chip breaker allows free cutting and chip breaking with small depth of cut and small feed rates. Ideal for boring applications or whenever chatter is a problem. The precise ground periphery, and sharp cutting edge makes this insert perfect on thin walled tubes or small, long and slender parts, or deep small bores. Also, use this insert on applications where chip breaking and chip control is a problem due to very small feed rates. Directional chip breaker (right hand – left hand), not good for facing.

High Temp Alloy Chip Breakers

SEF Finishing

Depth of Cut	Min: 0,50mm	Max: 4,00mm
Feed Rate	Min: 0,07mm/rev	Max: 0,25mm/rev

Precision ground periphery with small, upsharp cutting edge and small chip breaker. Ideal for finishing applications on high temp alloys. Also use on aluminum and non-ferrous materials.

SEH High Performance

Depth of Cut	Min: 1,00mm	Max: 3,50mm
Feed Rate	Min: 0,07/rev	Max: 0,45mm/rev

High Performance, sharp cutting edge with medium chip breaker and high edge security, ideal for medium and rough machining of high temp alloys and titanium alloys.

SEM Finishing to Light Roughing

Depth of Cut	Min: 1,00mm	Max: 3,50mm
Feed Rate	Min: 0,10mm/rev	Max: 0,33mm/rev

Upsharp cutting edge with medium chip breaker, ideal for finishing, medium and light roughing of high temp alloys. Also use on aluminum and non-ferrous materials.

SER Roughing

Depth of Cut	Min: 1,20mm	Max: 6,00mm
Feed Rate	Min: 0,15mm/rev	Max: 0,40mm/rev

Sharp cutting edge with large chip breaker, ideal for rough machining of high temp alloys with higher depth of cut and feed rate.

Cast Iron Chip Breakers

KEF Finishing

Depth of Cut	Min: 0,10mm	Max: 2,00mm
Feed Rate	Min: 0,50mm/rev	Max: 0,30mm/rev

Small chip-breaker for finishing applications. Very light honed, sharp cutting edge. Optimum chip breaking achieved at small depth of cuts and small feed rates.

KEU Medium

Flat top, no chip breaker, ideal for cast irons. General purpose.

KEM Medium

Depth of Cut	Min: 0,20mm	Max: 3,20mm
Feed Rate	Min: 0,50mm/rev	Max: 0,30mm/rev

Medium chip-breaker for finishing, medium and light roughing applications on cast irons.

KER Roughing

Depth of Cut	Min: 0,80mm	Max: 12,0mm
Feed Rate	Min: 0,30mm/rev	Max: 0,60mm/rev

Large chip-breaker with a strong cutting edge for medium to rough machining of cast irons at large depth of cut and heavy feeds. Also use for interrupted cuts.

NFU High Performance Chip Breaker

Depth of Cut	Min: 1,00mm	Max: 8,00mm
Feed Rate	Min: 0,07mm/rev	Max: 0,99mm/rev




















Very upsharp, high positive, precision ground and polished cutting edge for aluminum, non-ferrous metals and plastics. Use for finishing, medium or rough machining of aluminums, non-ferrous metals and plastics. Large, ridged chip breaker alloys free flow evacuation of chips with little cutting pressure. Also, use for very fine cuts with small feed rate on stainless steels and high temp alloys for superb surface finish.

UEU High Performance Chip Breaker

Depth of Cut	Min: 0,50mm	Max: 1,00mm
Feed Rate	Min: 0,50mm/rev	Max: 0,20mm/rev

Precision ground periphery and positive, sharp cutting edge with small chip breaker. Best for finishing and medium machining of various materials.












Negative Inserts

Material	Application	Chip Breaker	Insert	Grade		V _c		a _p Depth of Cut mm	f _n Feed Rate mm per Rev
				← Harder	Tougher →	Meters	per minute		
P Steel & Alloy Steel	Finishing	PEF		DPC15HT		330	1188	0,10mm - 2,0mm	0,05mm - 0,20mm
				DPC25UT		281	1010		
	Medium	PEM		DPC15HT		330	1188	0,80mm - 5,0mm	0,15mm - 0,40mm
				DPC25UT		281	1010		
				DPC35RT		165	594		
	Roughing	PER		DPC15HT		330	1188	1,20mm - 8,00mm	0,33mm - 0,76mm
				DPC25UT		281	1010		
				DPC35RT		165	594		
	Wiper (High Surface Finish)	PEX		DPC15HT		330	1188	1,52mm - 4,0mm	0,20mm - 0,80mm
				DPC25UT		281	1010		
Medium and Precision Finishing	UEM		DPC15HT		330	1188	0,50mm - 4,0mm	0,08mm - 0,33mm	
			DPC25UT		281	1010			
			DPC35RT		165	594			
For Thin Wall Tubing & Deep Boring	UEX		DPC15HT		330	1188	1,0mm - 3,2mm	0,20mm - 0,45mm	
			DPC25UT		281	1010			
			DPC35RT		165	594			
Roughing	PSH		DPC15HT		330	1188	2,00mm - 12,50mm	0,41mm - 1,60mm	
			DPC25UT		281	1010			
			DPC35RT		165	594			
Heavy Roughing	PSS		DPC15HT		330	1188	2,00mm - 12,50mm	0,41mm - 1,60mm	
			DPC25UT		281	1010			
			DPC35RT		165	594			
Extra Heavy Duty Roughing	PST		DPC15HT		330	1188	2,5mm - 12,50mm	0,80mm - 1,60mm	
			DPC25UT		281	1010			
			DPC35RT		165	594			
M Stainless Steel	High Performance	MEH		DMC20HT		429	759	1,0mm - 3,75mm	0,18mm - 0,43mm
	Finishing	MEF		DMC30UT				0,50mm - 4,00mm	0,10mm - 0,33mm
	Medium	MEM		DMC30UT		238	594	1,20mm - 5,51mm	1,52mm - 0,40mm
	Roughing	MER		DMC30UT				1,20mm - 7,75mm	0,33mm - 7,9mm
K Cast Iron	Finishing	KEF		DKC10UT		376	891	0,10mm - 2,03mm	0,05mm - 0,30mm
	Roughing	KER		DKC10UT		376	891	0,80mm - 12,00mm	0,30mm - 0,60mm
DKC15RT				314	743				
S Titanium & Super Alloy	High Performance	SEH		DSP10HT (Titanium Only)		230	100	1,00mm - 3,5mm	0,08mm - 0,045mm
				DSP20HT		200	100		
S Titanium - Super Alloy & Multi-Material	Finishing	SEF		DSP15HT				0,50mm - 4,0mm	0,08mm - 0,25mm
	Medium	SEM		DSP15HT		100	1066	1,00mm - 3,50mm	0,10mm - 0,33mm
	Roughing	SER		DSP15HT				1,20mm - 6,0mm	0,15mm - 0,40mm









Positive Inserts

Material	Application	Chip Breaker	Insert	Grade		V _c Meters per minute	a _p Depth of Cut mm	f _n Feed Rate mm per Rev	
				Harder	Tougher				
S Multi-Material	General Purpose	UEF		DNU25GT		83	545	0,05mm - 2,0mm	0,05mm - 0,20mm
	Universal			DUP25GT		96	1123		
	Unstable Condition			DUP35RT		92	1066		
	General Purpose	UEU		DUP15VT		119	1403	0,05mm - 2,0mm	0,05mm - 0,20mm
	Universal			DUP25GT		96	1123		
	Unstable Condition			DPC35RT		92	1066		
P Steel & Alloy Steel	Finishing	PEF		DPC15HT		330	1188	0,10mm - 2,0mm	0,05mm - 0,20mm
				DPC25UT		281	1010		
				DPC35RT		165	594		
	Medium	PEM		DPC15HT		330	1188	0,080mm - 5,0mm	0,15mm - 0,40mm
				DPC25UT		281	1010		
				DPC35RT		165	594		
	Universal	PEU		DPC15HT		330	1188	0,50mm - 4,0mm	0,15mm - 0,40mm
				DPC25UT		281	1010		
				DPC35RT		165	594		
	High Performance	UEX		DPC15HT		330	1188	1,0mm - 3,2mm	0,20mm - 4,6mm
	Universal			DPC25UT		281	1010		
	Unstable Condition			DPC35RT		165	594		
M Stainless Steel	High Performance	MEH		DMC20HT		429	759	1,0mm - 3,8mm	0,18mm - 0,43mm
	Universal	MEM		DCM30UT		238	594	1,20mm - 5,5mm	0,15mm - 4,0mm
K Cast Iron	General Application	KEM		DKC15RT		59	743	0,20mm - 3,18mm	0,05mm - 0,30mm
N Aluminum	General Purpose	NFU		DNU10GT		446	6353	0,99mm - 8,0mm	0,08mm - 1,0mm
	High Performance			DNX10UT		581	7623		
S Titanium & Super Alloy	High Performance	SEH		DSP10HT (Titanium Only)		230	100	1,0mm - 3,5mm	0,08mm - 0,46mm
				DSP20HT		200	100		

Multi-Material Applications Positive Precision Ground Inserts

Description	ISO	Grade DNU25GT	Grade DUP25GT	Grade DUP35RT
CDGX-UEFR 80° Diamond Universal Right Hand 	CDGX-040102-UEFR	68562	68563	68564
	CDGX-040104-UEFR	68572	68573	68574
CDGX-UEFL 80° Diamond Universal Left Hand 	CDGX-040102-UEFL	68567	68568	
	CDGX-040104-UEFL	68577	68578	
CCGX-UEFR 80° Diamond Universal Right Hand 	CCGX-060204-UEFR	68592	68593	68594
CCGX-UEFL 80° Diamond Universal Left Hand 	CCGX-060204-UEFL	68597	68598	
DCGX-UEFR 55° Diamond Universal Right Hand 	DCGX-060204-UEFR	68712	68713	68714
DCGX-UEFL 55° Diamond Universal Left Hand 	DCGX-070204-UEFL	68717	68718	68719
TCGX-UEFR 60° Triangle Universal Right Hand 	TCGX-110202-UEFR	68762	68763	68764
	TCGX-110204-UEFR	68772	68773	68774
VBGX-UEFR 35° Diamond Universal Right Hand 	VBGX-110304-UEFR	68902	68903	
VBGX-UEFL 35° Diamond Universal Left Hand 	VBGX-110304-UEFL	68907	68908	68909
VCGX-UEFR 35° Diamond Universal Right Hand 	VCGX-110304-UEFR	68962	68963	68964
VCGX-UEFL 35° Diamond Universal Left Hand 	VCGX-110304-UEFL	68967	68968	68969


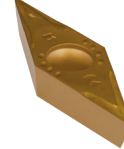

Multi-Material Applications Positive Precision Ground Inserts

Description	ISO	Grade DNU10GT	Grade DUP15VT	Grade DUP25GT	Grade DUP35RT
CCGT-UEU 80° Diamond Universal 	CCGT-060201-UEU	79450	79451		
	CCGT-060202-UEU			79453	79454
	CCGT-060204-UEU	79455	79456	79458	79459
	CCGT-09T302-UEU			79463	79464
	CCGT-09T304-UEU	79465	79466	79468	79469
	CCGT-120404-UEU	79475	79476	79478	79479
	CCGT-120408-UEU	79480	79481	79483	79484
CPGT-UEU 80° Diamond Universal 	CPGT-05T102-UEU	79485	79486	79488	79489
	CPGT-05T104-UEU	79490	79491	79493	79494
	CPGT-060204-UEU	79500	79501	79503	79504
	CCGT-09T302-UEU	79507		79508	79509
	CCGT-09T304-UEU	79510	79511	79513	79514
DCGT-UEU 55° Diamond Universal 	DCGT-070201-UEU	79530	79531		
	DCGT-070202-UEU			79533	79534
	DCGT-070204-UEU	79535	79536	79538	79539
	DCGT-11T301-UEU	79540	79541		
	DCGT-11T302-UEU			79543	79544
	DCGT-11T304-UEU	79545	79546	79548	79549
	DCGT-11T308-UEU	79550	79551	79553	79554
	DCGT-150404-UEU	79555	79556	79558	79559
DCGT-150408-UEU	79560	79561	79563	79564	
TCGT-UEU 60° Triangle Universal 	TCGT-110201-UEU	79585	79586	79588	79589
	TCGT-110202-UEU			79593	79594
	TCGT-110204-UEU	79595	79596	79598	79599
	TCGT-16T302-UEU			79608	79609
	TCGT-16T304-UEU	79610	79611	79613	79614
	TCGT-16T308-UEU	79615	79616	79618	79619
TPGT-UEU 60° Triangle Universal 	TPGT-110201-UEU			79623	79624
	TPGT-110202-UEU			79628	79629
	TPGT-110204-UEU	79630	79631	79633	79634
	TPGT-16T302-UEU			79643	79644
	TPGT-16T304-UEU	79645	79646	79648	79649
	TPGT-16T308-UEU	79650	79651	79653	79654
VBGT-UEU 35° Diamond Universal 	VBGT-110304-UEU	79660	79661	79663	79664
	VBGT-160404-UEU	79670	79671	79673	79674
	VBGT-160408-UEU	79675	79676	79678	79679
VCGT-UEU 35° Diamond Universal 	VCGT-110301-UEU	79680	79681		
	VCGT-110302-UEU			79683	79684
	VCGT-110304-UEU	79685	79686	79688	79689
	VCGT-160402-UEU			79698	79699
	VCGT-160404-UEU	79700	79701	79703	79704
	VCGT-160408-UEU	79705	79706	79708	79709
WCGT-UEU 80° Trigon Universal 	WCGT-S30201-UEU	79710	79711	79713	79714
	WCGT-S30202-UEU	79715	79716	79718	79719
	WCGT-040204-UEU	79725	79726	79728	79729
	WCGT-06T304-UEU	79735	79736	79738	79739
	WCGT-06T308-UEU		79741	79743	79744



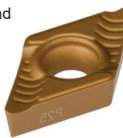
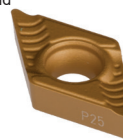
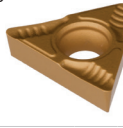
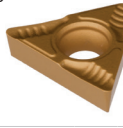
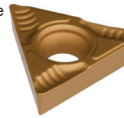
Alloy Steel Applications Positive Inserts

Description	ISO	Grade		
		DPC15HT	DPC25UT	DPC35RT
CCMT-PEF 80° Diamond Finishing 	CCMT-060202-PEF	71873	71874	
	CCMT-060204-PEF	71877	71878	
	CCMT-060208-PEF	71879	71880	
	CCMT-09T304-PEF	71883	71884	
	CCMT-09T308-PEF	71885	71886	
	CCMT-120404-PEF	71889	71890	
CCMT-PEM 80° Diamond Medium 	CCMT-060202-PEM	71875	71876	
	CCMT-060204-PEM	71933	71934	
	CCMT-060208-PEM	71881	71882	
	CCMT-09T304-PEM	71935	71936	
	CCMT-09T308-PEM	71887	71888	
	CCMT-120404-PEM	71937	71938	
	CCMT-120408-PEM	71891	71892	
DCMT-PEF 55° Diamond Finishing 	DCMT-070204-PEF	71893	71894	
	DCMT-11T304-PEF	71897	71898	
DCMT-PEM 55° Diamond Medium 	DCMT-070204-PEM	71895	71896	
	DCMT-11T304-PEM	71899	71900	
	DCMT-11T308-PEM	71901	71902	
RCMX-UEx Metric Round 	RCMX-1003MO-UEx			71957
	RCMX-1204MO-UEx		71958	71959
	RCMX-1606MO-UEx		71962	71963
	RCMX-2006MO-UEx		71967	71968
	RCMX-2507MO-UEx		71972	71973
	RCMX-3209MO-UEx		71976	71977
RCMT-UM Inch Round 	RCMT-120400-UM		79926	
	RCMT-190600-UM		79929	
	RCMT-250600-UM		79931	
SCMT-PEF Square Finishing 	SCMT-09T304-PEF	71903	71904	
SCMT-PEM Square Medium 	SCMT-09T308-PEM	71905	71906	
	SCMT-120408-PEM	71907	71908	
	SCMT-120412-PEM	71939	71940	
TCMT-PEF 60° Triangle Finishing 	TCMT-06T102-PEF		80249	
	TCMT-110202-PEF	71909	71910	
	TCMT-110204-PEF	71911	71912	
TCMT-PEM 60° Triangle Medium 	TCMT-110204-PEM	71941	71942	
	TCMT-110208-PEM	71913	71914	
	TCMT-16T304-PEM	71915	71916	
	TCMT-16T308-PEM	71917	71918	
TPMR-PEU 60° Triangle Medium 	TPMR-110304-PEU	71945	71946	71947
	TPMR-110308-PEU	71948	71949	71950
	TPMR-160304-PEU	71951	71952	71953
	TPMR-160308-PEU	71954	71955	71956
VBMT-PEF 35° Diamond Finishing 	VBMT-160404-PEF	71919	71920	
	VBMT-160408-PEF	71921	71922	
	VBMT-160412-PEF	71923	71924	

Alloy Steel Applications Positive Inserts

Description	ISO	Grade		
		DPC15HT	DPC25UT	DPC35RT
VCMT-PEF 35° Diamond Finishing 	VCMT-110304-PEF	71925	71926	
	VCMT-160404-PEF	71927	71928	
	VCMT-160408-PEF	71931	71932	
VCMT-PEM 35° Diamond Medium 	VCMT-160404-PEM	71943	71944	
	VCMT-160408-PEM	71929	71930	
WCMT-PEF 80° Trigon Finishing 	WCMT-020102-PEF		80251	

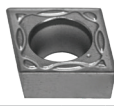


Alloy Steel & Stainless Steel Applications (for lower cutting pressure) Positive Precision Ground Inserts

Description	ISO	Alloy Steel		Stainless Steel
		DPC25UT	DPC35RT	DMC30UT
CCGT-UExL 80° Diamond Universal Left Hand 	CCGT-060204 UExL	70676	70677	70678
	CCGT-060208 UExL	70682	70683	70684
	CCGT-09T304 UExL	70688	70689	70690
	CCGT-09T308 UExL	70694	70695	70696
	CCGT-120408 UExL	70700	70701	70702
	CCGT-120412 UExL	70706	70707	70708
CCGT-UExR 80° Diamond Universal Right Hand 	CCGT-060204 UExR	70679	70680	70681
	CCGT-060208 UExR	70685	70686	70687
	CCGT-09T304 UExR	70691	70692	70693
	CCGT-09T308 UExR	70697	70698	70699
	CCGT-120408 UExR	70703	70704	70705
DCGT-UExL 55° Diamond Medium Left Hand 	DCGT-070204 UExL	70712	70713	70714
	DCGT-11T304 UExL	70718	70719	70720
DCGT-UExR 55° Diamond Roughing Right Hand 	DCGT-11T308 UExL	70725	70726	70727
	DCGT-070204 UExR	70715	70716	70717
DCGT-UExR 55° Diamond Roughing Right Hand 	DCGT-11T304 UExR	70721	70722	70723
	DCGT-11T308 UExR	70729	70730	70731
TCGT-UExL 60° Triangle Universal Left Hand 	TCGT-110204 UExL	70732	70733	70734
	TCGT-16T304 UExL	70738	70739	70740
	TCGT-16T308 UExL	70744	70745	70746
TCGT-UExR 60° Triangle Finishing/ Medium Right Hand 	TCGT-110204 UExR	70735	70736	70737
	TCGT-16T304 UExR	70741	70742	70743
	TCGT-16T308 UExR	70747	70748	70749

Multi-Material Applications Positive Precision Ground Inserts

Description	ISO	Grade DKU10HT	Grade DUP15VT	Grade DUP35RT
CDGW-KEU 80° Diamond Universal 	CCDGW-S4T001-KEU	79340	79341	79343
	CCDGW-S4T002-KEU	79344	79345	79347
	CDGW-040102-KEU	79348	79349	79351
	CDGW-040104-KEU	79352	79353	79355
CCGW-KEU 80° Diamond Universal 	CCGW-060204-KEU	79356	79357	79359
	CCGW-09T308-KEU	79364	79365	79367
CPGW-KEU 80° Diamond Universal 	CPGW-05T102-KEU	79368	79369	79371
	CPGW-05T104-KEU	79372	79373	79375
	CPGW-060204-KEU	79376	79377	79379
	CPGW-09T304-KEU	79380	79381	79383
	CPGW-09T308-KEU	79384	79385	79387
DCGW-KEU DCMW-KEU 55° Diamond Universal 	DCGW-070204-KEU	79388	79389	79391
	DCMW-11T304-KEU	70770	79392	
	DCMW-11T308-KEU	70771	79393	
TCGW-KEU 60° Triangle Universal 	TCGW-110204-KEU	79400	79401	79403
	TCGW-16T308-KEU	79408	79409	79411
TPGW-KEU 60° Triangle Universal 	TPGW-110204-KEU	79412	79413	79415
	TPGW-16T304-KEU	79416	79417	79419
	TPGW-16T308-KEU	79420	79421	79423
VBGW-KEU 35° Diamond Universal 	VBGW-110304-KEU	79424	79425	79427
	VBGW-160404-KEU	79428	79429	79431
	VBGW-160408-KEU	79432	79433	79435
VCGW-KEU 35° Diamond Universal 	VCGW-110304-KEU	79436	79437	79439
	VCGW-160404-KEU	79440	79441	79443
	VCGW-160408-KEU	79444	79445	79447

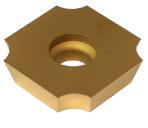
Titanium & High Temp Alloy Applications Positive Inserts

Description	ISO	Titanium Grade DSP10HT	High Temp Grade DSP20HT
CCMT-SEH 80° Diamond Universal 	CCMT-093T04-SEH	69725	69722
DCMT-SEH 55° Diamond Universal 	DCMT-11T04-SEH	69728	69729
RCMT-SEH Round Roughing 	RCMT-1606-MO-SEH	69732	
	RCMT-2006-MO-SEH	69734	

Alloy Steel Applications Positive Ground Inserts

Description	ISO	Grade DNU25GT	Grade DNP25GT	Grade DPP30GT
TPG-UEN 60° Triangle General Purpose 	TPG-110304-UEN		71607	71608
	TPG-110308-UEN	71611	71613	
	TPG-160304-UEN	71617	71619	71620
	TPG-160308-UEN	71623	71625	71626
	TPG-220404-UEN	71629	71631	71632
	TPG-220408-UEN	71635	71637	71638
TPGB-UEN 60° Triangle General Purpose 	TPGB-110204-UEN			71654
	TPGB-110208-UEN	71652		71657
	TPGB-160404-UEN	71655		71661
	TPGB-160408-UEN	71659		71664
	TPGB-220404-UEN	71662		71675
	TPGB-220408-UEN	71673		71678
TPGH-UEN 60° Triangle General Purpose 	TPGH-110204-UEN	71700	71703	71704
	TPGH-110208-UEN	71706	71709	71708
	TPGH-160304-UEN	71712	71716	71715
	TPGH-160308-UEN	71718	71720	71722
	TPGH-220404-UEN	71726	71728	71730
	TPGH-220408-UEN	71734	71737	71736
TPHT-UEN 60° Triangle General Purpose 	TPHT-16T304-UEN	71748	71750	71751
	TPHT-16T308-UEN	71753	71755	71756

Positive Convex Radius Inserts for Multi-Material Applications

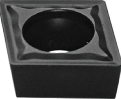
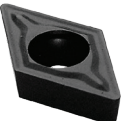
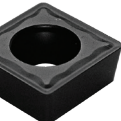
Description	ISO	Radius	Grade DNU25GT	Grade DUP25GT
SDGX-UEN 9,5mm Square Convex Radius 	SDGX-09T3C04-E	0,40 mm		95299
	SDGX-09T3C12-E	1,19 mm	95305	95307
	SDGX-09T3C16-E	1,57 mm	95309	95311
SDGX-UEN 19mm Square Convex Radius 	SDGX-1904C05-E	2,00 mm		95250
	SDGX-1904C06-E	2,38 mm	95253	95254
	SDGX-1904C07-E	2,76 mm	95257	95258
	SDGX-1904C08-E	3,17 mm	95261	95262
	SDGX-1904C09-E	10,5 mm		95266
	SDGX-1904C10-E	3,96 mm	95269	95270
	SDGX-1904C11-E	4,52 mm		95274
	SDGX-1904C12-E	4,77 mm	95277	95278
	SDGX-1904C13-E	5,15 mm		95282
	SDGX-1904C14-E	5,56 mm	95285	95286
	SDGX-1904C15-E*	5,94 mm	95289	95290
SDGX-1904C16-E*	6,35 mm	95293	95294	

*All SDGX inserts have 4 cutting edges, except 5,94mm & 6,35mm radius inserts that have 2 cutting edges.

Stainless Steel Applications Positive Inserts

Description	ISO	Grade DMC20HT	Grade DMC30UT
CCMT-MEM 80° Diamond Finishing/Medium 	CCMT-09T304-MEM		70750
	CCMT-09T308-MEM		70751
	CCMT-120404-MEM		70752
	CCMT-120408-MEM		70756
CCMT-MEH 80° Diamond High Performance 	CCMT-09T304-MEH	70786	
	CCMT-09T308-MEH	70787	
DCMT-MEM 55° Diamond Finishing / Medium 	DCMT-11T304-MEM		70760
	DCMT-11T308-MEM		70761
DCMT-MEH 55° Diamond High Performance 	DCMT-11T304-MEH	70788	
	DCMT-11T308-MEH	70789	
SCMT-MEM Square Medium 	SCMT-120408-MEM		70772
TCMT-MEM 60° Triangle Medium 	TCMT-110204-MEM		70776
	TCMT-110208-MEM		70777
	TCMT-16T304-MEM		70778
	TCMT-16T308-MEM		70779
VCMT-MEM 35° Diamond Medium 	VCMT-160404-MEM		70783
	VCMT-160408-MEM		70784
	VCMT-160412-MEM		70785

Cast Iron Applications Positive Inserts

Description	ISO	Grade DKC10UT	Grade DKC15RT
CCMT-KEM 80° Diamond Finishing/Medium 	CCMT-09T304-KEM		70753
	CCMT-09T308-KEM		70754
	CCMT-120408-KEM		70755
DCMT-KEM 55° Diamond Finishing/Medium 	DCMT-070204-KEM	70762	70763
	DCMT-070208-KEM	70764	70765
	DCMT-11T304-KEM	70766	70767
	DCMT-11T308-KEM	70768	70769
SCMT-KEM Square Medium 	SCMT-120408-KEM		70773

Aluminum Applications Ground & Polished Inserts

Description	ISO	Grade DNU10GT	Grade DNX10UT
CCGT-NFU 80° Diamond Universal 	CCGT-060202-NFU	80020	80021
	CCGT-060204-NFU	80024	80025
	CCGT-09T302-NFU	80028	80029
	CCGT-09T304-NFU	80032	80033
	CCGT-09T308-NFU	80036	80037
	CCGT-120404-NFU	80040	80041
	CCGT-120408-NFU	80044	80045
DCGT-NFU 55° Diamond Universal 	DCGT-070202-NFU	80048	80049
	DCGT-070204-NFU	80052	80053
	DCGT-11T302-NFU	80056	80057
	DCGT-11T304-NFU	80060	80061
DCGT-11T308-NFU	80064	80065	
RCMT-NFU Round Universal 	RCMT-0602MO-NFU	70798	
RCGT-NFU Round Universal 	RCGT-0602MO-NFU	80068	80069
	RCGT-0803MO-NFU	80072	80073
	RCGT-1003MO-NFU	80076	80077
SCGT-NFU Square Universal 	SCGT-120408-NFU	80084	80085
TCGT-NFU 60° Triangle Universal 	TCGT-110204-NFU	80089	80090
	TCGT-16T304-NFU	80093	80094
VCGT-NFU 35° Triangle Universal 	VCGT-110302-NFU	80098	80099
	VCGT-110304-NFU	80103	80104
	VCGT-160402-NFU	80107	80108
	VCGT-160404-NFU	80111	80112
	VCGT-160408-NFU	80115	80116
	VCGT-160412-NFU	80119	80120
VCGT-220530-NFU	80123	80124	
VPGT-NFU 35° Triangle Universal 	VPGT-110304-NFU	80127	80128
	VPGT-160412-NFU	80131	80133
	VPGT-220516-NFU	80135	80136
WCGT-NFU 80° Trigon Universal 	WCGT-06T302-NFU	80140	80141
	WCGT-06T304-NFU	80144	80145
	WCGT-06T308-NFU	80148	80149
	WCGT-080404-NFU	80152	80153
	WCGT-080408-NFU	80156	80157





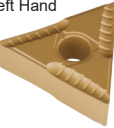
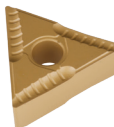
Alloy Steel Applications Negative Inserts

Description	ISO	Grade		
		DPC15HT	DPC25UT	DPC35RT
CNMG-PEF 80° Diamond Finishing	CNMG-120404-PEF	69250	69251	
	CNMG-120408-PEF	69252	69253	
CNMG-UEM 80° Diamond Universal	CNMG-120404-UEM	69826	69828	
	CNMG-120408-UEM	69832	69833	69834
CNMG-PEM 80° Diamond Medium	CNMG-090308-PEM	69491	69276	69277
	CNMG-120408-PEM	69408	69278	69279
	CNMG-120412-PEM	69280	69281	69282
	CNMG-160608-PEM	69283	69284	69285
	CNMG-160612-PEM	69286	69287	69288
	CNMG-160616-PEM	69492	69289	69290
	CNMG-190612-PEM	69409	69291	69292
	CNMG-190616-PEM	69410	69293	69294
CNMG-PER 80° Diamond Roughing	CNMG-120408-PER	69351	69352	69353
	CNMG-120412-PER	69354	69355	69356
	CNMG-160608-PER	69357	69358	69359
	CNMG-160612-PER	69360	69361	69362
	CNMG-160616-PER	69363	69364	69365
	CNMG-190612-PER	69366	69367	69368
	CNMG-190616-PER	69369	69370	69371
	CNMG-190624-PER	69372	69373	69374
DNMG-PEF 55° Diamond Finishing	DNMG-110404-PEF	69254	69255	
	DNMG-110408-PEF	69256	69257	
	DNMG-150404-PEF	69258	69259	
	DNMG-150408-PEF	69260	69261	
	DNMG-150604-PEF	69262	69263	
DNMG-UEM 55° Diamond Universal	DNMG-110404-UEM	69835	69836	69837
	DNMG-110408-UEM	69840	69841	
	DNMG-150408-UEM		69844	
	DNMG-150604-UEM	69845	69846	69847
	DNMG-150608-UEM	69848	69849	69850
DNMG-PEM 55° Diamond Medium	DNMG-110408-PEM	69295	69296	69297
	DNMG-150408-PEM	69298	69299	69300
	DNMG-150412-PEM	69301	69302	69303
	DNMG-150608-PEM	69304	69305	69306
	DNMG-150612-PEM	69307	69308	69309
DNMG-PER 55° Diamond Roughing	DNMG-150408-PER	69375	69376	69377
	DNMG-150412-PER	69378	69379	69380
	DNMG-150608-PER	69381	69382	69383
	DNMG-150612-PER	69384	69385	69386
	DNMG-150616-PER	69387	69388	69389
SNMG-PEF Square Finishing	SNMG-120404-PEF	69266	69267	
SNMG-UEM Square Universal	SNMG-090304-UEM	69851	69852	
SNMG-PEM Square Medium	SNMG-120408-PEM	69313	69314	69315
	SNMG-120412-PEM	69316	69317	69318
	SNMG-150608-PEM	69319	69320	69321
	SNMG-190612-PEM	69322	69323	69324





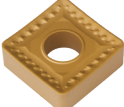

Alloy Steel Applications Negative Inserts

Description	ISO	Grade		
		DPC15HT	DPC25UT	DPC35RT
SNMG-PER Square Roughing	SNMG-120408-PER	69390	69391	69392
	SNMG-120412-PER	69393	69394	69395
	SNMG-190612-PER	69396	69397	69398
	SNMG-190616-PER	69399	69400	69401
TNMG-PEF 60° Triangle Finishing	TNMG-160404-PEF	69268	69269	
	TNMG-160408-PEF	69270	69271	
TNMG-UEM 60° Triangle Universal	TNMG-160404-UEM	69853	69854	69855
	TNMG-160408-UEM	69856	69857	69858
TNMG-PEM 60° Triangle Medium	TNMG-160408-PEM	69325	69326	69327
	TNMG-160412-PEM	69328	69329	69330
	TNMG-220408-PEM	69331	69332	69333
	TNMG-220412-PEM	69334	69335	
VNMG-PEF 35° Diamond Finishing	VNMG-160404-PEF	69272	69273	
	VNMG-160408-PEF	69274	69275	
VNMG-UEM 35° Diamond Universal	VNMG-160408-UEM	69859	69860	
VNMG-PEM 35° Diamond Finishing	VNMG-160408-PEM	69336	69337	69338
	VNMG-160412-PEM	69339	69340	69341
WNMG-UEM 80° Trigon Universal	WNMG-060404-UEM	69861	69862	69863
	WNMG-060408-UEM	69864	69865	69866
	WNMG-080404-UEM	69867	69868	69869
	WNMG-080408-UEM	69870	69871	69872
	WNMG-080412-UEM		69873	
WNMG-PEM 80° Trigon Medium	WNMG-060408-PEM	69342	69343	69344
	WNMG-080408-PEM	69345	69346	69347
	WNMG-080412-PEM	69348	69349	69350
WNMG-PER 80° Trigon Roughing	WNMG-080408-PER	69402	69403	69404
	WNMG-080412-PER	69405	69406	69407

Alloy Steel & Stainless Steel Applications Negative Inserts (for lower cutting pressure)

Description	ISO	Alloy Steel DPC15HT	Alloy Steel DPC25UT	Alloy Steel DPC35RT	Stainless Steel DMC30UT
CNMX-UEXL 80° Diamond Left Hand 	CNMX-120404-UEXL		69411	69412	69413
	CNMX-120408-UEXL		69417	69418	69419
CNMX-UEXR 80° Diamond Right Hand 	CNMX-120404-UEXR		69414	69415	69416
	CNMX-120408-UEXR		69420	69421	69422
DNMX-UEXL 55° Diamond Left Hand 	DNMX-110404-UEXL	69429	69430	69431	
	DNMX-110408-UEXL	69435	69436	69437	
	DNMX-150404-UEXL		69441		
	DNMX-150408-UEXL		69447		
	DNMX-150604-UEXL	69453	69454	69455	69456
DNMX-150608-UEXL	69461	69462	69463	69464	
DNMX-UEXR 55° Diamond Right Hand 	DNMX-110404-UEXR	69432	69433	69434	
	DNMX-110408-UEXR	69438	69439	69440	
	DNMX-150404-UEXR		69444		
	DNMX-150408-UEXR		69450		
	DNMX-150604-UEXR	69457	69458	69459	69460
	DNMX-150608-UEXR	69465	69466	69467	69468
TNMX-UEL 60° Triangle Left Hand 	TNMX-160404-UEXL	69469	69470	69471	69472
	TNMX-160408-UEXL	69477	69478	69479	69480
TNMX-UEXR 60° Triangle Right Hand 	TNMX-160404-UEXR	69473	69474	69475	69476
	TNMX-160408-UEXR	69481	69482	69483	69484

Heavy Duty Roughing Steel Applications Single Sided Negative Inserts

Description	ISO	DPC15HT	Grade DPC25UT	DPC35RT
CNMM-PSH 80° Diamond Roughing 	CNMM-120408-PSH	70160	70161	70162
	CNMM-120412-PSH	70163	70164	70165
	CNMM-160612-PSH	70166	70167	70168
	CNMM-160616-PSH	70169	70170	70171
	CNMM-190612-PSH	70172	70173	70174
	CNMM-190616-PSH	70175	70176	70177
CNMM-190624-PSH	70178	70179	70180	
CNMM-PSS 80° Diamond Heavy Roughing 	CNMM-190616-PSS	70205	70206	70207
CNMM-PST 80° Diamond X Heavy Roughing 	CNMM-250724-PST	70216	70217	70218
	CNMM 250924-PST	70220	70221	70222
SNMM-PHS Square Roughing 	SNMM-120408-PSH	70181	70182	70183
	SNMM-120412-PSH	70184	70185	70186
	SNMM-150612-PSH	70187	70188	70189
	SNMM-150616-PSH	70190	70191	70192
	SNMM-190612-PSH	70193	70194	70195
	SNMM-190616-PSH	70196	70197	70198
SNMM-190624-PSH	70199	70200	70201	
SNMM-190632-PSH	70202	70203	70204	
SNMM-PSS Square Heavy Roughing 	SNMM-190616-PSS	70210	70211	70212
	SNMM-190624-PSS	70213	70214	70215
SNMM-PST Square X Heavy Roughing 	SNMM-250724-PST	70224	70225	70226
	SNMM-250924-PST	70228	70229	70230



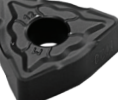

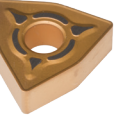
Wiper Inserts for Alloy Steel & Stainless Steel Applications

Description	ISO	Grade DPC15HT	Grade DPC25UT
CNMG-PEX 80° Diamond High Performance 	CNMG-120408-PEX	69485	69486
	CNMG-120412-PEX	69489	69490
DNMG-PEX 55° Diamond High Performance 	DNMG-150612-PEX	69487	69488

Stainless Steel Applications Negative Inserts

Description	ISO	Grade DMC20HT	Grade DMC30UT
CNMG-MEF 80° Diamond Finishing 	CNMG-090304-MEF		69964
	CNMG-120404-MEF		69965
	CNMG-120408-MEF		69966
	CNMG-120412-MEF		69967
CNMG-MEM 80° Diamond Medium 	CNMG-120408-MEM		69968
	CNMG-120412-MEM		69969
CNMG-MEH 80° Diamond High Performance 	CNMG-120408-MEH	70020	
	CNMG-120412-MEH	70021	
	CNMG-160612-MEH	70022	
	CNMG-160616-MEH	70023	
	CNMG-190612-MEH	70024	
	CNMG-190616-MEH	70028	
CNMG-MER 80° Diamond Roughing 	CNMG-120412-MER		69970
	CNMG-160612-MER		69971
	CNMG-190612-MER		69972
DNMG-MEF 55° Diamond Finishing 	DNMG-110404-MEF		69973
	DNMG-150604-MEF		69974
	DNMG-150608-MEF		69975
DNMG-MEM 55° Diamond Medium 	DNMG-110408-MEM		69976
	DNMG-150408-MEM		69977
	DNMG-150608-MEM		69978
	DNMG-150612-MEM		69979
DNMG-MEH 55° Diamond High Performance 	DNMG-150608-MEH	70037	
	DNMG-150612-MEH	70038	
DNMG-MER 55° Diamond Medium 	DNMG-150608-MER		69980
	DNMG-150612-MER		69981
SNMG-MEF Square Finishing 	SNMG-090304-MEF		69982
SNMG-MEH Square High Performance 	SNMG-150612-MEH	70041	
	SNMG-150616-MEH	70044	
	SNMG-190612-MEH	70052	
	SNMG-190616-MEH	70053	
SNMG-MER Square Roughing 	SNMG-120408-MER		69983
	SNMG-120412-MER		69984
	SNMG-190612-MER		69985

Stainless Steel Applications Negative Inserts

Description	ISO	Grade DMC20HT	Grade DMC30UT
TNMG-MEM 60° Triangle Medium 	TNMG-160408-MEM		69986
	TNMG-220408-MEM		69987
	TNMG-220412-MEM		69988
WNMG-MEF 80° Trigon Finishing 	WNMG-060404-MEF		69989
	WNMG-080404-MEF		69990
	WNMG-080408-MEF		69991
WNMG-MEH 80° Trigon High Performance 	WNMG-080412-MEH	70056	
WNMG-MEM 80° Trigon Medium 	WNMG-060408-MEM		69992
	WNMG-080408-MEM		69993
	WNMG-080412-MEM		69994
	WNMG-080416-MEM		69995
WNMG-MER 80° Trigon Roughing 	WNMG-080408-MER		69996
	WNMG-080412-MER		69997

Cast Iron Applications Negative Inserts

Description	ISO	Cast Iron Applications	
		DKC10UT	DKC15RT
CNMG-KEF 80° Diamond Finishing 	CNMG-120404-KEF	67052	67053
CNMA-KEU 80° Diamond General Purpose 	CNMA-120408-KEU	69874	69875
	CNMA-120412-KEU	69876	69877
	CNMA-190616-KEU		69878
	CNMA-250924-KEU		69879
CNMG-KER 80° Diamond Roughing 	CNMG-120408-KER	69904	69905
	CNMG-120412-KER	69906	69907
	CNMG-120416-KER	69908	69909
	CNMG-160612-KER	69910	69911
	CNMG-160616-KER	69912	69913
DNMG-KEF 55° Diamond Finishing 	DNMG-110404-KEF	67054	67055
	DNMG-110408-KEF	67056	
DNMA-KEU 55° Diamond General Purpose 	DNMA-150608-KEU		69880
DNMG-KER 55° Diamond Roughing 	DNMG-150408-KER	69914	69915
	DNMG-150412-KER	69916	69917
	DNMG-150608-KER	69918	69919
	DNMG-150612-KER	69920	69921
SNMA-KEU Square General Purpose 	SNMA-120408-KEU	69882	69883
	SNMA-120412-KEU	69884	69885
	SNMA-120416-KEU	69886	69887
	SNMA-190616-KEU		69888
	SNMA-250724-KEU		69889
SNMG-KER Square Roughing 	SNMG-120408-KER	69922	69923
	SNMG-120412-KER	69924	69925
	SNMG-190612-KER		69926
	SNMG-190616-KER	69927	69928
TNMA-KEU Triangle General Purpose 	TNMA-160408-KEU	69890	69891
	TNMA-160412-KEU	69892	69893
	TNMA-220416-KEU	69894	69895
WNMA-KEU 80° Trigon General Purpose 	WNMA-080408-KEU	69896	69897
	WNMA-080412-KEU	69898	69899
WNMA-KER 80° Trigon Roughing 	WNMG-080408-KER	69929	69930
	WNMG-080412-KER		69931

Titanium & High Temp Alloy Applications Negative Inserts

Description	ISO	Titanium Grade High TempGrade		
		DSP10HT	DSP15HT	DSP20HT
CNGG-SEF 80° Diamond Finishing 	CNGG-120404-SEF		67058	
	CNGG-120408-SEF		67059	
	CNGG-120412-SEF		67060	
CNM/GG-SEM 80° Diamond Medium 	CNGG-120404-SEM		67061	
	CNGG-120408-SEM		67065	
	CNGG-120412-SEM		67066	
	CNMG-120404-SEM		67067	
	CNMG-120408-SEM		67068	
CNGG-SER 80° Diamond Roughing 	CNGG-120408-SER		67069	
	CNGG-120412-SER		67070	
CNMG-SEH 80° Diamond Roughing 	CNMG-120408-SEH	69726		69727
DNGG-SEF 55° Diamond Finishing 	DNGG-150404-SEF		67071	
	DNGG-150408-SEF		67072	
	DNGG-150412-SEF		67073	
	DNGG-150604-SEF		67074	
	DNGG-150608-SEF		67082	
	DNGG-150612-SEF		67083	
DNMG-SEM 55° Diamond Medium 	DNMG-150404-SEM		67084	
	DNMG-150408-SEM		67085	
	DNMG-150412-SEM		67086	
	DNMG-150604-SEM		67087	
	DNMG-150608-SEM		67088	
	DNMG-150612-SEM		67089	
DNMG-SEH 55° Diamond Roughing 	DNMG-150608-SEH	69730		69731
VNMG-SEF 35° Diamond Finishing 	VNMG-160404-SEF		67095	
	VNMG-160408-SEF		67096	
WNGG-SEF 80° Trigon Finishing 	WNGG-080404-SEF		67097	
	WNGG-080408-SEF		67098	
	WNGG-080412-SEF		67099	
WNM/GG-SEM 80° Trigon Medium 	WNGG-080404-SEM		67100	
	WNGG-080408-SEM		67101	
	WNMG-080404-SEM		67102	
	WNMG-080408-SEM		67103	
	WNMG-080412-SEM		67104	
WNMG-SEH 80° Trigon Medium 	WNMG-080408-SEH	69736		69737

Jet-Stream™ THRU COOLANT SYSTEM

Turning-Boring-Threading



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METAL IS CUT!

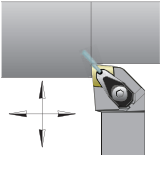


ON TARGET AT THE CUTTING EDGE

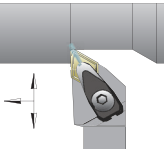
- Performance
- Quality and surface finish
- Insert life
- Chip control



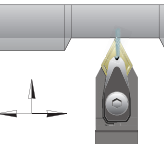
ADCLN R/L Tool holder Style L - 5° end or side cutting lead angle for negative 80° diamond CNM_inserts

Turning	UPC #		Shank		CNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Bottom Port Nozzle	
	Description	Right Hand	Left Hand	Height							Length
	ADCLNR/L-2020-K12	52828	52829	20	125	120408	JC-432	SM-M4-6	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039
	ADCLNR/L-2525-M12	52830	52831	25	150	120408	JC-432	SM-M4-8	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039
	ADCLNR/L-3232-P12	52832	52833	32	170	120408	JC-432	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSBPE-M4-039
	ADCLNR/L-3232-P16	52834	52835	32	170	160612	JC-533	SM-M6	JSLC-HPC5	JSCS-04	JSBPE-M4-039
	ADCLNR/L-4040-S12	52836	52837	40	250	120408	JC-432	SM-M4	JSLC-HPCTW-4N	JSCS-04	JSBPE-M4-039
	ADCLNR/L-4040-S16	52838	52839	40	250	160612	JC-533	SM-M6	JSLC-HPC5	JSCS-04	JSBPE-M4-039

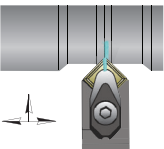
ADDJN R/L Tool holder Style J - 3° side cutting lead angle for negative 55° diamond DNM_inserts

Turning	UPC #		Shank		DNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Bottom Port Nozzle	
	Description	Right Hand	Left Hand	Height							Length
	ADDJNR/L-2020-K11	52842	52843	20	125	110408	S5511P	SM-M3	JSLC-HPD3	JSCS-04	JSBP-M4-039
	ADDJNR/L-2020-K15	52844	52845	20	125	150608	IDSN-423	SM-S4	JSLC-HPD4	JSCS-04	JSBP-M4-039
	ADDJNR/L-2525-M15	52846	52847	25	150	150608	IDSN-423	SM-S4	JSLC-HPD4	JSCS-04	JSBPE-M4-039
	ADDJNR/L-3232-P15	52848	52849	32	170	150608	IDSN-423	SM-S4	JSLC-HPD4	JSCS-04	JSBPE-M4-039
	ADDJNR/L-4040-S15	52850	52851	40	250	150608	IDSN-423	SM-S4	JSLC-HPD4	JSCS-04	JSBPE-M4-039

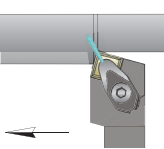
ADDPNN Tool holder Style P - 27.5° side cutting lead angle for negative 55° diamond DNM_inserts

Turning	UPC #		Shank		DNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Bottom Port Nozzle	
	Description	Neutral	Height	Length							
	ADDPNN-2020-K11	52854		20	125	110408	S5511P	SM-M3	JSLC-HPD3	JSCS-04	JSBP-M4-039
	ADDPNN-2020-K15	52855		20	125	150608	IDSN-423	SM-M4	JSLC-HPD4	JSCS-04	JSBP-M4-039
	ADDPNN-2525-M11	52856		25	150	110408	S5511P	SM-M3	JSLC-HPD3	JSCS-04	JSBPE-M4-039
	ADDPNN-2525-M15	52857		25	150	150608	IDSN-423	SM-M4	JSLC-HPD4	JSCS-04	JSBPE-M4-039
	ADDPNN-3232-P15	52858		32	170	150608	IDSN-423	SM-M4	JSLC-HPD4	JSCS-04	JSBPE-M4-039
	ADDPNN-4040-S15	52859		40	250	150608	IDSN-423	SM-M4	JSLC-HPD4	JSCS-04	JSBPE-M4-039

ADSDNN Tool holder Style D - 45° side cutting lead angle for negative square SNM_inserts

Turning	UPC #		Shank		SNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Bottom Port Nozzle	
	Description	Neutral	Height	Length							
	ADSDNN-2020-M12	52871		20	150	120408	S9012P	SM-M4	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039
	ADSDNN-2525-M12	52872		25	150	120408	S9012P	SM-M4	JSLC-HPCTW-4N	JSCS-04	JSBPE-M4-039
	ADSDNN-3232-P12	52873		32	170	120408	S9012P	SM-M4	JSLC-HPCTW-4N	JSCS-04	JSBPE-M4-039
	ADSDNN-3232-P15	52874		32	170	150612	JS-533	SM-M6	JSLC-HPC5	JSCS-04	JSBPE-M4-039
	ADSDNN-4040-S15	52875		40	250	150612	JS-533	SM-M6	JSLC-HPC5	JSCS-04	JSBPE-M4-039

ADSRN R/L Tool holder Style R - 15° side cutting lead angle for negative square SNM_inserts

Turning	UPC #		Shank		SNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Bottom Port Nozzle	
	Description	Right Hand	Left Hand	Height							Length
	ADSRNR/L-2020-K12	52862	52863	20	125	120408	S9012P	SM-M4	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039
	ADSRNR/L-2525-M12	52864	52865	25	150	120408	S9012P	SM-M4	JSLC-HPCTW-4N	JSCS-04	JSBPE-M4-039
	ADSRNR/L-3232-P15	52866	52867	32	170	150612	JS-533	SM-M6	JSLC-HPC5	JSCS-04	JSBPE-M4-039
	ADSRNR/L-4040-S15	52868	52869	40	250	150612	JS-533	SM-M6	JSLC-HPC5	JSCS-04	JSBPE-M4-039

ADTENN Tool holder Style E - 30° side cutting lead angle for negative triangle TNM_inserts

Turning	Description	UPC #		Shank		TNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Bottom Port Nozzle
		Neutral	Height	Length							
	ADTENN-2020-K16	52892	20	125	160408	JT-322	SM-M3-T	JSLC-HPTW3N	JSCS-04	JSBP-M4-039	
	ADTENN-2020-K22	52893	20	125	220408	JT-433	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039	
	ADTENN-2525-M16	52894	25	150	160408	JT-322	SM-M3-T	JSLC-HPTW3N	JSCS-04	JSBP-M4-039	
	ADTENN-2525-M22	52895	25	150	220408	JT-433	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039	
	ADTENN-3232-P22	52896	32	170	220408	JT-433	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039	
	ADTENN-4040-S22	52897	40	250	220408	JT-433	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039	

ADTJN R/L Tool holder Style J - 3° side cutting lead angle for negative triangle TNM_inserts

Turning	Description	UPC #		Shank		TNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Bottom Port Nozzle
		Right Hand	Left Hand	Height	Length						
	ADTJNR/L-2020-K16	52878	52879	20	125	160408	JT-322	SM-M3-T	JSLC-HPTW3N	JSCS-04	JSBP-M4-039
	ADTJNR/L-2020-K22	52880	52881	20	125	220408	JT-433	SM-M4-8	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039
	ADTJNR/L-2525-M16	52882	52883	25	150	160408	JT-322	SM-M3-T	JSLC-HPTW3N	JSCS-04	JSBP-M4-039
	ADTJNR/L-2525-M22	52884	52885	25	150	220408	JT-433	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039
	ADTJNR/L-3232-P22	52886	52887	32	170	220408	JT-433	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039
	ADTJNR/L-4040-S22	52888	52889	40	250	220408	JT-433	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSBP-M4-039

ADVJN R/L Tool holder Style J - Negative 3° side cutting lead angle for negative 35° diamond VNM_inserts

Turning	Description	UPC #		Shank		VNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Bottom Port Nozzle
		Right Hand	Left Hand	Height	Length						
	ADVJNR/L-2020-K16	52900	52901	20	125	160408	S3516P	SM-M3	JSLC-HPV3	JSCS-04	JSBP-M4-039
	ADVJNR/L-2525-M16	52902	52903	25	150	160408	S3516P	SM-M3	JSLC-HPV3	JSCS-04	JSBP-M4-039
	ADVJNR/L-3232-P16	52904	52905	32	170	160408	S3516P	SM-M3	JSLC-HPV3	JSCS-04	JSBP-M4-039

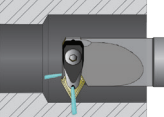
ADWLN R/L Tool holder Style L - Negative 5° end or side cutting lead angle for negative 80° trigon WNM_inserts

Turning	Description	UPC #		Shank		WNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Bottom Port Nozzle
		Right Hand	Left Hand	Height	Length						
	ADWLNRL-2020-K06	52909	52910	20	125	060408	IWSN-322	SM-M3	JSLC-HPTW3R/L	JSCS-04	JSBP-M4-039
	ADWLNRL-2020-K08	52911	52912	20	125	080408	IWSN-423	SM-S4	JSLC-HPTW4R/L	JSCS-04	JSBP-M4-039
	ADWLNRL-2525-M06	52913	52914	25	150	060408	IWSN-322	SM-M3	JSLC-HPTW3R/L	JSCS-04	JSBP-M4-039
	ADWLNRL-2525-M08	52915	52916	25	150	080408	IWSN-433	SM-S4	JSLC-HPTW4R/L	JSCS-04	JSBP-M4-039
	ADWLNRL-3232-P08	52917	52918	32	170	080408	IWSN-423	SM-S4	JSLC-HPTW4R/L	JSCS-04	JSBP-M4-039
	ADWLNRL-4040-S08	52919	52920	40	250	080408	IWSN-423	SM-S4	JSLC-HPTW4R/L	JSCS-04	JSBP-M4-039

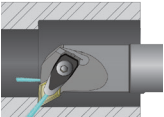
AS-ADCLN R/L Boring Bar Style L - Negative 5° side & end cutting lead angle for negative 80° diamond CNM_inserts

Boring	Description	UPC #		Min. Bore	Bar Size	CNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Chip Flush Plug
		Right Hand	Left Hand								
	AS-20R-ADCLNR/L-09	52925	52926	25	20	090308	N/A	N/A	JSLC-HPC3-B	JSCS-03	JSPN-M3
	AS-25R-ADCLNR/L-12	52927	52928	32	25	120408	NA	NA	JSLC-HPCTW-4N	JSCS-04	JSPN-M6
	AS-32S-ADCLNR/L-12	52929	52930	40	32	120408	S8012P	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSPN-M6
	AS-40S-ADCLNR/L-12	52931	52932	45	40	120408	S8012P	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSPN-M6
	AS-50T-ADCLNR-L-12	52933	52934	65	50	120408	DC-432	5.8-10M1	JSLC-HPCTW-4N	JSCS-04	JSPN-M6

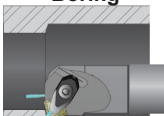
AS-ADDPN R/L Boring Bar Style P- Negative 27.5 end cutting lead angle for negative 55° diamond DNM_ inserts

Boring	Description	UPC #		Min. Bore	Bar Size	DNM_ Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Chip Flush Plug
		Right Hand	Left Hand								
	AS-32S-ADDPNR/L-15	52939	-	39	32	150608	DD-422	TS5.8-10M2	JSLC-HPD4	JSCS-04	JSPN-M6

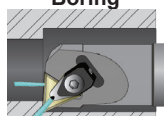
AS-ADDUN R/L Boring Bar Style U - Negative 3° end cutting lead angle for negative 55° diamond DNM_ inserts

Boring	Description	UPC #		Min. Bore	Bar Size	DNM_ Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Chip Flush Plug
		Right Hand	Left Hand								
	AS-25R-ADDUNR/L-11	52946	52947	33	25	110408	S5511P	SM-M3	JSLC-HPDT3R/L	JSCS-03	JSPN-M3
	AS-32S-ADDUNR/L-15	52948	52949	50	32	150608	DD-422	TS5.8-10M2	JSLC-HPD4	JSCS-04	JSPN-M6
	AS-40S-ADDUNR/L-15	52950	-	57	40	150608	DD-422	TS5.8-10M2	JSLC-HPD4	JSCS-04	JSPN-M6
	AS-50T-ADDUNR/L-15	52952	52953	76	50	150608	DD-422	TS5.8-10M2	JSLC-HPD4	JSCS-04	JSPN-M6

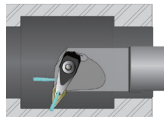
AS-ADSKN R/L Boring Bar Style K - 15° End cutting lead angle for negative square SNM_ inserts

Boring	Description	UPC #		Min. Bore	Bar Size	SNM_ Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Chip Flush Plug
		Right Hand	Left Hand								
	AS-32S-ADSKNR/L-12	52958	-	45	32	120408	S9012P	SM-S4	JSLC-HPCTW-4N	JSCS-04	JSPN-M6

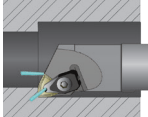
AS-ADTUN R/L Boring Bar Style U - Negative 3° end cutting lead angle for negative triangle TNM_ inserts

Boring	Description	UPC #		Min. Bore	Bar Size	TNM_ Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Chip Flush Plug
		Right Hand	Left Hand								
	AS-20R-ADTUNR/L-16	52967	52968	25	20	160308	N/A	N/A	JSLC-HPDT3R/L	JSCS-03	JSPN-M3
	AS-25R-ADTUNR/L-16	52969	52970	33	25	160408	JT-322	SM-M3-T	JSLC-HPDT3R/L	JSCS-03	JSPN-M3
	AS-32S-ADTUNR/L-22	52971	-	39	32	220408	JT-433	SM-S4	JSLC-HPTW4R/L	JSCS-04	JSPN-M6
	AS-40S-ADTUNR/L-22	52973	-	53	40	220408	JT-433	SM-S4	JSLC-HPTW4R/L	JSCS-04	JSPN-M6

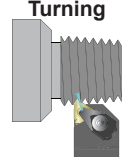
AS-ADVUN R/L Boring Bar Style U - Negative 3° side cutting lead angle for negative 35° diamond VNM_ inserts

Boring	Description	UPC #		Min. Bore	Bar Size	VNM_ Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Chip Flush Plug
		Right Hand	Left Hand								
	AS-32R-ADVUNR/L-16	52980	-	58	32	160408	S3516P	SM-M3	JSLC-HPV3	JSCS-04	JSPN-M6
	AS-40S-ADVUNR/L-16	52982	-	64	40	160408	S3516P	SM-M3	JSLC-HPV3	JSCS-04	JSPN-M6

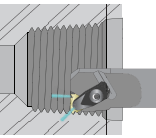
AS-ADWLN R/L Boring Bar Style L - Negative 5° end & side cutting lead angle for negative 80° trigon WNM_inserts

Boring	Description	UPC #		Min. Bore	Bar Size	WNM_Gage Insert	Seat	Seat Screw	Dor-Lock Clamp	Clamp Screw	Chip Flush Plug
		Right Hand	Left Hand								
	AS-20R-ADWLN/L-06	52986	52987	26	20	60408	N/A	N/A	JSLC-HPW3-B	JSCS-03	JSPN-M3
	AS-25R-ADWLN/L-08	52988	52989	33	25	80408	IWSN-423	SM-S4	JSLC-HPTW-4R/L	JSCS-04	JSPN-M6
	AS-32S-ADWLN/L-08	52990	52991	38	32	80408	IWSN-423	SM-S4	JSLC-HPTW-4R/L	JSCS-04	JSPN-M6
	AS-40S-ADWLN/L-08	52992	52993	46	40	80408	IWSN-423	SM-S4	JSLC-HPTW-4R/L	JSCS-04	JSPN-M6

ADLE Qualified Laydown Threading Tool holder Style E - offset head for Laydown inserts

Turning	Description	UPC #		Min. Bore	Bar Size	Gage Insert	Seat	Insert Screw	Dor-Lock Clamp	Clamp Screw
		Right Hand	Left Hand							
	ADLER/L2020-16Q-K	53587	53588	20	125	16-G60	GXE/I-16	TS-35.6-14M1	JSLC-HP16R-N JSLC-HP16L-N	JSCS-03
	ADLER/L2525-16Q-M	53589	53590	25	150					
	ADLER/L2525-22Q-M	53593	-	25	150	22-N60	NXE/I-22	TS-45.75-15M1	JSLC-HP22N	JSCS-04

AS-ADLN R/L Threading Bar Style N - Internal Laydown bar for Laydown threading

Boring	Description	UPC #		Min. Bore B	D	Gage Insert	Seat	Insert Screw	Dor-Lock Clamp	Clamp Screw	Chip Flush Plug
		R.H.	L.H.								
	AS-20R-ADLN/L-16	53600	53601	28	20	16-G60	GXE/I-16	TS-35.6-14M1	JSLC-HP16R-N JSLC-HP16L-N	JSCS-03	JSPN-M3
	AS-25R-ADLN/L-16	53602	53603	35	25						
	AS-32S-ADLN/L-16	53604	53605	41	32						
	AS-40S-ADLN/L-16	53606	53607	47	40						
	AS-32S-ADLN/L-22	-	53609	44	32	22-N60	NXE/I-22	TS-45.75-15M1	JSLC-HP22N	JSCS-04	JSPN-M6

Standard Pressure Coolant Connection 3 Pcs. Kit

Working Pressure

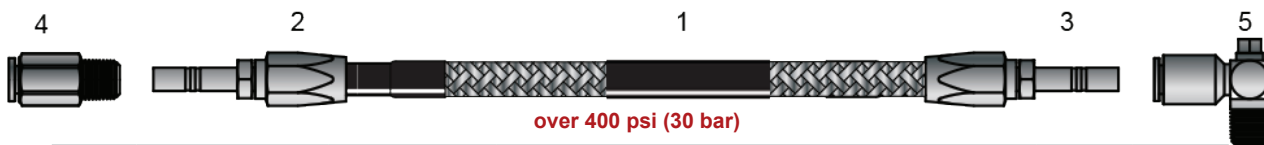


up to 400 psi (30 bar)

Item	Part #	UPC #	Description	Bar	PSI
	JSPLPCK-062-250	53303	1/16" NPT Standard Pressure Quick Release Coolant 3 pcs Kit	30	400
1	JS-T250-1200	53349	1/4" OD, 30cm Long Standard Pressure Tubing		
2	JS-MC062-250	53346	1/16" NPT-1/4" Bore, Straight Std Pressure Quick Release Connector		
3	JS-MC125-250	53347	1/8" NPT-1/4" Bore, Straight Std Pressure Quick Release Connector		
	JSPLPCK-125-250	53304	1/8" NPT Standard Pressure Quick Release Coolant 3 pcs Kit	30	400
1	JS-T250-1200	53349	1/4" OD, 30cm Long Standard Pressure Tubing		
2	JS-MC125-250	53347	1/8" NPT-1/4" Bore, Straight Std Pressure Quick Release Connector		
3	JS-MC125-250	53347	1/8" NPT-1/4" Bore, Straight Std Pressure Quick Release Connector		
	JSPLPCK-250-250	53305	1/4" NPT Standard Pressure Quick Release Coolant 3 pcs Kit	30	400
1	JS-T250-1200	53349	1/4" OD, 30cm Long Standard Pressure Tubing		
2	JS-MC125-250	53347	1/8" NPT-1/4" Bore, Straight Std Pressure Quick Release Connector		
3	JS-MC250-250	53348	1/4" NPT-1/4" Bore, Straight Std Pressure Quick Release Connector		

High Pressure Coolant Connection 5 Pcs. Kit

Working Pressure

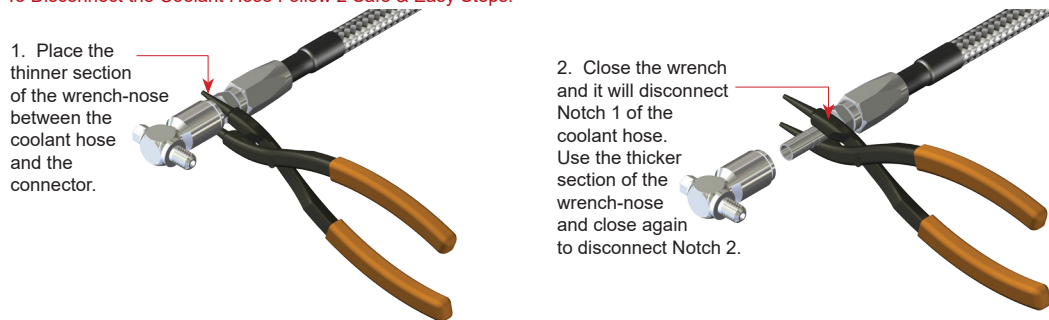


over 400 psi (30 bar)



Item	Part #	UPC #	Description	Bar	PSI
	DT-1/8 HP-QRCK	60473	1/8" NPT High Pressure Quick Release Coolant 5 pcs Kit	200	2800
1	DT-HPTU-8X4	60477	8mm High Pressure Coolant Tubing		
2	DT-HP90C-1/8x6	60479	High Pressure Quick Release Straight Intake		
3	DT-HP90C-1/8x6	60479	High Pressure Quick Release Straight Intake		
4	DT-HP90C-1/8x6	60490	1/8" NPT Straight High Pressure Quick Release Connector		
5	DT-HP90C-1/8x6	60489	1/8" NPT 90° Elbow High Pressure Quick Release Connector		
	DT-1/4 HP-QRCK	60474	1/4" NPT High Pressure Quick Release Coolant 5 pcs Kit	200	2800
1	DT-HPTU-8X4	60477	8mm High Pressure Coolant Tubing		
2	DT-HP90C-1/8x6	60479	High Pressure Quick Release Straight Intake		
3	DT-HP90C-1/8x6	60479	High Pressure Quick Release Straight Intake		
4	DT-HPOSC-1/4x6	60478	1/4" NPT Straight High Pressure Quick Release Connector		
5	DT-HP90C-1/8x6	60489	1/8" NPT 90° Elbow High Pressure Quick Release Connector		

Item	Part #	UPC #	Description
	DT-HP-PLIERS	60476	High Pressure Disconnecting Pliers

To Disconnect the Coolant Hose Follow 2 Safe & Easy Steps:



Ball-Type Coolant Nozzles Sold Separately


Acetal Material	Brass Material	Ball-Type Coolant Nozzles Size	Acetal (Hard Plastic) Material		Brass Material	
			Description	UPC #	Description	UPC #
		12mm OD, 1/8NPT ID	JSCNA-12	53354	JSCNB-12	53365
		14mm OD, 1/8NPT ID	JSCNA-14	53355	JSCNB-14	53366
		15mm OD, 1/8NPT ID	JSCNA-15	53356	JSCNB-15	53367
		22mm OD, 1/8NPT ID	JSCNA-22	53357	JSCNB-22	53368
		1/2" OD, 1/8NPT ID	JSCNA-50	53358	JSCNB-50	53369
		5/8" OD, 1/8NPT ID	JSCNA-62	53359	JSCNB-62	53370

Note: For machines that have turrets with 1/8 NPT tapped coolant holes, you do not need a ball type coolant nozzle. Ball type coolant nozzles are sold separately.

Jet-Stream™ Thru Coolant System Spare Parts


Image	Description	UPC #
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Dor-Lock Clamps for Laydown Threading holders

	60° PARTIAL PROFILE INSERT STYLE		
	JSLC-HP16R-N	53242	
	JSLC-HP16L-N	53243	
	JSLC-HP22N	53232	
		JSLC-HP27N	53234


Includes upper and lower o-rings

Dor-Lock Clamps for DorNotch Threading holders

	NT & NTP 60° INSERT STYLE		
	JSLC-HP72	53350	
	JSLC-HP73	53351	
	JSLC-HP76	53352	
		JSLC-HP77	53353


Includes upper and lower o-rings


Dor-Lock Clamps for CNMG & SNMG holders

	CNMG & SNMG INSERT STYLES		
	JSLC-HPC3-B	53250	
	JSLC-HPCTW-4N	53289	
	JSLC-HPC5	53252	
		JSLC-HPC6	53248

Includes upper and lower o-rings

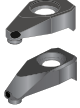
Dor-Lock Clamps for DNMG & TNMG holders

	DNMG INSERT STYLES		
	JSLC-HPD3	53253	
		JSLC-HPD4	53254

	TNMG INSERT STYLES		
	JSLC-HPDT3-BR	53268	
		JSLC-HPDT3-BL	53269


Includes upper and lower o-rings

Dor-Lock Clamps for TNMG & WNMG holders

	TNMG & WNMG INSERT STYLES		
	JSLC-HPTW3N	53261	
	JSLC-HPTW3R	53262	
	JSLC-HPTW3L	53263	
	JSLC-HPCTW-4N	53289	
	JSLC-HPTW4R	53265	
	JSLC-HPTW4L	53266	
		JSLC-HPW3-B	53270


Includes upper and lower o-rings

Dor-Lock Clamps for VNMG holders

	VNMG INSERT STYLE	
	JSLC-HPV3	53267

Includes upper and lower o-rings







NEW High Volume Turning Dor-Lock Clamp

	CNMG / TNMG / WNMG INSERT STYLES	
	JSLC-HPCTW-4N-HPV	53290

Includes upper and lower o-rings

Image	Description	UPC #
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Jet-Stream™ Shim Seats

	80° DIAMOND	JC-432	90111
	JC-533		90112
	JC-633		90118
	55° DIAMOND	JD-432	90113
	IDSN-423		90118
	35° DIAMOND	IDSN-322	90016
	JV-322		90119
	SQUARE	JS-432	90114
	JS-533		90115
	ISSN-423		90056
	TRIANGLE	JT-322	90117
	JT-433		90116
	TRIGON	IWSN-322	90070
	IWSN-423		90074
	IWSN-433		90072
	LAYDOWN SHIM SEAT	GXE/I-16	92070
	NXE/I-22		92071
	VXE/I-27		92074
	DORNOTCH SHIM SEAT	SM-420	90400

Insert Torx Screws/ Shim Screws






	INSERT SCREWS	GTS-1M	90964
	GTS-2		90966
	GTS-3		90967
	TS-35.6-9M1		90973
	TS-35.6-14M1		91303
	TS-45.75-15M1		91319
	TS-5.8-22M1		91302
	SL-344		91008
	SM-M3		53318
	SM-M3-T		53302
	SM-M6		53320
	SHIM SCREWS	SM-M66	53317
	SM-S4		53316
	SM-M4-245		53311
	SM-M4-6		53224
	SM-M4-8		53227
	SM-M4-6-245		53228

Image	Description	UPC #
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Jet-Stream™ Clamp Screws

	CLAMP SCREWS	JSCS-03	53323
	JSCS-04		53324
	JSCS-06		53326
	JSCS-04-HPV		53321

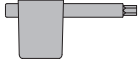
Jet-Stream™ Clamp O-Ring Seals

	UPPER "O" RINGS	JSOR-01	53315
	JSOR-03		53328
	LOWER "O" RINGS	JSOR-04	53314
	JSOR-06		53330
	JSOR-07		53327
	JSOR-08		53329
		JSOR-202	53335


Jet-Stream™ Flush Nozzle/Plug

	BORING BAR CHIP FLUSH PLUG	JSPN-M3	53339
	JSPN-M6		53334
	JSFN-M6		53313


Torx Keys

	TORX KEYS	T-10	92005
	T-20		92007


Jet-Stream™ Clamp Alignment Pin

	ALIGNMENT PIN	JSCAP-01	53325
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Jet-Stream™ Underport Nozzle

	Underport Nozzle	JSBP-M4-039	53244
	JSB PE-M4-039		53246

Jet-Stream™ Underport Seal

	UNDERPORT SEAL	JSBPS-M4-039	53245
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CARBIDE BORING BARS

Thru Coolant - High Performance

ULTIMATE RIGIDITY
MINIMIZE VIBRATIONS
HEAVY DUTY ROUGHING
VERY FINE FINISHING
BETTER SURFACE FINISH



6xD Boring Ratio (8xD for softer materials)
Superior surface finish compared to steel boring bars
All Thru Coolant Bars (Negative Insert boring bars are Jet-Stream)
12mm and above sizes have threaded ends for coolant connector

E_SVMC R/L Thru Coolant Integral Carbide Boring Bar Style M - Negative 50° Side Cutting Edge Angle for 7° positive 35° diamond VC__ inserts

Description	UPC #		Boring Ratio	Dia.	Min. Bore	Length	VC__ Insert
	Right Hand	Left Hand					
E12M-K-SVMCR/L-11	59805	59806	6:1	12	14,910	130,84	110304
E12M-R-SVMCR/L-11	59809	59810		12	14,910	205,84	
E16M-M-SVMCR/L-11	59813	59814		16	19,044	154,06	
E16M-S-SVMCR/L-11	59817	59818		16	19,044	254,06	

Inserts used: all VC__series (VCMT, VCGT, VCGW, VCGX).

E_SVXP R/L Thru Coolant Integral Carbide Boring Bar Style X - Negative 5° Back Boring Cutting Edge Angle for 11° positive 35° diamond VP__ inserts

Description	UPC #		Boring Ratio	Dia.	Min. Bore	Length	VP__ Insert
	Right Hand	Left Hand					
E16M-M-SVXPR/L-11	59861	59862	6:1	16	25,4	143,90	110304
E16M-S-SVXPR/L-11	59865	59866		16	25,4	143,90	

Inserts used: all VP__series (VPMT, VPGT).

E_SVQC R/L Thru Coolant Integral Carbide Boring Bar Style Q - Negative 17.5° End Cutting Edge Angle for 7° positive 35° diamond VC__ inserts

Description	UPC #		Boring Ratio	Dia.	Min. Bore	Length	VC__ Insert
	Right Hand	Left Hand					
E16M-M-SVQCR/L-11	59821	59822	6:1	16	21,43	150	110304
E16M-S-SVQCR/L-11	59825	59826		16	21,43	250	

Inserts used: all VC__series (VCMT, VCGT, VCGW, VCGX).

E_SWLC R/L Thru Coolant Integral Carbide Boring Bar Style L - Negative 5° End Cutting Edge Angle for 7° positive 80° trigon WC__ inserts

Description	UPC #		Boring Ratio	D	Min. Bore	Length	WC__ Insert	
	Right Hand	Left Hand						
E05M-H-SWLCR/L-02	59869	59870	6:1	5	5,21	100	S20101	
E06M-H-SWLCR/L-02	59873	59874		6	6,22	100		
E07M-H-SWLCR/L-02	59877	59878		7	8,00	100		
E08M-K-SWLCR/L-02	59881	59882		8	8,51	125		
E10M-M-SWLCR/L-04	59885	59886		10	10,06	150		
E12M-K-SWLCR/L-04	59889	59890		12	13,97	125		
E12M-R-SWLCR/L-04	59893	59894		12	13,97	200		040204
E16M-M-SWLCR/L-04	59897	59898		16	18,80	150		
E16M-S-SWLCR/L-04	59901	59902	16	18,80	250	06T308		
E12M-K-SWLCR/L-06	59905	59906	12	13,97	125			
E12M-R-SWLCR/L-06	59909	59910	12	13,97	200			
E16M-M-SWLCR/L-06	59913	59914	16	18,80	150			
E16M-S-SWLCR/L-06	59917	59918	16	18,80	250			
E20M-Q-SWLCR/L-06	60057	60058	20	23,6	180			
E20M-S-SWLCR/L-06	60059	60060	20	23,6	250	080408		
E25M-R-SWLCR/L-06	60061	60062	25	30,5	200			
E25M-T-SWLCR/L-06	60063	60064	25	30,5	300			
E32M-U-SWLCR/L-08	60065	60066	6:1	32	38,9	350		

Inserts used: all WC__series (WCMT, WCGT).

E_SVUC R/L Thru Coolant Integral Carbide Boring Bar Style Q - Negative 3° End Cutting Edge Angle for 7° positive 35° diamond VC__ inserts

Description	UPC #		Boring Ratio	Dia.	Min. Bore	Length	VC__ Insert
	Right Hand	Left Hand					
E16M-M-SVUCR/L-11	59829	59830	6:1	16	21,43	150	110304
E16M-S-SVUCR/L-11	59833	59834		16	21,43	150	

Inserts used: all VC__series (VCMT, VCGT, VCGW, VCGX).

E_SVXC R/L Thru Coolant Integral Carbide Boring Bar Style X - Negative 5° Back Boring Cutting Edge Angle for 7° positive 35° diamond VC__ inserts

Description	UPC #		Boring Ratio	Dia.	Min. Bore	Length	VC__ Insert
	Right Hand	Left Hand					
E16M-M-SVXCR/L-11	59837	59838	6:1	16	25,40	143,90	110304
E16M-S-SVXCR/L-11	59841	59842		16	25,40	143,90	

Inserts used: all VC__series (VCMT, VCGT, VCGW, VCGX).

E_SN R/L Thru Coolant Integral Carbide Threading Bar Internal Laydown Bar for Laydown Inserts

Description	UPC #		Threading Ratio	Dia.	Min. Bore	Length	Laydown Insert
	Right Hand	Left Hand					
E06M-H-SNR/L-06	59921	59922	3:1	6	6,32	100	06-A60
E07M-H-SNR/L-06	59925	59926		7	7,80	100	
E08M-K-SNR/L-08	59929	59930		8	9,60	125	08-A60
E10M-M-SNR/L-H11	59933	59934		10	12,70	150	
E12M-K-SNR/L-H11	59937	59938		12	14,99	125	11-A60
E12M-R-SNR/L-H11	59941	59942		12	14,99	200	
E16M-M-SNR/L-H16	59945	59946		16	19,04	150	16-A60
E16M-S-SNR/L-H16	59949	59950		16	19,04	250	

E_SVQP R/L Thru Coolant Integral Carbide Boring Bar Style Q - Negative 17.5° End Cutting Edge Angle for 11° positive 35° diamond VP__ inserts

Description	UPC #		Boring Ratio	Dia.	Min. Bore	Length	VP__ Insert
	Right Hand	Left Hand					
E16M-M-SVQPR/L-11	59845	59846	6:1	16	21,43	150	110304
E16M-S-SVQPR/L-11	59849	59850		16	21,43	250	

Inserts used: all VP__series (VPMT, VPGT).

E_NE R/L Thru Coolant Integral Carbide Solid Threading & Grooving Bar- Style E- Internal DorNotch Bar for threading and grooving DorNotch inserts

Description	UPC #		Threading Ratio*	Dia.	Min. Bore	Length	Dor-Notch Insert
	Right Hand	Left Hand					
E12M-K-NER/L-2	59953	59954	3:1	12	21,08	128,05	*NG-2L **NG-2R
E12M-R-NER/L-2	59957	59958		12	21,08	203,05	
E16M-M-NER/L-2	59961	59962		16	25,40	150	
E16M-S-NER/L-2	59965	59966		16	25,40	250	
E20M-Q-NER/L-2	60179	60180		20	28,6	180	
E20M-S-NER/L-2	60181	60182		20	28,6	250	

*For right hand tool. ** For left hand tool

E_SVUP R/L Thru Coolant Integral Carbide Boring Bar Style U - Negative 3° End Cutting Edge Angle for 11° positive 35° diamond VP__ inserts

Description	UPC #		Boring Ratio	Dia.	Min. Bore	Length	VP__ Insert
	Right Hand	Left Hand					
E16M-M-SVUPR/L-11	59853	59854	6:1	16	21,43	150	110304
E16M-S-SVUPR/L-11	59857	59858		16	21,43	250	

Inserts used: all VP__series (VPMT, VPGT).

E_ADCLN R/L Thru Coolant Jet-Stream™ Carbide Boring Bar Style L- Negative 5° side & end cutting lead angle for negative 80° diamond CN__ inserts

Description	UPC #			Boring Ratio	Dia.	Min. Bore	Length	CN__ Insert
	Right Hand	Left Hand						
E25M-R-ADCLNR/L-12	60073	60074			25	32,5	200	
E25M-T-ADCLNR/L-12	60075	60076	6:1		25	32,5	300	120408
E32M-U-ADCLNR/L-12	60077	60078			32	38,9	350	

Inserts used: all CN__ series (CNMG, CNMP, CNGG, CNMX, CNMM, CNMA).

E_ADWLN R/L Thru Coolant Jet-Stream™ Carbide Boring Bar Style L - Negative 5° end & side cutting lead angle for negative 80° trigon WN__ inserts

Description	UPC #			Boring Ratio	Dia.	Min. Bore	Length	WN__ Insert
	Right Hand	Left Hand						
E25M-R-ADWLNLR/L-08	60131	60132			25	32,5	200	
E25M-T-ADWLNLR/L-08	60133	60134	6:1		25	32,5	300	080408
E32M-U-ADWLNLR/L-08	60135	60136			32	38,9	350	

Inserts used: all WN__ series (WNMG, WNMA, WNGG, WNGP).

E_ADTURN R/L Thru Coolant Jet-Stream™ Carbide Boring Bar Style U- Negative 3° end cutting lead angle for negative triangle TN__ inserts

Description	UPC #			Boring Ratio	Dia.	Min. Bore	Length	TN__ Insert
	Right Hand	Left Hand						
E25M-R-ADTURNR/L-16	60085	60086			25	32,5	200	
E25M-T-ADTURNR/L-16	60087	60088	6:1		25	32,5	300	160408
E32M-U-ADTURNR/L-16	60089	60090			32	38,9	350	

Inserts used: all TN__ series (TNMG, TNMP, TNMX, TNMA).

E-ADNE R/L Thru Coolant Jet-Stream™ Carbide Threading Bar Style E- For DorNotch Threading Inserts

Description	UPC #			Threading Ratio	Dia.	Min. Bore	Length	Dor-Notch Insert
	Right Hand	Left Hand						
E25M-R-ADNER/L-3	60183	60184			25	35,1	200	
E25M-T-ADNER/L-3	60185	60186	3:1		25	35,1	300	NG-3L* NG-3R**
E32M-U-ADNER/L-3	60187	60188			32	44,5	350	

* For right hand bar ** For left hand bar

E_ADDUN R/L Thru Coolant Jet-Stream™ Carbide Boring Bar Style U- Negative 3° end cutting lead angle for negative 55° diamond DN__ inserts

Description	UPC #			Boring Ratio	Dia.	Min. Bore	Length	DN__ Insert
	Right Hand	Left Hand						
E25M-R-ADDUNR/L-11	60099	60100			25	33,0	200	
E25M-T-ADDUNR/L-11	60101	60102	6:1		25	33,0	300	
E32M-U-ADDUNR/L-15	60107	60108	6:1		32	50,8	350	150602

Inserts used: all DN__ series (DNMG, DNMP, DNMX, DNMA, DNGG).

E-ADLN R/L Thru Coolant Jet-Stream™ Carbide Threading Bar Style N- for LayDown Threading Inserts

Description	UPC #			Threading Ratio	Dia.	Min. Bore	Length	Lay-Down Insert
	Right Hand	Left Hand						
E20M-Q-ADLNR/L-16	60157	60158			20	28,4	180	
E20M-S-ADLNR/L-16	60159	60160			20	28,4	250	
E25M-R-ADLNR/L-16	60161	60162			25	34,9	200	
E25M-T-ADLNR/L-16	60163	60164	3:1		25	34,9	300	16-G60
E32M-U-ADLNR/L-16	60165	60166			32	41,1	350	
E32M-U-ADLNR/L-22	60167	60168			32	44,5	350	22-N60

* For right hand bar ** For left hand bar

E_ADDPN R/L Thru Coolant Jet-Stream™ Carbide Boring Bar Style P- Negative 27.5° end cutting lead angle for negative 55° diamond DN__ inserts

Description	UPC #			Boring Ratio	Dia.	Min. Bore	Length	DN__ Insert
	Right Hand	Left Hand						
E25M-R-ADDPNR/L-11	60115	60116			25	38,1	200	
E25M-T-ADDPNR/L-11	60117	60118	6:1		25	38,1	300	110408
E32M-U-ADDPNR/L-15	60119	60120	6:1		32	44,5	350	150602

Inserts used: all DN__ series (DNMG, DNMP, DNMX, DNMA, DNGG).

E_ADVUN R/L Thru Coolant Jet-Stream™ Carbide Boring Bar Style U - Negative 3° side cutting lead angle for negative 35° diamond VN__ inserts

Description	UPC #			Boring Ratio	Dia.	Min. Bore	Length	VN__ Gage Insert
	Right Hand	Left Hand						
E32M-U-ADVUNR/L-16	60123	60124	6:1		32	45,0	350	160408

Inserts used: all VN__ series (VNMG, VNMA, VNMP, VNGG).

High Performance Quick Change Carbide Boring Bars Body & Boring Heads

for Multi Boring and Threading Operation

1 SCLC
R/L Quick Change
Boring Bar Head
With Thru Coolant



2 SDNC
R/L Quick Change
Boring Bar Head
With Thru Coolant



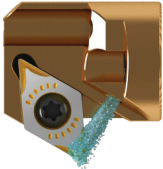
3 SDQC
R/L Quick Change
Boring Bar Head
With Thru Coolant



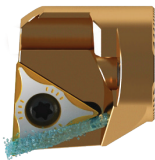
4 SDUC
R/L Quick Change
Boring Bar Head
With Thru Coolant



5 SDXC
R/L Quick Change
Boring Bar Head
With Thru Coolant



6 STUC
R/L Quick Change
Boring Bar Head
With Thru Coolant



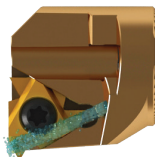
7 SVUC
R/L Quick Change
Boring Bar Head
With Thru Coolant



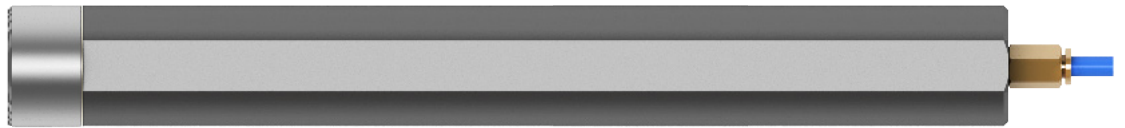
8 SWLC
R/L Quick Change
Boring Bar Head
With Thru Coolant



9 SN
R/L Quick Change
Threading Bar Head
With Thru Coolant



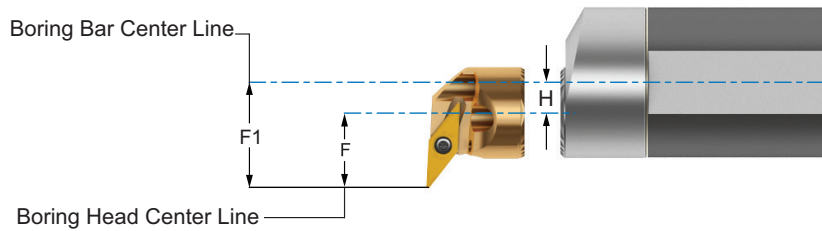
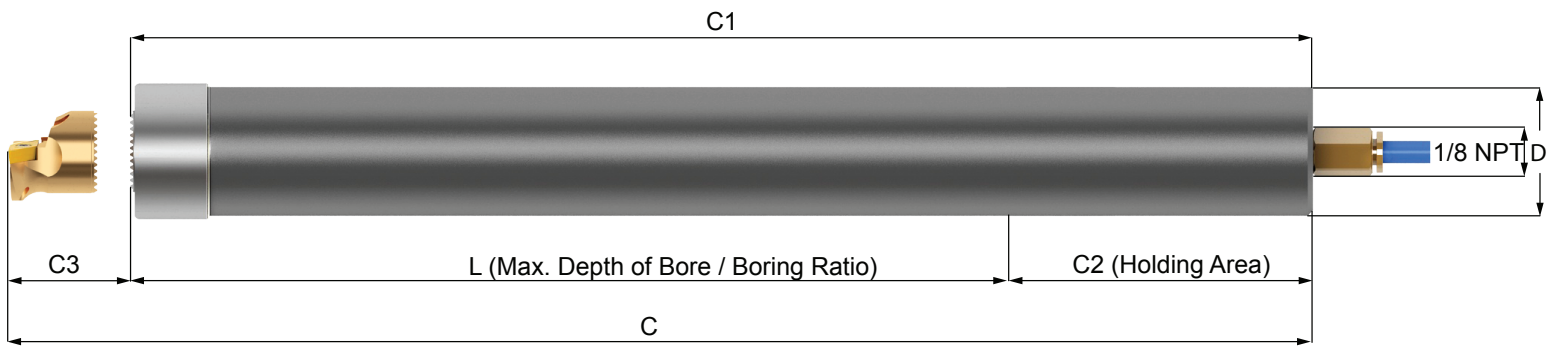
9 Interchangeable Heads



One Quick Change Carbide Body

Note: Quick Change Boring Heads will fit the Quick Change Carbide Boring Bar Body, and the Solution Tool Quick Change Boring Bar Body. For technical information see pages 34 and 35.

Thru Coolant Quick Change Carbide Boring Bar Body



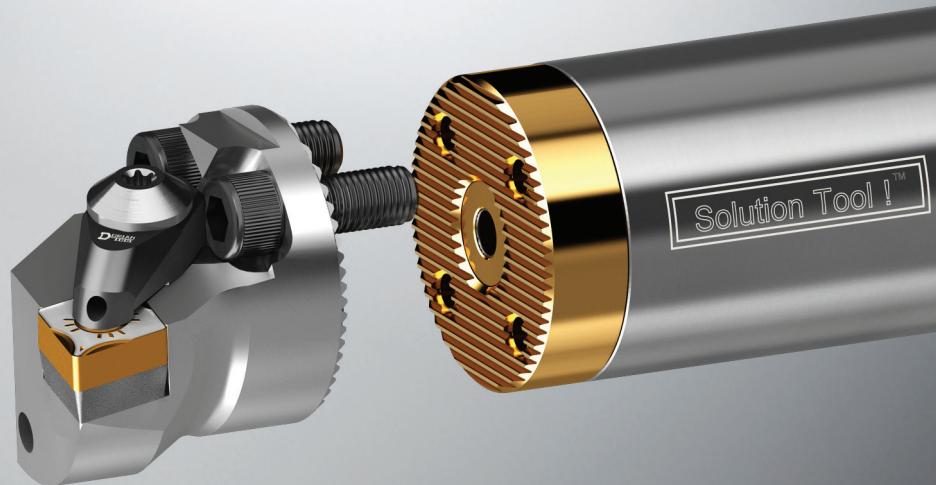
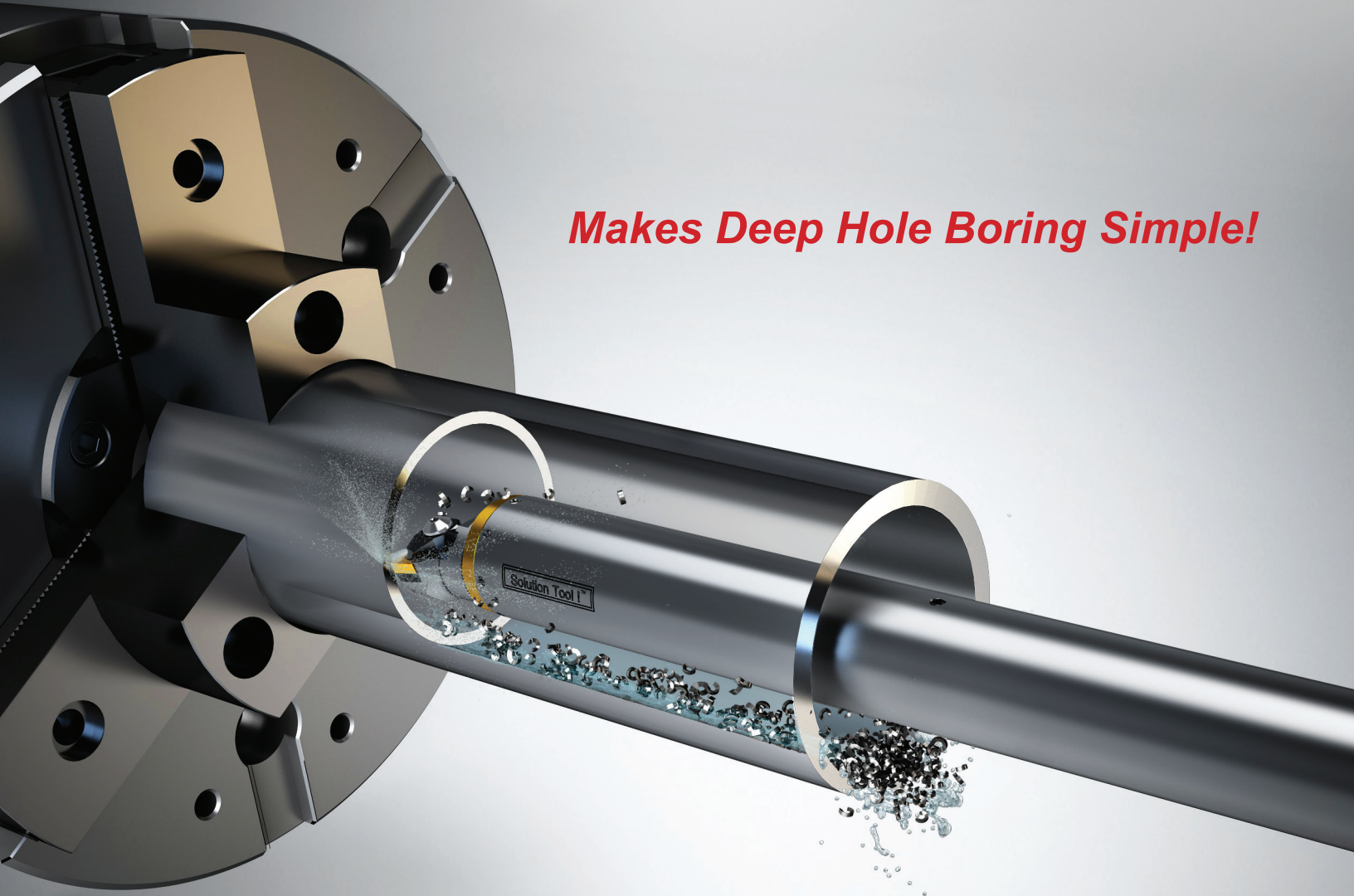
Bar Description	UPC # Neutral	Boring Ratio	Construction	Bar Dia.	Actual Min. Bore B	F1	H	L	C	C1	C2	C3	C4	Quick CHange Head
AE20M-Q-QCCBB	60581	4 x Dia.	Carbide Body	20	$F + H + (1/2 \text{ Bar Dia})$	$F1 = F + H$	0	80	176	156	96	20.3	59.7	DBOMH-12/20M
AE25M-R-QCCBB	60583			25			2.5	100	197	177	97	20.3	79.7	
AE20M-S-QCCBB	60582	6 x Dia.		20	Note: Leave enough room for chip evacuation		0	120	246	226	126	20.3	99.7	DBOMH-12/20M
AE25M-T-QCCBB	60584			25			2.5	150	297	277	147	20.3	129.7	
AE32M-U-QCCBB	60585			32			6	192	345	325	153	20.3	171.7	

8 x Dia. Boring Ratio can be achieved under favorable conditions.

Solution Tool!™

THE NO! VIBRATION RE-TUNABLE BORING BAR

Makes Deep Hole Boring Simple!



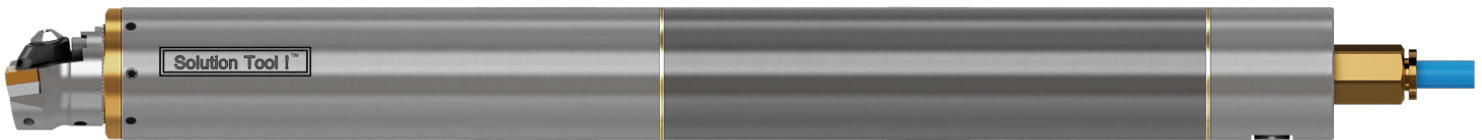
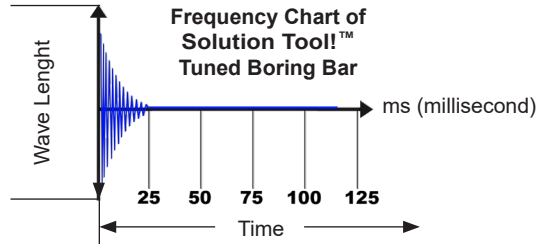
Solution Tool!™ The No! Vibration Re-Tunable Threading & Boring Bar OUTPERFORMS THE BEST



To maximize performance in deep boring operations, Solution Tool!™ is offered in 2 versions:

Steel Body: The steel body for boring depth up to 12 x Boring Bar Diameter

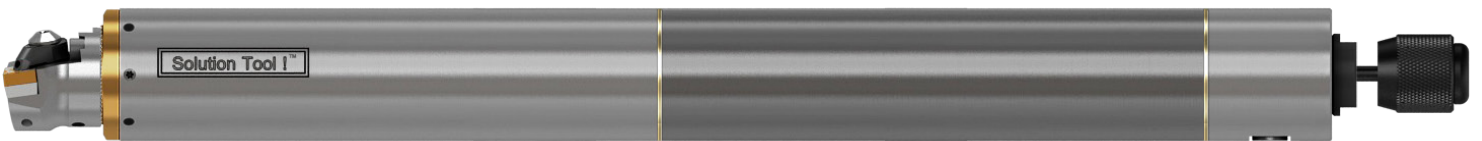
Carbide Body: The carbide body rigidity and stability, allows to bore at higher cutting rate and material removal, and longer depth of cut up to 14xD.



**Boring Bar
TUNED - TESTED - CERTIFIED
Ready to Operate**



Re-tunable Key



**When to Re-tune the Bar?
Re-tune to optimize the Bar performance**

How The Solution Tool!™ The NO! Vibration Re-Tunable Boring Bar Works?

The Solution Tool!™ is dynamically tuned, tested and certified to meet Dorian Tool Quality control standards and performance and ready to be used.

Re-Tuning The Solution Tool!™ Can be re-tuned on the machine to optimize the boring bar performance when:

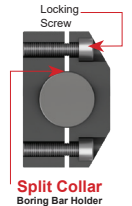
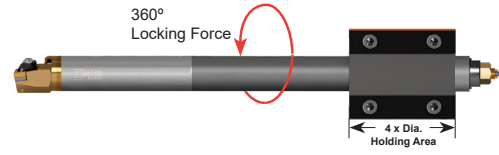
- Extreme and exotic materials change from very soft to very hard.
- Thin wall material
- Changing the boring depth. Ex: a boring bar with a 12 x Dia. Boring Ratio will be used for a shorter boring Ratio like 6 x Dia..
- Improving performance for specific machining operations such as finishing, roughing boring, threading, and grooving.

Solution Tool!™ The No! Vibration Re-Tunable Boring Bar

BEST

Split Collar Holding System Boring Bar Holding System

Locks the boring bar at 360° on the diameter, assuring the most rigid and precise boring bar positioning *Without scarring or damaging the bar surface.*

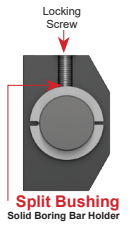
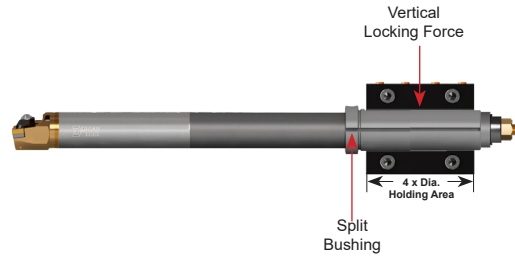


Split Collar Boring Bar Holder

GOOD

Split Bushing Holding System With a solid boring bar holder

The split bushing embraces the boring bar at 360° on the diameter. The boring bar holder screws will squeeze the bushing around the boring bar *Without scarring or damaging the bar surface with precise positioning.*



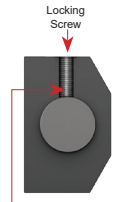
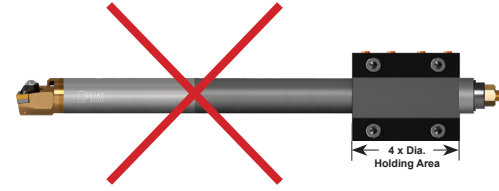
Split Bushing Solid Boring Bar Holder

DO NOT USE IT

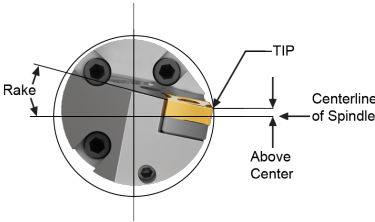
Set Screw Lock Holding System

Solid boring bar holder Without bushing

Never lock the screws directly on the boring bar. Locking a screw over the boring bar will create only one point of contact causing very poor rigidity. Additionally, the *screw will damage the boring bar surface and make positioning difficult.*



Set Screw Lock Solid Boring Bar Holder



Insert Center Line Set-Up

Due to the cutting pressure placed on the insert during deep boring, the bar flexes downward. Place the insert cutting edge above the center line by 10% of bar diameter to compensate bar deflection and to reduce vibration.
Example: 1" inch bar 1% = .010"z

Important Recommendations

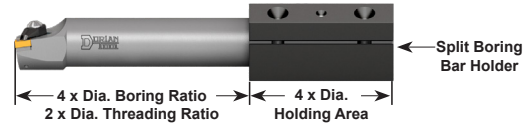
For a Roughing operation with a large depth of cut and a high feed rate, low RPM is recommended. For a Finishing operation with a small depth of cut and a low feed rate, high RPM is recommended. Minimum depth of cut is 1/2 of the insert radius. Maximum feed rate is 1/2 of the insert radius. When wrong cutting parameters are used for the specific material to be bored, and for the operation to be executed, the boring bar will not perform properly, generating poor surface finish and/or vibration.

Maximum Boring & Threading Ratio for Steel, Carbide and Solution Tool! Boring Bars

Steel Bars

- 4 x Dia. Boring Ratio
- 2 x Dia. Threading & Grooving Ratio

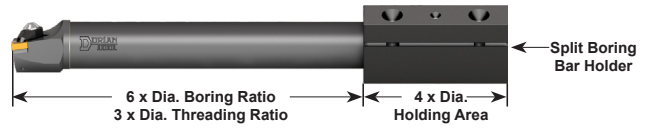
- General boring bar applications
- Roughing to Finishing



Carbide Bars

- 6 x Dia. Boring Ratio
- 3 x Dia. Threading & Grooving Ratio

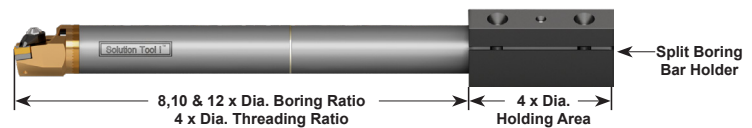
- Best for boring small holes
- Rigid for close tolerances and good surface finish
- Rigid for heavy material removal at high depth of cut and feed rate.



Solution Tool!™ (Steel Body)

- 8 x Dia., 10 x Dia., 12 x Dia. Boring Ratio
- 4 x Dia. Threading & Grooving Ratio

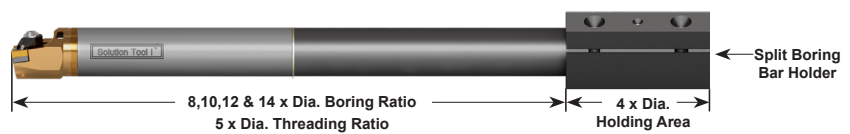
- For deep hole boring applications



Solution Tool!™ (Carbide Body)

- 8 x Dia., 10 x Dia., 12 x Dia., 14 x Dia. Boring Ratio
- 5 x Dia. Threading & Grooving Ratio

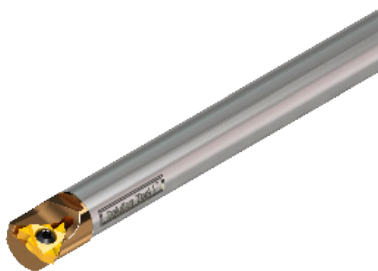
- High performance deep hole boring applications for higher material removal rate.



Solution Tool!™

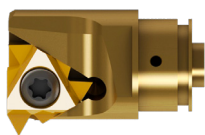
THE NO! VIBRATION RE-TUNABLE BORING BAR

for THREADING & HEAVY DUTY BORING



Integral Threading & Boring

- 12mm X 6 Dia.
- 16mm X 6 Dia.

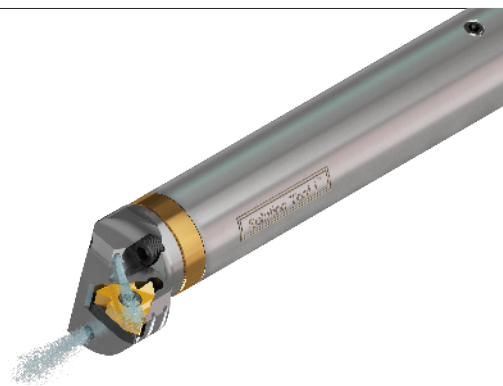


Quick Change Threading & Boring

- 20mm X 6 Dia.
- 25mm X 6 Dia.
- 32mm X 6 Dia.



Will fit all the Quick Change Boring Heads on page 34-35



Modular Jet-Stream Threading & Boring

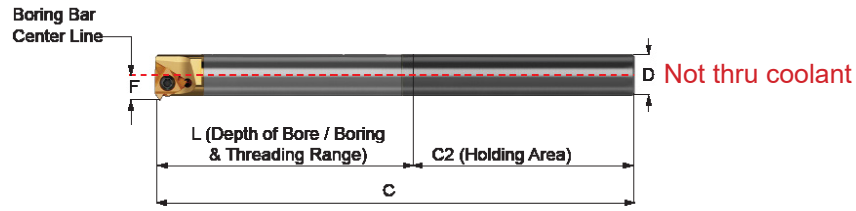
- 40mm X 6 Dia.
- 50mm X 6 Dia.
- 60mm X 6 Dia.
- 60mm X 6 Dia.
- 80mm X 6 Dia.
- 100mm X 6 Dia.



Will fit all the Modular Boring Heads on page 37-39

Solution Tool!™ The No! Vibration Re-Tunable Integral Threading & Heavy Duty Boring

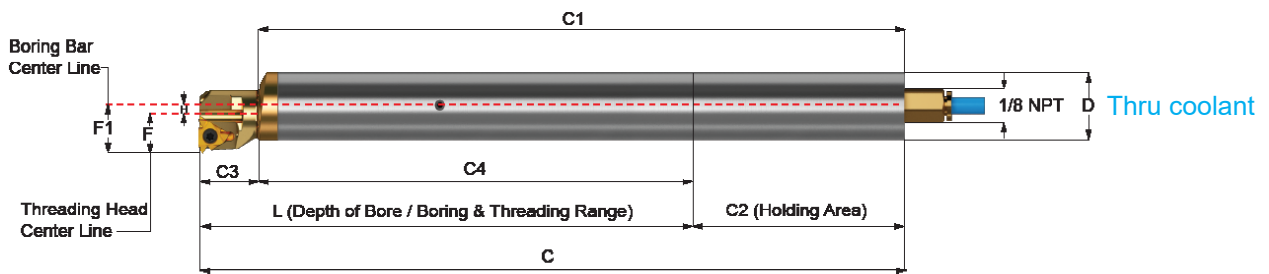
NEW
4 - 6 x Dia.



Bar Description	UPC #		Boring & Threading Ratio	Holding Ratio	Construction	Bar Dia. D	Actual Min. Bore B	F	L	C	C2	Gage Insert	Insert Screw
	R.H.	L.H.											
STM12X-06-ITBNL-11-CB	60380	60379	4 to 6 x Dia.	6 to 4	Carbide Body	12	18	9.5	48 to 72	120	72 to 48	11-A60	TS-25.4-6M2
STM16X-06-ITBNL-16-CB	60382	60381				16	22	12.5	64 to 96	160	96 to 64	16-G60	TS-35.6-9M1

Solution Tool!™ The No! Vibration Re-Tunable Quick Change Threading & Heavy Duty Boring

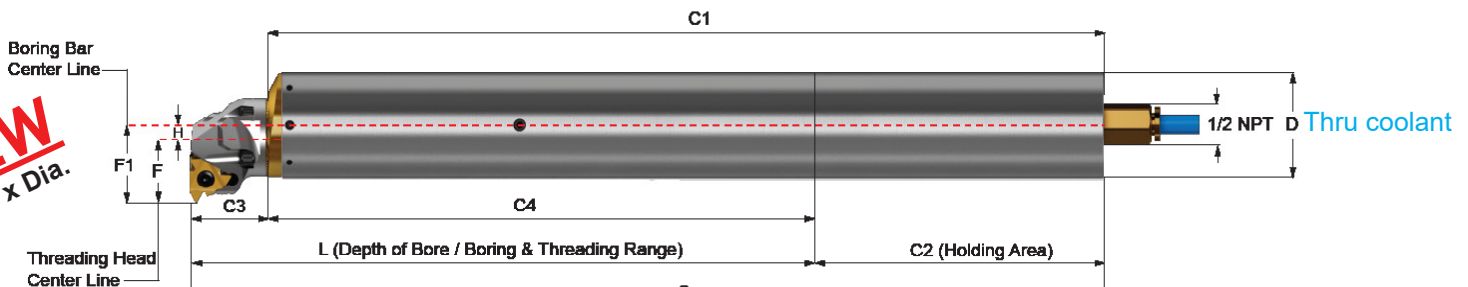
NEW
4 - 6 x Dia.



Bar Description	UPC #		Threading Boring Ratio	Holding Ratio	Construction	Bar Dia. D	Actual Min. Bore B	F1	H	L	C	C1	C2	C3	C4	Threading Head
	R.H.	L.H.														
STM20X-06-QTB120-SB	60386	-	4 to 6 x Dia.	4 to 2	Steel Body	20	$F + H + (1/2 \text{ Bar Dia})$	$F1 = F + H$	0	80 to 120	200	180	80 to 40	20	100	DBOMH-12/20M-SNR/L-16
STM25X-06-QTB150-SB	60387	-				25	Note: Leave enough room for chip evacuation		2.5	100 to 150	250	230	100 to 50	20	130	
STM32X-06-QTB200-SB	60388	-				32	6		128 to 192	320	300	128 to 64	20	172		

Solution Tool!™ The No! Vibration Re-Tunable Modular Jet-Stream Threading & Heavy Duty Boring

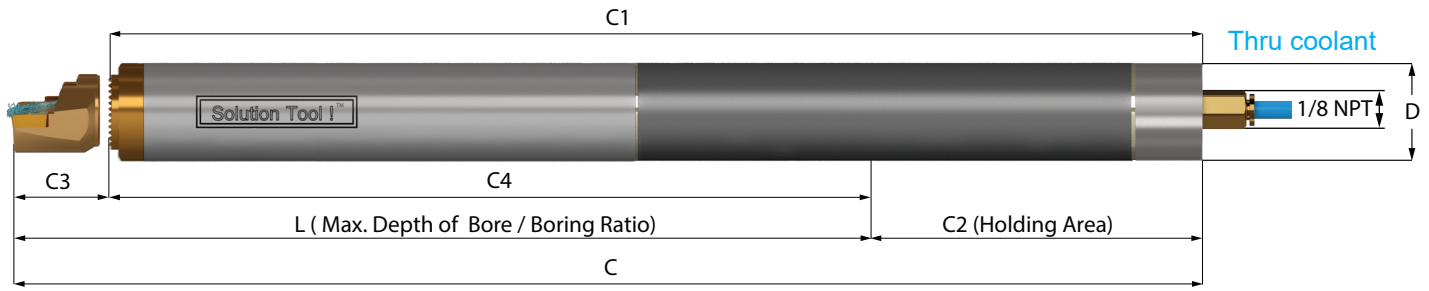
NEW
4 - 6 x Dia.



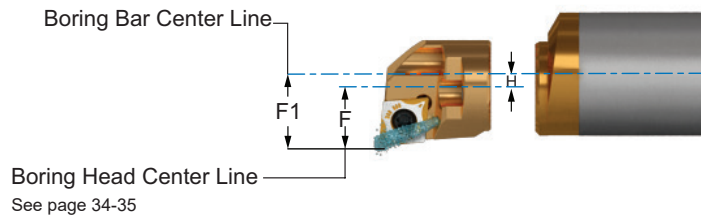
Bar Description	UPC #		Boring Ratio	Holding Ratio	Construction	Bar Dia. D	Actual Min. Bore B	F1	H	L	C	C1	C2	C3	C4	Threading Head
	R.H.	L.H.														
STM40X-06-MTB360-SB	60395		4 to 6 x Dia.	4 to 2	Steel Body	40	$B = F + H + (1/2 \text{ Bar Dia})$	$F1 = F + H$	0	160 to 240	400	360	160 to 80	40	200	DBOMH-24/40M-ADLNR/L-16
STM50X-06-MTB450-SB	60396					50			5	200 to 300	500	460	200 to 100	40	260	DBOMH-24/40M-ADLNR/L-22
STM60X-06-MTB540-SB	60397					60			10	240 to 360	600	560	240 to 120	40	320	DBOMH-24/40M-ADLNR/L-27
STM80X-06-MTB720-SB	60398					80			20	320 to 480	800	760	320 to 160	40	440	DBOMH-24/40M-ADNER/L-3
STM100X-06-MTB900-SB	60399					100			30	400 to 600	1000	960	400 to 200	40	560	DBOMH-24/40M-ADTHOR/L-4

Solution Tool!™ The No! Vibration Re-Tunable Quick Change Boring Bar

Medium Diameters 20mm, 25mm and 32mm

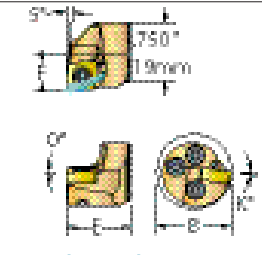
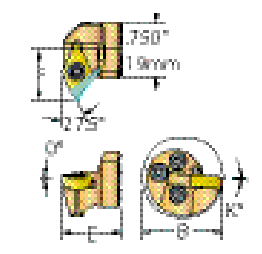
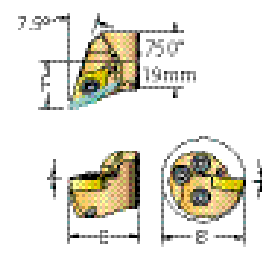
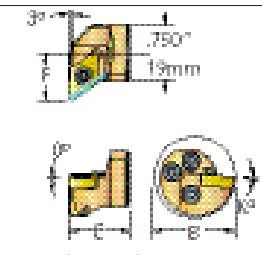
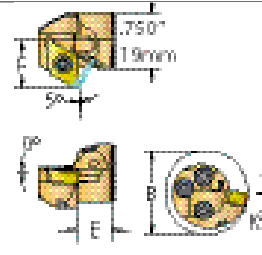


- Deep hole boring made simple
- 8xD, 10xD, 12xD and 14xD boring (overhang) ratios
- For high material removal rate, high surface finish and tight tolerances
- Bars are pre-tuned at the factory to the specific boring ratio
- Bars can be Re-tuned on the machine to optimize boring performance in challenging application

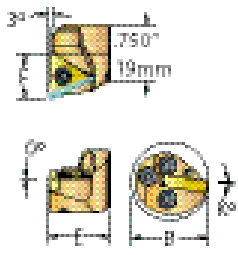


Bar Description	UPC # Neutral	Boring Ratio	Holding Ratio	Construction	Bar Dia. D	Actual Min. Bore B	F1	H	L	C	C1	C2	C3	C4	Quick Change Head	Coolant Attachment Thread
DVM20X-08-MQBBS-0240-SB	59430	8 x Dia.	4	Steel Body	20	B= F + H + (1/2 Bar Dia) Note: Leave enough room for chip evacuation	F1=F+H	0	160	240	220	80	20.3	139.7	DBOMH-12/20M	1/8"-27 NPT
DVM20X-08-MQBBS-0240-CB	60366			Carbide Body	20			0	160	240	220	80	20.3	139.7		
DVM25X-08-MQBBS-0300-SB	59345			Steel Body	25			2.5	200	300	280	100	20.3	179.7		
DVM25X-08-MQBBS-0300-CB	60368			Carbide Body	25			2.5	200	300	280	100	20.3	179.7		
DVM32X-08-MQBBS-0384-SB	59346			Steel Body	32			6	256	384	364	128	20.3	235.7		
DVM32X-08-MQBBS-0384-CB	60370			Carbide Body	32			6	256	384	364	128	20.3	235.7		
DVM20X-10-MQBBS-0280-SB	59347	10 x Dia.	4	Steel Body	20	B= F + H + (1/2 Bar Dia) Note: Leave enough room for chip evacuation	F1=F+H	0	200	280	260	80	20.3	179.7	DBOMH-12/20M	1/8"-27 NPT
DVM20X-10-MQBBS-0280-CB	60367			Carbide Body	20			0	200	280	260	80	20.3	179.7		
DVM25X-10-MQBBS-0350-SB	59431			Steel Body	25			2.5	250	350	330	100	20.3	229.7		
DVM25X-10-MQBBS-0350-CB	60369			Carbide Body	25			2.5	250	350	330	100	20.3	229.7		
DVM32X-10-MQBBS-0448-SB	59472			Steel Body	32			6	320	448	428	128	20.3	299.7		
DVM32X-10-MQBBS-0448-CB	60371			Carbide Body	32			6	320	448	428	128	20.3	299.7		
DVM20X-12-MQBBS-0320-SB	59363	12 x Dia.	4	Steel Body	20	B= F + H + (1/2 Bar Dia) Note: Leave enough room for chip evacuation	F1=F+H	0	240	320	300	80	20.3	219.7	DBOMH-12/20M	1/8"-27 NPT
DVM20X-12-MQBBS-0320-CB	59348			Carbide Body	20			0	240	320	300	80	20.3	219.7		
DVM25X-12-MQBBS-0400-SB	59364			Steel Body	25			2.5	300	400	380	100	20.3	279.7		
DVM25X-12-MQBBS-0400-CB	59395			Carbide Body	25			2.5	300	400	380	100	20.3	279.7		
DVM32X-12-MQBBS-0512-SB	59365			Steel Body	32			6	384	512	492	128	20.3	363.7		
DVM32X-12-MQBBS-0512-CB	59397			Carbide Body	32			6	384	512	492	128	20.3	363.7		
DVM20X-14-MQBBS-0360-CB	59349	14 x Dia.	4	Carbide Body	20	B= F + H + (1/2 Bar Dia) Note: Leave enough room for chip evacuation	F1=F+H	0	280	360	340	80	20.3	259.7	DBOMH-12/20M	1/8"-27 NPT
DVM25X-14-MQBBS-0450-CB	59396			Carbide Body	25			2.5	350	450	430	100	20.3	329.7		
DVM32X-14-MQBBS-0576-CB	59398			Carbide Body	32			6	448	576	556	128	20.3	427.7		

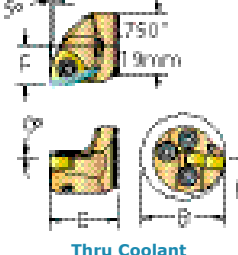
Boring Heads for Solution Tool!™ Quick Change Boring Bar 20 to 32mm

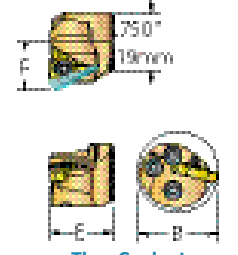
Positive Boring Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	K°	Gage Insert	Insert Torx	Torx Key	Locking Head Screw
		R.H.	L.H.									
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-SCLCR/L-3	60225	60226	20	26	21	13	8°	CC_W 09T308	TS-4.7-10M1	T-15	QCHLS-3MCS
				25	31	21	13	8°				
				32	38	21	13	8°				
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-SCLPR-3	60259	-	20	26	21	15	8°	DC_W 09T308	TS-4.7-10M1	T-15	QCHLS-3MCS
				25	31	21	15	8°				
				32	38	21	15	8°				
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-SDNCR/L-3	60229	60230	20	30	21	17	5°	DC_W 11T308	TS-4.7-10M1	T-15	QCHLS-3MCS
				25	35	21	17	5°				
				32	42	21	17	5°				
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-SDQCR/L-2	60251	60252	20	29	21	13	7°	DC_W 070204	TS-25.45-6M2	T-8	QCHLS-3MCS
				25	34	21	13	7°				
				32	41	21	13	7°				
	DBOMH-12/20M-SDQCR/L-3	60231	60232	20	29	21	16	7°	DC_W 11T308	TS-4.7-10M1	T-15	QCHLS-3MCS
				25	34	21	16	7°				
				32	41	21	16	7°				
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-SDUCR/L-2	60247	60248	20	26	21	13	6°	DC_W 070204	TS-25.45-6M2	T-8	QCHLS-3MCS
				25	27	21	13	6°				
				32	38	21	13	6°				
	DBOMH-12/20M-SDUCR/L-3	60227	60228	20	26	21	16	6°	DC_W 11T308	TS-4.7-10M1	T-15	QCHLS-3MCS
				25	32	21	16	6°				
				32	39	21	16	6°				
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-SDXCR/L-3	60233	60234	20	29	12	16	5°	DC_W 11T308	TS-4.7-10M1	T-15	QCHLS-3MCS
				25	35	12	16	5°				
				32	41	12	16	5°				

Boring Heads for Solution Tool!™ Quick Change Boring Bar 20 to 32mm

Positive Boring Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	K°	Gage Insert	Insert Torx	Torx Key	Locking Head Screw
		R.H.	L.H.									
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-STUCR/L-2	60255	60256	20	26	21	13	6°	TC_W 110204	TS-25.45-6M2	T-8	QCHLS-3MCS
				25	31	21	13	6°				
				32	38	21	13	6°				
	DBOMH-12/20M-STUCR/L-3	60235	60236	20	28	21	15	9°	TC_W 16T308	TS-4.7-10M1	T-15	QCHLS-3MCS
				25	33	21	15	9°				
				32	40	21	15	9°				

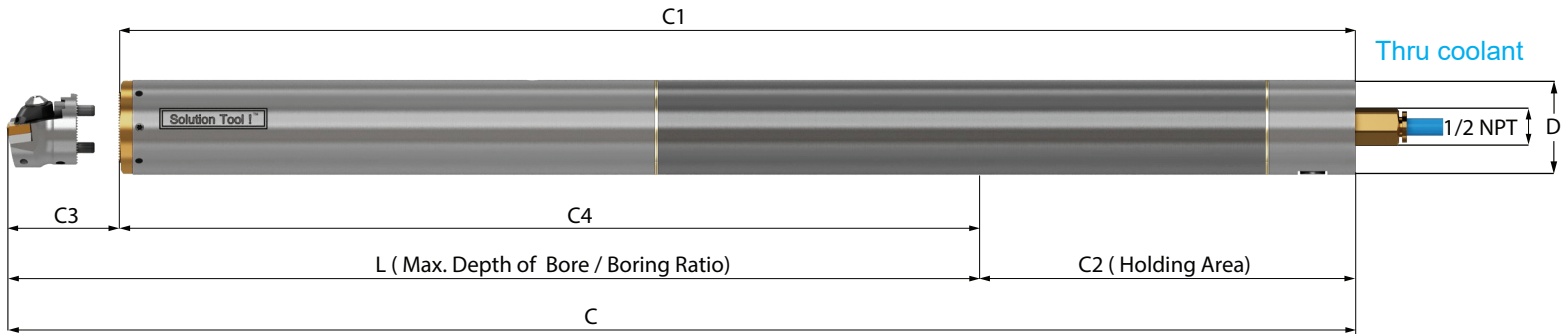
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-SVUCR/L-2	60237	60238	20	29	21	16	8°	VC_W 110304	TS-25.45-8M2	T-8	QCHLS-3MCS
				25	34	21	16	8°				
				32	41	21	16	8°				

 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-SWLCR/L-3	60241	60242	20	26	21	13	8°	WC_W 06T308	TS-4.7-10M1	T-15	QCHLS-3MCS
				25	31	21	13	8°				
				32	38	21	13	8°				

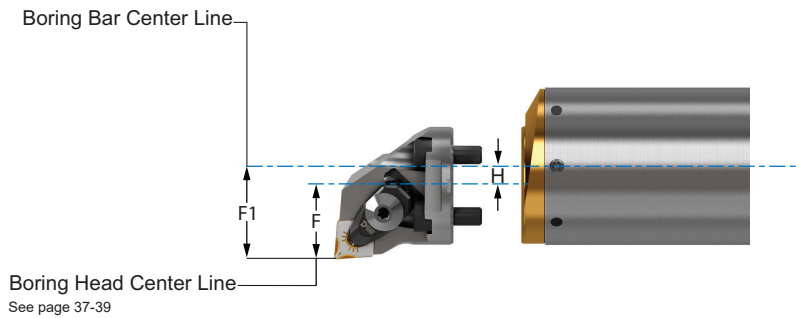
Threading Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	Gage Insert	Insert Torx	Torx Key	Locking Head Screw
		R.H.	L.H.								
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-12/20M-SNR/L-16	60243	60244	20	29	21	16	Laydown 16-A60	TS-35.6-9M1	T-15	QCHLS-3MCS
				25	34	21	16				
				32	41	21	16				

Solution Tool!™ The No! Vibration Re-Tunable Modular Jet-Stream™ Boring Bar

Diameters 40mm, 50mm, 60mm, 80mm and 100mm

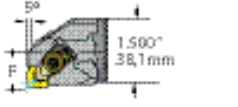
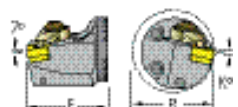
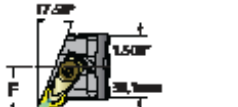
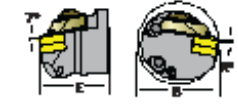
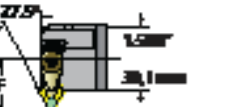
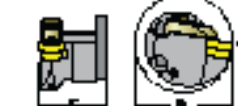


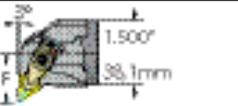
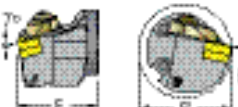
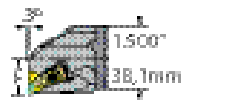
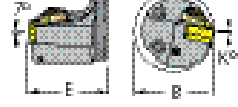


- Deep hole boring made simple
- 8xD, 10xD and 12xD boring (overhang) ratios
- For high material removal rate, high surface finish and tight tolerances
- Bars are pre-tuned at the factory to the specific boring ratio
- Bars can be Re-tuned on the machine to optimize boring performance in challenging applications

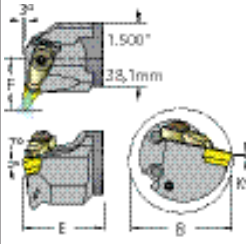
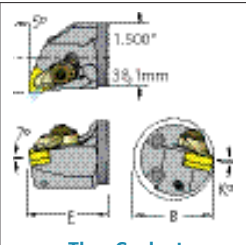


Bar Description	UPC # Neutral	Boring Ratio	Holding Ratio	Construction	Bar Dia. D	Actual Min. Bore B	F1	H	L	C	C1	C2	C3	C4	Modular Head	Coolant Attachment Thread
ASM40X-8-DVI-MBBB-0480-SB	59328	8 x Dia.	4	Steel Body	40	B = F + H + (1/2 Bar Dia) Note: Leave enough room for chip evacuation	F1=F+H	0	320	480	440	160	40	280	DBOMH24/40_A_R/L	1/4"-18 NPT
ASM50X-8-DVI-MBBB-0600-SB	59329			50	5			400	600	560	200	40	360			
ASM60X-8-DVI-MBBB-0720-SB	59330			60	10			480	720	680	240	40	440			
ASM80X-8-DVI-MBBB-0960-SB	59331			80	20			640	960	920	320	40	600			
ASM100X-8-DVI-MBBB-1200-SB	59332			100	30			800	1200	1160	400	40	760			
ASM40X-10-DVI-MBBB-0560-SB	59440	10 x Dia.	4	Steel Body	40	B = F + H + (1/2 Bar Dia) Note: Leave enough room for chip evacuation	F1=F+H	0	400	560	520	160	40	360	DBOMH24/40_A_R/L	1/4"-18 NPT
ASM50X-10-DVI-MBBB-0700-SB	59441			50	5			500	700	660	200	40	460			
ASM60X-10-DVI-MBBB-0840-SB	59442			60	10			600	840	800	240	40	560			
ASM80X-10-DVI-MBBB-1120-SB	59443			80	20			800	1120	1080	320	40	760			
ASM100X-10-DVI-MBBB-1400-SB	59444			100	30			1000	1400	1360	400	40	960			
ASM40X-12-DVI-MBBB-0640-SB	59453	12 x Dia.	4	Steel Body	40	B = F + H + (1/2 Bar Dia) Note: Leave enough room for chip evacuation	F1=F+H	0	480	640	600	160	40	440	DBOMH24/40_A_R/L	1/4"-18 NPT
ASM50X-12-DVI-MBBB-0800-SB	59454			50	5			600	800	760	200	40	560			
ASM60X-12-DVI-MBBB-0960-SB	59455			60	10			720	960	920	240	40	680			
ASM80X-12-DVI-MBBB-1280-SB	59456			80	20			960	1280	1240	320	40	920			
ASM100X-12-DVI-MBBB-1600-SB	59457			100	30			1200	1600	1560	400	40	1160			
ASM40X-14-DVI-MBBB-0720-CB	59466	14 x Dia.	4	Carbide Body	40	B = F + H + (1/2 Bar Dia) Note: Leave enough room for chip evacuation	F1=F+H	0	560	720	680	160	40	520	DBOMH24/40_A_R/L	1/4"-18 NPT
ASM50X-14-DVI-MBBB-0900-CB	59467			50	5			700	900	860	200	40	660			
ASM60X-14-DVI-MBBB-1080-CB	59468			60	10			840	1080	1040	240	40	800			
ASM80X-14-DVI-MBBB-1440-CB	59469			80	20			1120	1440	1400	320	40	1080			
ASM100X-14-DVI-MBBB-1800-CB	59470			100	30			1400	1800	1760	400	40	1360			

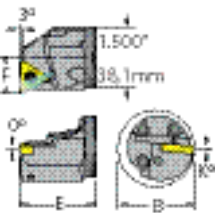
Boring Heads for Solution Tool!™ Modular Jet-Stream™ Boring Bar 40 to 100mm

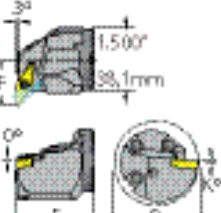
Negative Boring Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	K°	Gage Insert	Seat	Seat Screw	Jet-Stream™ Clamp	Clamp Screw	Locking Head Screw for	
		R.H.	L.H.											40mm Boring Bar	50 to 100mm Boring Bar
  Thru Coolant Right Hand Shown Left Hand Opposite	DBOMH-24/40M-ADCLNR/L-4	59507	59508	40/100	45	40	24	11°	CN_W 120408	DC-432	TS-5.8-10M1	JSLC-HPCTW-4N	JSCS-04		
															MHLS-5MCS
  Thru Coolant Right Hand Shown Left Hand Opposite	DBOMH-24/40M-ADDQNR/L-15	59478	59479	40/100	48	41	29	11°	DN_W 150608	DD-422	TS-5.8-10M2	JSLC-HPD4	JSCS-04	MHLS-5MCS	MHLS-6MCS
	  Thru Coolant Right Hand Shown Left Hand Opposite	DBOMH-24/40M-ADDNNR-15-1250	59568	-	40/100	60	45	32							
DBOMH-24/40M-ADDNNR-15-1750		59569	-	40/100	72	45	45	10°	DN_W 150608	DD-422	TS-5.8-10M2	JSLC-HPD4	JSCS-04	MHLS-5MCS	MHLS-6MCS
DBOMH-24/40M-ADDNNR-15-2250		59570	-	40/100	85	45	57								
  Thru Coolant Right Hand Shown Left Hand Opposite	DBOMH-24/40M-ADDXNR-15-1250	59555	-	40/100	60	18	32								
	DBOMH-24/40M-ADDXNR-15-1750	59559	-	40/100	72	18	45	10°	DN_W 150608	DD-422	TS-5.8-10M2	JSLC-HPD4	JSCS-04	MHLS-5MCS	MHLS-6MCS
	DBOMH-24/40M-ADDXNR-15-2250	59560	-	40/100	85	18	57								
  Thru Coolant Right Hand Shown Left Hand Opposite	DBOMH-24/40M-ADDUNR/L-15	59511	59512	40/100	57	40	29	11°	DN_W 150608	DD-422	TS-5.8-10M2	JSLC-HPD4	JSCS-04	MHLS-5MCS	MHLS-6MCS
	  Thru Coolant Right Hand Shown Left Hand Opposite	DBOMH-24/40M-ADTUNR/L-3	59515	59516	40/100	52	40	23	11°	TN_W 160408	DT-322	TS-4.7-10M1	JSLC-HPDT3-BRL	JSCS-03	
															MHLS-5MCS
	DBOMH-24/40M-ADTUNR/L-4	59517	59518	40/100	52	40	26	11°	TN_W 220408	DT-432	TS-5.8-10M1	JSLC-HPTW-4R/L	JSCS-04		

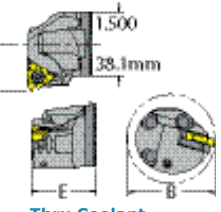
Boring Heads for Solution Tool!™ Modular Jet-Stream™ Boring Bar 40 to 100mm

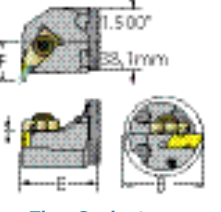
Negative Boring Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	K°	Gage Insert	Seat	Seat Screw	Jet-Stream™ Clamp	Clamp Screw	Locking Head Screw for	
		R.H.	L.H.											40mm Boring Bar	50 to 100mm Boring Bar
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ADVUNR/L-3	59521	59522	40/100	64	40	33	11°	VN_W 160408	DV-322	TS-4.7-10M1	JSLC-HPV3	JSCS-04	MHLS-5MCS	MHLS-6MCS
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ADWLNR/L-4	59525	59526	40/100	48	40	24	11°	WN_W 080408	DW-432	TS-5.8-10M1	JSLC-HPTW-4R/L	JSCS-04	MHLS-5MCS	MHLS-6MCS
Positive Boring Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	K°	Gage Insert	Insert Screw	Torx Key	Locking Head Screw for			
		R.H.	L.H.									40mm Boring Bar	50 to 100mm Boring Bar		
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ASCLCR/L-4	59529	59530	40/100	45	40	23	5°	CC_W 120408	TS-5.8-10M1	T-20	MHLS-5MCS	MHLS-6MCS		
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ASDQCR/L-3	59474	59475	40/100	54	41	27	4°	DC_W 11T308	TS-4.7-10M1	T-15	MHLS-5MCS	MHLS-6MCS		
	DBOMH-24/40M-ADSQCR/L-4	59389	59390	40/100	54	41	27	4°	DC_W 150408	TS-5.8-10M1	T-20				
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ASDUCR/L-3	59533	59534	40/100	57	40	26	4°	DC_W 11T308	TS-4.7-8M1	T-15	MHLS-5MCS	MHLS-6MCS		
	DBOMH-24/40M-ASDUCR/L-4	59535	59536	40/100	57	40	26	4°	DC_W 150408	TS-5.8-10M1	T-20				
 <p>Thru Coolant Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ASDXCR/L-3	59538	59537	40/100	57	25	26	4°	DC_W 11T308	TS-4.7-10M1	T-15	MHLS-5MCS	MHLS-6MCS		

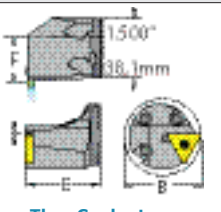
Boring Heads for Solution Tool!™ Modular Jet-Stream™ Boring Bar 40 to 100mm

Positive Boring Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	K°	Gage Insert	Insert Screw	Torx Key	Locking Head Screw for	
		R.H.	L.H.									40mm Boring Bar	50 to 100mm Boring Bar
 <p>Thru Coolant</p> <p>Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ASTUCR/L-3	59539	59540	40/100	57	40	23	5°	TC_W 16T308	TS-4.7-8M1	T-15	MHLS-5MCS	MHLS-6MCS
	DBOMH-24/40M-ASTUCR/L-4	59541	59542	40/100	57	40	23	5°	TC_W 220408	TS-5.8-10M1	T-20		

 <p>Thru Coolant</p> <p>Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ASVUCR/L-3	59545	59546	40/100	64	40	30	6°	VC_W 160408	TS-4.7-8M1	T-15	MHLS-5MCS	MHLS-6MCS
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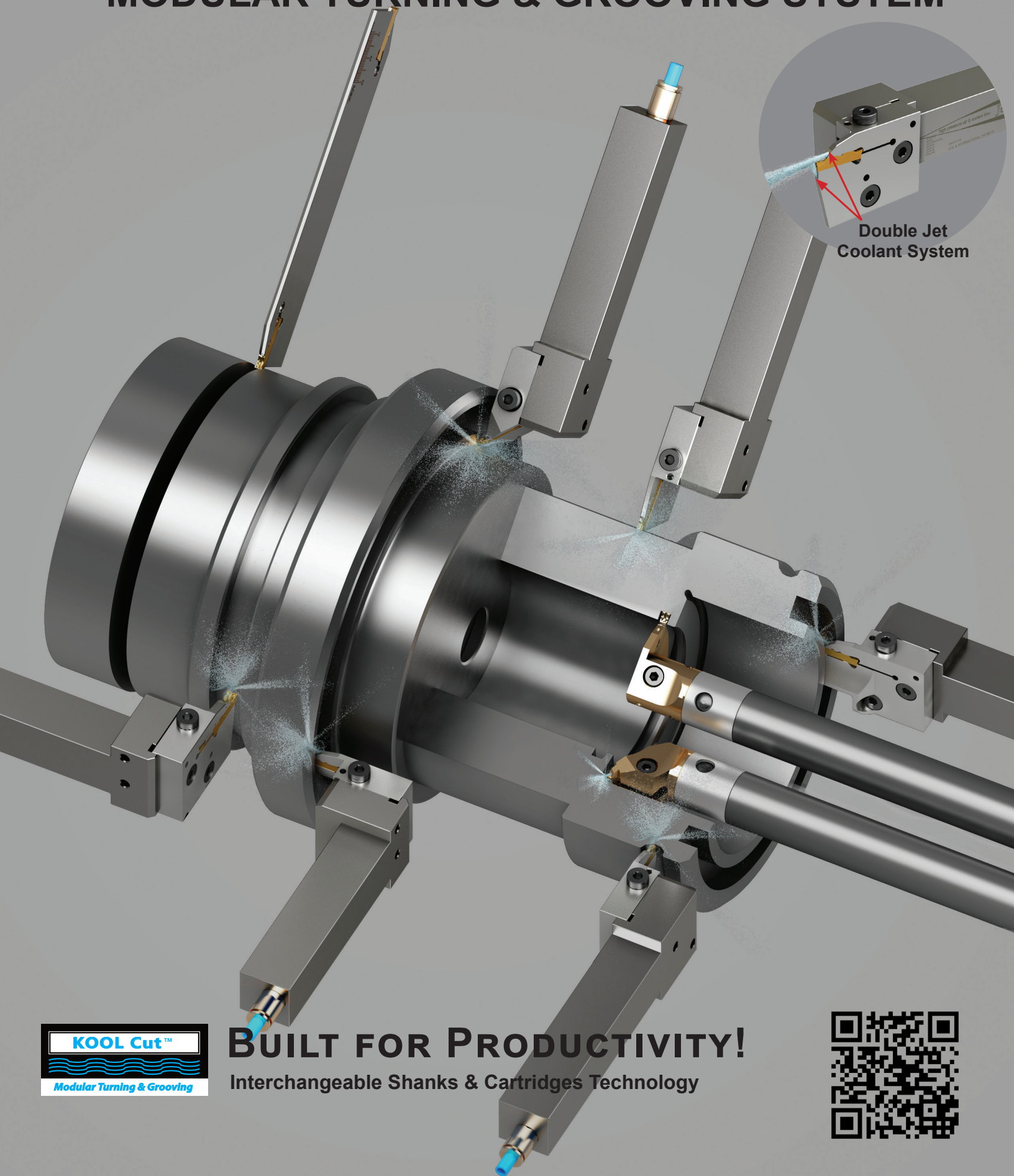
Laydown Threading Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	Gage Insert	Seat	Seat Screw	Chip Flush Nozzle	Locking Head Screw for	
		R.H.	L.H.									40mm Boring Bar	50 to 100mm Boring Bar
 <p>Thru Coolant</p> <p>Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ADLNR/L-16	59549	59550	40/100	48	38	25	Laydown 16-A60	GXE/I-16	TS-35.6-14M1	JSPN-M6	MHLS-5MCS	MHLS-6MCS
	DBOMH-24/40M-ADLNR/L-22	59553	59554	40/100	51	38	29	Laydown 22-N60	NXE/I-22	TS-45.75-15M1	JSPN-M6		
	DBOMH-24/40M-ADLNR/L-27	59551	59552	40/100	64	38	32	Laydown 27-Q60	VXE/I-27	TS-5.8-22M1	JSPN-M6	MHLS-5MCS	MHLS-6MCS

DorNotch Threading Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	Gage Insert	Jet-Stream™ Clamp	Clamp Screw	Chip Flush Nozzle	Locking Head Screw for	
		R.H.	L.H.									40mm Boring Bar	50 to 100mm Boring Bar
 <p>Thru Coolant</p> <p>Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ADNER/L-3	59557	59558	40/100	51	40	26	DorNotch NG-3L* NG-3R**	JSLC-HP73* JSLC-HP72**	JSCS-04	JSPN-M6	MHLS-5MCS	MHLS-6MCS

On edge Threading Head Specification	Head Description	UPC #		Reference Bar Dia.	B	E	F	Gage Insert	Jet-Stream™ Clamp	Clamp Screw	Chip Flush Nozzle	Locking Head Screw for	
		R.H.	L.H.									40mm Boring Bar	50 to 100mm Boring Bar
 <p>Thru Coolant</p> <p>Right Hand Shown Left Hand Opposite</p>	DBOMH-24/40M-ADTHOR/L-4	59561	59562	40/100	57	40	29	TN_W 220408	GTS-2	T-20	JSPN-M6	MHLS-5MCS	MHLS-6MCS

KOOL CUT™

MODULAR TURNING & GROOVING SYSTEM



Double Jet
Coolant System

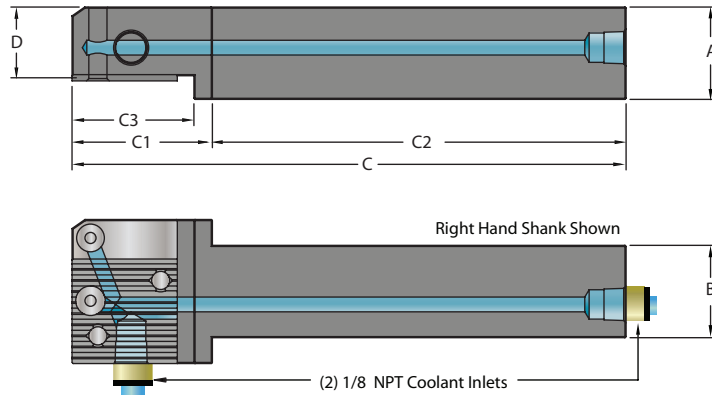
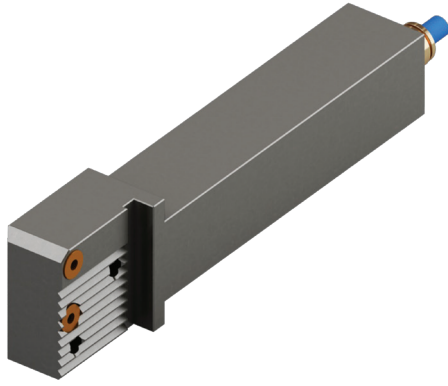


BUILT FOR PRODUCTIVITY!

Interchangeable Shanks & Cartridges Technology

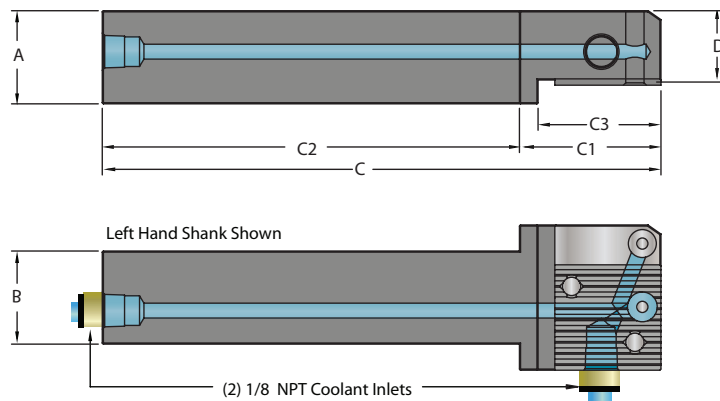
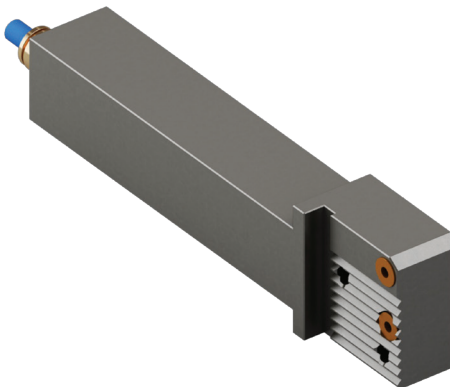


Right Hand KOOL Cut™ Modular Turning and Grooving Straight Tool holder Style Shank



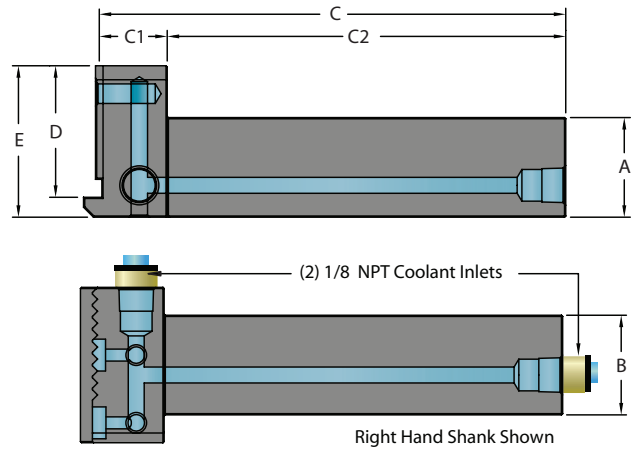
R.H. Shank Description	UPC #	Shank Size	A	B	D	C	C1	C2	C3
ADDN-MTR-2020-C	61975	20mm	20	20	15	127	38	89	33
ADDN-MTR-2525-D	61976	25mm	25	25	20	140	38	102	33
ADDN-MTR-3232-E	61977	32mm	32	32	27	152	38	114	33

Left Hand KOOL Cut™ Modular Turning and Grooving Straight Tool holder Style Shank



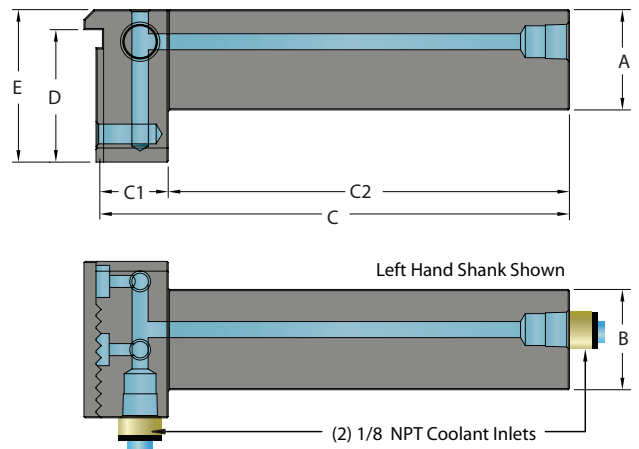
L.H. Shank Description	UPC #	Shank Size	A	B	D	C	C1	C2	C3
ADDN-MTL-2020-C	61978	20mm	20	20	15	127	38	89	33
ADDN-MTL-2525-D	61979	25mm	25	25	20	140	38	102	33
ADDN-MTL-3232-E	61980	32mm	32	32	27	152	38	114	33

Right Hand KOOL Cut™ Modular Turning and Grooving 90° Gang Tool holder Style Shank



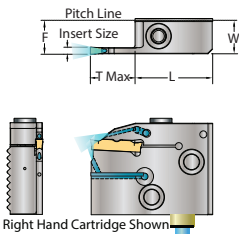
R.H. Shank Description	UPC #	Shank Size	A	B	D	E	C	C1	C2	C3
ADDN-MGR-2020-C	61984	20mm	20	20	33	38	107	18	89	33
ADDN-MGR-2525-D	61985	25mm	25	25	33	38	120	18	102	33
ADDN-MGR-3232-E	61986	32mm	32	32	33	38	132	18	114	33

Left Hand KOOL Cut™ Modular Turning and Grooving 90° Gang Tool holder Style Shank



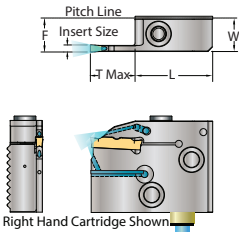
L.H. Shank Description	UPC #	Shank Size	A	B	D	E	C	C1	C2	C3
ADDN-MGL-2020-C	61981	20mm	20	20	33	38	107	18	89	33
ADDN-MGL-2525-D	61982	25mm	25	25	33	38	120	18	102	33
ADDN-MGL-3232-E	61983	32mm	32	32	33	38	132	18	114	33

Right Hand Cartridge KOOL Cut™ Modular Turning Grooving for Right Hand Tool holder



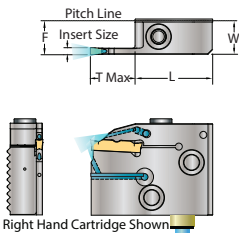
2mm Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning and Grooving

Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR20-06	61750	6	33	15,2	15	2	DNTQ-222002-3EU-N DNPG-222002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TR20-12	61751	12	33	15,2	15	2					
ADKDN-TR20-18	61752	18	33	15,2	15	2					



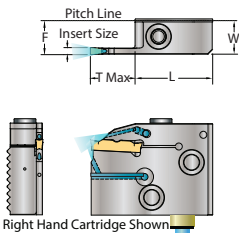
3mm Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning & Grooving

Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR30-09	61753	9	33	15,4	15	3	DNTQ-22 3003-3EU-N DNTR-22 3015-3EU-N DNPG-22 3002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TR30-18	61754	18	33	15,4	15	3					
ADKDN-TR30-27	61755	27	33	15,4	15	3					



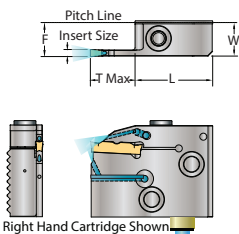
4mm Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning and Grooving

Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR40-12	61756	12	33	15,4	15	4	DNTQ-25 4004-3EU-N DNTR-25 4020-3EU-N DNPG-25 4003-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TR40-18	61757	18	33	15,4	15	4					
ADKDN-TR40-24	61758	24	33	15,4	15	4					
ADKDN-TR40-30	61759	30	33	15,4	15	4					



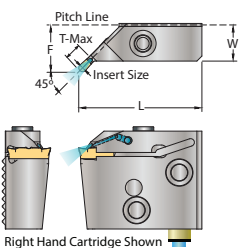
5mm Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning and Grooving

Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR50-10	61760	10	33	15,5	15	5	DNTQ-25 5004-3EU-N DNTR-25 5025-3EU-N DNPG-25 5004-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TR50-15	61761	15	33	15,5	15	5					
ADKDN-TR50-25	61762	25	33	15,5	15	5					
ADKDN-TR50-40	61763	40	33	15,5	15	5					



6mm Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning and Grooving

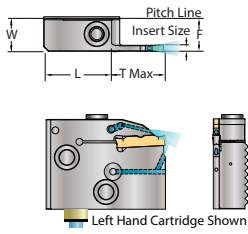
Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR60-12	61764	12	33	15,5	15	6	DNTQ-25 6004-3EU-N DNPG-25 6004-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TR60-18	61765	18	33	15,5	15	6					
ADKDN-TR60-30	61766	30	33	15,5	15	6					
ADKDN-TR60-48	61767	48	33	15,5	15	6					



3,4 and 5mm Insert Size Right Hand Cartridge KOOL Cut™ Modular 45° Grooving

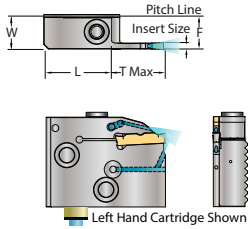
Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-UR30-06	61911	6	33	24	15	3	DNTR-223015-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-UR40-08	61912	8	33	26	15	4	DNTR-254020-3EU-N				
ADKDN-UR50-10	61913	10	33	27	15	5	DNTR-255025-3EU-N				

Left Hand Cartridge KOOL Cut™ Modular Turning Grooving for Left Hand Tool holder



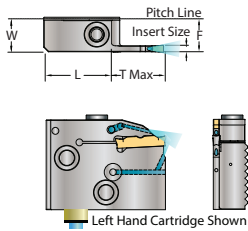
2mm Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL20-06	61768	6	33	15,2	15	2	DNTQ-22 2002-3EU-N DNPG-22 2002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL20-12	61769	12	33	15,2	15	2					
ADKDN-TL20-18	61770	18	33	15,2	15	2					



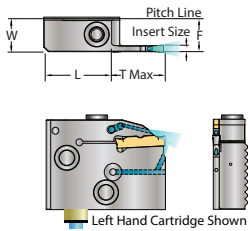
3mm Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL30-09	61771	9	33	15,3	15	3	DNTQ-22 3003-3EU-N DNTR-22 3015-3EU-N DNPG-22 3002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL30-18	61772	18	33	15,3	15	3					
ADKDN-TL30-27	61773	27	33	15,3	15	3					



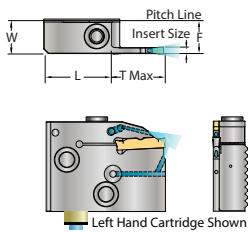
4mm Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL40-12	61774	12	33	15,4	15	4	DNTQ-25 4004-3EU-N DNTR-25 4020-3EU-N DNPG-25 4003-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL40-18	61775	18	33	15,4	15	4					
ADKDN-TL40-24	61776	24	33	15,4	15	4					
ADKDN-TL40-30	61777	30	33	15,4	15	4					



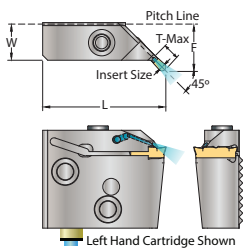
5mm Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL50-10	61778	10	33	15,5	15	5	DNTQ-25 5004-3EU-N DNTR-25 5025-3EU-N DNPG-25 5004-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL50-15	61779	15	33	15,5	15	5					
ADKDN-TL50-25	61780	25	33	15,5	15	5					
ADKDN-TL50-40	61781	40	33	15,5	15	5					



6mm Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

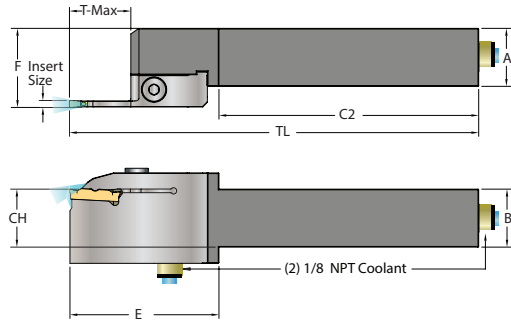
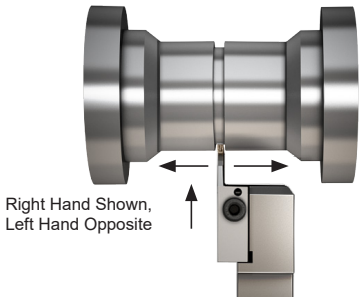
Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL60-12	61782	12	33	15,5	15	6	DNTQ-25 6004-3EU-N DNPG-25 6004-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL60-18	61783	18	33	15,5	15	6					
ADKDN-TL60-30	61784	30	33	15,5	15	6					
ADKDN-TL60-48	61785	48	33	15,5	15	6					



3,4 and 5mm Insert Size Left Hand Cartridge KOOL Cut™ Modular 45° Grooving

Description	UPC #	T. Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-UL30-06	61916	6	33	24	15	3	DNTR-22 3015-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-UL40-08	61917	8	33	26	15	4	DNTR-25 4020-3EU-N				
ADKDN-UL50-10	61918	10	33	27	15	5	DNTR-25 5025-3EU-N				

Right Hand Shank and Cartridge



TL= C2+E - Total Length

Shank Specification

A See page 41, 42

B See page 41, 42

C2 See page 41, 42

Cartridge Specification

E See page 43, 44

F See page 43, 44

T See page 43, 44

Shank

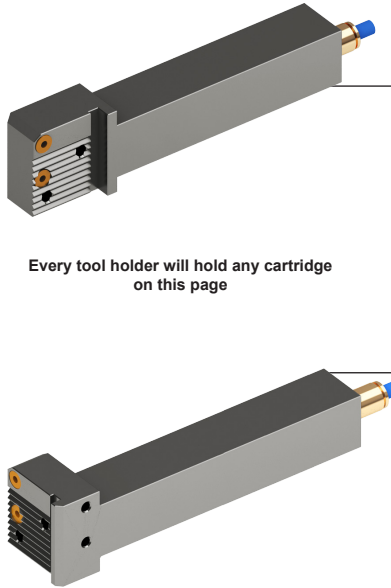
R.H. Shank Description	UPC #	Shank Size	CH Center Height
ADDN-MTR-2020-C	61975	20mm	20mm
ADDN-MTR-2525-D	61976	25mm	25mm
ADDN-MTR-3232-E	61977	32mm	32mm

Cartridge

Description	UPC #	T. Max
ADKDN-TR20-06	61750	6
ADKDN-TR20-12	61751	12
ADKDN-TR20-18	61752	18

Inserts

Description	UPC #	Size
DNTQ-22 2002-3EU-N	82440	2 x 22
DNPG-22 2002-1SR-N	82475	



2mm Size Insert

Description	UPC #	T. Max
ADKDN-TR30-09	61753	9
ADKDN-TR30-18	61754	18
ADKDN-TR30-27	61755	27

DNTQ-22 3003-3EU-N	82442	3 X 22
DNTR-22 3015-3EU-N	82459	
DNPG-22 3002-1SR-N	82476	

3mm Size Insert

Description	UPC #	T. Max
ADKDN-TR40-12	61756	12
ADKDN-TR40-18	61757	18
ADKDN-TR40-24	61758	24
ADKDN-TR40-30	61759	30

DNTQ-25 4004-3EU-N	82443	4 X 25
DNTR-25 4020-3EU-N	82460	
DNPG-25 4003-1SR-N	82477	

4mm Size Insert

Description	UPC #	T. Max
ADKDN-TR50-10	61760	10
ADKDN-TR50-15	61761	15
ADKDN-TR50-25	61762	25
ADKDN-TR50-40	61763	40

DNTQ-25 5004-3EU-N	82444	5 X 25
DNTR-25 5025-3EU-N	82461	
DNPG-25 5004-1SR-N	82478	

5mm Size Insert

Description	UPC #	T. Max
ADKDN-TR60-12	61764	12
ADKDN-TR60-18	61765	18
ADKDN-TR60-30	61766	30
ADKDN-TR60-48	61767	48

DNTQ-25 6004-3EU-N	82445	6 X 25
DNPG-25 6004-1SR-N	82479	

R.H. Shank Description	UPC #	Shank Size	CH Center Height
ADDN-MGR-2020-C	61984	20mm	20mm
ADDN-MGR-2525-D	61985	25mm	25mm
ADDN-MGR-3232-E	61986	32mm	32mm

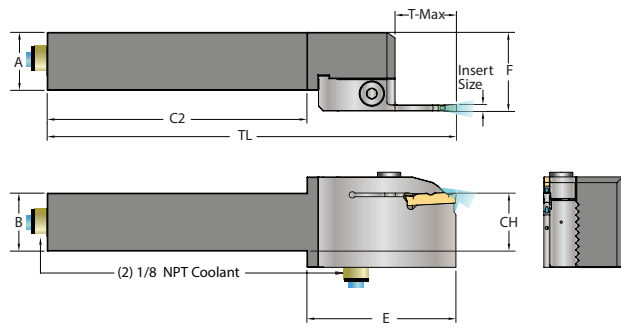
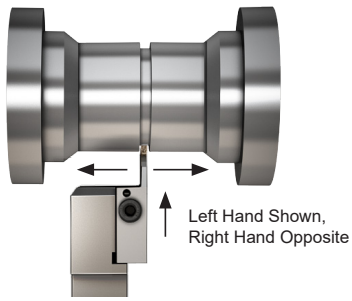
6mm Size Insert

Description	UPC #	T. Max
ADKDN-UR30-06	61911	6
ADKDN-UR40-08	61912	8
ADKDN-UR50-10	61913	10

DNTR-22 3015-3EU-N	82459	3 X 22
DNTR-25 4020-3EU-N	82460	
DNTR-25 5025-3EU-N	82461	

For grade description see page 50 and 51

Left Hand Shank and Cartridge



TL= C2+E - Total Length

Shank Specification

- A** See page 41, 42
- B** See page 41, 42
- C2** See page 41, 42

Cartridge Specification

- E** See page 43, 44
- F** See page 43, 44
- T** See page 43, 44

Shank

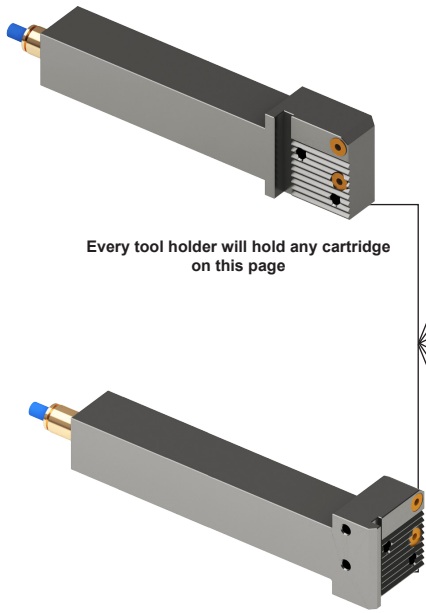
L.H. Shank Description	UPC #	Shank Size	CH Center Height
ADDN-MTL-2020-C	61978	20mm	20mm
ADDN-MTL-2525-D	61979	25mm	25mm
ADDN-MTL-3232-E	61980	32mm	32mm

Cartridge

Description	UPC #	T. Max
ADKDN-TL20-06	61768	6
ADKDN-TL20-12	61769	12
ADKDN-TL20-18	61770	18

Inserts

Description	UPC #	Size
DNTQ-22 2002-3EU-N	82440	2 x 22
DNPG-22 2002-1SR-N	82475	



Every tool holder will hold any cartridge on this page

2mm Size Insert

Description	UPC #	T. Max
ADKDN-TL30-09	61771	9
ADKDN-TL30-18	61772	18
ADKDN-TL30-27	61773	27

3mm Size Insert

Description	UPC #	T. Max
ADKDN-TL40-12	61774	12
ADKDN-TL40-18	61775	18
ADKDN-TL40-24	61776	24
ADKDN-TL40-30	61777	30

4mm Size Insert

Description	UPC #	T. Max
ADKDN-TL50-10	61778	10
ADKDN-TL50-15	61779	15
ADKDN-TL50-25	61780	25
ADKDN-TL50-40	61781	40

5mm Size Insert

Description	UPC #	T. Max
ADKDN-TL60-12	61782	12
ADKDN-TL60-18	61783	18
ADKDN-TL60-30	61784	30
ADKDN-TL60-48	61785	48

6mm Size Insert

Description	UPC #	T. Max
ADKDN-TL60-12	61782	12
ADKDN-TL60-18	61783	18
ADKDN-TL60-30	61784	30
ADKDN-TL60-48	61785	48

2 and 6mm Size Insert

Description	UPC #	T. Max
ADKDN-UL20-05	61915	5
ADKDN-UL30-06	61916	6
ADKDN-UL40-08	61917	8
ADKDN-UL50-10	61918	10
ADKDN-UL60-12	61919	12

Description	UPC #	Size
DNTQ-22 3003-3EU-N	82442	3 X 22
DNTR-22 3015-3EU-N	82459	
DNPG-22 3002-1SR-N	82476	

Description	UPC #	Size
DNTQ-25 4004-3EU-N	82443	4 X 25
DNTR-25 4020-3EU-N	82460	
DNPG-25 4003-1SR-N	82477	

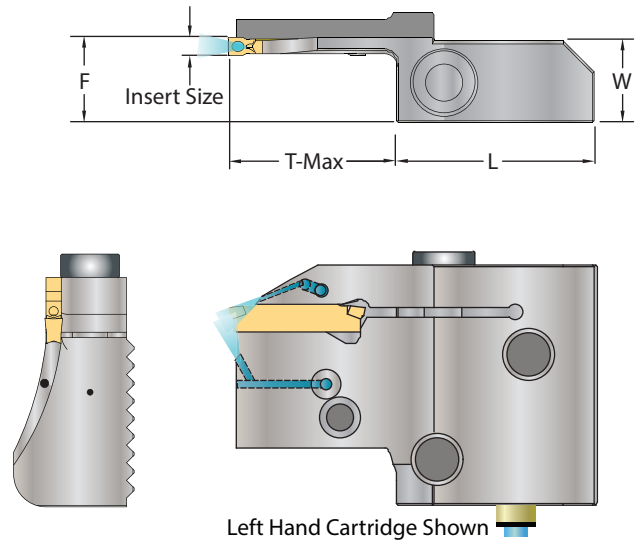
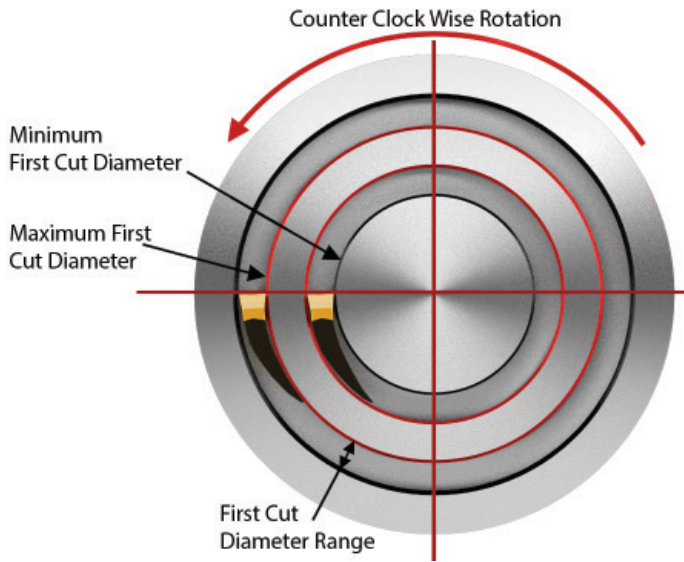
Description	UPC #	Size
DNTQ-25 5004-3EU-N	82444	5 X 25
DNTR-25 5025-3EU-N	82461	
DNPG-25 5004-1SR-N	82478	

Description	UPC #	Size
DNTQ-25 6004-3EU-N	82445	6 X 25
DNPG-25 6004-1SR-N	82479	

Description	UPC #	Size
DNTR-22 3015-3EU-N	82459	3 X 22
DNTR-25 4020-3EU-N	82460	
DNTR-25 5025-3EU-N	82461	

For grade description see page 50 and 51

Left Hand Cartridge 3mm Insert Size. Modular Face Grooving for Left Hand Tool holder



T-Max 12mm

L.H. Cartridge Description	UPC #	First Cut Diameter Min.	First Cut Diameter Max.	T-Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADCDN-FL30-022030-12	62208	22	30	12	33	16	15	3	DNTQ-223003-3EU-N DNTR-223015-3EU-N DNPG-223002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADCDN-FL30-030038-12	62209	30	38	12	33	16	15	3					
ADCDN-FL30-038048-12	62210	38	48	12	33	16	15	3					
ADCDN-FL30-048060-12	62211	48	60	12	33	16	15	3					
ADCDN-FL30-060075-12	62212	60	75	12	33	16	15	3					
ADCDN-FL30-075100-12	62213	75	100	12	33	16	15	3					
ADCDN-FL30-100200-12	62214	100	200	12	33	16	15	3					
ADCDN-FL30-200300-12	62215	200	300	12	33	16	15	3					
ADCDN-FL30-300->-12	62216	300	>	12	33	16	15	3					

T-Max 18mm

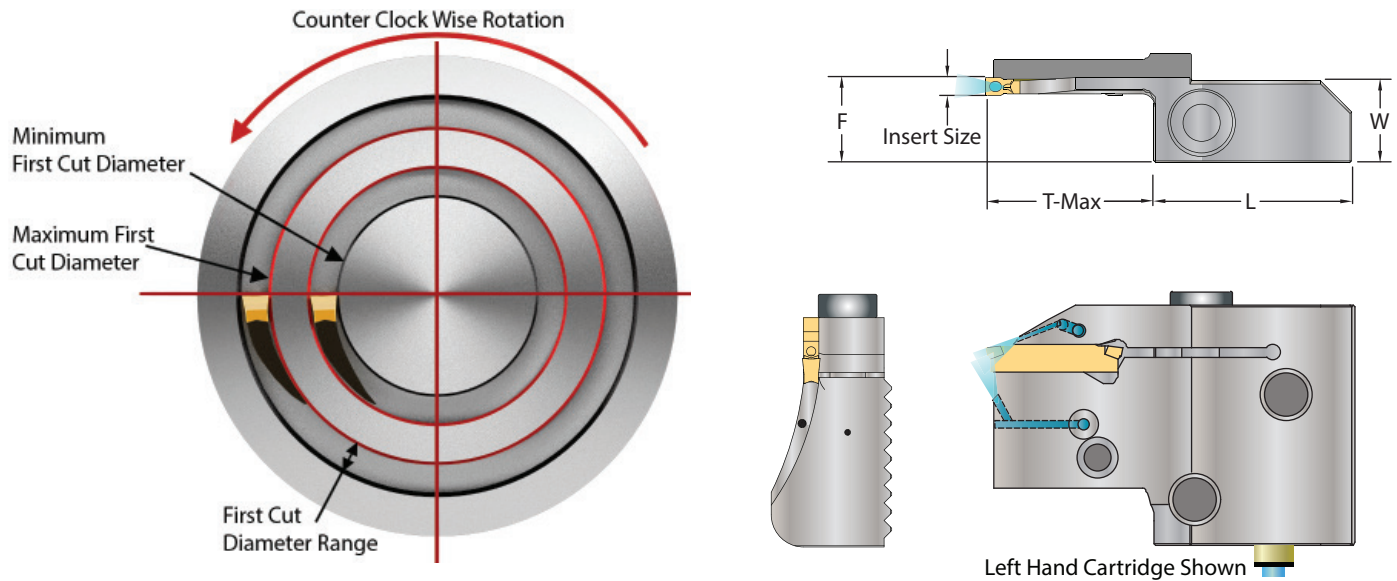
ADCDN-FL30-060075-18	62217	60	75	18	33	16	15	3	DNTQ-223003-3EU-N DNTR-223015-3EU-N DNPG-223002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADCDN-FL30-075100-18	62218	75	100	18	33	16	15	3					
ADCDN-FL30-100200-18	62219	100	200	18	33	16	15	3					
ADCDN-FL30-200300-18	62220	200	300	18	33	16	15	3					
ADCDN-FL30-300->-18	62221	300	>	18	33	16	15	3					

T-Max 24mm

ADCDN-FL30-100200-24	62222	100	200	24	33	16	15	3	DNTQ-223003-3EU-N DNTR-223015-3EU-N DNPG-223002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADCDN-FL30-200300-24	62223	200	300	24	33	16	15	3					
ADCDN-FL30-300->-24	62224	300	>	24	33	16	15	3					

For Insert specification and grade see page 50 and 51

Left Hand Cartridge 6mm Insert Size. Modular Face Grooving for Left Hand Tool holder



T-Max 13mm

L.H. Cartridge Description	UPC #	First Cut Diameter		T-Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
		Min.	Max.										
ADCDN-FL60-050075-13	62253	50	75	13	33	16	15	6	DNTQ-25 6004-3EU-N DNPG-25 6004-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADCDN-FL60-075130-13	62254	75	130	13	33	16	15	6					
ADCDN-FL60-130300-13	62255	130	300	13	33	16	15	6					
ADCDN-FL60-300500-13	62256	300	500	13	33	16	15	6					
ADCDN-FL60-500->-13	62257	500	>	13	33	16	15	6					

T-Max 26mm

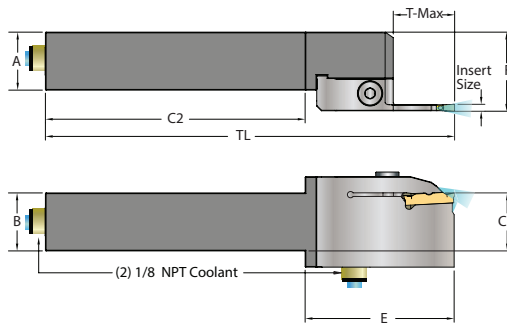
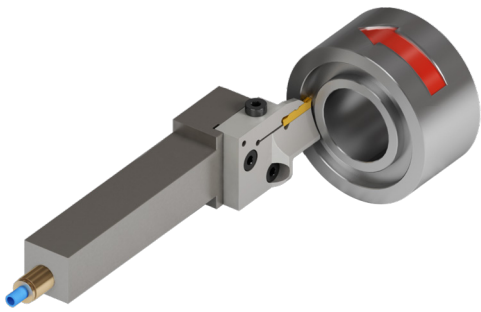
ADCDN-FL60-075130-26	62258	75	130	26	33	16	15	6	DNTQ-25 6004-3EU-N DNPG-25 6004-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADCDN-FL60-130300-26	62259	130	300	26	33	16	15	6					
ADCDN-FL60-300500-26	62260	300	500	26	33	16	15	6					
ADCDN-FL60-500->-26	62261	500	>	26	33	16	15	6					

T-Max 39mm

ADCDN-FL60-075130-39	62262	75	130	39	33	16	15	6	DNTQ-25 6004-3EU-N DNPG-25 6004-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADCDN-FL60-130300-39	62263	130	300	39	33	16	15	6					
ADCDN-FL60-300500-39	62264	300	500	39	33	16	15	6					
ADCDN-FL60-500->-39	62265	500	>	39	33	16	15	6					

For Insert specification and grade see page 50 and 51

Left Hand Kool Cut™ Modular Facing & Grooving System



TL= C2+E - Total Length

Shank Specification

A See page 41, 42
B See page 41, 42
C2 See page 41, 42

Cartridge Specification

E See page 47, 48
F See page 47, 48
T See page 47, 48

Shank

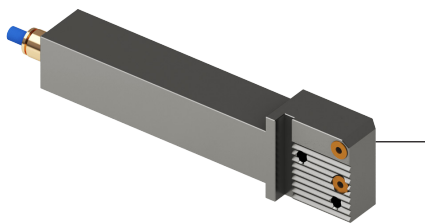
L.H. Shank Description	UPC #	Shank Size	CH Center Height
ADDN-MTL-2020-C	61978	20mm	20mm
ADDN-MTL-2525-D	61979	25mm	25mm
ADDN-MTL-3232-E	61980	32mm	32mm

Cartridge

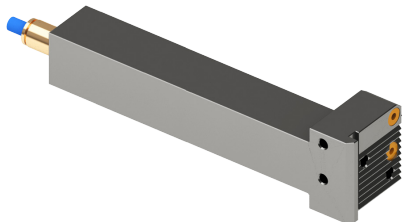
Description	UPC #	T. Max
ADCDN-FL30-022030-12	62208	12
ADCDN-FL30-030038-12	62209	12
ADCDN-FL30-038048-12	62210	12
ADCDN-FL30-048060-12	62211	12
ADCDN-FL30-060075-12	62212	12
ADCDN-FL30-075100-12	62213	12
ADCDN-FL30-100200-12	62214	12
ADCDN-FL30-200300-12	62215	12
ADCDN-FL30-300->12	62216	12

Inserts

Description	UPC #	Size
DNTQ-22 3003-3EU-N	82442	
DNTR-22 3015-3EU-N	82459	3mm
DNPG-22 3002-1SR-N	82476	



Every tool holder will hold any cartridge on this page



3mm Size Insert

3mm Size Insert

3mm Size Insert

6mm Size Insert

6mm Size Insert

6mm Size Insert

ADCDN-FL30-060075-18	62217	18
ADCDN-FL30-075100-18	62218	18
ADCDN-FL30-100200-18	62219	18
ADCDN-FL30-200300-18	62220	18
ADCDN-FL30-300->18	62221	18

ADCDN-FL30-100200-24	62222	24
ADCDN-FL30-200300-24	62223	24
ADCDN-FL30-300->-24	62224	24

ADCDN-FL60-050075-13	62253	13
ADCDN-FL60-075130-13	62254	13
ADCDN-FL60-130300-13	62255	13
ADCDN-FL60-300500-13	62256	13
ADCDN-FL60-500->-13	62257	13

ADCDN-FL60-075130-26	62258	26
ADCDN-FL60-130300-26	62259	26
ADCDN-FL60-300500-26	62260	26
ADCDN-FL60-500->-26	62261	26

ADCDN-FL60-075130-39	62262	39
ADCDN-FL60-130300-39	62263	39
ADCDN-FL60-300500-39	62264	39
ADCDN-FL60-500->-39	62265	39

DNTQ-22 3003-3EU-N	82442	
DNTR-22 3015-3EU-N	82459	3mm
DNPG-22 3002-1SR-N	82476	

DNTQ-22 3003-3EU-N	82442	
DNTR-22 3015-3EU-N	82459	3mm
DNPG-22 3002-1SR-N	82476	


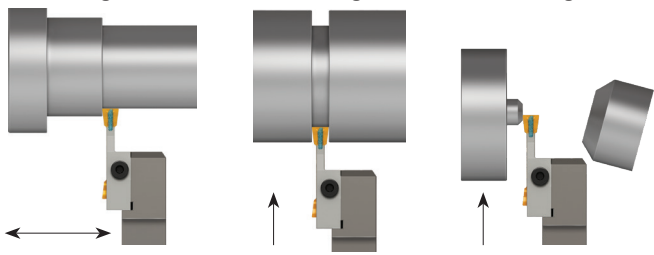
DNTQ-25 6004-3EU-N	82445	6mm
DNPG-25 6004-1SR-N	82479	

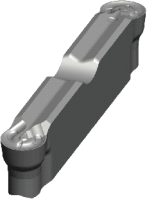
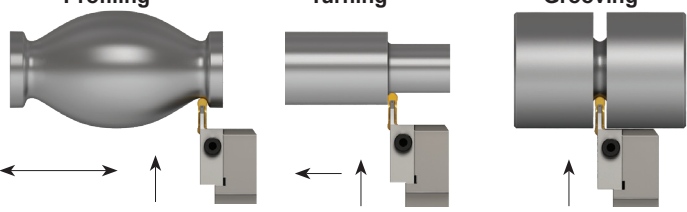
DNTQ-25 6004-3EU-N	82445	6mm
DNPG-25 6004-1SR-N	82479	



DNTQ-25 6004-3EU-N	82445	6mm
DNPG-25 6004-1SR-N	82479	

For grade description see page 50 and 51

Turning & Grooving Insert Grades

Insert Specification						Insert Application														
Double-End Cutting Edge DNTQ-N-_____DUP25UG Neutral Straight Nose Multi-Cutting Direction Right Hand and Left Hand																				
Cutting Data																				
Insert Dimension			Maximum a_p Depth of Cut for Turning	Maximum f_n Feed Rate for Turning, Grooving and Parting-off																
Width	Length	Radius	mm	i/rev.	mm/rev															
2mm	22mm	0,002	1,00	0,006	0,15															
3mm	22mm	0,003	1,50	0,008	0,20															
4mm	25mm	0,004	2,00	0,009	0,23															
5mm	25mm	0,004	2,50	0,010	0,25															
6mm	25mm	0,004	3,00	0,012	0,30															
						Turning Grooving Parting-Off														
																				
						Insert Geometry, Material Application														
						<table border="1"> <tr> <td style="background-color: #00aaff; color: white;">Steel</td> <td style="background-color: #ffff00; color: black;">Stainless Steel</td> <td style="background-color: #ff0000; color: white;">Cast Iron</td> <td style="background-color: #00ff00; color: white;">Non Ferrous</td> <td style="background-color: #ff00ff; color: white;">Super Alloys</td> </tr> <tr> <td style="text-align: center;">●</td> <td style="text-align: center;">●</td> <td style="text-align: center;">●</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> </tr> </table>					Steel	Stainless Steel	Cast Iron	Non Ferrous	Super Alloys	●	●	●	○	○
Steel	Stainless Steel	Cast Iron	Non Ferrous	Super Alloys																
●	●	●	○	○																
						● First Choice Grade ○ Second Best														

Insert Specification						Insert Application														
Double-End Cutting Edge DNTR-N-_____DUP25UG Neutral Round Nose Multi-Cutting Direction Right Hand and Left Hand																				
Cutting Data																				
Insert Dimension			Maximum a_p Depth of Cut for Turning	Maximum f_n Feed Rate for Turning, Grooving and Parting-off																
Width	Length	Radius	mm	i/rev.	mm/rev															
3mm	22mm	1,5mm	1,50mm	0,012	0,30															
4mm	25mm	2,0mm	2,00mm	0,014	0,35															
5mm	25mm	3,0mm	2,50mm	0,016	0,40															
						Profiling Turning Grooving														
																				
						Insert Geometry, Material Application														
						<table border="1"> <tr> <td style="background-color: #00aaff; color: white;">Steel</td> <td style="background-color: #ffff00; color: black;">Stainless Steel</td> <td style="background-color: #ff0000; color: white;">Cast Iron</td> <td style="background-color: #00ff00; color: white;">Non Ferrous</td> <td style="background-color: #ff00ff; color: white;">Super Alloys</td> </tr> <tr> <td style="text-align: center;">●</td> <td style="text-align: center;">●</td> <td style="text-align: center;">●</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> </tr> </table>					Steel	Stainless Steel	Cast Iron	Non Ferrous	Super Alloys	●	●	●	○	○
Steel	Stainless Steel	Cast Iron	Non Ferrous	Super Alloys																
●	●	●	○	○																
						● First Choice Grade ○ Second Best														

Insert Specification						Insert Application														
Double-End Cutting Edge DNPNG-N/R/L-_____DPP40SG Straight Right and Left Nose Multi Parting off Direction Straight, Right Hand and Left Hand																				
Cutting Data																				
Insert Dimension						Maximum f_n Feed Rate for Parting-off														
Width	Length	Radius				i/rev.	mm/rev													
2mm	22mm	0.002				0.006	0.15													
3mm	22mm	0.003				0.008	0.20													
4mm	25mm	0.004				0.089	2.25													
5mm	25mm	0.004				0.108	2.75													
6mm	25mm	0.004				0.012	0.30													
						Grooving Parting-Off														
																				
						Insert Geometry, Material Application														
						<table border="1"> <tr> <td style="background-color: #00aaff; color: white;">Steel</td> <td style="background-color: #ffff00; color: black;">Stainless Steel</td> <td style="background-color: #ff0000; color: white;">Cast Iron</td> <td style="background-color: #00ff00; color: white;">Non Ferrous</td> <td style="background-color: #ff00ff; color: white;">Super Alloys</td> </tr> <tr> <td style="text-align: center;">●</td> <td style="text-align: center;">●</td> <td style="text-align: center;">●</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> </tr> </table>					Steel	Stainless Steel	Cast Iron	Non Ferrous	Super Alloys	●	●	●	○	○
Steel	Stainless Steel	Cast Iron	Non Ferrous	Super Alloys																
●	●	●	○	○																
						● First Choice Grade ○ Second Best														

Turning & Grooving Insert Grades

DUP25UG					
Material		V _c (SFM)			
Steel		F/min.		m/min.	
P	Carbon Steel	363	627	110	190
	Low Alloy Steel	363	594	110	180
	High Temp Alloys	231	528	70	160
M	Ferritic	396	660	120	200
	Austenitic	330	561	100	170
	Duplex	231	363	70	110
	Martensitic	198	297	60	90
K	Gray Cast Iron	330	660	100	200
	Modular Cast Iron	330	594	100	180
	Malleable Cast Iron	264	528	80	160
N	Unleaded Copper	373	825	113	250
	Brass	663	1472	201	446
	Unleaded Bronze	287	495	87	150
S	Iron Base	86	172	26	52
	Nickel Base	53	116	16	35
	Titanium	198	429	60	130

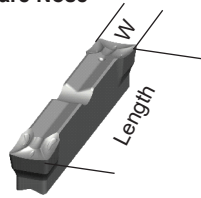
DPP40SG					
Material		V _c (SFM)			
Steel		F/min.		m/min.	
P	Carbon Steel	264	495	80	150
	Low Alloy Steel	231	396	70	120
	High Temp Alloys	198	330	60	100
M	Ferritic	330	594	100	180
	Austenitic	264	495	80	150
	Duplex	231	363	70	110
	Martensitic	198	297	60	90
K	Gray Cast Iron	264	561	80	170
	Modular Cast Iron	297	495	90	150
	Malleable Cast Iron	231	462	70	140
N	Unleaded Copper				
	Brass				
	Unleaded Bronze				
S	Iron Base				
	Nickel Base				
	Titanium				

DUP25UG	HC-P25/M25 K30 N30 S30	Coated	PVD-TiAlN 4μm
Insert Characteristics	Hard, Wear, Abrasive and impact Resistant		
First Choice Application	Universal Multi Purpose Turning and Grooving Application; for Carbon Steel, Alloy Steel & Stainless Steel, Cast Iron, High Temp Alloys, non Ferrous Materials		
Cutting Speed SFM (Vc)	High Cutting Speed in stable Turning and Grooving conditions, light interrupted cut		
Cutting Condition	Wet		

DPP40SG	HC-P45/M45	Multi Coated	PVD-TiAlN 7μm
Insert Characteristics	Extremely Tough and Impact Resistant Substrate		
First Choice Application	For Very Difficult Turning and Grooving Application; for Forgings and Castings of Carbon Steel, Alloy Steel, Stainless Steel and Cast Iron		
Cutting Speed SFM (Vc)	Low to Medium Cutting Speed in unstable conditions and heavy interrupted cut		
Cutting Condition	Wet		

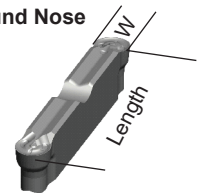
Inserts Specification

“T” Square Nose



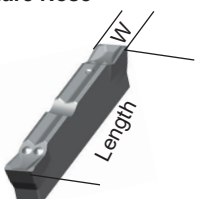
UPC #	Application	Part Number	Insert Size		Grade
			Width	Length	
82440	Neutral Turning Grooving Parting-Off	DNTQ-22 2002-3EU-N DUP25UG	2mm	22mm	DUP25UG
82442		DNTQ-22 3003-3EU-N DUP25UG	3mm	25mm	
82443		DNTQ-25 4004-3EU-N DUP25UG	4mm	25mm	
82444		DNTQ-25 5004-3EU-N DUP25UG	5mm	25mm	
82445		DNTQ-25 6004-3EU-N DUP25UG	6mm	25mm	

“R” Round Nose



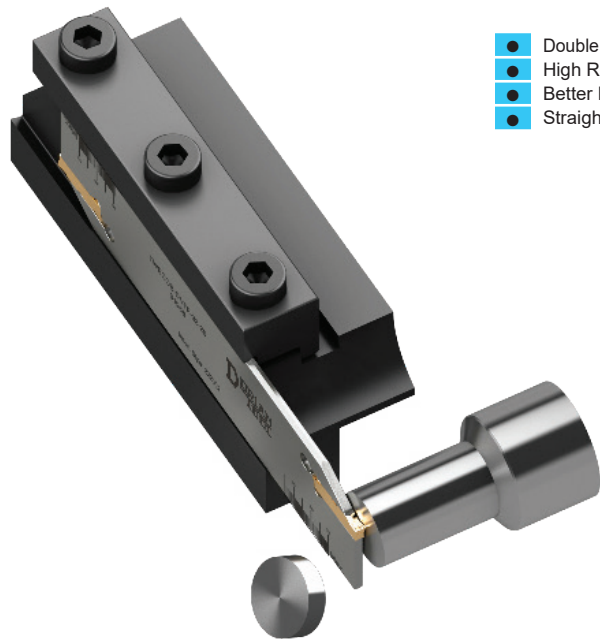
UPC #	Application	Part Number	Insert Size		Radius	Grade
			Width	Length		
82459	Profiling Turning Grooving	DNTR-22 3015-3EU-N DUP25UG	3mm	22mm	1.5	DUP25UG
82460		DNTR-25 4020-3EU-N DUP25UG	4mm	25mm	2.0	
82461		DNTR-25 5025-3EU-N DUP25UG	5mm	25mm	2.5	

“G” Square Nose

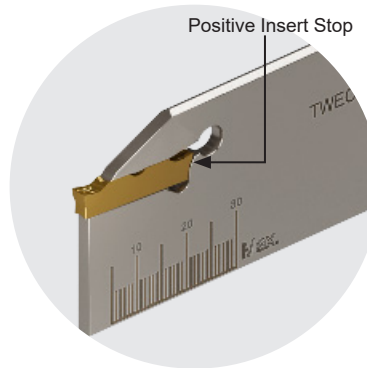


UPC #	Application	Part Number	Insert Size		Grade
			Width	Length	
82475	Grooving Parting-Off	DNPG-22 2002-1SR-N DPP40SG	2mm	22mm	DPP40SG
82476		DNPG-22 3002-1SR-N DPP40SG	3mm	22mm	
82477		DNPG-25 4003-1SR-N DPP40SG	4mm	25mm	
82478		DNPG-25 5004-1SR-N DPP40SG	5mm	25mm	
82479		DNPG-25 6004-1SR-N DPP40SG	6mm	25mm	

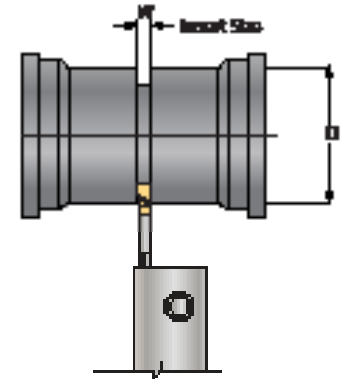
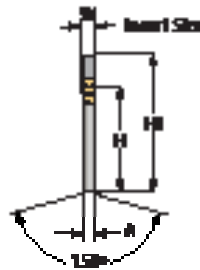
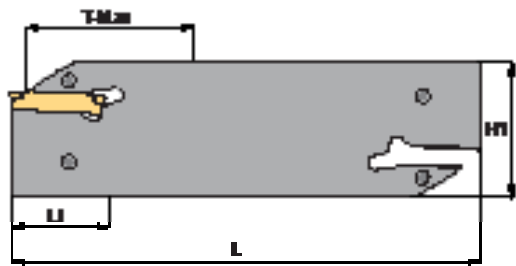
Kool Cut™ Twin Edge Parting-Off Insert Blades *Neutral*



- Double Cutting Edge
- High Rigidity
- Better Finish
- Straight Cut



Double "V"
Locking System



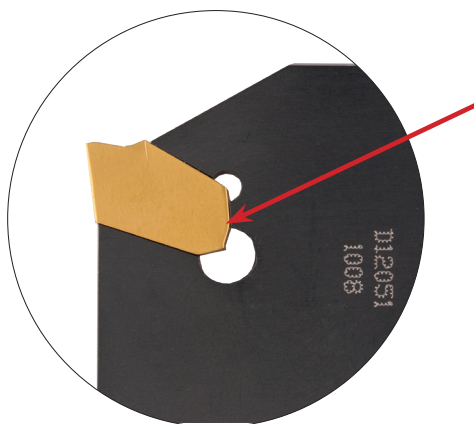
26mm Twin Blade

Blades Description	UPC #	T. Max	A	D	L	L1	H	H1	Insert Description	UPC #	Size	Key Description	UPC #
TWECOB-DNTF-26-20	61965	26	2	52	110	22	21	26	DNTQ-22 2002-3EU-N DUP25UG	82440	2mm	KCIK-DN	61204
									DNPG-22 2002-1SR-N DPP40SG	82475			
TWECOB-DNTF-26-30	61966	39	2	78	110	22	21	26	DNTQ-22 3003-3EU-N DUP25UG	82442	3mm		
									DNTR-22 3015-3EU-N DUP25UG	82459			
									DNPG-22 3002-1SR-N DPP40SG	82476			
TWECOB-DNTF-26-40	61967	42	3	84	110	22	21	26	DNTQ-25 4004-3EU-N DUP25UG	82443	4mm		
									DNTR-25 4020-3EU-N DUP25UG	82460			
									DNPG-25 4003-1SR-N DPP40SG	82477			

32mm Twin Blade

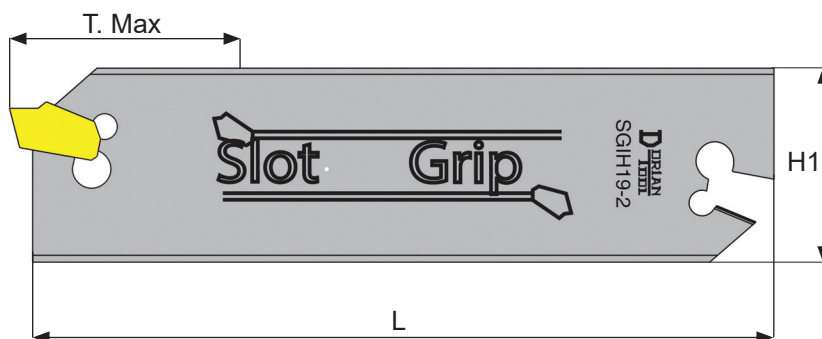
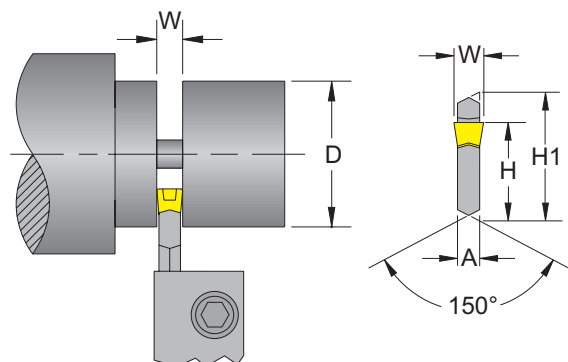
Blades Description	UPC #	T. Max	A	D	L	L1	H	H1	Insert Description	UPC #	Size	Key Description	UPC #
TWECOB-DNTF-32-20	61968	29	2	58	150	22	25	32	DNTQ-22 2002-3EU-N DUP25UG	82440	2mm	KCIK-DN	61204
									DNPG-22 2002-1SR-N DPP40SG	82475			
TWECOB-DNTF-32-30	61969	45	2	90	150	22	25	32	DNTQ-22 3003-3EU-N DUP25UG	82442	3mm		
									DNTR-22 3015-3EU-N DUP25UG	82459			
									DNPG-22 3002-1SR-N DPP40SG	82476			
TWECOB-DNTF-32-40	61970	50	3	100	150	25	25	32	DNTQ-25 4004-3EU-N DUP25UG	82443	4mm		
									DNTR-25 4020-3EU-N DUP25UG	82460			
									DNPG-25 4003-1SR-N DPP40SG	82477			
TWECOB-DNTF-32-50	61971	60	4	120	150	25	25	32	DNTQ-25 5004-3EU-N DUP25UG	82444	5mm		
									DNTR-25 5025-3EU-N DUP25UG	82461			
									DNPG-25 5004-1SR-N DPP40SG	82478			
TWECOB-DNTF-32-60	61972	70	5	140	150	25	25	32	DNTQ-25 6004-3EU-N DUP25UG	82445	6mm		
									DNPG-25 6004-1SR-N DPP40SG	82479			

POSITIVE STOP BLADES FOR CUT-OFF & GROOVING SGTN INSERTS



Positive Stop

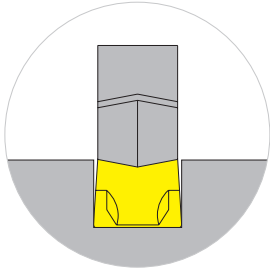
Improved design featuring a "Positive Stop". Inserts are securely held in Slot Grip Positive Stop Blades by a tapered locking system featuring a "Positive Stop" that prevents insert drift and the blade pocket from spreading once the insert is firmly in place.



Designed for use with standard SGTN cut-off inserts and standard cut-off blade holders. The insert's cutting edge location repeats accurately and as a result prevents insert splitting under heavy feed and shock loads. The blade and insert geometry allows free chip flow, minimizing insert breakage due to chip build-up.

Blades Description	UPC #	T. Max	A	D	L	H	H1	Insert Description	Size	Key Description	UPC #
SGIH19-2	62950	20	1,6	40	86	16	19	SGT(N/R/L)-2	2mm	KCIK-DN	61204
SGIH26-2	62951	26	1,6	51	110	21	26	SGT(N/R/L)-2	2mm		
SGIH26-3	62952	38	2	76	110	21	26	SGT(N/R/L)-3	3mm		
SGIH26-4	62953	40	3	80	110	21	26	SGT(N/R/L)-4	4mm		
SGIH32-3	62956	50	2	100	150	25	32	SGT(N/R/L)-3	3mm		
SGIH32-4	62957	50	3	100	150	25	32	SGT(N/R/L)-4	4mm		
SGIH32-5	62958	60	4	120	150	25	32	SGT(N/R/L)-5	5mm		
SGIH32-6	62959	60	5	120	150	25	32	SGT(N/R/L)-6	6mm		
SGIH32-8	62960	70	6	140	150	25	32	SGT(N/R/L)-8	8mm		
SGIH32-9	62961	70	8	140	150	25	32	SGT(N/R/L)-9	9mm		

For Slot Grip Cut Off inserts see complete Kool Cut Catalog



Cut-Off & Grooving Inserts are designed for use with standard cut-off inserts and standard cut-off blade holders. The insert's 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.

Chip breaker Geometry

- Reduced machining force
- Controlled, coiled chip flow
- Higher material removal rate

Application

- Quickly inserted into adjustable blades
- For cut-off and grooving
- Fair for interrupted cuts

Material

Carbon & Alloy Steel	Aluminum & Non-Ferrous Metals & Materials	Carbon & Alloy Steel	300 & 400 Series Stainless Steel	Cast Iron, Copper/Brass	Aluminum & Non-Ferrous Materials	High Temp Alloys	Hard Steel to 58 HRC
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Insert Grade

P35

K25 N25


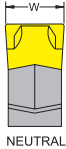

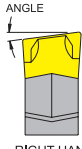

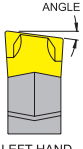
K25 P25 M25

Insert Coating

CVD TiN Coated

Uncoated

PVD TiAlN Coated

Insert Grade		Dimensions			DC656	DK25	DASK25B	
Description	ANSI	Insert Size mm	Lead Angle	Width + 0,05		UPC #	UPC #	UPC #
				inch	mm			
SGTN Neutral  	SGTN-2	2	0°	.087	2	82222	82220	82223
	SGTN-2.4	2,4	0	.094	2,4	82306	82304	82307
	SGTN-3	3	0°	.122	3	82226	82224	82227
	SGTN-4	4	0°	.161	4	82230	82228	82231
	SGTN-4.8	4,8	0	.189	4,8	82318	82316	82319
	SGTN-5	5	0°	.201	5	82234	82232	82235
	SGTN-6	6	0°	.252	6	82238	82236	82239
	SGTN-8	8	0°	.315	8	82242	82240	82243
	SGTN-9	9	0°	.378	9	82246	82244	82247
SGTR Right Hand  	SGTR-2-8	2	8°	.087	2	82250	82248	82251
	SGTR-2.4-8	2,4	8	.094	2,4	82310	82308	82311
	SGTR-3-8	3	8°	.122	3	82254	82252	82255
	SGTR-4-8	4	8°	.161	4	82258	82256	82259
	SGTR-4.8-8	4,8	8	.189	4,8	82322	82320	82323
	SGTR-5-8	5	8°	.201	5	82262	82260	82263
	SGTR-6-8	6	8°	.252	6	82266	82264	82267
	SGTR-8-8	8	8°	.315	8	82270	82268	82271
	SGTR-9-8	9	8°	.378	9	82274	82272	82275
SGTL Left Hand  	SGTL-2-8	2	8°	.087	2	82278	82276	82279
	SGTL-2.4-8	2,4	8	.094	2,4	82314	82312	82315
	SGTL-3-8	3	8°	.122	3	82282	82280	82283
	SGTL-4-8	4	8°	.161	4	82286	82284	82287
	SGTL-4.8-8	4,8	8	.189	4,8	82326	82324	82327
	SGTL-5-8	5	8°	.201	5	82290	82288	82291
	SGTL-6-8	6	8°	.252	6	82294	82292	82295
	SGTL-8-8	8	8°	.315	8	82298	82296	82299
	SGTL-9-8	9	8°	.378	9	82302	82300	82303

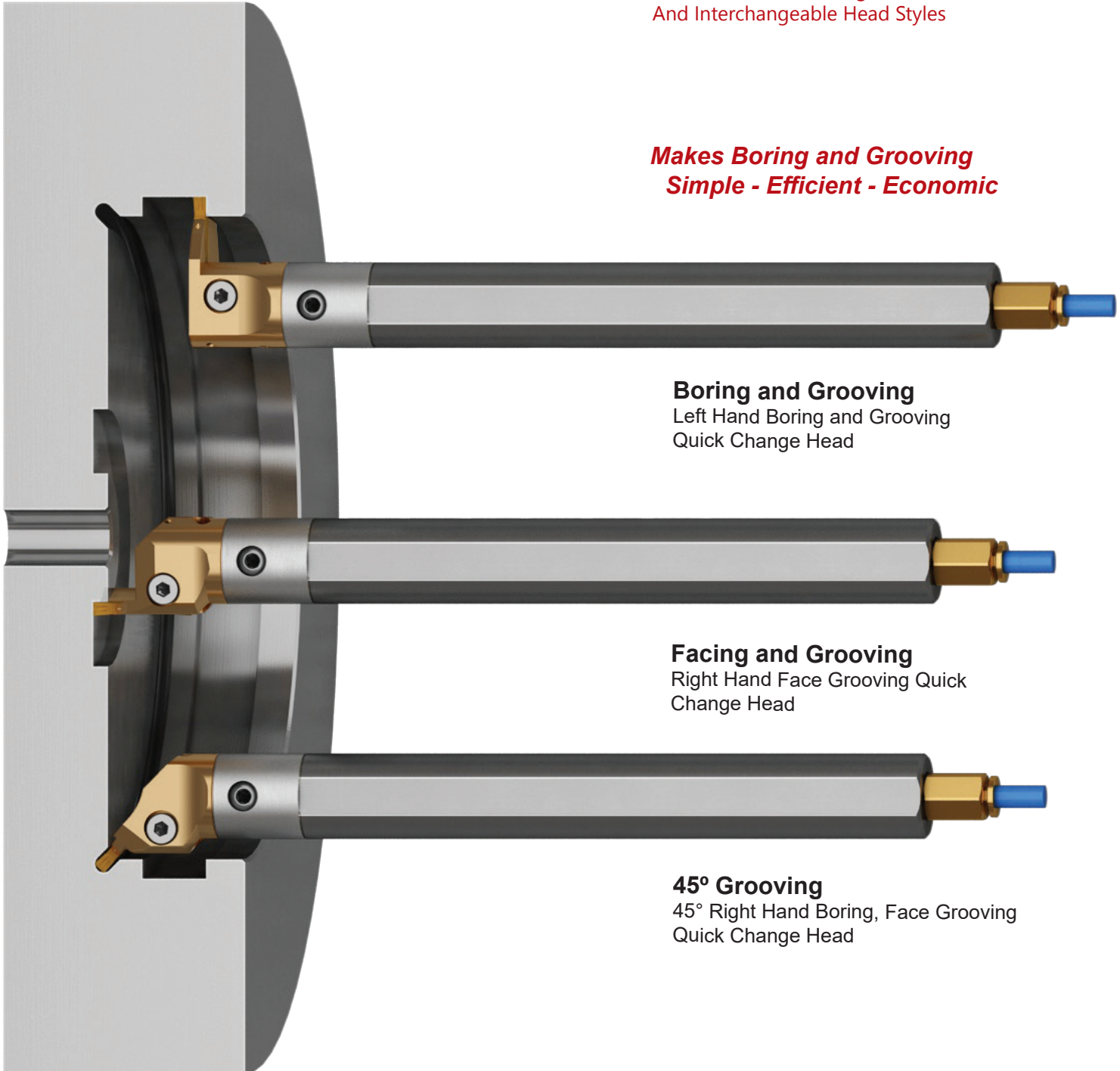
NOTES:

KOOL CUT™ BORING BARS

Quick Change Boring & Grooving System

Expands the Flexibility of Multi-Operations
with the Combination of
Steel and Carbide Boring Bar Sizes
And Interchangeable Head Styles

*Makes Boring and Grooving
Simple - Efficient - Economic*



Boring and Grooving
Left Hand Boring and Grooving
Quick Change Head

Facing and Grooving
Right Hand Face Grooving Quick
Change Head

45° Grooving
45° Right Hand Boring, Face Grooving
Quick Change Head

KOOL CUT™ Quick Change Boring & Grooving System

Built for Productivity!

Interchangeable Steel and Carbide Boring Bar Sizes & Quick Change Head Styles

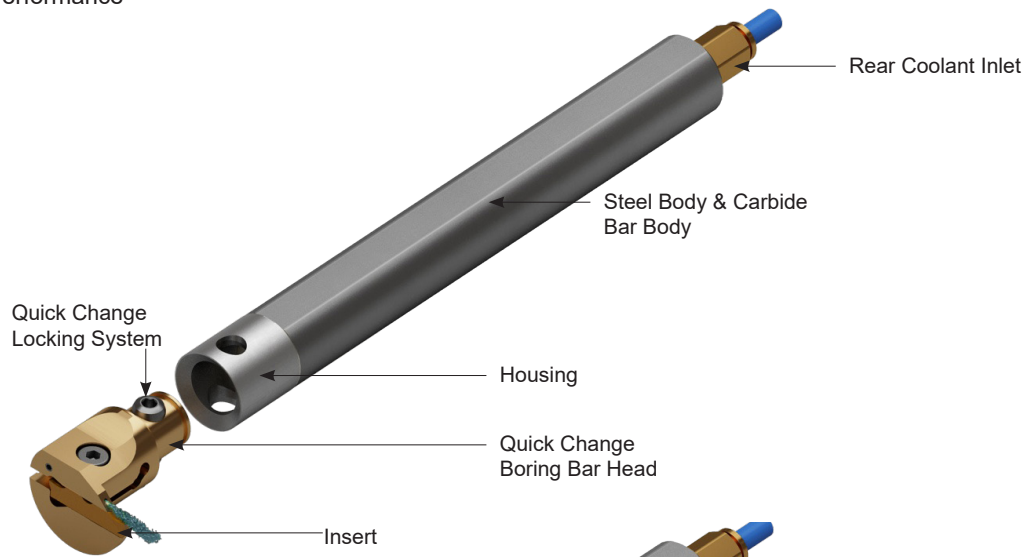
- Rigidity
- Flexibility
- Precision
- Interchangeability
- Advanced Technology
- Repeatability
- Multi-Operation
- High Performance

The KOOL Cut™ Quick Change Boring Bar Body;

Expands the flexibility for multi boring operation with precise and repetitive accuracy, and rigidity.

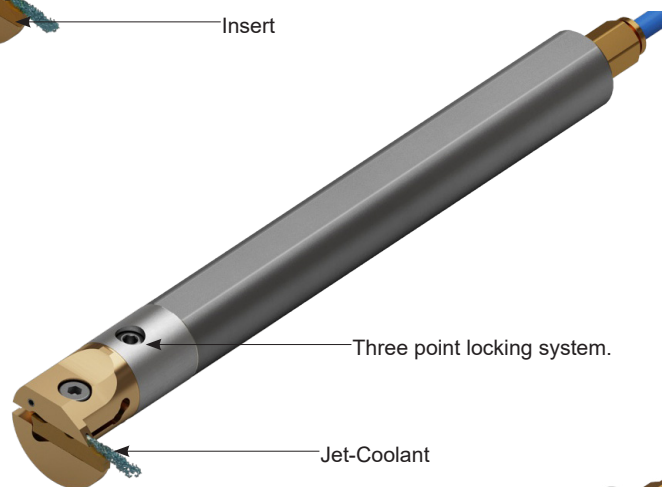
Bidirectional

Right Hand and Left Hand



The KOOL Cut™ Quick Change Boring Bar Head with Jet-Coolant;

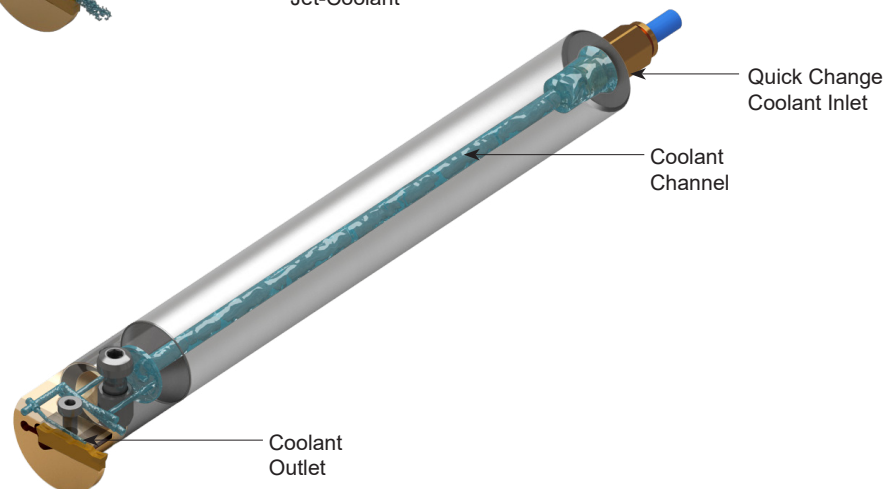
Made of heat treated alloy steel, TiN coated. Locks into the body of the Quick Change boring bar with a Three Point Locking System. The locking system will expand surface contact for maximum locking rigidity and precise interchangeability.



The KOOL Cut™ Quick Change Thru Coolant System;

Coolant is connected on the Coolant Inlet located on the rear end of the Boring Bar Body, The Coolant will travel thru the Boring Bar Body, and exit above the cutting edge of the insert.

The coolant is precisely aimed onto the cutting edge of the insert. The Insert is kept at constant Temperature, and chips are removed from the cutting edge and flushed out from the bore. With the constant insert Temperature, clean cutting edge, and chip free bore, the work quality is increased, and the insert life is increased up to 200%



SIMPLE - PRECISE - RIGID

To simplify deep hole boring with expandable capabilities of multi boring applications

Three Point Locking System

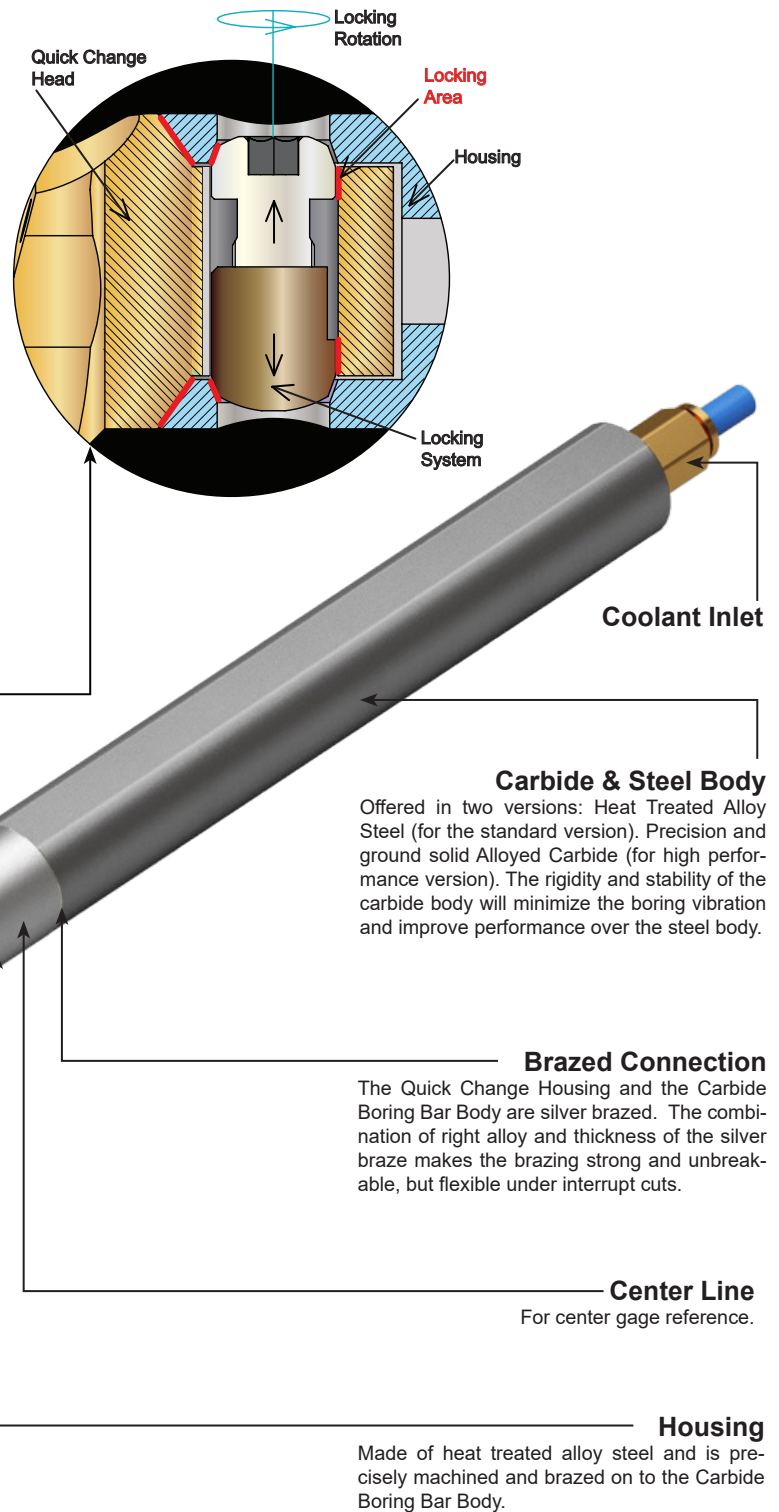
Locks the Quick Change Head to the Boring Bar **Housing** by turning the two piece double head tapered locking screw. The screw will expand, forcing the head against the tapered holes. This tension pushes the body of the Quick Change Head into the Boring Bar **Housing**, causing the tapered shoulder of the Quick Change Head to pull against the inner taper of the Boring Bar **Housing**. Powering the locking screw will cause both heads of the screw to lock 180° simultaneously. This locking angle forces the Quick Change Head to align symmetrically at 90° with the Boring Bar **Housing**. The **expanding, pushing and pulling** mechanical forces result in **Three Point Locking System**.

Boring Bar Sizes

Sizes: 20mm, 25mm, 32mm

Boring Heads

Positive and Threading
DNTQ Inserts



Jet-Stream™ Thru Coolant Quick Change Heads

Made of heat treated alloy steel, TiN coated. The cylindrical body and the tapered shoulder of the Quick Change Head locks precisely into the boring bar body housing. **The Three Point Locking System** will expand surface contact for maximum locking rigidity and precise interchangeability. The Jet Stream thru coolant system will enhance performance, keeping the insert at constant temperature clean and undamaged cutting edge, and will remove chips from the bore while machining.

Boring and Grooving Operation Set-Up

Step 1. Bar Set up

For best performance and to eliminate chatter in boring and grooving operation; Select a boring bar with the largest diameter permissible.

Extend the boring bar the shortest length possible

Use the narrowest insert possible

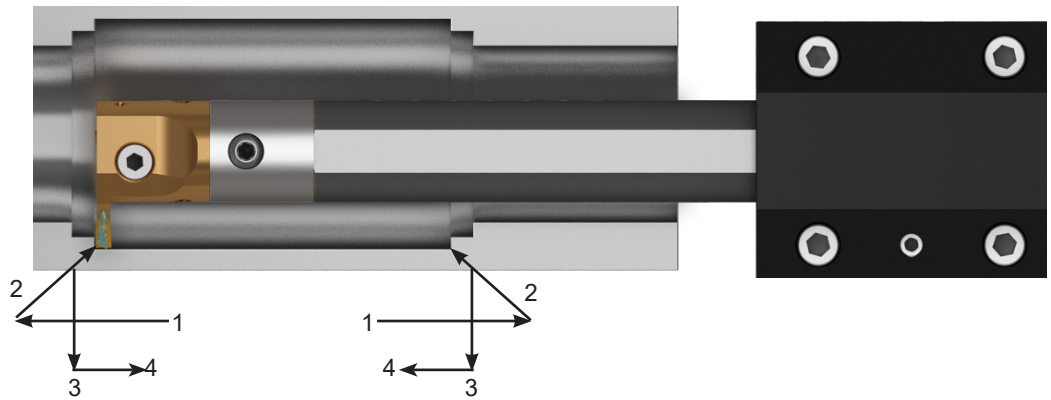


Step 2. Roughing

Cut the first groove to the depth of the first roughing cutting diameter.

Then feed the insert toward the other side of the workpiece. Cut till the end, then retract the insert at 45° away from the wall.

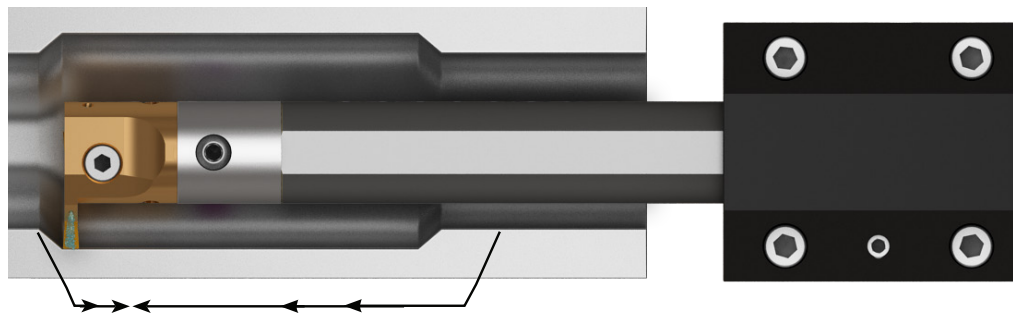
Repeat the operation, till the roughing operation is complete.



Step 3. Finishing

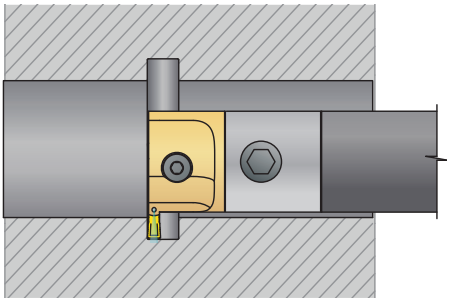
Face-Off at finish dimension, one side of the groove to the finished diameter.

Retract the insert at 45° away from the wall and move to the other side of the groove. Face-Off to the finish diameter and continue to cut till the other wall is reached, than retract the insert at 45°.

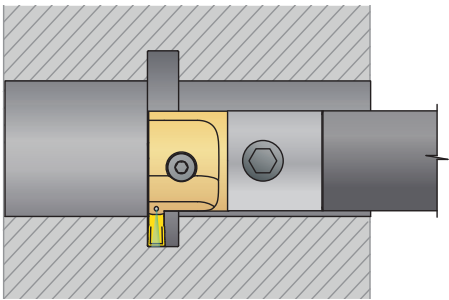


KOOL CUT™ Quick Change Boring & Grooving System

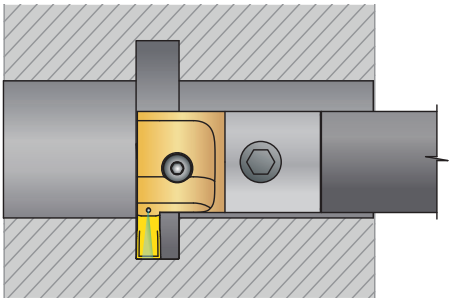
Expands the Flexibility of Multi-Operations



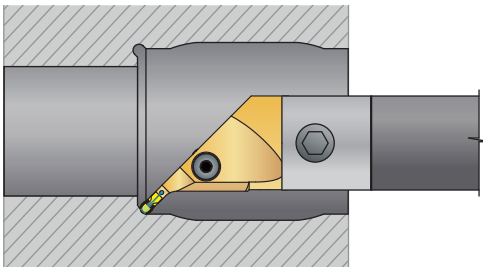
Boring and Grooving 2mm Insert Size



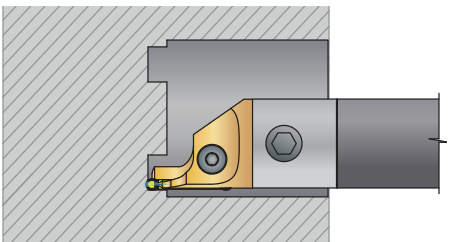
Boring and Grooving 3mm Insert Size



Boring and Grooving 4mm Insert Size



Boring, Profiling and Grooving 45°



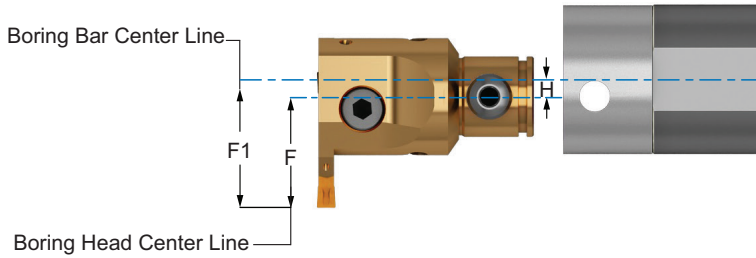
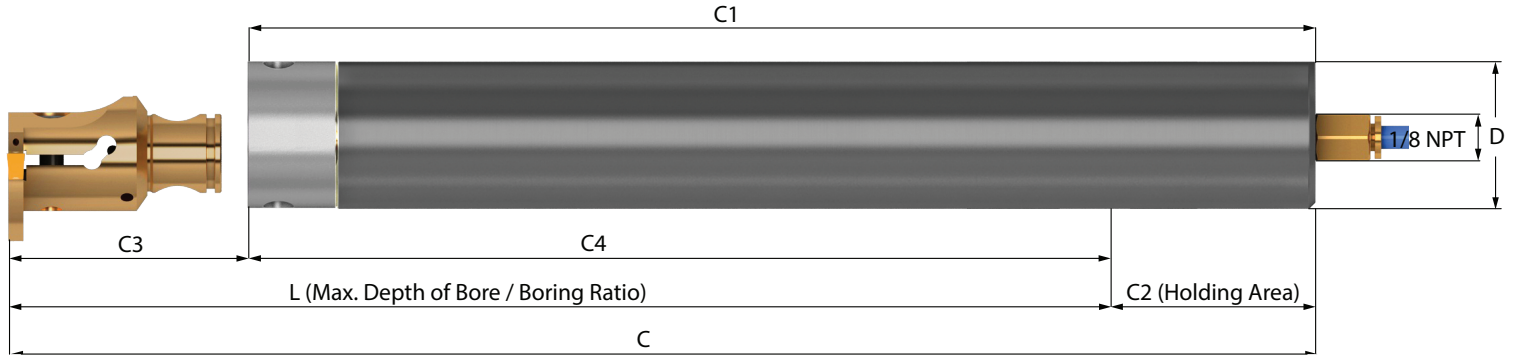
Facing and Face Grooving



One Quick Change
Body

Five
Interchangeable Heads

KOOL Cut™ Quick Change Turning, Threading, Grooving & Facing Steel & Carbide Shank



Min Bore (B) in the Quick Change Head charts below includes chip clearance.
Always allow enough room for chip evacuation.

Bar Description	UPC # Neutral	Boring Ratio	Construction	Bar Dia.	Actual Min. Bore B	F1	H	L	C	C1	C2	C3	C4	Quick Change Head	Coolant Bore Dia.	Coolant Attachment Thread
A20M-R-4-MBQC	60218	4 x Dia.	Steel Body	20	$B = F + H + (1/2 \text{ Bar Dia.})$	$F1 = F + H$	0	80	203	182	122	21	59	DQMH-12-__	4	1/8"-27NTP
A25M-R-4-MBQC	60219			25			5	100	203	182	103	21	79		4	
A32M-S-4-MBQC	60220			32			10	128	254	233	126	21	107		5	

Optimum boring length of the bar is 4 x Dia., cutting length may be extended by using the positive and sharp cutting edge insert.

Bar Description	UPC # Neutral	Boring Ratio	Construction	Bar Dia.	Actual Min. Bore B	F1	H	L	C	C1	C2	C3	C4	Quick Change Head	Coolant Bore Dia.	Coolant Attachment Thread
AE20M-Q-6-MBQC	60205	6 x Dia.	Carbide Body	20	$B = F + H + (1/2 \text{ Bar Dia.})$	$F1 = F + H$	0	120	180	159	80	21	99	DQMH-12-__	4	1/8"-27NTP
AE20M-S-6-MBQC	60206			20			0	120	250	229	130	21	99		4	
AE25M-R-6-MBQC	60207			25			5	150	200	179	50	21	129		5	
AE25M-T-6-MBQC	60208			25			5	150	300	279	150	21	129		5	
AE32M-U-6-MBQC	60209			32			10	192	350	329	158	21	171		5	

Optimum boring length of the bar is 6 x Dia., cutting length may be extended by using the positive and sharp cutting edge insert.

KOOL Cut™ Quick Change Boring and Grooving Head - 2mm Insert Size



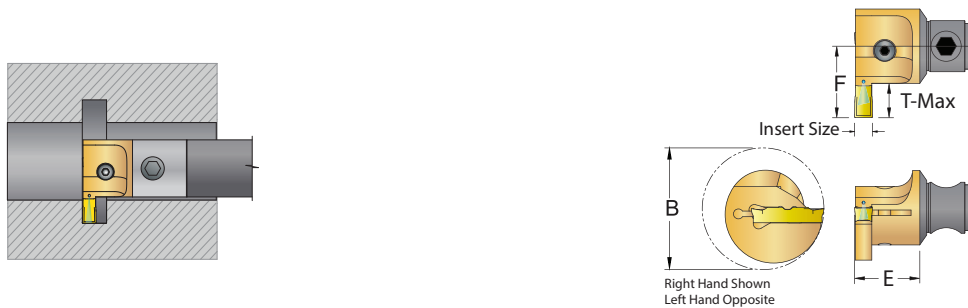
Head Description	UPC #		B Min. Dia.	E	F	T-Max	Quick Change Head	Bar Diameter	Size	Insert			Coolant Seal
	R.H.	L.H.								Style	Lock Screw	Key	
DQCMH-ITR/L20-04	61925	61938	31	21,34	16	4	20	20	2	DNTF 222010	CS-M0516	HAHK-50	CS08-04
DQCMH-ITR/L20-08	61926	61939	35	21,34	20	8	20	25	2				
DQCMH-ITR/L20-12	61927	61940	39	21,34	24	12	20	32	2				

KOOL Cut™ Quick Change Boring and Grooving Head - 3mm Insert Size



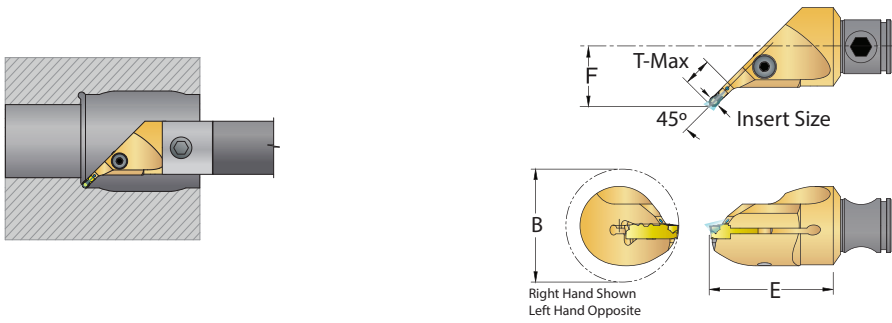
Head Description	UPC #		B Min. Dia.	E	F	T-Max	Quick Change Head	Bar Diameter	Size	Insert			Coolant Seal
	R.H.	L.H.								Style	Lock Screw	Key	
DQCMH-ITR/L30-06	61928	61941	33	21,34	18	6	20	20	3	DNTF 223015	CS-M0516	HAHK-50	CS08-04
DQCMH-ITR/L30-12	61929	61942	39	21,34	24	12	20	25	3				
DQCMH-ITR/L30-15	61930	61943	42	21,34	27	15	20	32	3				

KOOL Cut™ Quick Change Boring and Grooving Head - 4mm Insert Size



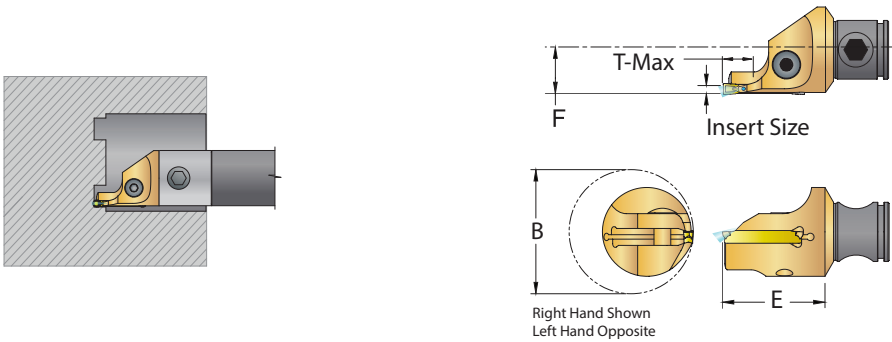
Head Description	UPC #		B Min. Dia.	E	F	T-Max	Quick Change Head	Bar Diameter	Size	Insert			Coolant Seal
	R.H.	L.H.								Style	Lock Screw	Key	
DQCMH-ITR/L40-08	61931	61944	35	21,34	20	8	20	20	4	DNTF 245020	CS-M0516	HAHK-50	CS08-04
DQCMH-ITR/L40-12	61932	61945	39	21,34	24	12	20	25	4				
DQCMH-ITR/L40-16	61933	61946	43	21,34	28	16	20	32	4				

KOOL Cut™ Quick Change Boring and Grooving 45° Head - 2mm, 3mm and 4mm Insert Size



Head Description	UPC #		B Min. Dia.	E	F	T-Max	Quick Change Head	Bar Diameter	Size	Insert			Coolant Seal
	R.H.	L.H.								Style	Lock Screw	Key	
DQCMH-IUR/L20-04	61951	61954	31	21,34	16	4	20	20	2	DNTF 222010	CS-M0516	HAHK-50	CS08-04
DQCMH-IUR/L30-06	61952	61955	33	21,34	18	6	20	20	3	DNTF 223015			
DQCMH-IUR/L40-08	61953	61956	35	21,34	20	8	20	20	4	DNTF 245020			

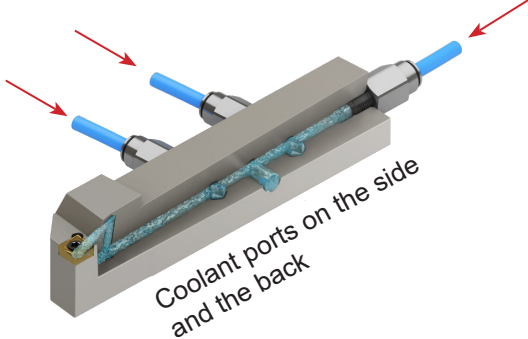
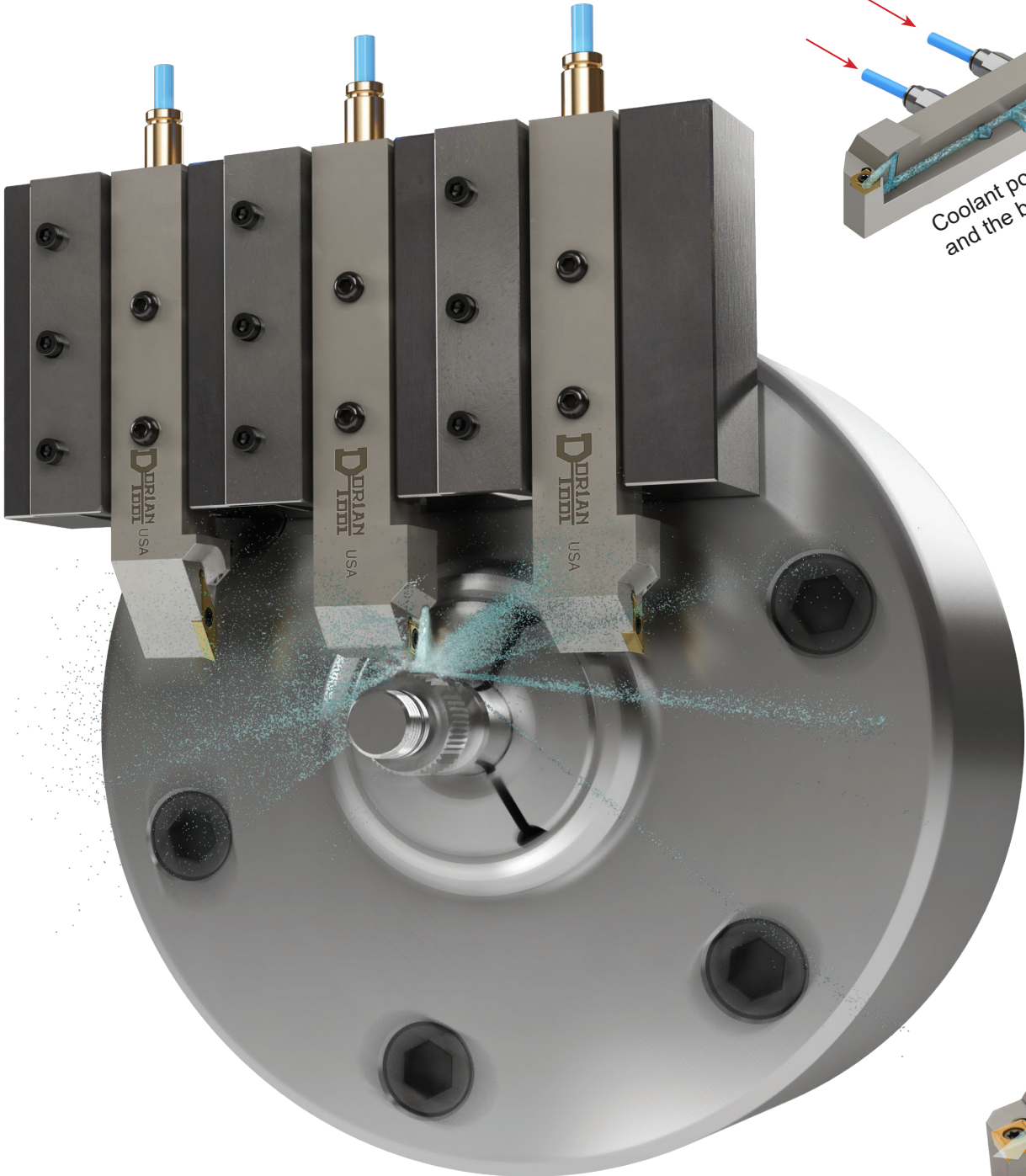
KOOL Cut™ Quick Change Internal Face Grooving Head - 3mm Insert Size



Head Description	UPC #		B Dia.		E	F	T-Max	Quick Change Head	Bar Diameter	Size	Insert			Coolant Seal
	R.H.	L.H.	Min.	Max.							Style	Lock Screw	Key	
DQCNH-IFR/L30-025038-10	61957	61961	25	39	21,34	12	10	20	20	3	DNTF 223015	CS-M0516	HAHK-50	CS08-04
DQCNH-IFR/L30-038060-10	61958	61962	37	60	21,34	12	10	20	20	3				
DQCNH-IFR/L30-060100-10	61959	61963	59	101	21,34	12	10	20	20	3				
DQCNH-IFR/L30-100200-10	61960	61964	99	200	21,34	12	10	20	25	3				

SWISS SCREW MACHINE TOOLS

with Advanced Thru Coolant Jet-Stream™ System



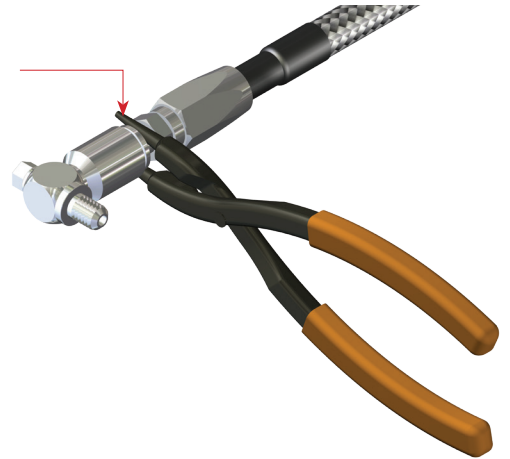
High Pressure Coolant Quick Connection

for Standard or High Pressure Applications
with Side or End Coolant Connection

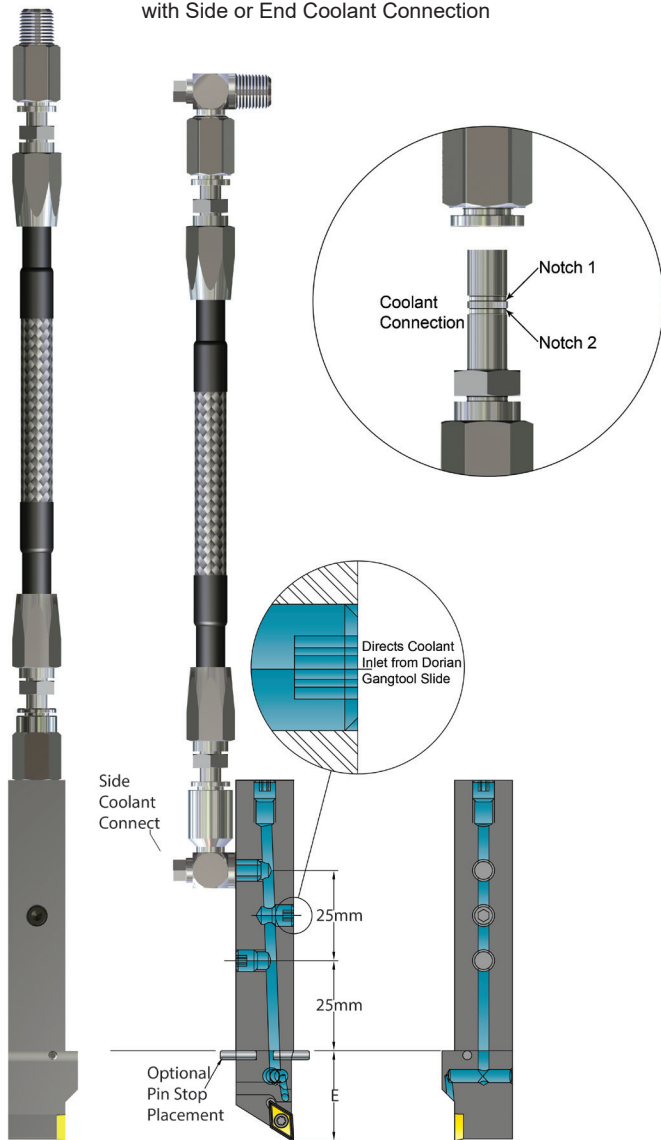
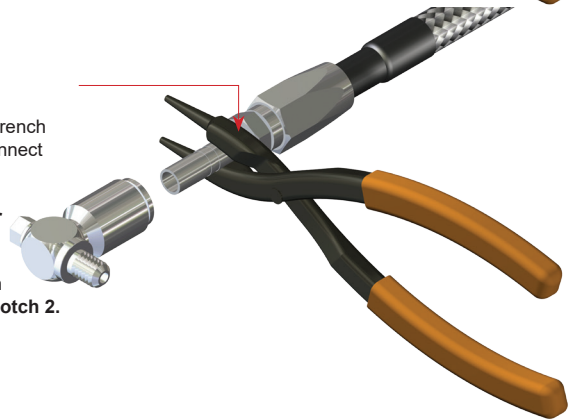
Item	Part Number	UPC #	Description
1	DT-HP-PLIERS	60476	High Pressure Disconnecting Pliers

**To Disconnect the Hydraulic Coolant Hose
Follow Two Safe & Easy Steps:**

1. Place the **thinner section** of the wrench-nose between the coolant hose and the connector.



2. Close the wrench and it will disconnect **Notch 1** of the coolant hose. Use the **thicker section** of the wrench-nose and close again to disconnect **Notch 2**.



Side View Left Hand Top View Right Hand Side View Right Hand

Swiss Tool holders-High Pressure Coolant Connection 7 Pcs. Kit

Working Pressure



**New Hydraulic Coolant Hose
For Safe & Easy Disconnection**

Item	Part Number	UPC No 733101-	Description	Bar	PSI
	DT-HPTU-ASSY	60480	Swiss High Pressure Quick Release Coolant 7 pcs. Kit	200	2800
1	DT-HPTU-8X4	60477	8mm High Pressure 8mm Coolant Tubing Only		
2	DT-HP90C-8/6	60479	High Pressure Quick Release Straight Intec		
3	DT-HP90C-8/6	60479	High Pressure Quick Release Straight Intec		
4	DT-HP0SC-1/8X6	60490	1/8" NPT Straight High Pressure Quick Release Connector		
5	DT-HP90CE-1/8X6	60489	1/8" NPT 90° Elbow High Pressure Quick Release Connector		
6	DT-HP0SC-6X6	60487	6mm Straight High Pressure Quick Release Connector		
7	DT-HP90C-6X6	60486	6mm 90° Elbow High Pressure Quick Release Connector		

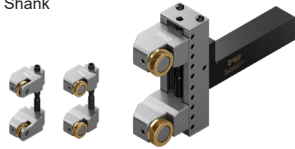
KNURLING TOOLS

from THE KNURLING TOOL SPECIALISTS



SPECIALISTS for
CNC &
MANUAL LATHES

Knurling Tools & Wheels

<p>CNC Modular Shank for Standard Series Modular Knurling Heads</p>  <p>Page 78</p>	<p>CNC Modular Shank for SMALL Series Modular Knurling Heads</p>  <p>Page 78</p>	<p>SWFKT Single Wheel Fixed Knurling Tool HDSWFKT Heavy Duty Single Wheel Fixed Knurling Tool</p>  <p>Page 83</p>	<p>KTM109 Heavy Duty Style Straddle Square Shank Knurling Tool 1.5" & 2.5" Diameter Range</p>  <p>Page 85</p>
<p>CNC-1-2 1 - Light Duty 60° Diamond Cutting Knurling Head</p>  <p>Page 80</p>	<p>SCNC-1-2 1-SMALL Light Duty 60° Diamond Cutting Knurling Head</p>  <p>Page 82</p>	<p>SSWFKT Single Shoulder Wheel Fixed Knurling Tool</p>  <p>Page 84</p>	<p>KTW109 Shoulder Style Straddle Square Shank Knurling Tool 1.5" & 2.5" Diameter Range</p>  <p>Page 85</p>
<p>CNC-2-R 2 - Heavy Duty 60° Diamond Cutting Knurling Head</p>  <p>Page 80</p>	<p>SCNC-6-2 6- SMALL Shoulder Forming Knurling Head</p>  <p>Page 82</p>	<p>FKT Fixed Knurling Tool HDFKT Heavy Duty Fixed Knurling Tool</p>  <p>Page 83</p>	<p>KTO109 Heavy Duty Style Straddle Square Shank Knurling Tool 4.0" Diameter</p>  <p>Page 85</p>
<p>CNC-3-M 3 - Extra Heavy Duty 60° Diamond Cutting Knurling Head</p>  <p>Page 80</p>	<p>SCNC-7-D 7- SMALL Straddle Forming Knurling Head</p>  <p>Page 82</p>	<p>SFKT Shoulder Fixed Knurling Tool</p>  <p>Page 83</p>	<p>KTW109-40 Shoulder Style Straddle Square Shank Knurling Tool 4.0" Diameter Range</p>  <p>Page 85</p>
<p>CNC-4-M 4- Double Wheel Forming Knurling Head</p>  <p>Page 80</p>	<p>SCNC-8-2 7- SMALL Straddle Forming Knurling Head</p>  <p>Page 82</p>	<p>SCKN Self Centering Knurling Tool HDSCKN Heavy Duty Self Centering Knurling Tool</p>  <p>Page 83</p>	<p>CNC109-M Side Mount Flange Square Shank Knurling Tool 1.5 & 2.5 Diameter Range</p>  <p>Page 85</p>
<p>CNC-5-O 5- Single Wheel Forming Knurling Head</p>  <p>Page 80</p>	<p>107ST Straight Cutting Knurling Tool</p>  <p>Page 84</p>	<p>SSCK Shoulder Self Centering Knurling Tool</p>  <p>Page 83</p>	<p>CNC109-4 Side Mount Shoulder Square Shank Knurling Tool 1.5 & 2.5 Diameter Range</p>  <p>Page 85</p>
<p>CNC-6-4 6- Shoulder Forming Knurling Head</p>  <p>Page 80</p>	<p>107ST Straight Cutting Shoulder Knurling Tool</p>  <p>Page 84</p>	<p>TIKT True Internal Knurling Tool</p>  <p>Page 84</p>	<p>3WKT Three Wheel Knurling Tool</p>  <p>Page 87</p>
<p>CNC-7-R 7- Straddle Forming Knurling Head</p>  <p>Page 80</p>	<p>3SHKT Three Swivel Head Forming Knurling Tool</p>  <p>Page 83</p>	<p>SIKT Shoulder Internal Knurling Tool</p>  <p>Page 84</p>	<p>Knurling Wheels</p>  <p>Page 89</p>
<p>CNC-8-2 7- Straddle Forming Knurling Head</p>  <p>Page 80</p>	<p>FACEKT Single Wheel Face Forming Knurling Tool</p>  <p>Page 84</p>	<p>MMKT Milling Machine Knurling Tool</p>  <p>Page 84</p>	

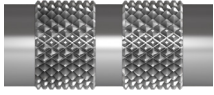

Knurling Tools Applications Form for Manual & CNC Machines

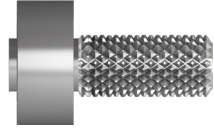

If your knurling application is not in the chart, please supply prints and information.

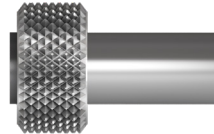
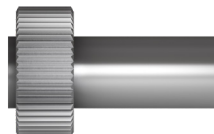
Knurling Application Knurling Tool Recommendation

Diamond Shoulderless	BEST	BETTER	GOOD
	SCNC-_-1-2	SCNC-_-7-D	SCKN-_-DW-_-
	CNC-_-1-2	CNC-_-7-R	3SHKT-_-
	CNC-_-2-R	KTM109-_-M	CNC-_-4-M
	CNC-_-3-M	KTO109-_-O	
	3WKT-_-	3SHKT-_-	

Diamond to a Shoulder	BEST	BETTER	GOOD
	SCNC-_-6-2	KT109-_-4	SCCK-_-DW-_-
	CNC-_-6-4		KTM-109-_-M
	3WKT-_-		

Diamond Band	BEST	BETTER	GOOD
	SCNC-_-7-D-	SCKN-_-DW-_-	SFKT-_-
	CNC-_-7-R	3SHKT-_-	SWKT-_-
	KTM109-_-M		
	KTO109-_-O		
Straight Band			
	CNC-_-4-M		
	CNC-_-5-O		

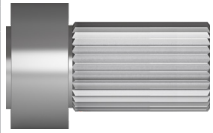
Small Diameter Diamond to a Shoulder	BEST	BETTER	GOOD
	3WKT-_-		
Small Diameter Straight to a Shoulder			
			

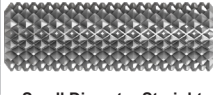
Diamond Crest	BEST	BETTER	GOOD
	SCNC-_-7-D	SCKN-_-DW-_-	SFKT-_-
	CNC-_-7-R	3SHKT-_-	SWKT-_-
	KTM109-_-M		
	CNC-_-4-M		
	CNC-_-5-O		
Straight Crest			
			

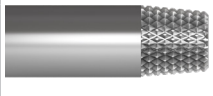

Radio Face	BEST	BETTER	GOOD
	Special		



Knurling Application Knurling Tool Recommendation

Straight Shoulderless	BEST	BETTER	GOOD
	SCNC-_-7-D	107ST-_-	CMC-_-5-O
	CNC-_-7-R	107ST-_-	SWKT-_-
	KTM109-_-M	CNC-_-4-M	
	KTO109-_-O	SCKN-_-DW-_-	
	3WKT-_-		

Straight to a Shoulder	BEST	BETTER	GOOD
	KTW109-_-4	SCNC-_-6-2	FKT-_-
	3WKT-_-	CNC-_-6-4	

Small Diameter Diamond Shoulderless	BEST	BETTER	GOOD
	3WKT-_-	SCNC-_-7-D	SFKT-_-
		CNC-_-7-R	SWFKT-_-
Small Diameter Straight Shoulderless			
			

Taper Diamond	BEST	BETTER	GOOD
	Special		
Taper Straight			
			

Internal Diamond	BEST	BETTER	GOOD
	TIKT-_-		
	SIKT-_-		
Internal Straight			
			

Milling Diamond	BEST	BETTER	GOOD
	MMKT-_-		
Milling Straight			
			

Knurling Tools Applications Form for Manual & CNC Machines

Figure 1 - Full Knurling

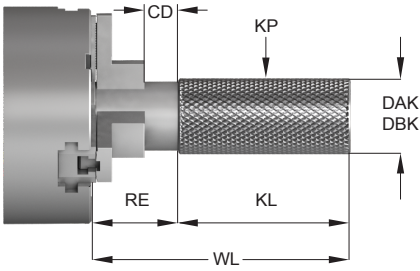


Figure 2 - Band Knurling

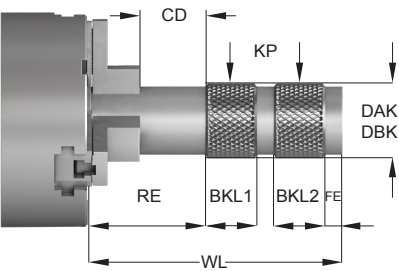


Figure 3 - Shoulder Knurling

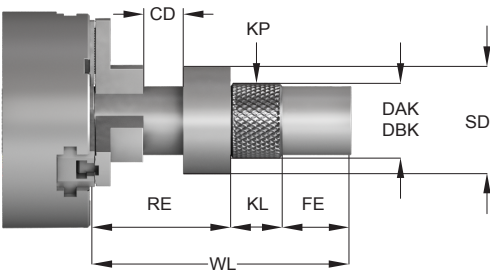
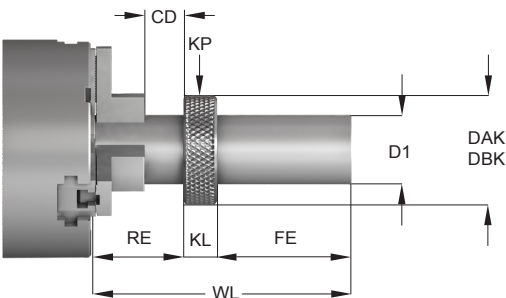
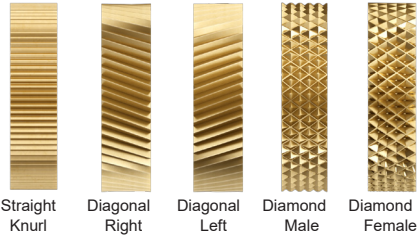


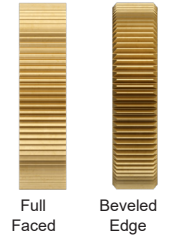
Figure 4 - Crest Knurling



Knurl Wheel Identification



Edge Prep

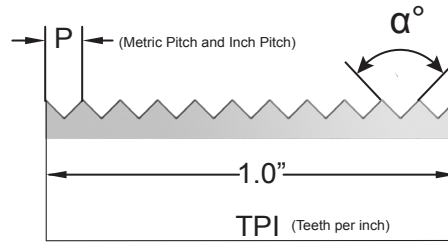


Knurl Pitch

TPI Is the number of teeth per inch

Circular Pitch Is the distance between tooth to tooth

Diametral Pitch Is the number of teeth per inch of diameter



Knurling Specification

x Check Knurling Specification

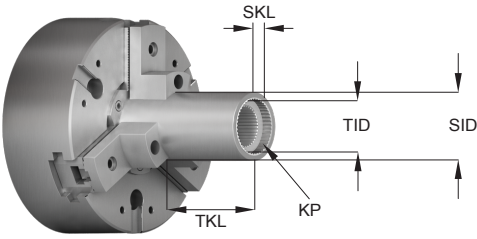
SKP Straight Knurl	<input type="checkbox"/>	DKPM Diamond Knurl Male	<input type="checkbox"/>
DKPR Diagonal Knurl Right	<input type="checkbox"/>	DKPF Diamond Knurl Female	<input type="checkbox"/>
DKPL Diagonal Knurl Left	<input type="checkbox"/>		

Fill Knurling Dimension

KP Knurl Pitch	<input type="checkbox"/> Inch	<input type="checkbox"/> TPI	<input type="checkbox"/> AP % of Knurl Depth
	<input type="checkbox"/> DP		
	<input type="checkbox"/> Metric	<input type="checkbox"/> P-mm	
DBK Diameter (Blank) Before Knurling	<input type="checkbox"/>	FE Front End Distance	<input type="checkbox"/>
DAK Diameter After Knurling	<input type="checkbox"/>	RE Rear End Distance	<input type="checkbox"/>
KL Knurling Length	<input type="checkbox"/>	CD Chuck Distance	<input type="checkbox"/>
BKL1 Band Knurling Length 1	<input type="checkbox"/>	SD Shoulder Diameter	<input type="checkbox"/>
BKL2 Band Knurling Length 2	<input type="checkbox"/>	D1 Shoulder Diameter	<input type="checkbox"/>
WL Workpiece Length	<input type="checkbox"/>		

Knurling Tools Applications Form for Manual & CNC Machines

Figure 5 - ID Internal Knurling

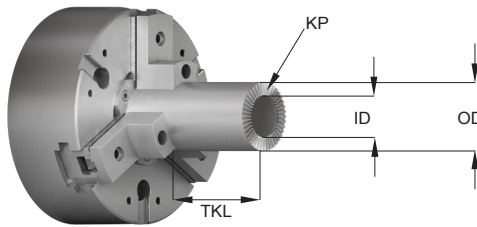


Knurling Specification

Fill Knurling Dimension

TID True Internal Diameter	<input type="text"/>	SKL Shoulder Knurling Length	<input type="text"/>
SID Shoulder Internal Diameter	<input type="text"/>	KP Knurl Pattern	<input type="text"/>
TKL True Knurling Length	<input type="text"/>	PI Knurl Pitch	<input type="text"/> Inch <input type="text"/> TPI <input type="text"/>
			<input type="text"/> DP <input type="text"/>
			<input type="text"/> Metric <input type="text"/> P-mm <input type="text"/>

Figure 6 - Face Knurling

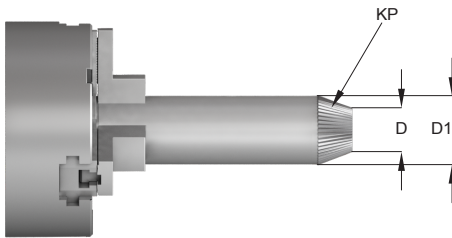


Knurling Specification

Fill Knurling Dimension

ID Inside Diameter	<input type="text"/>	KP Knurl Pattern	<input type="text"/>
OD Outside Diameter	<input type="text"/>	PI Knurl Pitch	<input type="text"/> Inch <input type="text"/> TPI <input type="text"/>
			<input type="text"/> DP <input type="text"/>
			<input type="text"/> Metric <input type="text"/> P-mm <input type="text"/>

Figure 7 - Taper Knurling

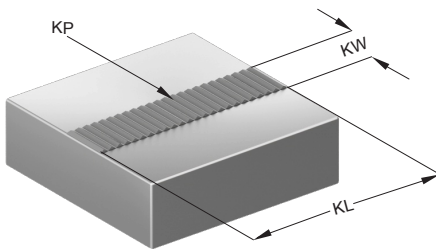


Knurling Specification

Fill Knurling Dimension

D Small Diameter	<input type="text"/>	KP Knurl Pattern	<input type="text"/>
D1 Large Diameter	<input type="text"/>	PI Knurl Pitch	<input type="text"/> Inch <input type="text"/> TPI <input type="text"/>
			<input type="text"/> DP <input type="text"/>
			<input type="text"/> Metric <input type="text"/> P-mm <input type="text"/>

Figure 8 - Milling Knurling



Knurling Specification

Fill Knurling Dimension

KW Knurling Width	<input type="text"/>	KP Knurl Pattern	<input type="text"/>
KL Knurling Length	<input type="text"/>	PI Knurl Pitch	<input type="text"/> Inch <input type="text"/> TPI <input type="text"/>
			<input type="text"/> DP <input type="text"/>
			<input type="text"/> Metric <input type="text"/> P-mm <input type="text"/>

Knurling Production Information			
Material	<input type="text"/>	Annealed <input type="text"/>	Heat Treated <input type="text"/>
Quantity	<input type="text"/>	Hardness	<input type="text"/>
Machine	Manual <input type="checkbox"/>	CNC <input type="checkbox"/>	Swiss <input type="checkbox"/> Other <input type="checkbox"/>
Tool holder Style	Left <input type="checkbox"/>	Right <input type="checkbox"/>	Tool holder Size <input type="text"/>

Knurling Tool Recommendation				
Customer Information	Figure <input type="text"/>	Dorian Tool Recommendation		
Date		Item	UPC	Price
Company		Knurling Tool		
Contact		Knurling Head		
E-mail		Knurling Wheel		
Telephone		Knurling Pin		

Cutting Speed

Knurling is ordinarily performed at the same speeds used as turning operations. To calculate the cutting parameter of a knurling operation, use the same SFM used for high speed and cobalt tool bits to calculate (RPM) revolution of the workpiece and Knurling (f_n) feed rate.

For in-feed knurling, the knurl should be fed toward the work gradually until contact is made with the blank. As few work revolutions as possible should be allowed for feeding the knurl into the work. The knurl should be fed to full depth as rapidly as permissible without causing undue pressure on the work, the tools, and the equipment. Too many revolutions may result in a roughened or slivered tooth surface and destruction of the knurl and the knurling tool (5 to 20 REV)

For end-feed knurling, the rate of feed is governed by the type of material being knurled, diameter and rigidity of the work, and the width and pitch of the knurl. Faster feeds are used for the softer materials and slower feeds for harder materials.

Although the knurling should be normally completed within 10 to 25 work revolutions, the ability of many machine cross slides to operate at the desired high speeds prohibits the use of the preferred revolutions, especially when high work spindle speeds are used.

The cam rise must be continuous with no dwell or backing away until the high point is reached. It is desirable to have a slight dwell on the cam at the completion of the feeding which allows several revolutions of the work with the knurl at full tooth depth. The amount of dwell depends upon the nature of the work and the material. The knurl should be then withdrawn from the work quickly.

The feeds used for end-feed knurling with the turret vary considerably and are dependent upon the pitch of the knurl, material being knurled, and the nature and diameter of the work.

-Warning- Speeds and feeds information in the catalog are for reference only. If the operator does not feel safe using our speeds and feed recommendation, the operator should use what he or she is comfortable with. Dorian Tool is not responsible for any injuries that may occur.

Knurling Formula:

$$RPM = \frac{12 \times SFM}{\pi \times DIA} \quad SFM = \frac{(DIA \times \pi) \times RPM}{12}$$

Knurling SFM (V_c) parameter

Table 8

Material and Knurl Pitch				Knurl Forming			Knurl Cutting	
Material Description	Material Specs	TPI	Metric Pitch	Forming Speed (SFM and V_c)	Feed rate (f_n)		Cutting Speed	End Feed
				Smaller <Wheel dia. > Larger	End Feed	In Feed	Smaller <Wheel dia. > Larger	End Feed
Low carbon steel	1018 1117 1215	>14	>1,8	50-210 SFM [15-63 V_c m/min]	0.006" [0,15mm]	.001-.003" [.025-.075mm]	100-350 SFM [30-106 m/min]	0.009" [.23mm]
		16-20	1,6-1,2		0.008" [0,20mm]	.002-.004" [0,050-.100mm]		0.011" [.28mm]
		25-35	1,0-0,7		0.010" [.25mm]	.002-.004" [.050-.100mm]		0.013" [.33mm]
		40>	0,6>		0.012" [.30mm]	.002-.004" [.050-.100mm]		0.015" [.38mm]
Alloy Steel Tool steels	4130 4140 D2	>14	>1,8	35-150 SFM [10-45 m/min]	0.004" [.10mm]	.001-.002" [.025-.050mm]	70-250 SFM [21-75 m/min]	0.007" [.18mm]
		16-20	1,6-1,2		0.005" [.13mm]	.001-.003" [.025-.075mm]		0.008" [.20mm]
		25-35	1,0-0,7		0.007" [.18mm]	.001-.003" [.025-.075mm]		0.010" [.25mm]
		40>	0,6>		0.009" [.23mm]	.001-.003" [.025-.075mm]		0.012" [.30mm]
Stainless Steel	304 17-4	>14	>1,8	35-150 SFM [10-45 m/min]	0.004" [.10mm]	.001-.002" [.025-.050mm]	70-250 SFM [21-75 m/min]	0.007" [.18mm]
		16-20	1,6-1,2		0.005" [.13mm]	.001-.003" [.025-.075mm]		0.008" [.20mm]
		25-35	1,0-0,7		0.007" [.18mm]	.001-.003" [.025-.075mm]		0.010" [.25mm]
		40>	0,6>		0.009" [.23mm]	.001-.003" [.025-.075mm]		0.012" [.30mm]
Aluminum Brass Plastic	6061 C360 Delrin	>14	>1,8	90-390 SFM [27-118 m/min]	0.008" [.20mm]	.002-.004" [.050-.100mm]	110-420 SFM [33-127 m/min]	0.011" [.28mm]
		16-20	1,6-1,2		0.010" [.25mm]	.003-.005" [.075-.125mm]		0.013" [.33mm]
		25-35	1,0-0,7		0.013" [.33mm]	.003-.005" [.075-.125mm]		0.016" [.40mm]
		40>	0,6>		0.017" [.43mm]	.003-.005" [.075-.125mm]		0.020" [.50mm]

Note: When knurling, start with low Cutting speed, to evaluate the wheel performance, (to avoid the premature life of the wheel) increase until optimum cutting speed and feed is achieved

CNC Modular Knurling Tools

With the Flexibility of Multiple Knurling Applications!



Versatility

- **Multi diameter** diamond knurling cutting style
- **Reversible** Head for Right or Left knurling.
- **Heavy duty** knurl cutting and knurl forming
- **Double Wheel** forming knurling head
- **Straddle** forming knurling head
- **Shoulder** forming knurling head
- **Wide diameter** range for small diameter to large diameter parts

Modular

Multi shank size interchangeable with 8 knurling heads.



Adjustable

Dovetail knurling head locking system.
Quick and precise center line setting.
Knurling wheel angle stationary for diamond cutting

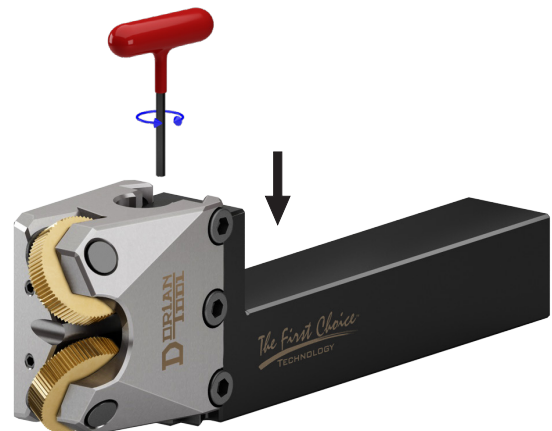
Two Ways to Knurl

Forming (five heads available)

Knurl forming action (material displacement by means of rolling) is generally for special application. It creates a better quality of knurl pattern, but speeds and feeds are sacrificed for this quality. The force applied through forming is increased in larger diameters making knurling difficult and slow.

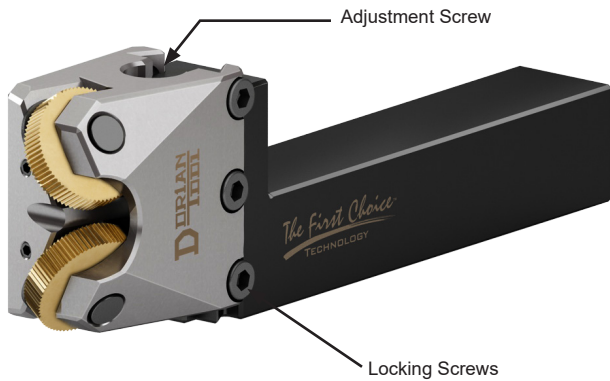
Cutting (three heads available)

Knurl cutting action cuts a perfect knurl pattern 10 to 20 times faster than any conventional knurling tool. It is engineered to knurl any material, including thin wall tubing, with minimum stress to the spindle and work piece. Knurl cutting action speeds up knurling enough to become applicable for CNC use.



CNC-100-3-M used for examples.

Knurling Tools Cutting Operation



Mounting to the Machine

Clamp the shank at right angles to the axial center line of the machine. The knurl wheels of the knurling tool head should be set exactly on center.





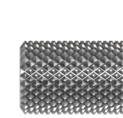

To adjust center-height:

1. Loosen the lock screws.
2. Turning the adjustment screw adjusts the head up or down.
3. Turn adjustment screw until the center height is aligned.
4. Lock head back in place by tightening the lock screws.

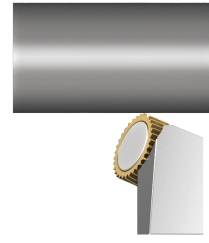
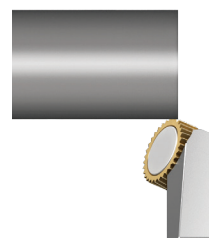
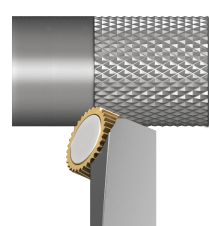
Knurling Adjustment Set Up

With the machine spindle rotating slowly, in-feed (Plunge) the tool to make a slight impression for the full width of the cutter. This impression should be equal on both wheels when using Diamond Knurling Head. Misaligned patterns can be corrected by turning the fine adjustment screw in opposite directions.

Knurling head center line adjustments

 R.H. Spiral		<ul style="list-style-type: none"> • Knurling tool is too low from center line. • Top wheel is cutting a deeper R.H. Diagonal Knurl. • Turn the Fine Center Adjustment Screw until both wheels are on center and touching simultaneously.
 L.H. Spiral		<ul style="list-style-type: none"> • Knurling tool is too high from center line. • Bottom wheel is cutting a deeper L.H. Diagonal Knurl. • Turn Fine Center Adjustment Screw until both wheels are on center and touching simultaneously.
 Diamond Knurl		<ul style="list-style-type: none"> • Tool is on center line. • Both wheels are touching simultaneously, cutting a perfect diamond knurl.

Starting Cutting Knurl

	1) Touch the workpiece diameter with the knurl wheels.
	2) Move the knurling wheel to the end of the workpiece <ul style="list-style-type: none"> • Set the cutting depth of the wheel (35% of the circular pitch) • Start knurl
	3) Use recommended cutting parameter <ul style="list-style-type: none"> • Use coolant

Full Faced Cutting Knurl Wheel

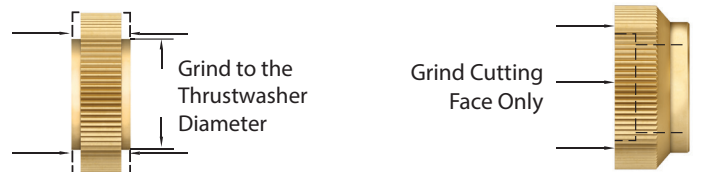
When cut knurling, a full faced knurl wheel must be used. The edge of the knurl wheel will be cut into the material to be knurled. A sharp edge must be kept to cut a clean and smooth knurl pattern. The knurl wheel can be reground once the edge is dull or chipped.

Edge Prep



Wheel Grinding

When the cutting edges of the knurl wheel become dull, sharpen them by grinding the cutting face of both wheels evenly. You can also grind forming wheels to desired width, but bevel afterwards.



R & M SERIES KNURL WHEEL

SW SERIES KNURL WHEEL

Easy to set up Simple to operate.

To minimize set up time of knurling application, and simplify the knurling operation, the CNC Modular Knurling Tool has been engineered to create a diamond knurling pattern, without the need of resetting the knurl wheels every time the workpiece diameter changes.

To cover the full range of diameter three modular cutting knurling head have been developed.

- 1) **Small diameter modular head**
- 2) **Medium diameter modular head**
- 3) **Large diameter modular head**

Small Diameter Head



Cutting Range

Small Diameter Cutting Range from 12mm to 38mm

End feed range: 0,10mm to 0,30mm

- Knurl cutting action
- Twin straight SW series knurl wheels for male diamond pattern
- Supplied with Full Faced SW2S-30-HS knurl wheels - TiN coated

Medium Diameter Head



Medium Diameter Cutting Range from 25mm to 127mm

End feed range: .From 0,10mm to 0,40mm

- Knurl cutting action
- Two straight R series knurl wheels for male diamond pattern
- Supplied with Full Faced RS-25-HS knurl wheels - TiN coated

Large Diameter Head



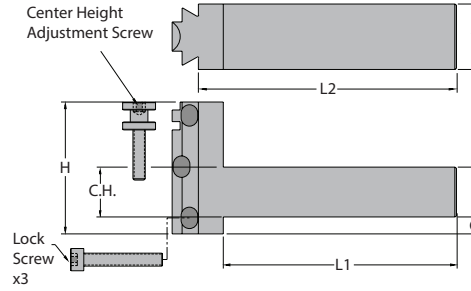
Large Diameter Cutting Range from 50mm & up

End feed range: 0,10mm to 0,63mm

- Knurl cutting action
- Two straight M series knurl wheels for male diamond pattern
- Supplied with Full Faced MS-25-HS knurl wheels - TiN coated

How the diamond CNC Modular Knurling tool works.

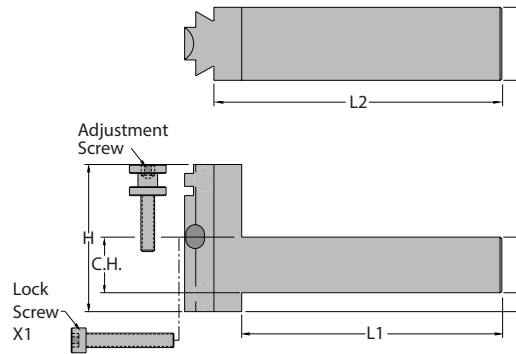
- 1) Choose the cutting diameter range of the knurl head
- 2) Set the knurling wheel on centerline of the workpiece
- 3) Touch the workpiece diameter with the knurl wheels.
- 4) Set the depth of cut (35% of the circle pitch)
- 6) Start to cut recommended cutting parameter



CNC Modular Knurling Tool Shank

Shank Metric Description	UPC #	C.H. & S mm	G	H	L1	L2	T	Adjustment Screw		Lock Screw Set	
								Description	UPC #	Description	UPC #
CNC-20*	21005	20mm	5,4	50,0	114,3	123,8	25,4				
CNC-25*	21015	25mm	-	50,0	114,3	123,8	25,4	CNC-1175	28505	CNC-1024**	28515
CNC-32*	21025	32mm	-	57,2	127,0	136,5	25,4				

* Supplied with lock screw set and adjustment screw
 ** One (1) set includes three (3) lock screws



- Easy set-up
- High productivity
- Best knurl quality
- Long knurl wheel life
- Low production cost
- Specifically designed for the CNC Lathe
- Precision square shank with preset center height
- Right or Left hand applications
- Shanks and heads are all interchangeable
- High Speed knurl wheels (TiN coated)
- Carbide knurl pin
- Center height adjustment

CNC Small Modular Knurling Tool Shank

Shank metric	UPC #	C.H. & S	G	H	L1	L2	T	Adjustment Screw		Lock Screw Set of 3	
								Description	UPC #	Description	UPC #
SCNC-10	20305	10	2,4	25,4	63,5	68,2	19,1				
SCNC-12	20315	12	0,4	25,4	69,9	74,5	19,1	SCNC-875	28510	SCNC-832	28520
SCNC-162	20325	16	0,0	28,6	69,9	74,5	19,1				

* Modular shank supplied with adjustment screw and screw lock

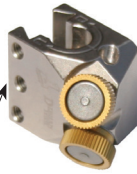
6 Modular Shank Sizes

8 Modular Heads

- Flexibility
- Multiple combinations
- Multiple applications
- Better performance
- Designed for the CNC Lathe
- Precision square shank with preset center height
- Right or Left hand applications
- Interchangeable shanks & heads
- High Speed knurl wheels (TiN coated)
- Supplied with heavy duty parts



1 Light Duty 60° Diamond Cutting Modular Knurling Head - CNCKH-1-2



Cutting

Small Diameter Cutting Range 8mm to 38mm

- End feed range: From 0,100mm to 0,30mm
- Knurl cutting action
 - Twin straight SW series knurl wheels for male diamond pattern
 - Supplied with Full Faced SW2S-30-HS knurl wheels - TiN coated

2 Heavy Duty 60° Diamond Cutting Modular Knurling Head - CNCKH-2-R



Cutting

Medium Diameter Cutting Range 25mm to 125mm

- End feed range: From 0,10mm to 0,40mm
- Knurl cutting action
 - Two straight R series knurl wheels for male diamond pattern
 - Supplied with Full Faced RS-25-HS knurl wheels - TiN coated

3 Extra Heavy Duty 60° Diamond Cutting Modular Knurling Head - CNCKH-3-M



Cutting

Large Diameter Cutting Range 50mm & up

- End feed range: From 0,10mm to 0,63mm
- Knurl cutting action
 - Two straight M series knurl wheels for male diamond pattern
 - Supplied with Full Faced MS-25-HS knurl wheels - TiN coated

4 Double Wheel Forming Knurling Modular Head - CNCKH-4-M



Forming

Diameter Range: 8mm & up

- End feed range: From 0,100mm to 0,30mm
- Knurl Forming action
 - Two M series knurl wheels for straight or diamond pattern
 - Supplied with Beveled MDR/L-25-HSB knurl wheels - TiN coated

5 Single Wheel Forming Modular Knurling Head - CNCKH-5-O

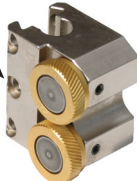


Forming

Straight Bump Unlimited Diameter

- End feed range: From 0,100mm to 0,30mm
- Knurl forming action
 - Single O series knurl wheel for straight or diamond pattern
 - Supplied with Beveled OS-25-HSB knurl wheel - TiN coated

6 Shoulder Forming Modular Knurling Head - CNCKH-6-4



Forming

Diameter Range: 8mm & up

- End feed range: From 0,100mm to 0,30mm
- Knurl forming action
 - Two SW series knurl wheels for straight or diamond pattern
 - Supplied with Beveled SW4R/L-25-HSB knurl wheels - TiN coated

7 Straddle Forming Modular Knurling Head - CNCKH-7-R



Forming

Diameter Range: 25mm

- End feed range: From 0,100mm to 0,30mm
- Knurl forming action
 - Two R series knurl wheels for straight or diamond pattern
 - Supplied with Beveled RDR/L-30-HSB knurl wheels - TiN coated

7-2 Shoulder Style Straddle Forming Modular Knurling Head - CNCKH-7-2

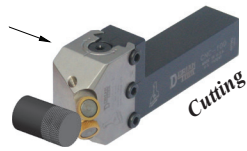


Forming

Diameter Range: up to 25mm

- End feed range: From 0,100mm to 0,30mm
- Knurl forming action
 - Two SW series knurl wheels for straight or diamond pattern
 - Supplied with Beveled SW2R/L-30-HSB knurl wheels - TiN coated

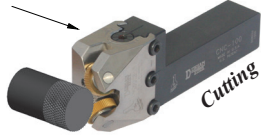
1 Light Duty 60° Diamond Cutting Modular Knurling Head + CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
CNC-20-1-2	20405	20	174,65	SW2			
CNC-25-1-2	20415	25	174,65	SW2	SW2.0P-2S	29055	CNCKH-1-2
CNC-32-1-2	20425	32	187,325	SW2			

Supplied with a set of Full Faced straight high speed TiN coated knurl wheels, 30 TPI (.8mm) for a male diamond pattern.

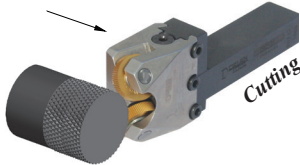
2 Heavy Duty 60° Diamond Cutting Modular Knurling Head + CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
CNC-20-2-R	20505	20	174,65	Series R			
CNC-25-2-R	20515	25	174,65		KPS-25- 87-C	28925	CNCKH-2-R
CNC-32-2-R	20525	32	187,325				

Supplied with a set of Full Faced straight high speed knurl wheels, 25 TPI (1mm) for a male diamond pattern.

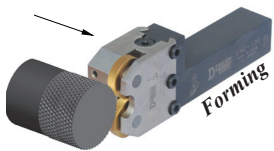
3 Extra Heavy Duty 60° Diamond Cutting Modular Knurling Head + CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
CNC-20-3-M	20605	20	177,8	Series M			
CNC-25-3-M	20615	25	177,8		KPS-31-100-C	28945	CNCKH-3-M
CNC-32-3-M	20625	32	190,5				

Supplied with a set of Full Faced straight high speed TiN coated knurl wheels, 25 TPI (1mm) for a male diamond pattern.

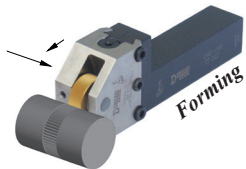
4 Double Wheel Forming Modular Knurling Head + CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
CNC-20-4-M	20640	20	177,8	Series M			
CNC-25-4-M	20642	25	177,8		KPS-31-125-C	28950	CNCKH-4-M
CNC-32-4-M	20644	32	190,5				

Supplied with a set of Beveled diagonal high speed beveled TiN coated knurl wheels, 25 TPI (1mm) for a male diamond pattern.

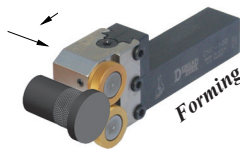
5 Single Wheel Forming Modular Knurling Head + CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
CNC-20-5-O	20705	20	171,45	Series O			
CNC-25-5-O	20715	25	171,45		KPS-31-125-C	28950	CNCKH-5-O
CNC-32-5-O	20725	32	184,15				

Supplied with one Beveled straight high speed beveled TiN coated knurl wheel, 25 TPI (1mm) for a straight pattern.

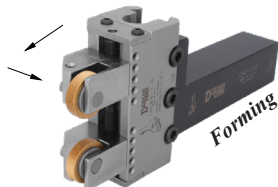
6 Shoulder Forming Modular Knurling Head + CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
CNC-20-6-4	20775	20	171,45	Series SW4			
CNC-25-6-4	20785	25	171,45		SW4.0P-2S	29085	CNCKH-6-4
CNC-32-6-4	20795	32	184,15				

Supplied with a set of Beveled diagonal high speed beveled TiN coated knurl wheels, 25 TPI (1mm) for a male diamond pattern.

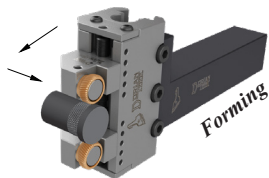
7-R Straddle Forming Modular Knurling Head + CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
CNC-20-7-R	20905	20	187,325	Series R			
CNC-25-7-R	20915	25	187,325		KPS-25-75-C	28915	CNCKH-7-R
CNC-32-7-R	20925	32	187,325				

Supplied with a set of Beveled diagonal high speed beveled TiN coated knurl wheels, 30 TPI (.8mm) for a male diamond pattern.

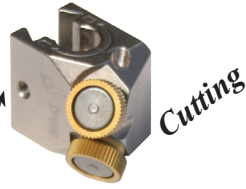
7-2 Shoulder Style Straddle Forming Knurling Head + CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
CNC-20-7-2	20935	20	182,88	Series SW2			
CNC-25-7-2	20945	25	182,88		SW2.0P-2S	29055	CNCKH-7-2
CNC-32-7-2	20955	32	193,675				

Supplied with a set of Beveled diagonal high speed beveled TiN coated knurl wheels, 30 TPI (.8mm) for a male diamond pattern.

1 SMALL Light Duty 60° Diamond Cutting Modular Knurling Head - SCNCKH-1-2



Small Cutting Range 8mm to 38mm

End feed range: From 0,100mm to 0,30mm

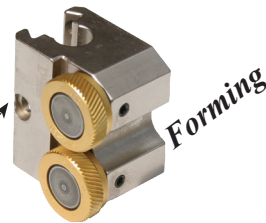
- Knurl cutting action
- Twin straight SW series knurl wheels for male diamond pattern
- Supplied with full faced SW2S-30-HS knurl wheels - TiN coated

3 Modular Shank Sizes

4 Modular Heads

- Flexibility
- Multiple combinations
- Multiple applications
- Better performance
- Designed for the CNC Lathe
- Precision square shank with preset center height
- Right or Left hand applications
- Interchangeable shanks & heads
- High Speed knurl wheels (TiN coated)
- Supplied with heavy duty parts

6 SMALL Shoulder Forming Modular Knurling Head - SCNCKH-6-2

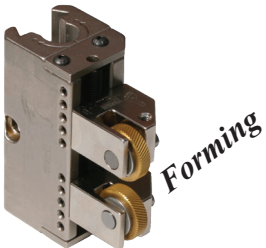


Diameter Range: 6,4mm & up

End feed range: From 0,100mm to 0,30mm

- Knurl forming action
- Twin SW series knurl wheels for straight or diamond pattern
- Supplied with beveled SW2R/L-25-HSB knurl wheels - TiN coated

7-D SMALL Straddle Forming Modular Knurling Head - SCNCKH-7-D

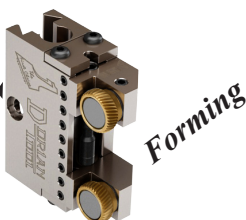


Diameter Range: up to 16mm

End feed range: From 0,100mm to 0,30mm

- Knurl forming action
- Twin D series knurl wheels for straight or diamond pattern
- Supplied with beveled DR/L-30-HSB knurl wheels - TiN coated

7-2 SMALL Shoulder Style Straddle Forming Modular Knurling Head - SCNCKH-7-2

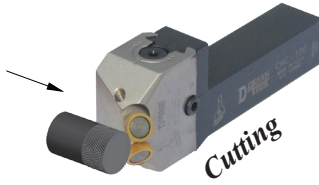


Diameter Range: up to 16mm

End feed range: From 0,100mm to 0,30mm

- Knurl forming action
- Twin SW series knurl wheels for straight or diamond pattern
- Supplied with beveled SW2R/L-30-HSB knurl wheels - TiN coated

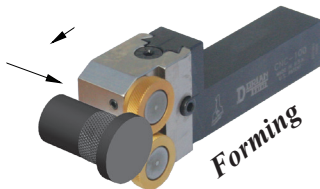
1 SMALL Light Duty 60° Diamond Cutting Modular Knurling Head + SMALL CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
SCNC-10-1-2	20005	10	101,6	SW2			
SCNC-12-1-2	20015	12	107,95	SW2	SW2.0P-2S	29055	SCNCKH-1-2
SCNC-162-1-2	20025	16	107,95	SW2			

Supplied with a set of Full Faced straight high speed TiN coated knurl wheels, 30 TPI (.8mm) for a male diamond pattern

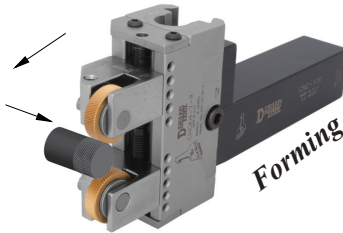
6 SMALL Shoulder Forming Modular Knurling Head + SMALL CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
SCNC-10-6-2	20105	10	101,6				
SCNC-12-6-2	20115	12	107,95	Series SW4	SW2.0P-2S	29055	SCNCKH-6-2
SCNC-162-6-2	20125	16	107,95				

Supplied with a set of Beveled diagonal high speed TiN coated knurl wheels, 25 TPI (1mm) for a male diamond pattern

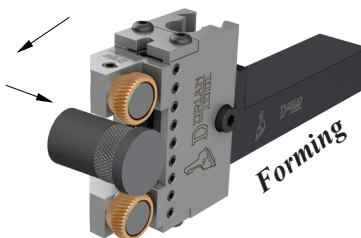
7-D SMALL Straddle Forming Modular Knurling Head + SMALL CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
SCNC-10-7-D	20205	10	114,3				
SCNC-12-7-D	20215	12	120,65	Series D	KPS-18-50-C	28905	SCNCKH-7-D
SCNC-162-7-D	20225	16	120,65				

Supplied with a set of Beveled diagonal high speed TiN coated knurl wheels, 30 TPI (8mm) for a male diamond pattern

7-2 SMALL Shoulder Style Straddle Forming Modular Knurling Head + SMALL CNC Modular Knurling Tool Shank



Description	UPC #	Shank Size mm	Tool Length	Knurl Wheel	Knurl Pin Set		Modular Head Description
					Description	UPC #	
SCNC-10-7-2	20275	10	114,3				
SCNC-12-7-2	20285	12	120,65	Series SW2	SW2.0P-2S	29055	SCNCKH-8-2
SCNC-162-7-2	20295	16	120,65				

Supplied with a set of Beveled diagonal high speed TiN coated knurl wheels, 30 TPI (.8mm) for a male diamond pattern

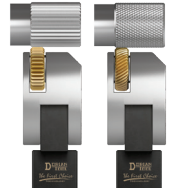


Self Centering

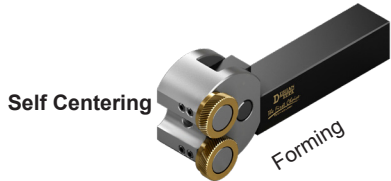
Forming

SCKN - Self-Centering Knurling Tool HD SCKN Heavy Duty Self-Centering Knurling Tool *Reversible Direction*

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
SCKN-10-DW-D	22161	D *	KPS-18-50	28805	10
SCKN-12-DW-D	22106	D *	KPS-18-50	28805	12
SCKN-162-DW-D	22115	D *	KPS-18-50	28805	16
SCKN-20-DW-M	22116	M **	KPS-31-100	28845	20
SCKN-25-DW-M	22126	M **	KPS-31-100	28845	25
SCKN-32-DW-M	22136	M **	KPS-31-100	28845	32
HD SCK-20-DW-O	22405	O **	KPS-31-125-C	28950	20
HD SCK-25-DW-O	22415	O **	KPS-31-125-C	28950	25
HD SCK-25-DW-P	22425	P **	KPS-50-125-C	28955	25
HD SCK-32-DW-P	22435	P **	KPS-50-125-C	28955	32



Supplied with one (1) set of beveled diagonal high speed knurl wheels, *30 TPI, **25 TPI
 *** Warning: May cause deflections on small part diameters, and too much pressure on large diameters

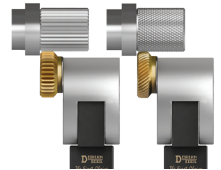


Self Centering

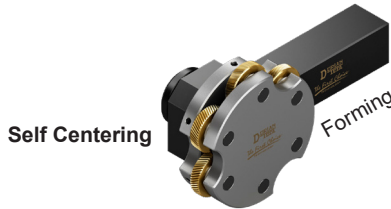
Forming

SCKK - Shoulder Self-Centering Knurling Tool *Reversible Direction*

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
SSCK-10-DW-2	22205	SW2 *	SW2.0P-2S	29055	10
SSCK-12-DW-2	22215	SW2 *	SW2.0P-2S	29055	12
SSCK-162-DW-2	22218	SW2 *	SW2.0P-2S	29055	16
SSCK-20-DW-4	22235	SW4 **	SW4.0P-2S	29085	20
SSCK-25-DW-4	22245	SW4 **	SW4.0P-2S	29085	25
SSCK-32-DW-4	22255	SW4 **	SW4.0P-2S	29085	32



Supplied with one (1) set of beveled diagonal high speed TiN coated knurl wheels, *30 TPI, **25 TPI
 *** Warning: May cause deflection on small part diameters, and too much pressure on large diameters



Self Centering

Forming

3SHKT - Three Swivel Head Knurling Tool *Reversible Direction*

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
3SHKT-12-D	21505	D *	KPS-18-62	28810	12
3SHKT-162-D	21515	D *	KPS-18-62	28810	16
3SHKT-20-M	21525	M **	KPS-31-100	28845	20
3SHKT-25-M	21535	M **	KPS-31-100	28845	25
3SHKT-32-M	21545	M **	KPS-31-100	28845	32



* Supplied with three (3) sets of beveled diagonal right and diagonal left high speed TiN coated knurl wheels, 20 TPI, 30 TPI, 40 TPI
 ** Supplied with three (3) sets of beveled diagonal right and diagonal left high speed TiN coated knurl wheels, 16 TPI, 25 TPI, 35 TPI.
 *** Warning: May cause deflection on small part diameters, and too much pressure on large diameters

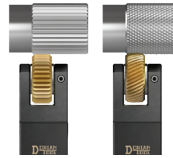


Fixed

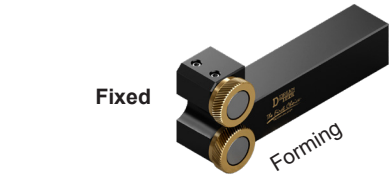
Forming

FKT - Fixed Forming Knurling Tool

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
FKT-10-D	21905	10	KPS-18-50	28805	10
FKT-12-D	21915	12	KPS-18-50	28805	12
FKT-162-D	21955	16	KPS-18-62	28810	16
FKT-20-M	21925	20	KPS-31-75	28840	20
FKT-25-M	21935	25	KPS-31-100	28845	25
FKT-32-O	21945	32	KPS-31-125	28850	32



Supplied with one (1) set of diagonal high speed beveled TiN coated knurl wheels, *30 TPI, ** 25 TPI
 *** Warning: May cause deflection on small part diameters, and too much pressure on large diameters

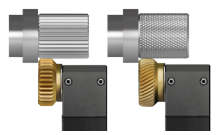


Fixed

Forming

SFKT - Shoulder Fixed Forming Knurling Tool

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
SFKT-10-2	22005	SW2 *	SW2.0P-2S	29055	10
SFKT-12-2	22015	SW2 *	SW2.0P-2S	29055	12
SFKT-162-2	22055	SW2 *	SW2.0P-2S	29055	16
SFKT-20-4	22025	SW4 **	SW4.0P-2S	29085	20
SFKT-25-4	22035	SW4 **	SW4.0P-2S	29085	25
SFKT-32-4	22045	SW4 **	SW4.0P-2S	29085	32



Supplied with one (1) set of beveled diagonal high speed TiN coated knurl wheels, * 30 TPI (0.8mm), ** 25 TPI (1.0mm)
 *** Warning: May cause deflections on small part diameters, and too much pressure on large diameters



Fixed

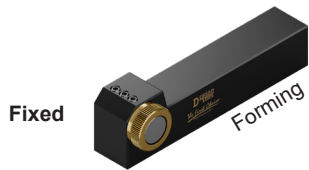
Forming

SWFKT - Single Wheel Fixed Forming Knurling Tool HD SWFKT - Heavy Duty Single Wheel Fixed Forming Knurling Tool

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
SWFKT-831-B	21705	B *	KPS-12-38	28800	8
SWFKT-10-D	21715	D *	KPS-18-50	28805	10
SWFKT-12-D	21725	D *	KPS-18-50	28805	12
SWFKT-162-D	21765	D *	KPS-18-62	28810	16
SWFKT-20-M	21735	M **	KPS-31-75	28840	20
SWFKT-25-O	21745	O **	KPS-31-100	28845	25
SWFKT-32-O	21755	O **	KPS-31-125	28850	32
HD SWFKT-20-O	21805	O **	KPS-31-100-C	28945	20
HD SWFKT-25-P	21815	P **	KPS-50-125-C	28955	25
HD SWFKT-32-P	21825	P **	KPS-50-125-C	28955	32



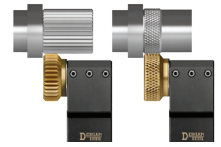
Supplied with one (1) straight high speed beveled TiN coated knurl wheel, *30 TPI, **25 TPI
 *** Warning: May cause deflection on small part diameters, and too much pressure on large diameters



SSWFKT - Single Shoulder Wheel Fixed Forming Knurling Tool

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
SSWFKT-10-2	21775	SW2 *	SW2.0P-1S	29050	10
SSWFKT-12-2	21779	SW2 *	SW2.0P-1S	29050	12
SSWFKT-162-2	21783	SW2 *	SW2.0P-1S	29050	16
SSWFKT-20-4	21787	SW4 **	SW4.0P-1S	29080	20
SSWFKT-25-4	21791	SW4 **	SW4.0P-1S	29080	25
SSWFKT-32-4	21795	SW4 **	SW4.0P-1S	29080	32

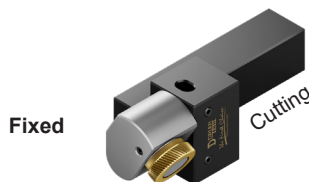
Supplied with one (1) beveled straight high speed TiN coated knurl wheel, * 30 TPI (0.8mm), ** 25 TPI (1.00mm)
 *** Warning: May cause deflection on small part diameters, and too much pressure on large diameters



107ST - Straight Cutting Knurling Tool With A Square Shank For CNC

Description	UPC #		Knurl Wheel	Knurl Pin Set		Shank Size
	R.H.	LH.		Description	UPC #	
107ST-12-R-RH/LH	21105	21205	RDL*	KPS-25-100-C	28930	12
107ST-162-R-RH/LH	21115	21215	RDL*	KPS-25-100-C	28930	16
107ST-20-M-RH/LH	21125	21225	MDL**	KPS-31-125-C	28950	20
107ST-25-M-RH/LH	21135	21235	MDL**	KPS-31-125-C	28950	25
107ST-32-M-RH/LH	21145	21245	MDL**	KPS-31-125-C	28950	32

Supplied with one (1) full faced diagonal left high speed TiN coated knurl wheel, * 30 TPI, ** 25 TPI
 *** Warning: May cause deflection on small part diameters, and too much pressure on large diameters



107ST - Straight Cutting Shoulder Knurling Tool With A Square Shank For CNC

Description	UPC #		Knurl Wheel	Knurl Pin Set		Shank Size
	R.H.	LH.		Description	UPC #	
107ST-12-2-R/L	21106	21206	SW2L*	SW2.0P-1S	29050	12
107ST-162-2-R/L	21116	21216	SW2L*	SW2.0P-1S	29050	16
107ST-20-4-R/L	21126	21226	SW4L**	SW4.0P-1S	29080	20
107ST-25-4-R/L	21136	21236	SW4L**	SW4.0P-1S	29080	25
107ST-32-4-R/L	21146	21246	SW4L**	SW4.0P-1S	29080	32

Supplied with one (1) full faced diagonal left high speed TiN coated knurl wheel, * 30 TPI (.8mm), ** 25 TPI (1.0mm)
 *** Warning: May cause deflection on small part diameters, and too much pressure on large diameters



FACEKT - Face Forming Knurling Tool

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
FACEKT-20-2	21615	SW2 *	SW2.0P-1S	29050	20
FACEKT-25-2	21625	SW2 *	SW2.0P-1S	29050	25
FACEKT-20-4	21635	SW4 **	SW4.0P-1S	29080	20
FACEKT-25-4	21645	SW4 **	SW4.0P-1S	29080	25

Supplied with one (1) beveled straight high speed TiN coated knurl wheel, * 30 TPI (.8mm), ** 25 TPI (1.0mm)
 *** Limited band width from knurl wheel



TIKT - True Internal Forming Knurling Tool

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
TIKT-12-B	22601	B *	KPS-12-38	28800	12
TIKT-20-D	22616	D *	KPS-18-50	28805	20
TIKT-25-R	22626	R **	KPS-25-75	28820	25
TIKT-32-M	22636	M **	KPS-31-100	28845	32

Supplied with one (1) set of beveled diagonal high speed knurl wheels, *30 TPI, **25 TPI
 *** Warning: May cause deflections on small part diameters, and too much pressure on large diameters



SIKT - Shoulder Internal Forming Knurling Tool

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
SIKT-12-2	22605	SW2 *	SW2.0P-1S	29050	12
SIKT-20-4	22615	SW4 **	SW4.0P-1S	29080	20
SIKT-25-4	22625	SW4 **	SW4.0P-1S	29080	25
SIKT-32-4	22635	SW4 **	SW4.0P-1S	29080	32

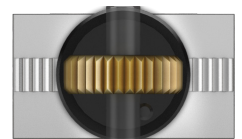
Supplied with one (1) beveled straight high speed TiN coated knurl wheel, * 30 TPI, ** 25 TPI.

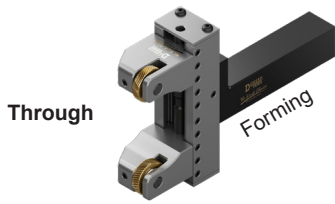


MMKT - Milling Machine Forming Knurling Tool

Description	UPC #	Knurl Wheel	Knurl Pin Set		Shank Size
			Description	UPC #	
MMKT-10-D	22505	D *	KPS-18-62	28810	10
MMKT-12-R	22515	R **	KPS-25-87	28825	12
MMKT-20-O	22525	O **	KPS-31-100	28845	20
MMKT-25-O	22535	O **	KPS-31-125	28850	25
MMKT-32-P	22545	P **	KPS-50-150	28860	32

Supplied with one (1) beveled straight high speed TiN coated knurl wheel, *30 TPI (0.8mm), **25 TPI (1.0mm)





Through

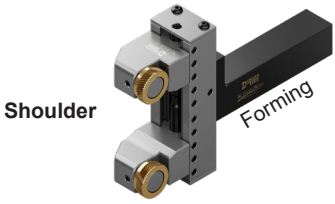
Forming

KTM109 Heavy Duty Style Straddle Square Shank Knurling Tool *Reversible Direction*

Description	UPC #	Diameter Range***	Knurl Wheel	Knurl Arm Set		Shank Size
				Supplied	Optional	
KTM109-20-15-M	22811	0 - 38mm	M*	W109-3-25-M	W109-3-25-4	20
KTM109-25-15-M	22812		M*	W109-3-25-M	W109-3-25-4	25
KTM109-32-15-M	22813		M*	W109-3-25-M	W109-3-25-4	32
KTM109-20-25-M	22819	3,2-63mm	M*	W109-3-25-M	W109-3-25-4	20
KTM109-25-25-M	22821		M*	W109-3-25-M	W109-3-25-4	25
KTM109-32-25-M	22822		M*	W109-3-25-M	W109-3-25-4	32



* Supplied with one (1) set of beveled diagonal high speed TiN coated knurl wheels for a male diamond pattern, 25 TPI
 ***Warning: This tool has the capability to adjust the wheels until they touch, but physically applying a knurl on small diameters may not be possible



Shoulder

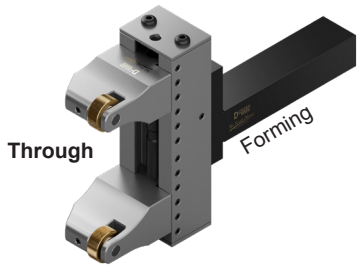
Forming

KTW109 Shoulder Style Straddle Square Shank Forming Knurling Tool *Reversible Direction*

Description	UPC #	Diameter Range***	Knurl Wheel	Knurl Arm Set		Shank Size
				Supplied	Optional	
KTW109-20-15-4	22828	0 - 38mm	SW4*	W109-3-25-4	W109-3-25-M	20
KTW109-25-15-4	22829		SW4*	W109-3-25-4	W109-3-25-M	25
KTW109-32-15-4	22831		SW4*	W109-3-25-4	W109-3-25-M	32
KTW109-20-25-4	22836	3,2-63mm	SW4*	W109-3-25-M	W109-3-25-4	20
KTW109-25-25-4	22838		SW4*	W109-3-25-M	W109-3-25-4	25
KTW109-32-25-4	22839		SW4*	W109-3-25-M	W109-3-25-4	32



* Supplied with one (1) set of beveled diagonal high speed TiN coated knurl wheels for a male diamond pattern, 25 TPI
 ***Warning: This tool has the capability to adjust the wheels until they touch, but physically applying a knurl on small diameters may not be possible



Through

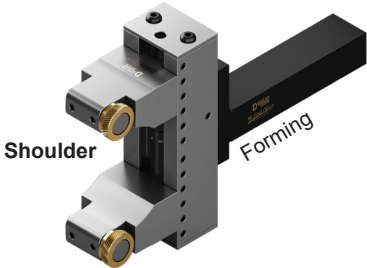
Forming

KTO109-40 Heavy Duty Style Straddle Square Shank Knurling Tool *Reversible Direction*

Description	UPC #	Diameter Range***	Knurl Wheel	Knurl Arm Set		Shank Size
				Supplied	Optional	
KTO109-25-40-O	22867	16- 100mm	O*	W109-3-40-O	W109-3-40-4	25
KTO109-32-40-O	22868		O*	W109-3-40-O	W109-3-40-4	32



* Supplied with one (1) set of beveled diagonal high speed TiN coated knurl wheels for a male diamond pattern, 25 TPI
 ***Warning: Physically applying a knurl on small diameters may not be possible



Shoulder

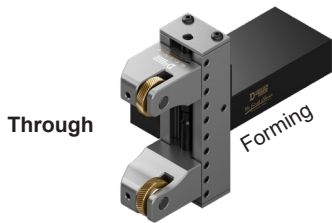
Forming

KTW109-40 Shoulder Style Straddle Square Shank Knurling Tool *Reversible Direction*

Description	UPC #	Diameter Range***	Knurl Wheel	Knurl Arm Set		Shank Size
				Supplied	Optional	
KTW109-25-40-4	22871	16- 100mm	SW4*	W109-3-40-4	W109-3-40-O	25
KTW109-32-40-4	22872		SW4*	W109-3-40-4	W109-3-40-O	32



* Supplied with one (1) set of beveled diagonal high speed TiN coated knurl wheels for a male diamond pattern, 25 TPI
 ***Warning: Physically applying a knurl on small diameters may not be possible



Through

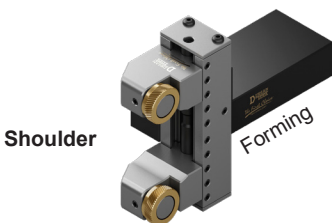
Forming

CNC109-M Side Mount Flange Style Square Shank Knurling Tool

Description	UPC #	Diameter Range***	Knurl Wheel	Knurl Arm Set		Shank Size
				Supplied	Optional	
CNC109-20-15-M-R/L	21443 21446	0 - 38mm	M*	W109-3-25-M	W109-3-25-4	20
CNC109-25-15-M-R/L	21444 21447		M*	W109-3-25-M	W109-3-25-4	25
CNC109-32-15-M-R/L	21445 21448		M*	W109-3-25-M	W109-3-25-4	32
CNC109-20-25-M-R/L	21455 21458	3,2-63,5mm	M*	W109-3-25-M	W109-3-25-4	20
CNC109-25-25-M-R/L	21456 21459		M*	W109-3-25-M	W109-3-25-4	25
CNC109-32-25-M-R/L	21457 21460		M*	W109-3-25-M	W109-3-25-4	32



* Supplied with one (1) set of beveled diagonal high speed TiN coated knurl wheels, 25 TPI
 *** Warning: This tool has the capability to adjust the wheels until they touch, but physically applying a knurl on small diameters may not be possible



Shoulder

Forming

CNC109-4 Side Mount Shoulder Style Square Shank Knurling Tool

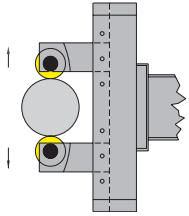
Description	UPC #	Diameter Range***	Knurl Wheel	Knurl Arm Set		Shank Size
				Supplied	Optional	
CNC109-20-15-4-R/L	21467 21470	0 - 38mm	SW4*	W109-3-25-4	W109-3-25-M	20
CNC109-25-15-4-R/L	21468 21471		SW4*	W109-3-25-4	W109-3-25-M	25
CNC109-32-15-4-R/L	21469 21472		SW4*	W109-3-25-4	W109-3-25-M	32
CNC109-20-25-4-R/L	21479 21482	3,2-63,5mm	SW4*	W109-3-25-4	W109-3-25-M	20
CNC109-25-25-4-R/L	21480 21483		SW4*	W109-3-25-4	W109-3-25-M	25
CNC109-32-25-4-R/L	21481 21484		SW4*	W109-3-25-4	W109-3-25-M	32



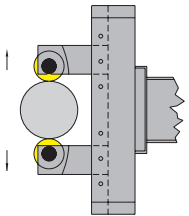
* Supplied with one (1) set of beveled diagonal high speed TiN coated knurl wheels, 25 TPI
 *** Warning: This tool has the capability to adjust the wheels until they touch, but physically applying a knurl on small diameters may not be possible

Diametral Forming Knurling Tools A diametral adjustment screw regulates the depth of the knurl pattern and the diameter size. The floating head will allow the knurl wheel to self adjust on the work piece - even when the work piece is not perfectly concentric. However, the tool can be used for twin wheel applications or single wheel knurling applications. This tool comes with a square shank to be used on open slot tool holders, or on a square index turret, with a preset center height adjustment which will meet the fixed center height of the CNC and the turret lathe. Body and shank are made of heat-treated, precision ground alloy steel. The dovetail guide ensures the most precise accuracy and rigidity for infinite diameter settings.

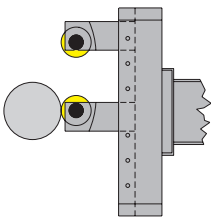
Heavy Duty Style Forming Knurling Tool



Straddle application is best when pressure and deflection are a problem. The knurling arms are able to "float" somewhat and center on the workpiece, compensating for any off-centering. It has been developed to make a perfect knurling pattern without putting any pressure on the spindle or on the lathe compound.



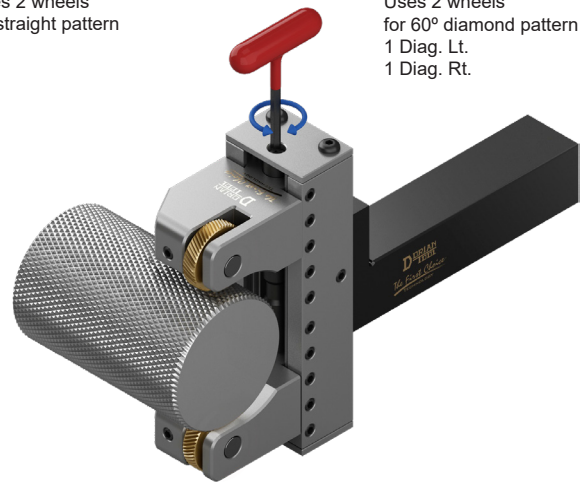
Bump application is best for narrow knurling applications. The knurling arms are moved closer together so that the tool can "bump" against the side of the working part with two wheels touching the part.



Single wheel application is best for narrow and quick knurling setup. The knurling arms are moved up so that the bottom knurling wheel is locked on center and can "bump" against the side of the working part. With one wheel touching the part, this configuration allows for a quicker setup and knurling of narrow knurling applications.

Uses 2 wheels for straight pattern

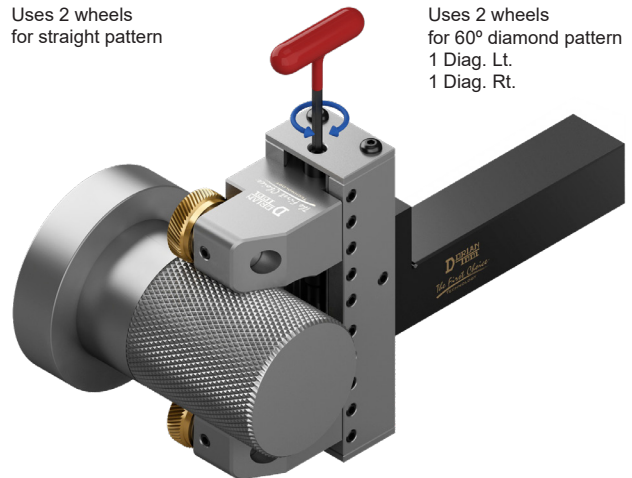
Uses 2 wheels for 60° diamond pattern
1 Diag. Lt.
1 Diag. Rt.



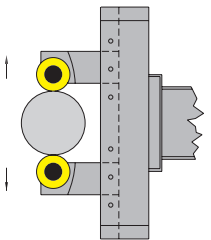
Knurl wheels are supported in a flanged nest to offer best rigidity to handle heavy duty knurling. The knurl wheels are mounted between thrust washers to insure a smooth and even rotation while knurling is performed.

Uses 2 wheels for straight pattern

Uses 2 wheels for 60° diamond pattern
1 Diag. Lt.
1 Diag. Rt.



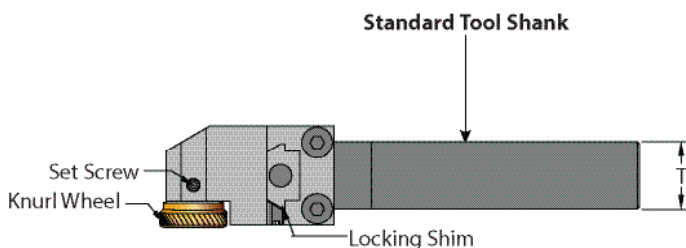
Shoulder Style Forming Knurling Tool



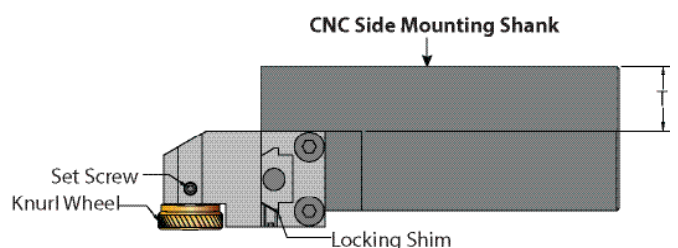
Straddle application is best when pressure and deflection are a problem. The knurling arms are able to "float" somewhat and center on the workpiece, compensating for any off-centering. It has been developed to make a perfect knurling pattern without putting any pressure on the spindle or on the lathe compound.

Designed to knurl against a square shoulder. The knurl wheels are mounted on a thrust washer to insure a smooth and even rotation while knurling is performed. The wheels are held at slight pitch to the work part for better end feeding (feeding across the part towards the chuck).

Knurling Tool Shank Mounting



For Standard to Mounting

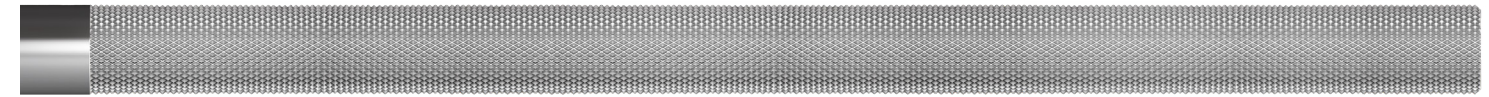


For restricted indexing clearance of the CNC Turret

3 WHEEL KNURLING TOOL

FOR CUTTING & FORMING

Infinite Lengths with Diameters Small as 2,16mm to 38mm



Heavy Duty Shoulderless Carbide Pin



High Speed Pin

PROPERTIES

1. For small diameters

When side pressure does not allow the use of a one or two wheel knurling tool.

2. For long lengths

When support or live center is not permissible. The part would deflect if a standard one or two wheel knurling tool is used.

3. For high precision knurling

When the finished diameter of the knurled part demands close tolerance. The three wheel knurling system applies less pressure per wheel controlling the displacement and the form of the material. This makes the knurl uniform and precise.

4. For high production

High production without sacrificing performance and quality.

5. For automation

When cost is a factor. The high performance of this tool will keep the manufacturing cost lower.

6. Which machine to use on

Automatic Screw Machines, CNC Lathes, and Turret Lathes.

FEATURES:

- Minimum diameter 2,16mm
- Maximum diameter 38,1mm
- For straight or diamond knurl
- Infinite lengths
- Precise scroll gear
- Fine diameter adjustment
- Dial allows for visual diameter adjustment
- Knurl to a shoulder
- Self-adjust to parts and tool misalignment
- Easy to setup
- Simple to operate
- Manual knurl diameter release for manual lathes

3WSKT -Three wheel knurling tool with optional round or square shanks

- Made of heat treated precision ground alloy steel.
- The dovetail guide and adjustable arms ensure the most possible accuracy and rigidity.
- A precise scroll gear allows for fine diameter settings.
- Scaled dial makes setting the diameter easy.
- This tool is engineered for most demanding knurling jobs in Screw Machine, C.N.C. Lathe, and Turret Lathe Applications.
- Square shank can be reversed for right hand or left hand operation.
- Square shank with preset center height.

Resulting Knurl Pattern

Straight pattern with 3 straight wheels



Male 60° diamond pattern with diagonal wheels (2 Right & 1 Left or 2 Left & 1 Right)

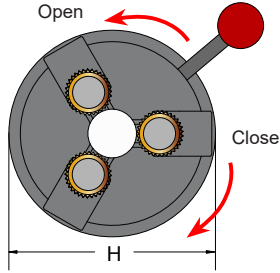


Recommended Use:

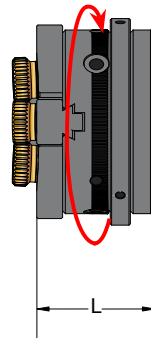
For best results, use beveled knurl wheels. End-feed the knurling tool into the blank until the desired length of the knurl is done.

The Three Wheel Knurling Tool can knurl up to a shoulder, minimum diameter of 2,16mm up to 38,1mm diameter, and infinite lengths. The Heavy Duty Three Wheel Knurling Tool is recommended for shoulderless applications for improved wheel life.

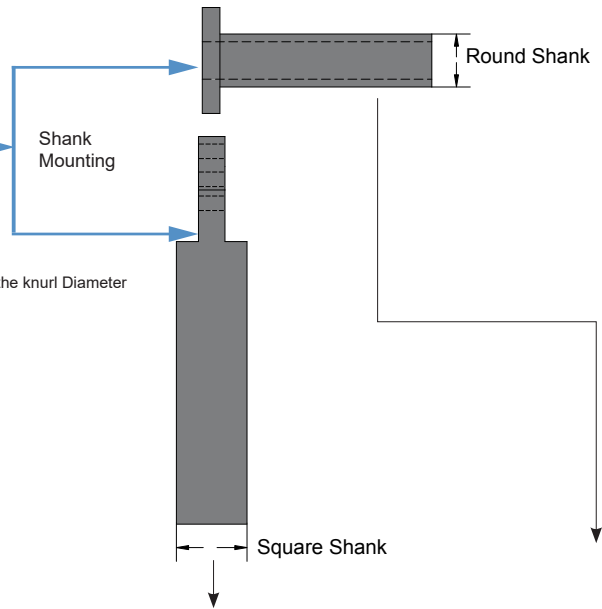
3 Wheel Knurling Tool Head to the Shoulder



Knurling diameter setting



Use to Adjust the knurl Diameter



Specifications

Description	UPC #	Capacity	H	L	Knurl Wheel Style	Knurl Pin Set***	UPC #
3WKT-12-2	23009	2,16mm to 12,7mm	57,2mm	40,0mm	SW2 *	SW2.0P-3S	29060
3WKT-25-2	23024	3,2mm to 25,4mm	76,2mm	40,0mm	SW2 *	SW2.0P-3S	29060
3WKT-40-2	23034	4,75mm to 38,1m	108mm	62,0mm	SW2 *	SW2.0P-3S	29060

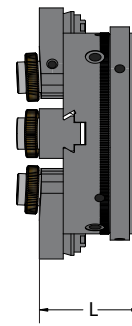
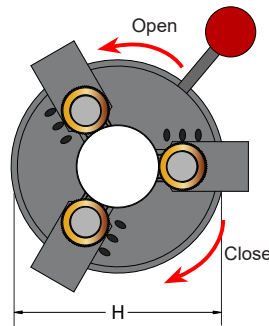
Optional Square Shank

Description	UPC #	Shank Size	
		Square	Length
3WSKT-06-12	23096	12mm	75mm
3WSKT-06-162	23097	16mm	88mm
3WSKT-06-20	23098	20mm	100mm
3WSKT-12-162	23082	16mm	88mm
3WSKT-12-20	23100	20mm	100mm
3WSKT-12-25	23101	25mm	125mm
3WSKT-25-20	23103	20mm	100mm
3WSKT-25-25	23104	25mm	125mm
3WSKT-40-25	23113	25mm	125mm

Optional Round Shank

Description	UPC #	Shank Size	
		Dia.	Length
3WRKT-06-12	23105	12mm	75mm
3WRKT-06-162	23106	16mm	88mm
3WRKT-06-20	23107	20mm	100mm
3WRKT-12-162	23115	16mm	88mm
3WRKT-12-20	23116	20mm	100mm
3WRKT-12-25	23117	25mm	125mm
3WRKT-25-20	23125	20mm	100mm
3WRKT-25-25	23126	25mm	125mm
3WRKT-40-25	23135	25mm	125mm

3-Wheel Knurling Tool Heavy Duty Shoulderless



3 Wheel Knurling Tool Head Specifications

Description	UPC #	Capacity	H	L	Knurl Wheel Style	Knurl Pin Set***	UPC #

Optional Square Shank

Description	UPC #	Shank Size	
		Square	Length
3WSKT-40-25	23113	25mm	125mm

Optional Round Shank

Description	UPC #	Shank Size	
		Dia.	Length
3WRKT-40-25	23135	25mm	125mm

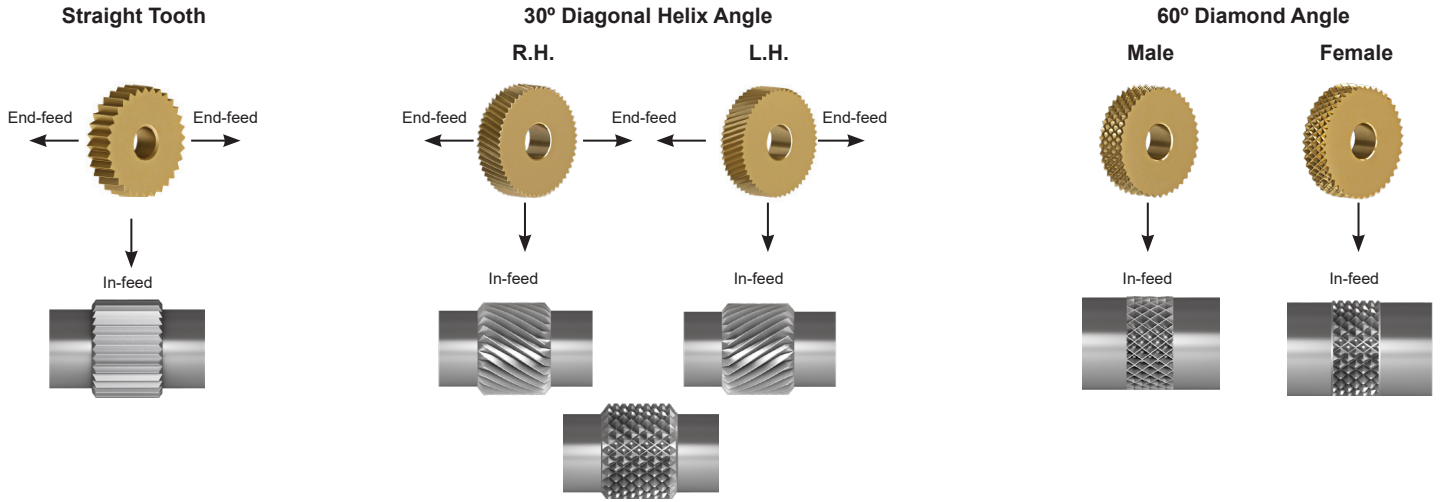
Knurl Tool Head and Optional Shanks are Sold Separately

* Supplied with one (1) set of two (2) diagonal right and one (1) diagonal left beveled high speed TiN coated knurl wheels, 30 TPI (0,8mm)

** Supplied with one (1) set of two (2) diagonal right and one (1) diagonal left beveled high speed TiN coated knurl wheels, 25 TPI (1,0mm)

*** One (1) set consists of three (3) knurling pins and washers

Knurling Wheel Tooth Pattern & Workpiece Knurl Pattern



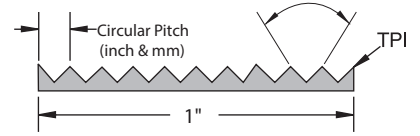
Full Faced: Sharp leading edge for Cutting Type knurling tools only.

Beveled Edge: Edge security for forming type knurling tools only.

Knurl Wheel Material

High Speed Steel Knurl Wheels: Tough and shock resistant. Best recommended for materials such as Carbon Steel, Alloy Steel, and Stainless Steel.

Cobalt Knurl Wheels: The 8.5% cobalt content adds hardness and wear resistance to the wheels. Best recommended for abrasive and soft materials such as Free Machining Steel, Aluminum, and nonferrous materials

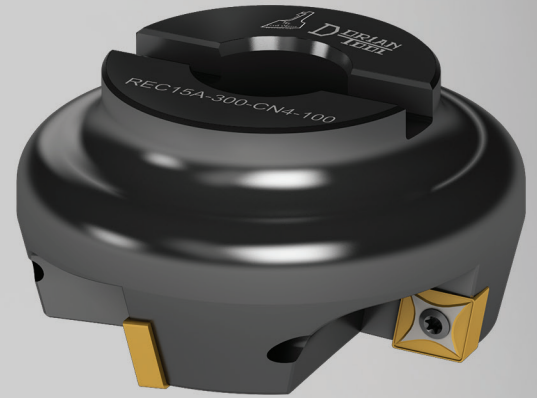


Knurl Wheel Series	Description	Pattern	Grade	Edge Prep	Pitch											
					2,5mm	2mm	1,8mm	1,6mm	1,2mm	1,0mm	0,8mm	0,7mm	0,6mm	0,5mm	0,3mm	
A 	AS-TPI-HS	Straight	High Speed	Sharp Corner	23502	23504	23506	23508	23510	23512	23514	23516	23518	23520	-	
	AS-TPI-HSB		TiN Coated	Beveled Corner	-	23537	-	23541	23543	-	-	-	-	-	-	-
	AS-TPI-C		Cobalt	Sharp Corner	-	-	-	-	23576	23578	23580	23582	-	-	-	-
	AS-TPI-CB		TiN Coated	Beveled Corner	-	23603	-	23607	-	23611	23613	23615	23617	23619	-	-
	ADR-TPI-HS	Diagonal Right	High Speed	Sharp Corner	23634	23636	23638	23640	23642	23644	23646	-	23650	23652	-	
	ADR-TPI-HSB		TiN Coated	Beveled Corner	23667	23669	-	-	23675	23677	-	-	23683	-	-	
	ADR-TPI-C		Cobalt	Sharp Corner	23700	23702	-	23706	23708	23710	-	-	-	-	-	
	ADR-TPI-CB		TiN Coated	Beveled Corner	-	-	23737	-	-	23743	-	23747	-	-	-	
	ADL-TPI-HS	Diagonal Left	High Speed	Sharp Corner	23766	23768	23770	23772	23774	23776	23778	-	23782	23784	-	
	ADL-TPI-HSB		TiN Coated	Beveled Corner	23799	23801	23803	-	23807	23809	-	-	23815	-	-	
	ADL-TPI-C		Cobalt	Sharp Corner	23832	23834	-	23838	23840	23842	-	-	-	-	-	
	ADL-TPI-CB		TiN Coated	Beveled Corner	-	-	23869	-	-	23875	23877	23879	-	-	-	
AM-TPI-HS	Male Diamond	High Speed	Sharp Corner	-	-	-	-	23906	23908	-	-	23914	23916	-		
AM-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	23939	-	-	-	-	-	-		
AF-TPI-HS	Female Diamond	High Speed	Sharp Corner	-	-	-	23970	-	-	-	-	-	-	-		
AF-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	-	-	-	-	-	-	-		
B 	BS-TPI-HS	Straight	High Speed	Sharp Corner	-	-	-	-	-	-	-	-	24110	-	-	
	BS-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	-	-	24129	-	-	-	24137	
	BS-TPI-C		Cobalt	Sharp Corner	-	-	-	-	-	-	24152	24154	24156	24158	-	
	BS-TPI-CB		TiN Coated	Beveled Corner	-	-	-	-	-	-	-	-	-	-	-	
	BDR-TPI-HS	Diagonal Right	High Speed	Sharp Corner	-	-	-	-	-	-	-	24200	24202	-	-	
	BDR-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	-	-	24221	-	-	-	-	
	BDR-TPI-C		Cobalt	Sharp Corner	-	-	-	-	-	-	-	-	24248	-	-	
	BDR-TPI-CB		TiN Coated	Beveled Corner	-	-	-	-	-	-	24267	-	-	-	-	
	BDL-TPI-HS	Diagonal Left	High Speed	Sharp Corner	-	-	-	-	-	-	-	24292	24294	-	-	
	BDL-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	-	-	24313	-	-	-	-	
	BDL-TPI-C		Cobalt	Sharp Corner	-	-	-	-	-	-	-	-	24340	-	-	
	BDL-TPI-CB		TiN Coated	Beveled Corner	-	-	-	-	-	-	24359	-	-	-	-	
C 	CS-TPI-HS	Straight	High Speed	Sharp Corner	-	-	-	24502	24504	24506	24508	24510	24512	24514	24516	
	CS-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	-	-	-	-	-	-	-	
	CS-TPI-C		Cobalt	Sharp Corner	-	-	-	-	-	-	24562	-	24566	24568	24570	
	CS-TPI-CB		TiN Coated	Beveled Corner	-	-	-	-	-	-	-	-	-	-	24597	
	CDR-TPI-HS	Diagonal Right	High Speed	Sharp Corner	-	-	-	24610	-	24614	24616	-	-	-	24624	
	CDR-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	-	24641	-	-	-	-	-	
	CDR-TPI-C		Cobalt	Sharp Corner	-	-	-	-	-	24668	24670	-	24674	-	24678	
	CDR-TPI-CB		TiN Coated	Beveled Corner	-	-	-	-	-	-	-	-	-	-	-	
	CDL-TPI-HS	Diagonal Left	High Speed	Sharp Corner	-	-	-	24718	24720	24722	24724	-	-	-	24732	
	CDL-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	-	24749	-	-	-	-	-	
	CDL-TPI-C		Cobalt	Sharp Corner	-	-	-	-	-	24776	24778	-	24782	-	24786	
	CDL-TPI-CB		TiN Coated	Beveled Corner	-	-	-	-	-	-	-	-	-	-	-	
CM-TPI-HS	Male Diamond	High Speed	Sharp Corner	-	-	-	-	-	-	-	-	24836	-	-		
CM-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	-	-	-	-	-	-	-		
CF-TPI-HS	Female Diamond	High Speed	Sharp Corner	-	-	-	-	-	24884	-	-	-	24892	-		
CF-TPI-HSB		TiN Coated	Beveled Corner	-	-	-	-	-	-	-	-	-	-	-		

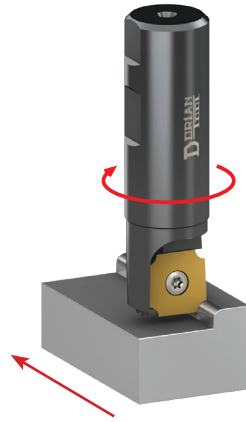
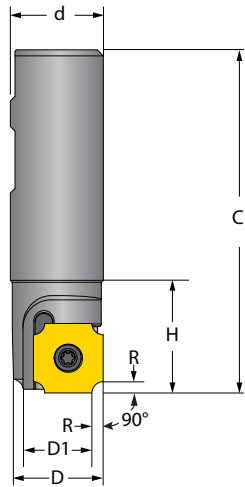
NOTE: For forming-type knurling tools, beveled wheels are recommended for longer tool life. For cutting-type tools, full-face (sharp corner) wheels are the only choice. All Dorian Tool knurl wheels are PVD TiN coated to provide less friction and longer tool life. For a complete selection of knurling wheels, please refer to our general catalog.

MILLING CUTTERS AND INSERTS

- FACE MILLING
- CORNER ROUNDING
- CHAMFERING
- DOVETAIL
- T-SLOT
- WOODRUFF KEY SEAT
- SLOT MILLING
- SHOULDER MILLING

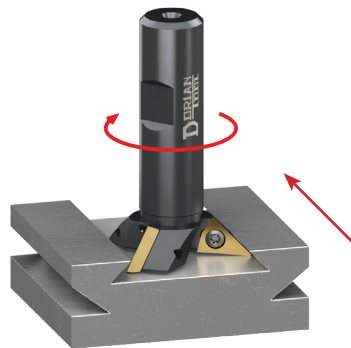
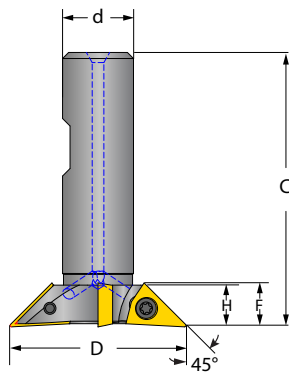


Convex Radius Cutter - Cutting Rake - 15° for 15° positive square convex radius SDGX inserts



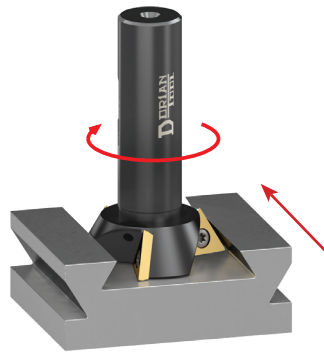
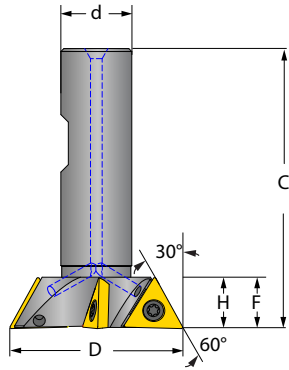
Description	UPC #	C	D	D1	d	H	R-Range		Insert Qty.	SDGX Gage Insert	Insert Torx Screw	Torx Key
							Min.	Max.				
QV-16-S304-12	66500	76,2	15,9	12,8	12	25,4	0,4	1,6	1	09T308	TS-4.7-8M1	T-15
QV-16-S304-16	66501	82,5	15,9	12,8	16	25,4	0,4	1,6	1			
QV-25-S608-20	66505	88,9	25,4	19,2	20	25,4	2,0	3,2	1	190408	TS-5.8-10M1	T-20
QV-25-S608-25	66506	92,1	25,4	19,2	25	28,6	2,0	3,2	1			
QV-25-S612-20	66508	88,9	25,4	16,1	20	25,4	2,0	4,8	1			
QV-25-S612-25	66509	92,1	25,4	16,1	25	28,6	2,0	4,8	1	190408	TS-5.8-10M1	T-20
QV-50-S612-25	66510	95,3	50,8	41,3	25	31,8	2,0	4,8	3			
QV-25-S616-20	66511	88,9	25,4	13,0	20	25,4	3,6	6,4	1			
QV-25-S616-25	66512	92,1	25,4	13,0	25	28,6	3,6	6,4	1	190408	TS-5.8-10M1	T-20
QV-50-S616-25	66513	95,3	50,8	38,1	25	31,8	3,6	6,4	3			

45° Dove Tail - Cutting Rake - 11° for 11° positive TDEX inserts.



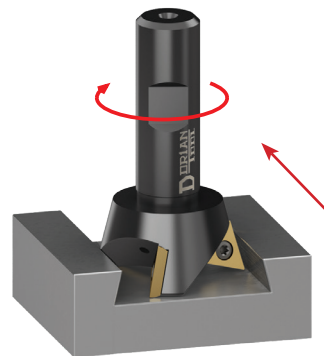
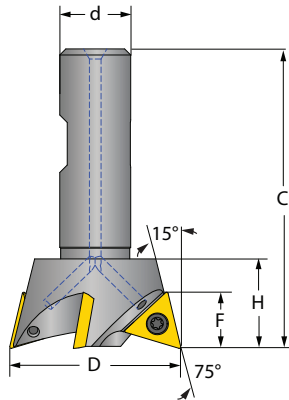
Description	UPC #	C	D	d	F	H	Insert Qty.	TDEX Gage Insert	Insert Torx Screw	Torx Key
D45X-12-TD09-10	66520	60,7	12,7	10	3,2	2,9	1			
D45X-20-TD09-10	66521	60,7	19,1	10	4,0	5,0	2	090202	TS-25.45-6M1	T-7
D45X-25-TD09-12	66522	60,3	25,4	12	6,3	5,7	3			
D45X-25-TD17-16	66523	76,2	34,9	16	11,1	9,1	2	17T304	TS-4.7-8M1	T-15
D45X-50-TD17-20	66524	76,2	47,6	20	11,1	10,4	3			
D45X-60-TD25-25	66525	88,9	57,2	25	15,9	16,7	2	250404	TS-5.8-10M1	T-20
D45X-65-TD25-25	66526	88,9	63,5	25	16,5	16,8	3			

60° Dove Tail Cutter - Cutting Rake - 15° for 15° positive triangle TDEX inserts.



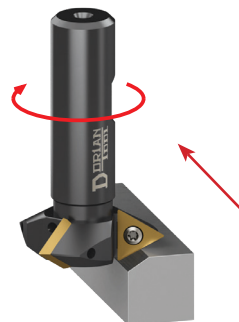
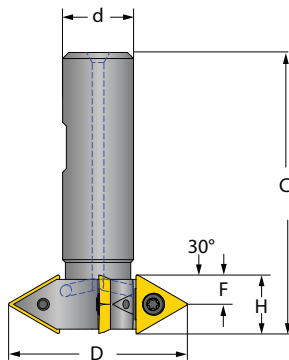
Description	UPC #	C	D	d	F	H	Insert Qty.	TDEX Gage Insert	Insert Torx Screw	Torx Key
D60X-12-TD11-10	66530	60,7	12,7	10	8,3	3,6	1			
D60X-20-TD11-10	66531	60,7	19,1	10	8,3	7,2	2	110204	TS-25.45-6M1	T-7
D60X-25-TD11-12	66532	60,7	25,4	12	8,3	9,5	3			
D60X-35-TD16-16	66533	72,7	34,9	16	13,0	14,0	3	160308	TS-4.7-8M1	T-15
D60X-50-TD16-20	66534	76,2	47,6	20	13,0	14,0	3	160308	TS-4.7-10M1	T-15
D60X-60-TD22-25	66535	88,9	57,2	25	17,8	19,1	3			
D60X-65-TD22-25	66536	88,9	63,5	25	17,8	19,1	3	220408	TS-5.8-10M1	T-20

15° Dove Tail - Cutting Rake - 15° for 15° positive TDEX inserts.



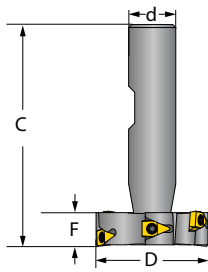
Description	UPC #	C	D	d	F	H	Insert Qty.	TDEX Gage Insert	Insert Torx Screw	Torx Key
D15X-12-TD11-10	66514	61,5	12,7	10	9,1	10,7	1			
D15X-25-TD11-12	66515	61,5	25,4	12	9,1	10,7	3	110204	TS-25.45-6M1	T-7
D15X-50-TD16-20	66516	76,2	47,6	20	14,0	19,1	3	160308	TS-4.7-10M1	T-15
D15X-65-TD22-25	66517	95,3	63,5	25	19,1	25,4	3	220408	TS-5.8-10M1	T-20

Double 30° Indexable Chamfer Mill Cutting Rake - 15° for 15° positive triangle TDEX inserts



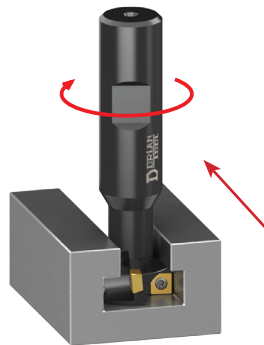
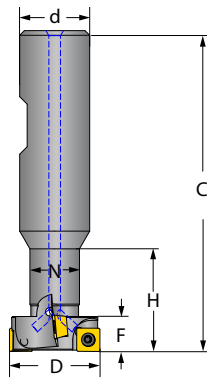
Description	UPC #	C	D	d	F	H	Insert Qty.	TDEX Gage Insert	Insert Torx Screw	Torx Key
C60-20-TD11-10	66901	60,7	19,1	10	5,2	10,4	1			
C60-25-TD11-12	66902	60,7	25,4	12	5,2	10,4	3	110204	TS-25.45-6M1	T-7
C60-35-TD11-16	66903	60,7	34,9	16	5,2	10,4	3			
C60-40-TD16-16	66904	76,2	38,1	16	8,0	15,9	3	160308	TS-4.7-8M1	T-15
C60-50-TD16-20	66905	76,2	47,6	20	8,0	15,9	3			
C60-65-TD22-25	66907	88,9	63,5	25	10,7	21,4	3	220408	TS-5.8-10M1	T-20

WOODRUFF KEY SEAT CUTTER Cutting Rake - 20° for positive TEHW inserts



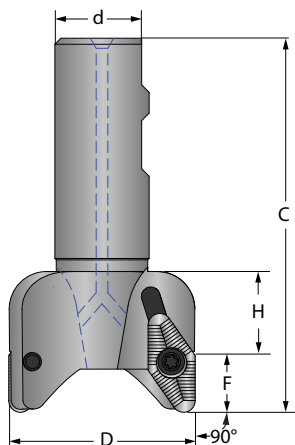
Description	UPC #	C	D	d	F	Insert Qty.	TEHW Gage Insert	Insert Torx Screw	Torx Key
DWKC-195-TE06-10	66550	63	19,5	10	5	2			
DWKC-196-TE06-10	66551	63	19,5	10	6	2	0602	TS-06	T-6
DWKC-225-TE06-10	66552	63	22,5	10	5	2			
DWKC-226-TE06-10	66553	63	22,5	10	6	2	0602	TS-06	T-6
DWKC-228-TE06-10	66554	63	22,5	10	8	2			
DWKC-256-TE06-10	66555	63	25,5	10	6	3	0602	TS-06	T-6
DWKC-286-TE06-10	66556	63	28,5	10	6	6			
DWKC-288-TE06-10	66557	63	28,5	10	8	6	0602	TS-06	T-6
DWKC-2810-TE06-12	66558	71	28,5	12	10	6			
DWKC-328-TE06-12	66559	71	32,5	12	8	6	0602	TS-06	T-6
DWKC-3210-TE06-12	66560	71	32,5	12	10	6			
DWKC-4510-TE06-12	66561	71	45,5	12	10	6	0602	TS-06	T-6

T-SLOT CUTTER Cutting Rake - 20° for positive TEHW/CEHW inserts



Description	UPC #	C	D	d	F	H	N	No. Inserts	No.Flutes	Gage Insert	Insert Torx Screw	Torx Key
SLOT-21-SP06-12	66562	74	21	12	9	-	12	2	1			
SLOT-25-SP06-16	66563	82	25	16	11	32	14	4	2	SPHX-060304	TS-25.45-6M2	T-15
SLOT-28-SP06-16	66564	82	28	16	12	-	16	4	2			
SLOT-32-SP06-16	66565	90	32	16	14	34	18	3	1			
SLOT-36-SD09-25	66566	103	36	25	16	47	20	4	2			
SLOT-40-SD09-25	66567	108	40	25	17	49	22	4	2	SDGW-090308	TS-35.6-9M1	T-20
SLOT-45-SD09-25	66568	113	45	25	20	49	24	5	2			
SLOT-50-SD09-32	66569	124	50	32	22	60	28	5	2			

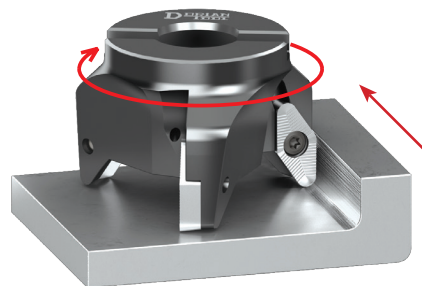
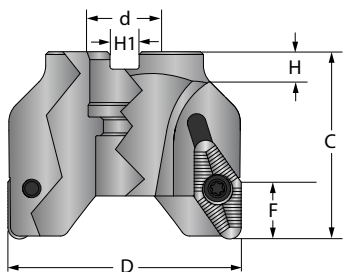
90° Aluminum Milling Cutter - Cutting Rake - 7° for 7° positive 35° diamond VCGT inserts



End Mill

Description	UPC #	C	D	d	F	H	Insert Qty.	VCGT Gage Insert	Insert Torx Screw	Torx Key
E90-50-VC22-20	67200	95	50	20	16	38	2			
E90-50-VC22-25	67201	100	50	25	16	38	2	220432	TS-5.8-10M1	T-20

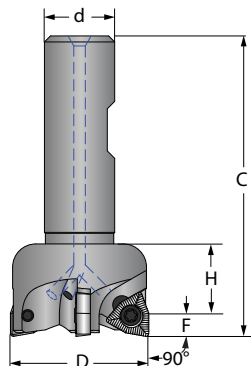
90° Aluminum Milling Cutter - Cutting Rake - 7° for 7° positive 35° diamond VCGT inserts



Face Mill

Description	UPC #	C	D	d	F	H	H1	Insert Qty.	VCGT Gage Insert	Insert Torx Screw	Torx Key
E90A-50-VC16-22	67202	50	50	22	14	6,3	10,4	2	160412	TS-4.7-8M1	T-15
E90A-63-VC22-22	67203	50	63	22	16	6,3	10,4	2			
E90A-75-VC22-27	67204	50	76	27	16	7	12,4	3	220432	TS-5.8-10M1	T-20
E90A-100-VC22-32	67205	50	100	32	16	8	14,4	3			
E90A-125-VC22-32	67206	50	124	40	16	8	14,4	4			

90° Aluminum Milling Cutter - Cutting Rake - 7° for 7° positive trigon WCGT inserts



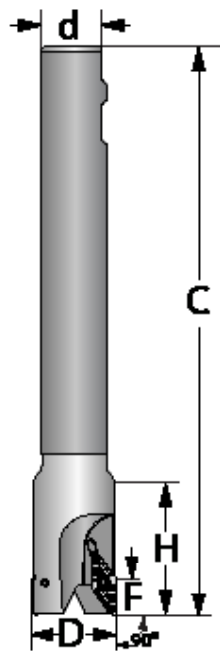
End Mill

Description	UPC #	C	D	d	F	H	Insert Qty.	WCGT Gage Insert	Insert Torx Screw	Torx Key
E90-32-WC06-20	67216	75	32	20	6,3	20	3			
E90-50-WC06-25	67217	82	50	25	6,3	20	3	06T308	TS-35.6-9M1	T-15

Face Mill

Description	UPC #	C	D	d	F	H	H1	Insert Qty.	WCGT Gage Insert	Insert Torx Screw	Torx Key
E90A-050-WC06-22	67218	40	50	22	6,3	6,3	10,4	3			
E90A-063-WC06-27	67219	45	63	27	6,3	7	12,4	4			
E90A-075-WC06-27	67220	45	76	27	6,3	7	12,4	4	06T308	TS-35.6-9M1	T-15
E90A-100-WC06-32	67221	50	100	32	6,3	8	14,4	5			
E90A-125-WC06-32	67222	50	124	32	6,3	8	14,4	6			

90° Aluminum Copy Mill - Cutting Rake - 11° for 11° positive VPGT inserts



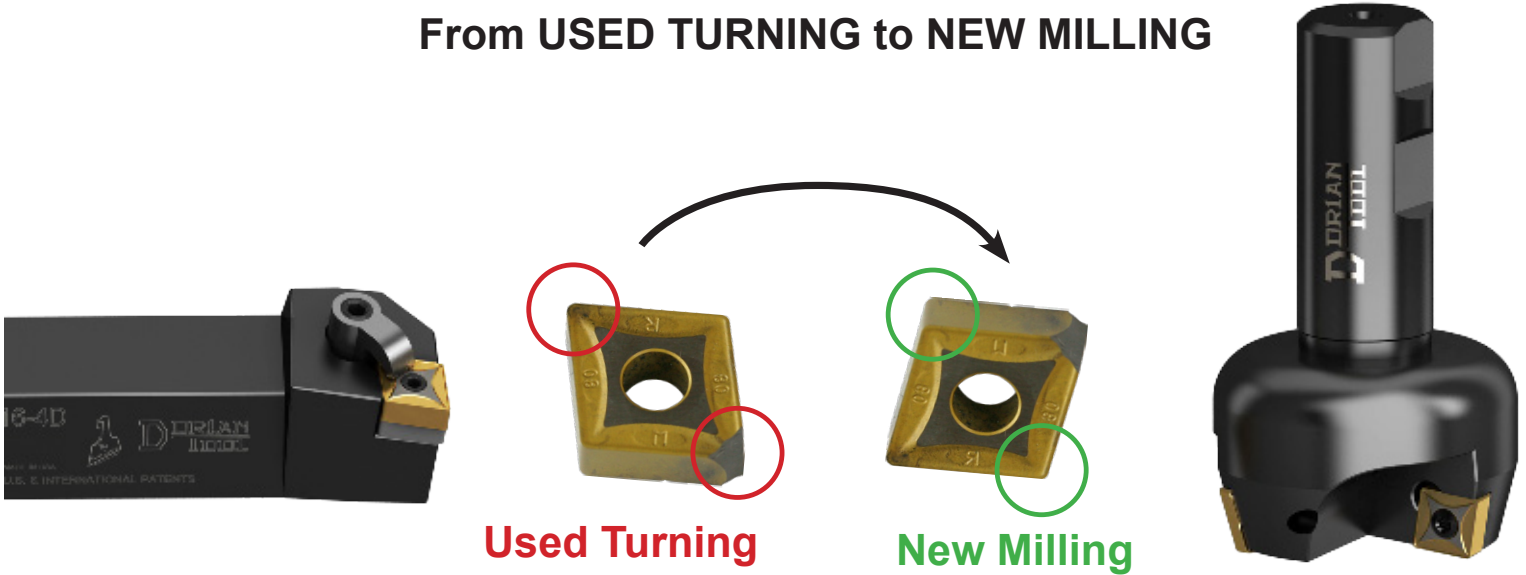
End Mill										
Description	UPC #	C	D	d	F	H	Insert Qty.	VPGT Gage Insert	Insert Torx Screw	Torx Key
E90XL-20-VP11-16	66830	175	20	16	10	30	2	110304	TS-25.45-6M1	T-7
E90XL-25-VP16-20	66831	200	25	20	13,5	40	2	160412	TS-4.7-8M1	T-15
E90XL-32-VP16-25	66832	220	32	25	13,5	50	2			
E90XL-42-VP16-25	66833	220	42	32	13,5	50	3			

Recycle CNMG-1204

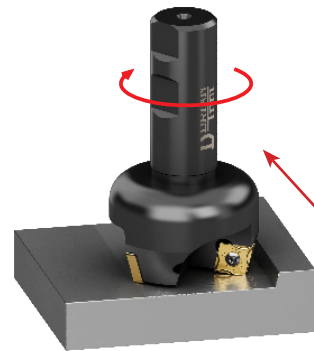
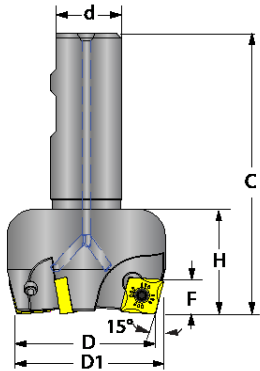
4 Turning Edges + 4 Milling Edges

After the cutting edges are used on your turning tool holder, **do not throw the insert away, it can be used in this milling cutter** to utilize four more cutting edges that were not used in your lathe work.

From USED TURNING to NEW MILLING

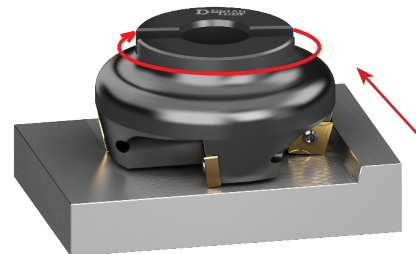
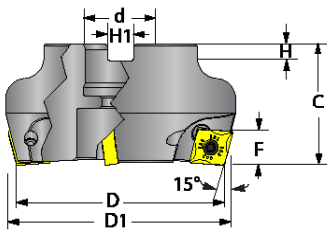


15° CNMG Recycle Milling Cutter - Cutting Rake - Negative 7° for Negative 80° diamond CNMG inserts



End Mill

Description	UPC #	C	D	D1	d	F	H	Insert Qty.	CNMG Gage Insert	Insert Torx Screw	Torx Key
REC15-50-CN4-20	66570	95,3	50,8	57,2	20	11,4	38,1	3	432	TS-1032-5M1	T-20
REC15-50-CN4-25	66571	127,0	50,8	57,2	25	11,4	38,1				

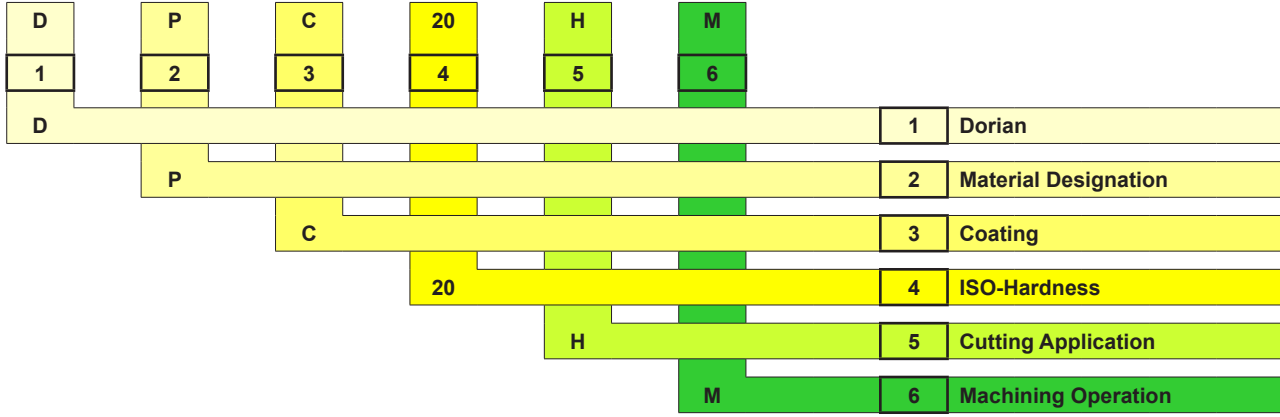


Face Mill

Description	UPC #	C	D	D1	d	F	H	H1	Insert Qty.	CNMG Gage Insert	Insert Torx Screw	Torx Key
REC15A-076-CN4-27	66573	44,5	76,2	82,0	27	11,4	7	12,4	5	432	TS-1032-5M1	T-20
REC15A-100-CN4-32	66574	50,8	101,6	107,4	32	11,4	8	14,4	6			
REC15A-125-CN4-40	66575	50,8	127,0	132,8	40	11,4	9	16,4	8			

Milling Insert Grade Nomenclature

DPC20HM



1 Insert Name Brand	3 Coating	5 Cutting Application
Dorian	U Uncoated C P PVD Coating	H High Speed Application G General Application U Universal Application R Low Speed Application S Tough & Unstable Application

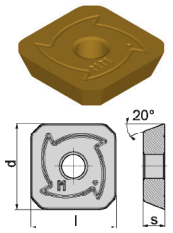
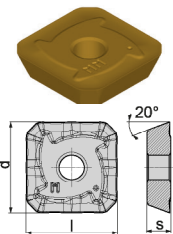
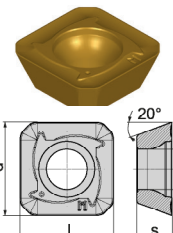
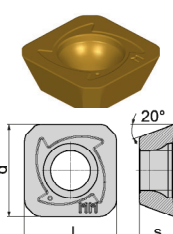
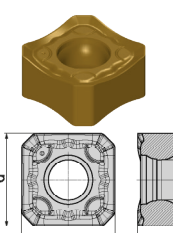
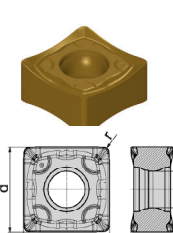
2 Material Designation	4 ISO-Hardness & Toughness	6 Machining Operation
P Carbon & Alloy Steel M Stainless Steel K Cast Iron N Aluminum & Non ferrous Materials S High Temp & Supper Alloys H Hardened Material U Multi Material	HT 10 HT 15 HT 20 HT 25 HT 30 HT 35 HT 40	T Turning S Threading D Drilling G Turning & Grooving P Parting Off M Milling

Material	Grade	ISO Grade	ANSI Grade	Insert Specification
Carbon Steel Alloy Steel	DPC20HM	HC-P20	C7	Multi Coated CVD , Very Hard, Wear and Abrasive Resistant, Face and Plain Milling, for Carbon and Alloy Steel, Very High Cutting Speed in stable Milling conditions. Dry/Wet Cutting
	DPP25GM	HC-P25	C6/C7	Coated PVD , Multi Purpose Milling, for Carbon, Alloy Steel & Stainless Steel, Very High Cutting Speed in stable Milling conditions. Dry/Wet Cutting
	DPC30UM	HC-P30	C6	Multi Coated CVD , Hard, Wear Resistant & Tough Substrate, Universal Milling, for Carbon, Alloy Steel & Stainless Steel, High Cutting Speed in stable Milling conditions Dry Cutting
	DPP35RM	HC-P35	C5/6	Coated PVD , Wear and Impact Resistant & Very Tough Substrate, Difficult Milling, for Forging & Casting Carbon, Alloy Steel & Stainless Steel. Dry Cutting
	DPP40SM	HC-P40	C5	Coated PVD , Tough and Impact Resistant Substrate, Very Difficult Milling, for Forgings & Castings of Alloy Steel & Stainless Steel, Low to Medium Cutting Speed in unstable conditions. Dry Cutting
Stainless Steel	DMP35UM	HC-M35	C5/6	Coated PVD , Wear and Impact Resistant, Micrograin Substrate for high stability, For Universal, Stainless Steel & Austenitic Stainless Steel, Medium Cutting Speed in stable Milling conditions. Dry/Wet
	DMP40RM	HC-M40	C5	Coated PVD , Wear, Tough and Impact Resistant, Micrograin Substrate for high stability, Multi Purpose, for Austenitic Duplex Stainless Steel, Medium Cutting Speed in stable Milling conditions. Dry/Wet
Cast Iron	DKC15HM	HC-K15	C2	Coated Multi Layer CVD , Very Hard & Wear Resistant Substrate with Very hard and wear resistant Coating, High Speed Milling, for Gray, Spheroidal Graphite, Temper & Alloyed Cast Iron, Dry Cutting
	DKP20UM	HC-K20	C3	Coated Thick PVD , Hard, Tough, Wear & Impact Resistant Substrate, Universal Milling, for Cast Iron Materials & Hardened Steel of 54 HRC, Medium Cutting Speed in stable Milling conditions. Dry Cutting
Aluminum High Temp	DNU10GM	HC-N10	C2	Uncoated , Hard & Wear Resistant Uncoated Micrograin Substrate, General Milling, for Aluminum, non Ferrous Metals and Plastics, Medium to High Cutting Speed in stable Milling conditions. Dry/Wet Cutting
	DNP10HM	HC-N10	C2	Coated Ultra-Thin PVD , High Performance Milling, for Aluminum, non Ferrous Material. For Finishing Stainless Steel and Cast Iron, High Cutting Speed in stable Milling conditions. Dry/Wet Cutting
	DNC15UM	HC-N15	C6	Coated TiBN CVD , Hard & Wear Resistant Micrograin Substrate, Universal Milling, for Aluminum, non Ferrous Material, High Cutting Speed in stable Milling conditions. Dry/Wet Cutting

Material Application	Insert Grade	Milling Cutting Speed SFM (V _c)																							
		Annealed Alloy Steel		Heat Treated Alloy Steel		Tool Steel		Hardened Steel		Annealed Austenitic Stainless Steel		Hardened Austenitic Stainless Steel		Gray Cast Iron Alloy Cast		For all Cast Iron Materials		Aluminum, Non Ferrous Materials, Plastics		Aluminum, Non Ferrous Materials, Plastics		Tool Steel		Hardened Steel	
		SFM	V _c	SFM	V _c	SFM	V _c	SFM	V _c	SFM	V _c	SFM	V _c	SFM	V _c	SFM	V _c	SFM	V _c	SFM	V _c	SFM	V _c	SFM	V _c
Carbon Steel Alloy Steel	DPC20HM	633	190	533	160	483	145	366	110																
		966	290	766	230	699	210	566	170																
	DPP25GM	583	175	483	145	433	130			300	90			466	140	333	100								
		882	265	716	215	633	190			500	150			999	300	533	160								
	DPC30UM	533	160	466	140	400	120	333	100																
		799	240	633	190	583	175	533	160																
	DPP35RM	500	150	433	130	366	110			266	80														
		766	230	599	180	533	160			466	140														
	DPP40SM	333	100	483	145	433	130			233	70														
		733	220	716	215	633	190			433	130														
Stainless Steel	DMP35UM									366	110	333	100												
										433	130	533	160												
	DMP40RM									266	80	233	70									100	30	100	30
										433	130	400	120									233	70	233	70
Cast Iron	DKC15HM													599	180	466	140								
														1199	360	833	250								
	DKP20UM	666	200	599	180	533	160	400	120					500	150	366	110								
		999	300	833	250	733	220	599	180					1066	320	599	180								
Aluminum High Temp Alloy	DNU10GM																	1332	400	400	120	83	25	100	30
																		8325	2500	1332	400	266	80	266	80
	DNP10HM																	1665	500	1665	500				
																		9990	3000	9990	3000				
	DNC15UM																	1665	500	1665	500				
																		9990	3000	9990	3000				

Insert Technical Specification								Material Application											
								P					M		K		N		
Insert Geometry	Specification	Number of Cutting Edges	l	d	s	d ₁	r	DPC20HM	DPP25GM	DPC30UM	DPP35RM	DPP40SM	DMP35UM	DMP40RM	DKC15HM	DKP20UM	DNU10GM	DNP10HM	DNC15UM
	APHT 100304-PDFR-NU	2	10	6,7	3,5	2,8	0,4										94730	94731	
	APHT 160408-PDFR-NU	2	16	9,52	5,26	4,5	0,8										94732	94733	
	APKT 100304 PDSR-PM	2	10	6,7	3,5	2,8	0,4	94734											
	APKT 100304 PDSR-MM	2	10	6,7	3,5	2,8	0,4						94736						
	APKT 100304 PDSR-PR	2	10	6,7	3,5	2,8	0,4		94737	94738	94739								
	APKT 100304 PDSR-KR	2	10	6,7	3,5	2,8	0,4								94740	94741			
	APKT 160408 PDSR-PM	2	16	9,52	5,26	4,5	0,8	94742											
	APKT 160408 PDSR-MM	2	16	9,52	5,26	4,5	0,8						94744						
	APKT 160408 PDSR-PR	2	16	9,52	5,26	4,5	0,8		94745	94746	94747								
	APKT 160408 PDSR-KR	2	16	9,52	5,26	4,5	0,8								94748	94749			
	APKT 160416 PDSR-PU	2	16	9,52	5,26	4,5	1,6			94727									
	APKT 160424 PDSR-PU	2	16	9,52	5,26	4,5	2,4			94728									
	APKT 160432 PDSR-PU	2	16	9,52	5,26	4,5	3,2			94729									
	OFER 070405 SN-PU	8	7	18,1	4,76	-	0,5	94823											
	OFEX 05T305 SN-PU	8	5	12,7	3,97	4,6	0,5	94825	94827	94829									
	RDHT 12T3 MOEN-MM	360°	-	12	3,97	4,4	-						94882	94883					

Insert Technical Specification								Material Application												
								P			M		K		N					
Insert Geometry	Specification	Number of Cutting Edges	l	d	s	d ₁	r	DPC20HM	DPP25GM	DPC30UM	DPP35RM	DPP40SM	DMP35UM	DMP40RM	DKC15HM	DKP20UM	DNU10GM	DNP10HM	DNC15UM	
									RDKW 1003 MOSN-PU	360°	-	10	3,18	3,9	-	94885	94886	94887	94888	
RDKW 1003 MOSN-KU	360°	-	10	3,18	3,9	-									94889	94890				
RDKW 12T3 MOSN-PU	360°	-	12	3,97	3,9	-	94892		94893	94894	94899									
RDKW 12T3 MOSN-KU	360°	-	12	3,97	3,9	-									94904	94905				
RDKW 1604 MOSN-PU	360°	-	16	4,76	5,2	-	94906		94907	94908	94909									
RDKW 1604 MOSN-KU	360°	-	16	4,76	5,2	-									94910	94911				
	REMW 1304MOSN-PM	360°	-	13,2	4,76	4,6	-	94912	94913	94914	94917									
	REMW 1304MOSN-MM	360°	-	13,2	4,76	4,6	-						94919							
	REMW 1304MOSN-KM	360°	-	13,2	4,76	4,6	-								94921	94922				
	SDHT-1204 AEFN-NU	4	12,70	12,70	4,76	5,5	-										94949	94951		
	SDHT-1504 AEFN-NU	4	15,88	15,88	4,76	5,5	-											94953		
	SDHT 1204 AESN-PU	4	12,70	12,70	4,76	5,5	-	94955	94957	94958										
	SDHT 1204 AESN-MU	4	12,70	12,70	4,76	5,5	-						94959							
	SDHT 1204 AESN-KU	4	12,70	12,70	4,76	5,5	-								94965					
	SDHT 1504 AESN-PU	4	15,88	15,88	4,76	5,5	-			94966										
	SDMT 090308-SN-PU	4	9,52	9,52	3,18	4	0,8	94967												
	SDMT 120408 SN-PU	4	12,70	12,70	4,76	5,5	0,8			94999										
	SDMT 1205 PDSR-PU	4	12,70	12,70	5,56	5,5	-			95001	95003									
	SEHT-1204 AEFN-NU	4	12,70	12,70	4,76	5,5	-										95062	95063		

Insert Technical Specification								Material Application												
								P			M		K		N					
Insert Geometry	Specification	Number of Cutting Edges	l	d	s	d ₁	r	DPC20HM	DPP25GM	DPC30UM	DPP35RM	DPP40SM	DMP35UM	DMP40RM	DKC15HM	DKP20UM	DNU10GM	DNP10HM	DNC15UM	
									SEKN 1203 AFSN-PM	4	12,70	12,70	3,18	-	-	95064	95065	95066		
SEKN 1203 AFEN-MM	4	12,70	12,70	3,18	-	-							95067							
SEKN 1203 AFSN-KM	4	12,70	12,70	3,18	-	-									95068	95069				
SEKN 1504 AFSN-PM	4	15,88	15,88	4,76	-	-	95070		95071	95072	95073									
SEKN 1504 AFEN-MM	4	15,88	15,88	4,76	-	-							95074	95075						
SEKN 1504 AFSN-KM	4	15,88	15,88	4,76	-	-									95076					
	SEKR 1203 AFSN-PM	4	12,70	12,70	3,18	-	-	95077	95078	95079										
	SEKR 1203 AFEN-MM	4	12,70	12,70	3,18	-	-						95080							
	SEKT 1204 AFSN-PM	4	12,70	12,70	4,76	5,5	-	95081	95082	95083	95084									
	SEKT 1204 AFEN-MM	4	12,70	12,70	4,76	5,5	-						95085	95086						
	SEKW 1204 AFSN-PM	4	12,70	12,70	4,76	5,5	-	95087	95088	95089	95090									
	SEKW 1204 AFEN-MM	4	12,70	12,70	4,76	5,5	-						95091							
	SEKW 1204 AFSN-KM	4	12,70	12,70	4,76	5,5	-								95092	95093				
	SNMX 1206 ANSN-PM	8	12,70	12,70	6,35	5,2	-	95094	95095	95096	95097									
	SNMX 1206 ANSN-MM	8	12,70	12,70	6,35	5,2	-						95098	95099						
	SNMX 1206 ANSN-KM	8	12,70	12,70	6,35	5,2	-								95100	95101				
	SNEX 1206 ANFN-MF	8	12,70	12,70	6,35	5,2	-						95102							
	SNMX 120608 SN-PM	8	12,70	12,70	6,35	5,2	0,8			95103	95104									
	SNMX 120608 SN-MM	8	12,70	12,70	6,35	5,2	0,8						95105							
	SNMX 120608 SN-KM	8	12,70	12,70	6,35	5,2	0,8								95109	95111				
	SNMX 120612 SN-PM	8	12,70	12,70	6,35	5,2	1,2			95117	95118									
	SNMX 120612 SN-KM	8	12,70	12,70	6,35	5,2	1,2								95119	95123				

Insert Technical Specification								Material Application													
								P				M		K		N					
Insert Geometry	Specification	Number of Cutting Edges	l	d	s	d ₁	r	DPC20HM	DPP25GM	DPC30UM	DPP35RM	DPP40SM	DMP35UM	DMP40RM	DKC15HM	DKP20UM	DNU10GM	DNP10HM	DNC15UM		
									SPKN 1203 EDSR-PM	4	12,70	12,70	3,18	-	-	95131	95132	95133	95134		
SPKN 1203 EDSR-KM	4	12,70	12,70	3,18	-	-									95135	95136					
SPKN 1504 EDSR-PM	4	15,88	15,88	4,76	-	-	95137		95140	95141	95142										
SPKN 1504 EDSR-KM	4	15,88	15,88	4,76	-	-									95143	95144					
	SPKR 1203 EDSR-PM	4	12,70	12,70	9,18	-	-			95145											
	SPMT 060304 EN-PU	4	6,35	6,35	3,18	3,4	0,4			95146											
	TNHF 1204 ANSN-KM	6	12	12,70	4,76	-	-									95147					
	TPKN 1603 PDSR-PM	3	16	9,52	3,18	-	-	95148	95149	95151	95153										
	TPKN 1603 PDSR-KM	3	16	9,52	3,18	-	-								95154	95155					
	TPKN 2204 PDSR-PM	3	22	12,70	4,76	-	-	95157	95158	95159	95161										
	TPKN 2204 PDSR-KM	3	22	12,70	4,76	-	-								95162	95163					

Insert	Description	Radius	DK25M	DASK25B	DASP35B
 TDEX 60°	TDEX-110201-EN	0,101mm	-	-	95417
	TDEX-110202-EN	0,203mm	-	-	95419
	TDEX-110204-EN	0,381mm	95420	95422	95426
	TDEX-110208-EN	0,812mm	95430	95432	95436
	TDEX-160304-EN	0,381mm	95440	95442	95446
	TDEX-160308-EN	0,812mm	95450	95452	95456
	TDEX-220404-EN	0,381mm	95460	95462	95466
	TDEX-220408-EN	0,812mm	95470	95472	95476
 TDEX 45°	TDEX-090202-EN	0,203mm	95490	95492	95495
	TDEX-090204-EN	0,381mm	95500	95502	95505
	TDEX-17T304-EN	0,381mm	95510	95512	95515
	TDEX-17T308-EN	0,812mm	95520	95522	95525
	TDEX-250404-EN	0,381mm	95530	95532	95535
	TDEX-250408-EN	0,812mm	95540	95542	95545
 TEHW	TEHW-0602-AEEN	0,101mm	95590	95593	95595
 SDHW	SDHW-090308-EN	0,812mm	94996	94998	95002

DK25M / DNU25GT

Uncoated, hard and wear resistant C2 Substrate for Aluminum & Non Ferrous materials.

DASK25B

C2 Substrate with PVD TiN-TiAlN-TiN multi-layer coating. For general purpose milling of non-ferrous metals such as aluminum, copper, brass, and bronze, high temp alloys, 300-series stainless steels and cast iron with medium to high SFM.

DASP35B

C5 Substrate with PVD TiN-TiAlN-TiN multi-layer coating. For general purpose milling of carbon steels, alloy steels and tool steels in annealed state with medium to high SFM.

DUP25GT

C2 Substrate with PVD TiN-TiAlN coating. For general purpose milling of carbon steels, alloy steels, stainless steels, high temp alloys, hardened metals and non ferrous materials with medium to high SFM.

DNP25GT

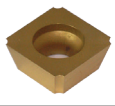
C2 Substrate with PVD TiN coating. For general purpose milling of high temp alloys, hardened metals and non ferrous materials with medium SFM.

DNU10GT

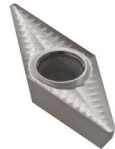
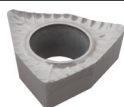
For general turning applications at a high SFM (V_C). Hard, abrasive and wear resistant micro-grained uncoated substrate, for a hard and sharp cutting edge (not for interrupted cuts). Best for Aluminum, Super Alloys, Plastic and all Non Ferrous metals and materials.

DNX10UT

For universal turning at a very high SFM (V_C). Hard, abrasive and high resistant substrate with a microplus® plasma TiAlN coating to improve cutting edge hardness, wear and heat resistant, and better chip flow. Best for Aluminum, Plastic, Super Alloys and low Silicone Aerospace Aluminum.

Insert	Description	Radius	DNU25GT	DUP25GT
 SDGX-UEN 3/8" Square Convex Radius	SDGX-09C01-E	0,406mm	-	95299
	SDGX-09C03-E	1,193mm	95305	95307
	SDGX-09C04-E	1,574mm	95309	95311
 SDGX-UEN 3/4" Square Convex Radius	SDGX-19C05-E	1,981mm		95250
	SDGX-19C06-E	2,387mm	95253	95254
	SDGX-19C07-E	2,768mm	95257	95258
	SDGX-19C08-E	3,175mm	95261	95262
	SDGX-19C09-E	3,581mm		95266
	SDGX-19C10-E	3,962mm	95269	95270
	SDGX-19C11-E	4,521mm		95274
	SDGX-19C12-E	4,775mm	95277	95278
	SDGX-19C13-E	5,156mm		95282
	SDGX-19C14-E	5,562mm	95285	95286
	SDGX-19C15-E*	5,943mm	95289	95290
SDGX-19C16-E*	6,35mm	95293	95294	

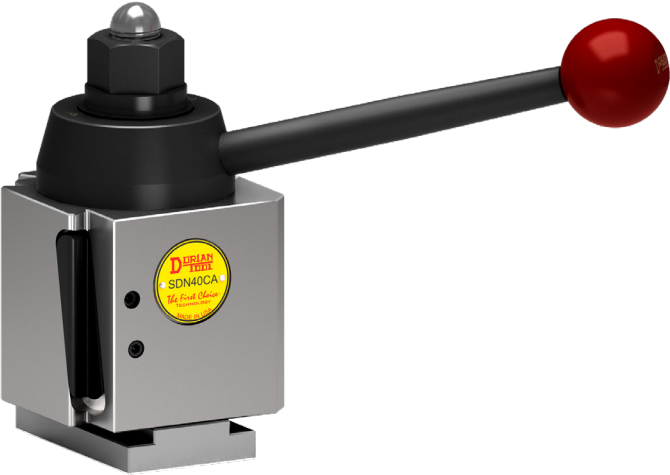

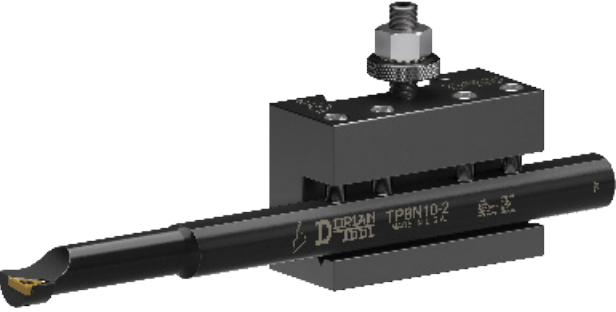
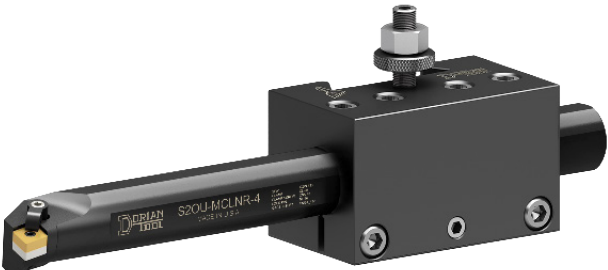
*All SDGX inserts have 4 cutting edges, except 5,943mm & 6,35mm radius inserts that have 2 cutting edges.

Description	ISO	Grade DNU10GT	Grade DNX10UT
 VPGT-NFU 35° Triangle Universal	VPGT-160412-NFU	80131	80133
	VPGT-220516-NFU	80135	80136
 WCGT-NFU 80° Trigon Universal	WCGT-06T308-NFU	80148	80149

SUPER QUICK CHANGE TOOL POST

RIGIDITY,
REPEATABILITY &
QUALITY



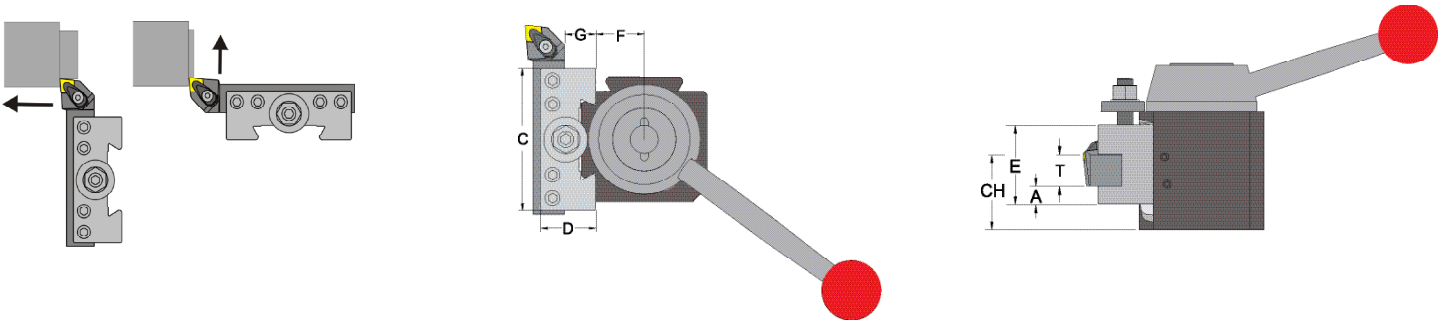
Style	Features	Application
<p>SUPER Quick Change Tool Post</p>  <p>The image shows a SUPER Quick Change Tool Post, a precision tool holder. It features a black cylindrical body with a red locking handle extending from the side. The base is a silver-colored metal block with a yellow circular logo that reads 'DORIAN TOOL SDN40CA'. The tool is designed for quick tool changes on lathes.</p>	<ul style="list-style-type: none"> • Triple Action Locking System • Zero Backlash • Precise Repeatability within .0001" • 15° Locking Handle Position Adjustment • Super Heavy Duty Locking Gear and Wedge Style Sliding Gibs • Industry Standard Interchangeable Tool holders • High Tensile Strength Chromium- Molybdenum Alloy Steel Body, Locking Gear, Sliding Gibs, Locking Gear Head, and Locking Handle • Through-Hardened, Ion Nitrided, and Nickel-plated Body • Through-Hardened and Ion Nitrided and Precision Ground Locking Gear and Sliding Gibs for Wear Resistance and Repeatability • CNC Precision Ground and Qualified for accuracy and super precise repeatability 	<ul style="list-style-type: none"> • CNC Toolroom Lathes • Manual Toolroom Lathes • Engine Lathes • Heavy Duty Oil-Country Lathes • Super Precision High Speed • Tight Tolerances and Excellent Finish Requiring Applications • Deep Drilling and Boring • Heavy Duty Material Removal • Multi Turning, Drilling, Boring, Threading Applications
<p>No. D1 Turning & Facing Holder</p>  <p>The image shows a No. D1 Turning & Facing Holder. It is a black metal block with a central threaded hole and a locking screw on top. The side of the block is engraved with 'MCLNR12-4B DORIAN TOOL'. It is used for holding square shank tools for turning and facing operations.</p>	<ul style="list-style-type: none"> • Quick Change Mounting • High Tensile Strength Chromium-Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within .0001" 	<ul style="list-style-type: none"> • Holds Square Shank Tools • Turning and Facing • Threading and Grooving • Cut-Off Applications
<p>No. D2 Turning, Facing & Boring Holder</p>  <p>The image shows a No. D2 Turning, Facing & Boring Holder. It is a black metal block with a central threaded hole and a locking screw on top. A boring bar is inserted into the holder. The boring bar is engraved with 'DORIAN TOOL TPBN10-2'. The holder is used for holding square shank tools, boring bars, and for turning and facing operations.</p>	<ul style="list-style-type: none"> • Boring Bar "V" Seat • Quick Change Mounting • High Tensile Strength Chromium-Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within .0001" 	<ul style="list-style-type: none"> • Holds Square Shank Tools • Holds Boring Bars • Turning and Facing • Light to Medium Boring • Threading and Grooving • Cut-Off Applications
<p>No. D4-D41-DQ41S DUAL Heavy Duty Boring Bar Holder</p>  <p>The image shows a No. D4-D41-DQ41S DUAL Heavy Duty Boring Bar Holder. It is a black metal block with a central threaded hole and a locking screw on top. A boring bar is inserted into the holder. The boring bar is engraved with 'DORIAN TOOL S20U-MCLNR-4'. The holder is used for holding square shank tools and for precision boring applications.</p>	<ul style="list-style-type: none"> • Precision Ground and Honed Bore • Qualified Bore for Precise Tool Alignment and Squareness • Quick-Lock System Aligns Boring Bar Center height and Rake Angle Automatically. • Four Special Flat Machined Locking Screws for High Rigidity Extended Overhangs without Scarring the Boring Bar • Systems Up to 3" Capacity • Quick Change Mounting • High Tensile Strength Chromium- Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within .0001" 	<ul style="list-style-type: none"> • Precision Boring Applications • Heavy Duty Boring Applications • Heavy Duty Drilling Applications • Deep Boring, Drilling and Threading Applications

Style	Features	Application
<p>No. D5 Morse Taper Holder</p> 	<ul style="list-style-type: none"> • Precision Ground Morse Taper • Qualified for Precise Tool Alignment and Squareness • Designed for Deep Drilling • Heavy Duty Drilling • Quick Change Mounting • High Tensile Strength Chromium-Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within .0001" 	<ul style="list-style-type: none"> • Deep Drilling Applications • Heavy Duty Drilling Applications • Reaming and Tapping
<p>No. D7-71C Reversible Cut-Off Blade Holder</p> 	<ul style="list-style-type: none"> • Precision Ground Blade Dovetail Seat • Qualified for Precise Tool Alignment and Squareness • Quick Change Mounting • High Tensile Strength Chromium- Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within .0001" 	<ul style="list-style-type: none"> • Cut-Off Applications • Grooving Applications
<p>No. D35 Dovetail Drill Chuck Holder</p> 	<ul style="list-style-type: none"> • Supplied with a Rohm Chuck • Qualified for Precise Tool Alignment and Squareness • Designed for Versatility • Quick Change Mounting • High Tensile Strength Chromium- Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within .0001" 	<ul style="list-style-type: none"> • Center Drilling • Precision Drilling • Precision Reaming • Tapping

Note: Quick Change Tool Holders will fit on the Quadra Tool Post of the same size.
Only 2 Quick Change Holders at time will fit on the Quadra Index Tool Post.

No. D1 Turning & Facing Tool holder

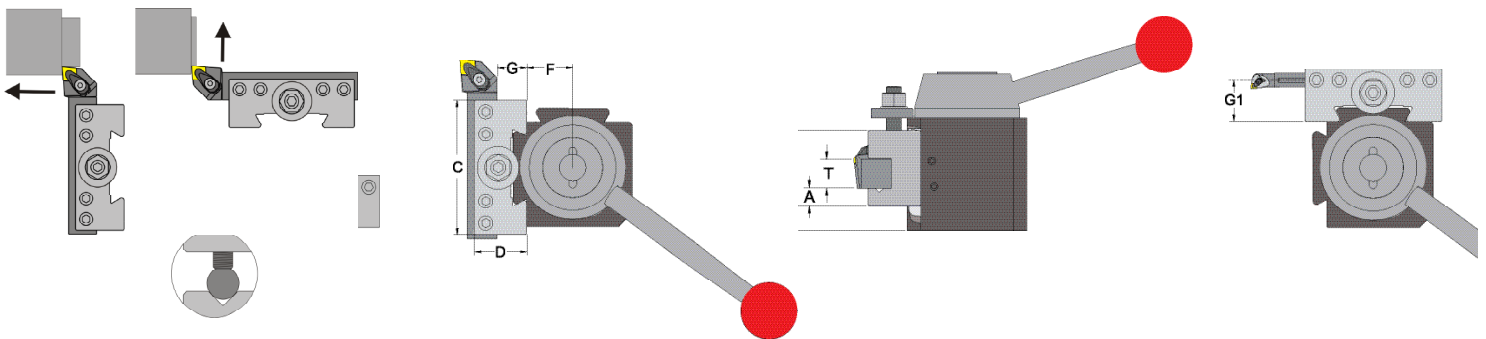
This tool holder is best used for holding square shank tool holders close to the tool post to maximize rigidity when turning, facing, and threading. Fits industry standard tool posts.



Description	UPC #	A	T	C	D	E	F	G
D25AXA-1	01100	10	20	70	32	44	22	20
D30BXA-1	01250	11	25	83	38	57	28	23
D35CXA-1	01400	13	25	95	44	64	30	26
D40CA-1	01550	14	32	114	51	76	39	26
D50DA-1	01700	19	40	152	64	89	48	33
D60EA-1	01850	25	40	179	76	102	56	39

No. D2 Turning, Facing & Boring Tool holder

The "V" groove makes this holder more versatile so that it can hold either square shank tool holders or boring bars. Holds the tool close to the tool post to maximize rigidity when turning, facing, threading or boring. Fits industry standard tool posts.

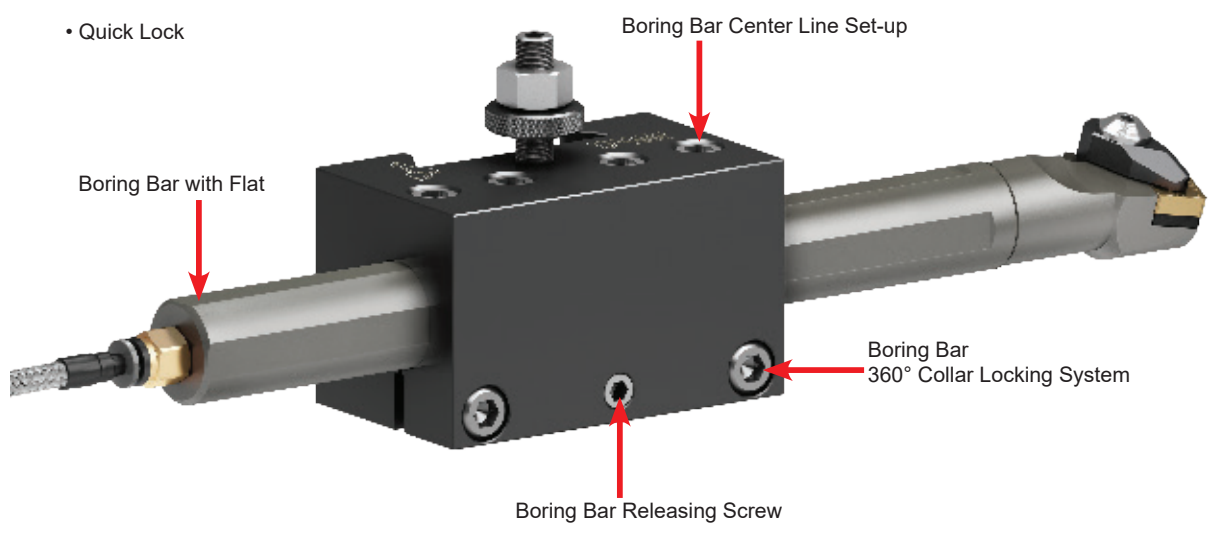


Description	UPC #	A	T	C	D	E	F	G	G1
D25AXA-2	01104	10	20	70	32	44	22	20	26
D30BXA-2	01254	11	25	83	38	57	28	23	31
D35CXA-2	01404	13	25	95	44	64	30	26	35
D40CA-2	01554	14	32	114	51	76	39	26	38
D50DA-2	01704	19	40	152	64	89	48	33	48
D60EA-2	01854	25	40	178	76	102	56	39	58

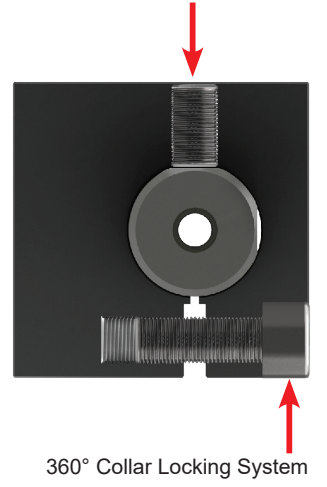
Dual Boring Bar Quick Change Holder with the Double Locking System **NEW**

For Precise Set-up and Maximum Rigidity

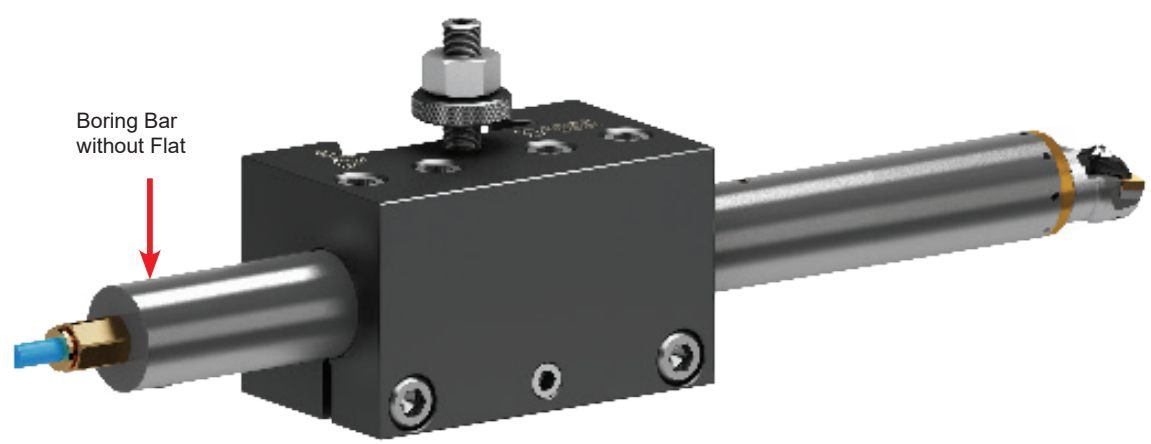
- Boring Bar Center Line Set-up
- Set Screw Locking System
- 360° Collar Locking System
- Maximum Locking force
- No Boring Bar Damage
- Quick Release
- Quick Lock



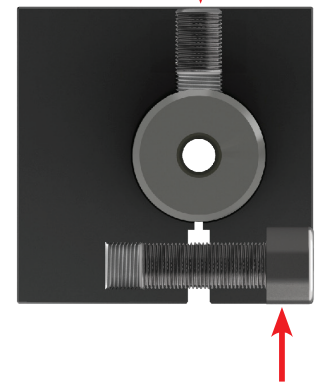
For boring Bars with flats
Use this screw to position
and lock center line



360° Collar Locking System



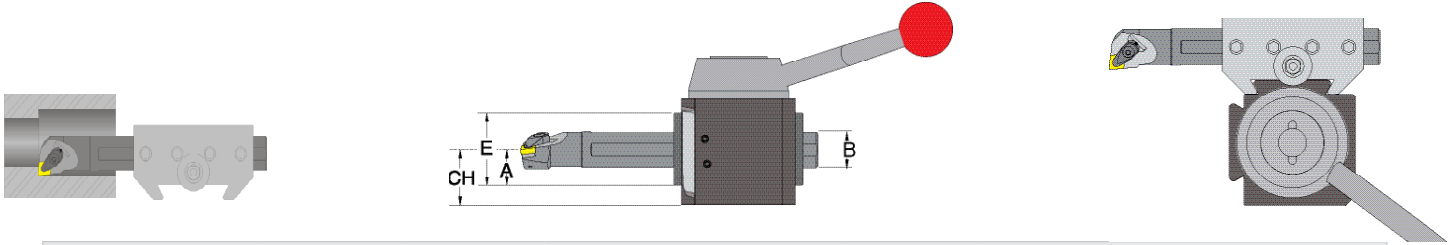
For Boring Bar with no flats
do not use this screw to
position or lock.



360° Collar Locking System

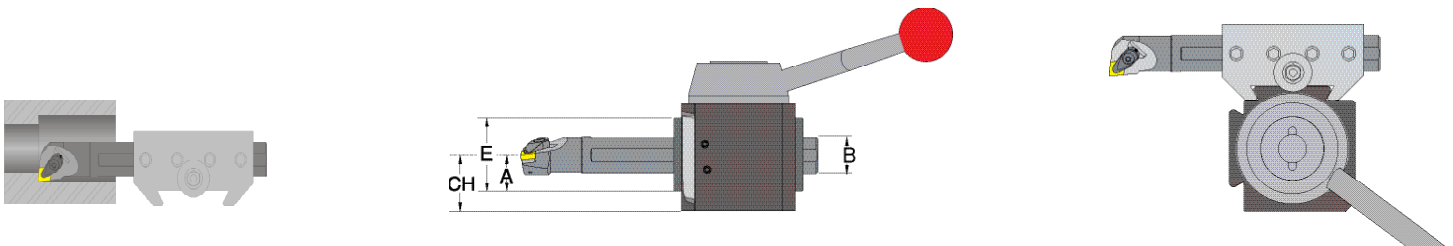
No. D4-DUAL Heavy Duty Boring Bar Tool holder

This holder is best used for holding boring bars. It has four flat-face locking-screws that automatically align the center height and rake angle of the boring bar while locking it rigidly for chatter-free machining. Flat-face locking-screws do not scar the boring bar. This holder reduces setup time by eliminating the need to indicate across the boring bar flat. Fits industry standard tool posts.



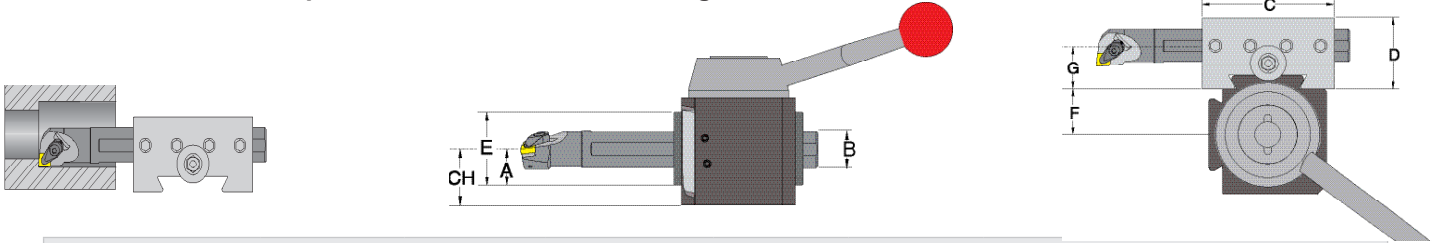
Description	UPC #	Boring Bar Capacity						
		A	B	C	D	E	F	G
D25AXA-4M-20-DUAL	01117	19	19	70	38	38	22	24
D30BXA-4M-25-DUAL	01267	25	25	83	51	51	28	32
D35CXA-4M-25-DUAL	01417	28	25	95	57	57	31	35
D40CA-4M-32-DUAL	01567	32	32	114	63	63	39	38
D50DA-4M-40-DUAL	01717	38	38	140	76	76	48	51
D60EA-4M-50-DUAL	01867	51	50	165	101	101	56	63

No. D41-DUAL Universal Extra Heavy Duty Boring Bar Tool holder



Description	UPC #	Boring Bar Capacity						
		A	B	C	D	E	F	G
D25AXA-41M-25-DUAL	01119	22	25	70	44	44	22	27
D30BXA-41M-32-DUAL	01269	28	32	83	57	57	28	35
D35CXA-41M-32-DUAL	01419	28	32	95	57	57	31	35
D40CA-41M-40-DUAL	01569	32	40	114	63	63	39	38
D50DA-41M-50-DUAL	01719	44	50	140	89	89	48	57
D60EA-41M-60-DUAL	01869	51	60	165	101	101	56	60

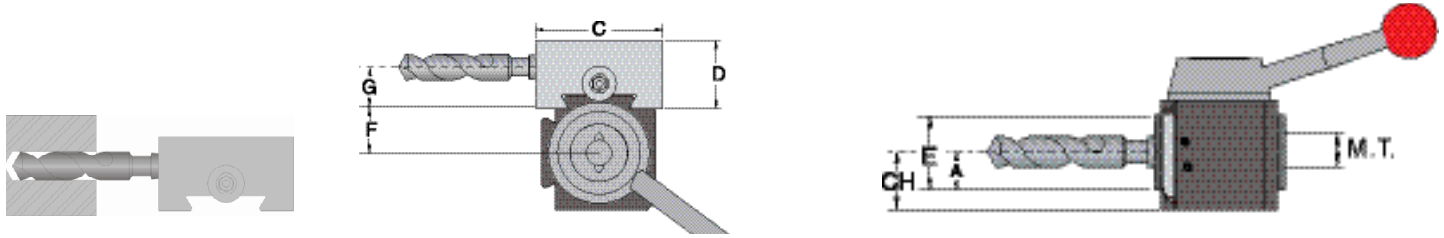
No. DQ41S-DUAL Super Universal Over Sized Boring Bar Tool holder



Description	UPC #	Boring Bar Capacity						
		A	B	C	D	E	F	G
DQ35CXA-41SM-40-DUAL	00423	32	40	102	63	63	31	38
DQ40CA-41SM-50-DUAL	00571	38	50	114	76	76	39	45
DQ50DA-41SM-60-DUAL	00721	51	60	165	101	101	18	57
DQ60EA-41SM-80-DUAL	00871	57	80	178	114	114	56	67

No. D5 Morse Taper Tool holder

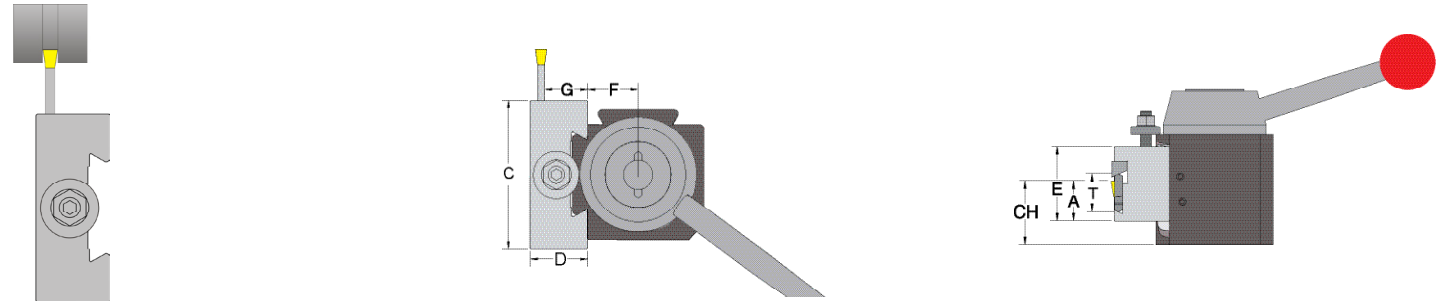
This holder is best used for holding morse taper tools. It can be used for drilling, boring, or reaming operations. Fits industry standard tool posts.



Description	UPC #	A	Morse Taper	C	D	E	F	G
D35CXA-5-4	01424	29	MT4	105	64	57	30	41
D40CA-5-4	01572	32	MT4	114	64	64	39	41
D50DA-5-5	01722	44	MT5	143	89	89	48	58
D60EA-5-5	01872	44	MT5	140	89	89	56	57

No. D7-71C Extra Heavy Duty Cut-Off Blade Tool holder

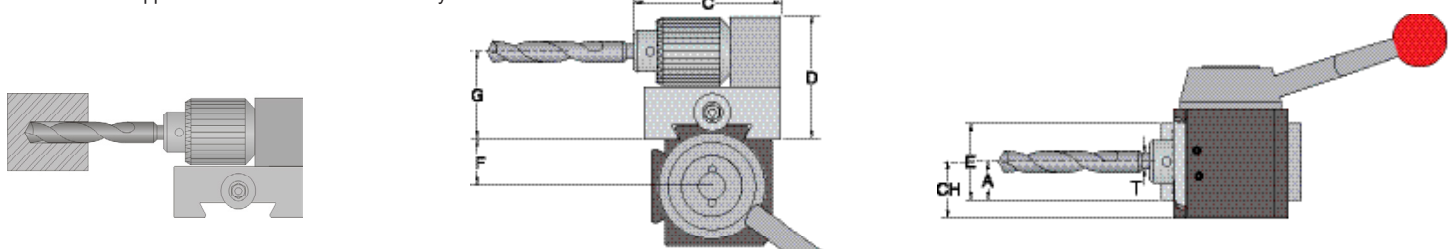
This holder is best used for holding cut-off blades. It has a taper locking system for maximum rigidity and performance in cut-off and face grooving operations. Fits industry standard tool posts.



Description	UPC #	A	Slot Grip Blade T	C	D	E	F	G
D25AXA-7-71C	01126	24	SGIH-19-2	70	32	51	22	29
D30BXA-7-71C	01276	24		83	32	51	28	29
D35CXA-7-71C	01428	32	SGIH-26-2 to 26-6	96	44	64	32	39
D40CA-7-71C	01576	32		114	44	76	39	39
D50DA-7-71C	01726	38	SGIH-32-3 to 32-9	152	51	76	48	43
D60EA-7-71C	01876	52		178	57	89	56	50

No. D35 Drill Chuck Tool holder

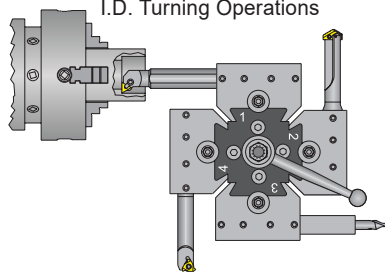
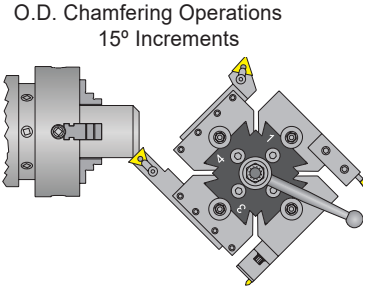
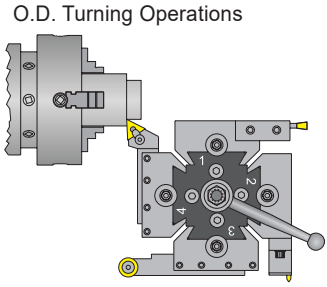
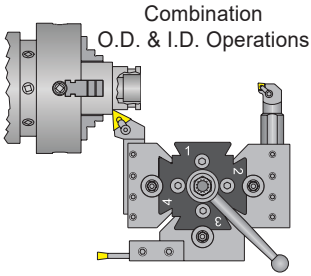
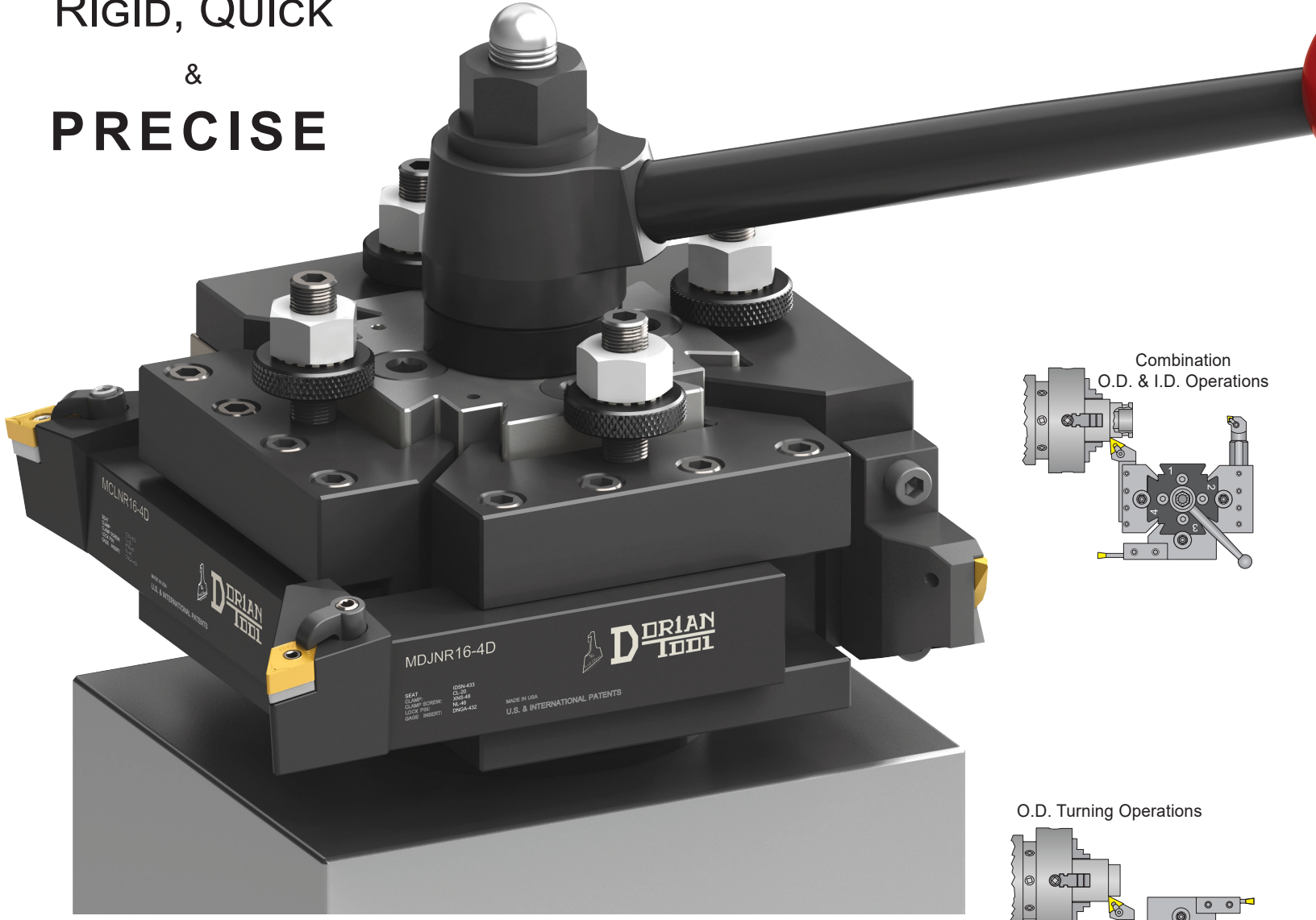
This holder is best used for holding drills, reamers, taps, etc., without tailstock mounting. It uses a drill chuck mounted directly to a quick change holder. This holder is supplied with a drill-chuck. Fits industry standard tool posts.

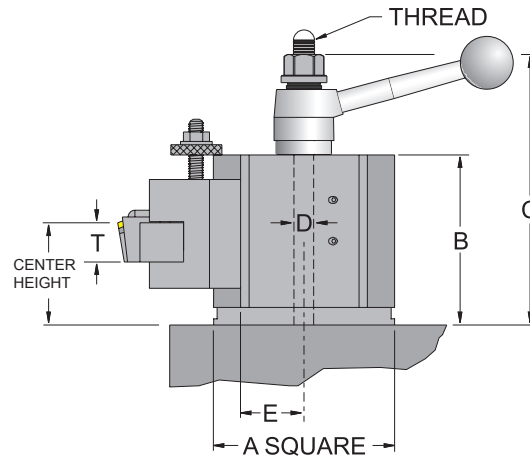


Description	UPC #	A	T Capacity	C	D	E	F	G
D25AXA-35	01140	25	0 - 12.0	106	79	51	22	52
D30BXA-35	01290	25	0 - 12.0	106	79	51	28	52
D35CXA-35	01442	29	0 - 12.0	119	95	57	30	67
D40CA-35	01590	29	0 - 12.0	119	95	57	39	67

QUADRA INDEXING QUICK CHANGE

STRONG
RIGID, QUICK
&
PRECISE





Description	QITP25N	QITP30N	QITP35N	QITP40N	QITP50N	QITP60N
UPC #	00000	00002	00004	00006	00008	00010
Lathe Swing Over Bed	≤300,0	320,0	400,0	450,0	500,0	XHD
A	63,5	76,2	88,9	101,60	127,0	152,4
B	65,3	81,4	87,9	103,4	132,8	142,6
C	132,3	145,3	162,9	191,1	232,0	250,3
D	12,7	12,7	16,0	19,0	25,40	28,6
E	22,4	28,3	31,6	38,9	48,2	56,1
T-Tool Capacity	12-20	16-25	20-25	25-32	32-40	40,0
Optimum C.H.*	36,1	44,4	46,6	55,9	76,1	87,4
C.H. MIN.	25,3	30,8	36,7	44,6	57,0	69,9
Center Height MAX.	50,0	58,0	56,5	67,2	95,1	104,9
Holding Post	M12x1,75	M12x1,75	M16x2,0	M18x2,5	M24x3,0	M27x3,0

*Optimum center height is calculated with the smaller tool size of the tool capacity.

NEW LOCKING & INDEXABLE SYSTEM

with 24 SUPER PRECISE POSITIONING BALL BEARINGS & 2 PRE-LOADED INDEXING PINS

Tool Post Indexing

- Indexing Flexibility every 15°
- 24 Locking Positions
- Multi-position of the locking handle
- Instant Tool Repositioning
- From Prototypes to High Production

Quick Change Tool Holders

- 4 Tool Holders Locked Simultaneously
- 1 to 4 Tool Holders ready to be used
- Positive Lock with absolute zero backlash
- Tool holder repeatability within 0.00254mm
- Indexing repeatability within 0.00127mm

Tool Post Application

- 6 sizes of Tool Post available
- From tool room to oil country lathes
- Quick and versatile for finishing
- Strong for heavy-duty roughing
- Easy to install
- Maintenance free



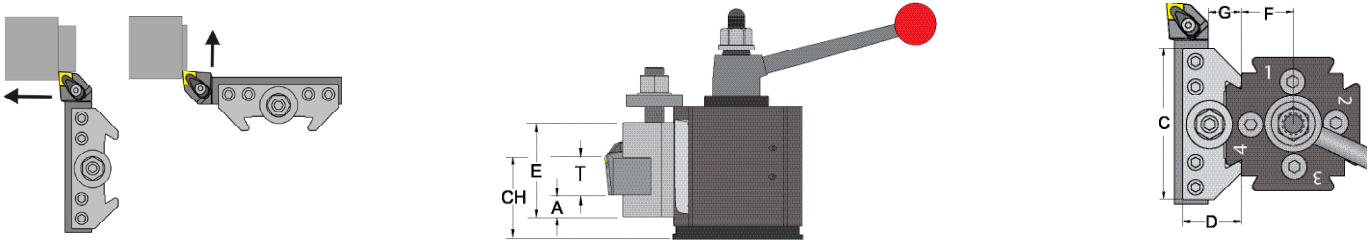
Style	Features	Application
<p>QITPN Quadra Indexing Quick Change Tool Post</p> 	<ul style="list-style-type: none"> • Heavy duty construction • Heat-treated alloy steel body • Precision ground • Four quick change tool holders locked independently • Industry Standard holders • Positive lock with absolute zero backlash • One to four tools ready to be used • Precise tool repeatability of 0,00127 mm • Cam-Lock tool holder locking system for maximum rigidity • Instant tool positioning • Highest locking rigidity in the industry • Indexing flexibility every 15° • 24 positive positions • Multi-position of the locking handle • Wide range of holders • Maintenance-free • "T"-nut for easy mounting • Ready to install 	<ul style="list-style-type: none"> • CNC Toolroom Lathes • Manual Toolroom Lathes • Engine Lathes • Heavy Duty Oil-Country Lathes • Super Precision High Speed • Tight Tolerances and Excellent Finish Requiring Applications • Deep Drilling and Boring • Heavy Material Removal • Multi Turning, Drilling, Boring, Threading Applications
<p>No. QITPN-1 Turning & Facing Holder</p> 	<ul style="list-style-type: none"> • Quick Change Mounting • High Tensile Strength Chromium-Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within 0,00254mm 	<ul style="list-style-type: none"> • Holds Square Shank Tools • Turning and Facing • Threading and Grooving • Cut-Off Applications
<p>No. QITPN-2 Turning, Facing & Boring Holder</p> 	<ul style="list-style-type: none"> • Boring Bar "V" Seat • Quick Change Mounting • High Tensile Strength Chromium-Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within 0,00254mm 	<ul style="list-style-type: none"> • Holds Square Shank Tools • Holds Boring Bars • Turning and Facing • Light to Medium Boring • Threading and Grooving • Cut-Off Applications
<p>No. D4-D41-DQ41S DUAL Heavy Duty Boring Bar Holder</p> 	<ul style="list-style-type: none"> • Precision Ground and Honed Bore • Qualified Bore for Precise Tool Alignment and Squareness • Quick-Lock System Aligns Boring Bar Center height and Rake Angle Automatically. • Four Special Flat Machined Locking Screws for High Rigidity Extended Overhangs without Scarring the Boring Bar • Systems Up to 76,2mm Capacity • Quick Change Mounting • High Tensile Strength Chromium- Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within 0,00254mm 	<ul style="list-style-type: none"> • Precision Boring Applications • Heavy Duty Boring Applications • Heavy Duty Drilling Applications • Deep Boring, Drilling and Threading Applications

Style	Features	Application
<p>No. QITPN-5 Morse Taper Holder</p> 	<ul style="list-style-type: none"> • Precision Ground Morse Taper • Qualified for Precise Tool Alignment and Squareness • Designed for Deep Drilling • Heavy Duty Drilling • Quick Change Mounting • High Tensile Strength Chromium-Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within 0,00254mm 	<ul style="list-style-type: none"> • Deep Drilling Applications • Heavy Duty Drilling Applications • Reaming and Tapping
<p>No. QITPN-7-71C Reversible Cut-Off Blade Holder</p> 	<ul style="list-style-type: none"> • Qualified for Precise Tool Alignment and Squareness • Quick Change Mounting • High Tensile Strength Chromium- Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within 0,00254mm 	<ul style="list-style-type: none"> • Cut-Off Applications • Grooving Applications
<p>No. QITPN-36 5C Collet Holder</p> 	<ul style="list-style-type: none"> • 5C Collet Holding System • Supplied with Collet Closer • Qualified for Precise Tool Alignment and Squareness • Designed for Versatility • Quick Change Mounting • High Tensile Strength Chromium- Molybdenum Alloy Steel • Hardened & Black Finished • CNC Precision Ground and Qualified for Accuracy and Super Precise Tool Change Repeatability within 0,00254mm 	<ul style="list-style-type: none"> • Miniature to Medium System Tools • For Special Tool System and Shapes • Accepts Square, Round & Hex Collets • Drilling Applications • Boring Applications • Reaming Applications • Tapping • From 1,5875mm to 25,4mm Diameter Tools

Note: The Quadra Tool Holder will fit on the Quick Change Tool Post of the same size

No. QITPN-1 Turning & Facing Tool holder

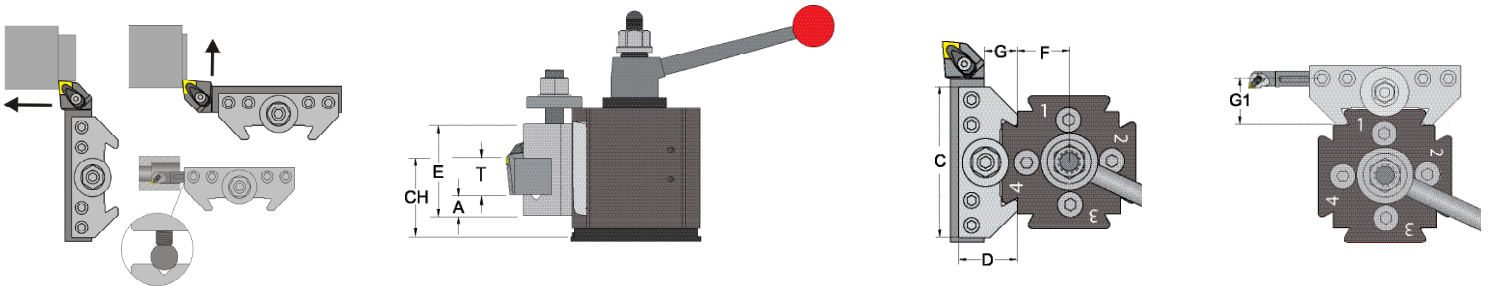
This tool holder is best used for holding square shank tool holders close to the tool post to maximize rigidity when turning, facing, and threading. Fits industry standard tool posts.



Description	UPC #	A	T	C	D	E	F	G
QITP25N-1	00100	9.53	20.00	69.85	31.50	44.20	22.35	19.56
QITP30N-1	00250	11.10	25.00	82.55	37.85	56.90	28.32	22.61
QITP35N-1	00400	12.70	25.00	95.25	44.20	63.25	31.62	25.65
QITP40N-1	00550	14.27	32.00	114.30	50.55	75.95	38.86	26.42
QITP50N-1	00700	19.05	40.00	152.40	63.25	88.65	48.26	32.77
QITP60N-1	00850	25.40	40.00	177.80	75.95	101.35	56.06	39.12

No. QITPN-2 Turning, Facing & Boring Tool holder

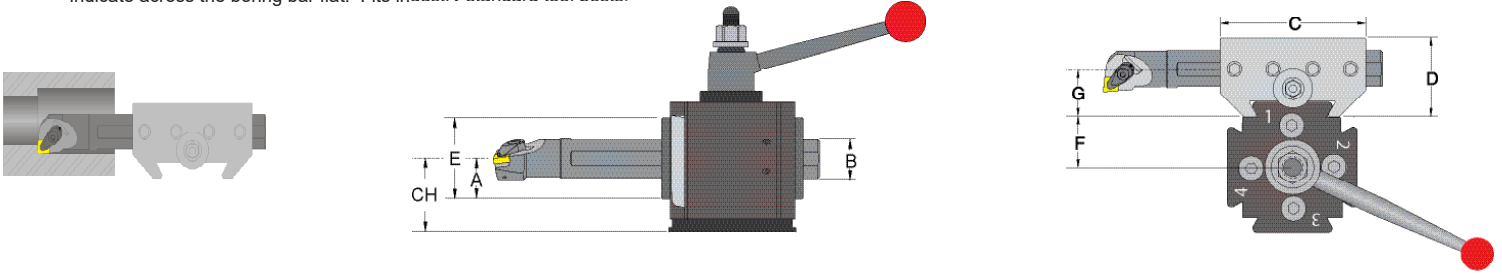
The "V" groove makes this holder more versatile so that it can hold either square shank tool holders or boring bars. Holds the tool close to the tool post to maximize rigidity when turning, facing, threading or boring. Fits industry standard tool posts.



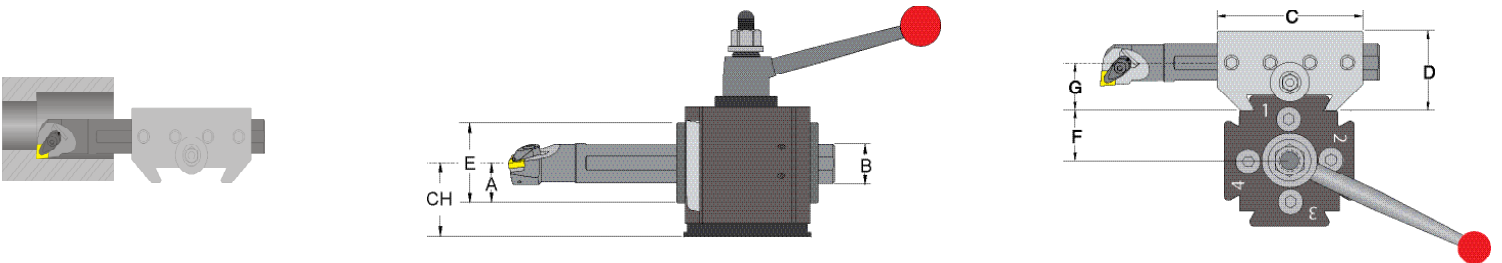
Description	UPC No.733101-	A	T	C	D	E	F	G	G1
QITP25N-2	00104	9.53	20.00	69.85	31.50	44.20	22.35	19.56	26.16
QITP30N-2	00254	11.10	25.00	82.55	37.85	56.90	28.32	22.61	30.73
QITP35N-2	00404	12.70	25.00	95.25	44.20	63.25	31.62	25.65	35.81
QITP40N-2	00554	14.27	32.00	114.30	50.55	75.95	38.86	26.42	40.01
QITP50N-2	00704	19.05	40.00	152.40	63.25	88.65	48.26	32.77	49.53
QITP60N-2	00854	25.40	40.00	177.80	75.95	101.35	56.06	39.12	59.44

No. QITPN-4M-DUAL Heavy Duty Boring Bar Tool holder

This holder is best used for holding boring bars. It has four flat-face locking-screws that automatically align the center height and rake angle of the boring bar while locking it rigidly for chatter-free machining. Flat-face locking-screws do not scar the boring bar. This holder reduces setup time by eliminating the need to indicate across the boring bar flat. Fits industry standard tool posts.

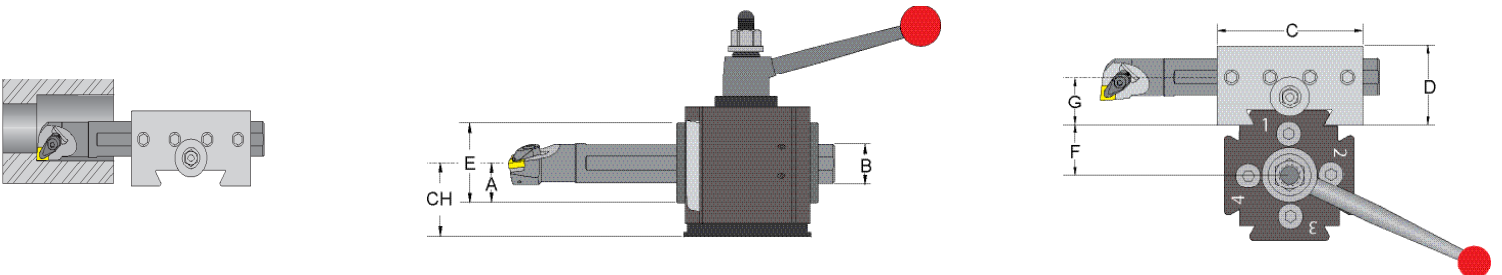


Description	UPC #	Boring Bar Capacity						
		A	B	C	D	E	F	G
QITP25N-4M-20-DUAL	00113	19	19	70	38	38	22	24
QITP30N-4M-25-DUAL	00263	25	25	83	51	51	28	32
QITP35N-4M-25-DUAL	00419	28	25	95	57	57	32	35
QITP40N-4M-32-DUAL	00567	32	32	114	63	63	39	38
QITP50N-4M-40-DUAL	00717	38	38	140	76	76	48	51
QITP60N-4M-50-DUAL	00867	51	51	165	101	101	56	64



No. QITPN-41M-DUAL Universal Extra Heavy Duty Boring Bar Tool holder

Description	UPC #	Boring Bar Capacity						
		A	B	C	D	E	F	G
QITP35N-41M-32-DUAL	00421	28	32	95	57	57	32	35
QITP40N-41M-40-DUAL	00569	35	40	114	70	70	39	41
QITP50N-41M-50-DUAL	00719	44	50	140	89	89	48	57
QITP60N-41M-60-DUAL	00869	57	60	165	114	114	56	70

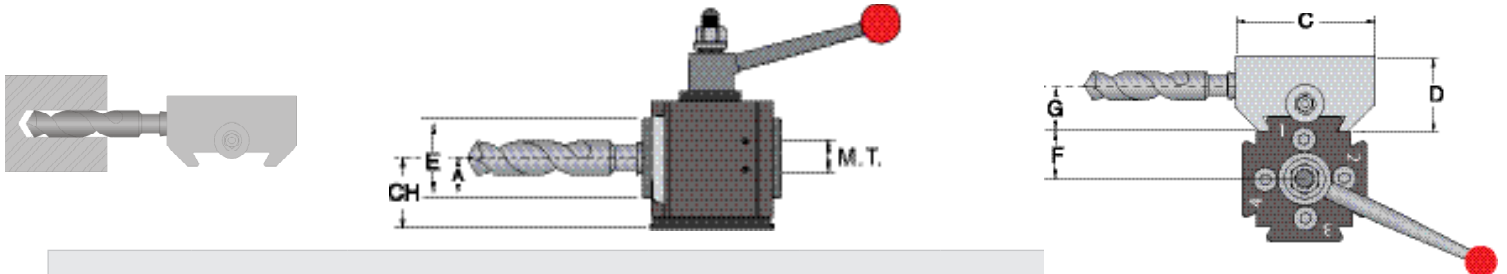


No. DQ-41S-DUAL Universal Super Over Sized Boring Bar Tool holder

Description	UPC #	Boring Bar Capacity						
		A	B	C	D	E	F	G
DQ35CXA-41SM-40-DUAL	00423	31	40	102	63	63	32	38
DQ40CA-41SM-50-DUAL	00571	38	50	114	76	76	39	45
DQ50DA-41SM-60-DUAL	00721	51	60	165	101	101	48	57
DQ60EA-41SM-80-DUAL	00871	57	80	178	114	114	56	67

No. QITPN-5 Morse Taper Tool holder

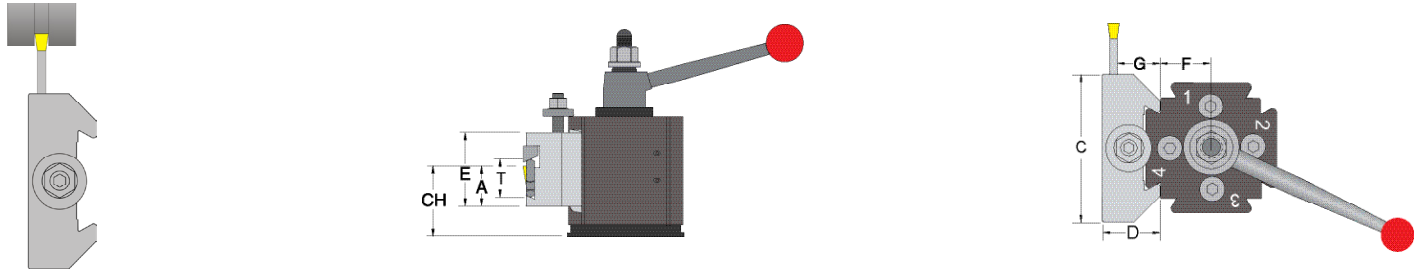
This holder is best used for holding morse taper tools. It can be used for drilling, boring, or reaming operations. Fits industry standard tool posts.



Description	UPC #	A	Morse Taper	C	D	E	F	G
QITP35N-5-4	00424	31.80	MT4	105.41	63.50	63.50	31.62	41.02
QITP40N-5-4	00572	31.80	MT4	114.30	63.50	63.50	38.90	41.02
QITP50N-5-5	00722	44.50	MT5	142.90	88.90	88.90	48.30	58.70
QITP60N-5-5	00872	44.50	MT5	142.90	88.90	88.90	56.10	58.70

No. QITPN-7-71C Extra Heavy Duty Cut-Off Blade Tool holder

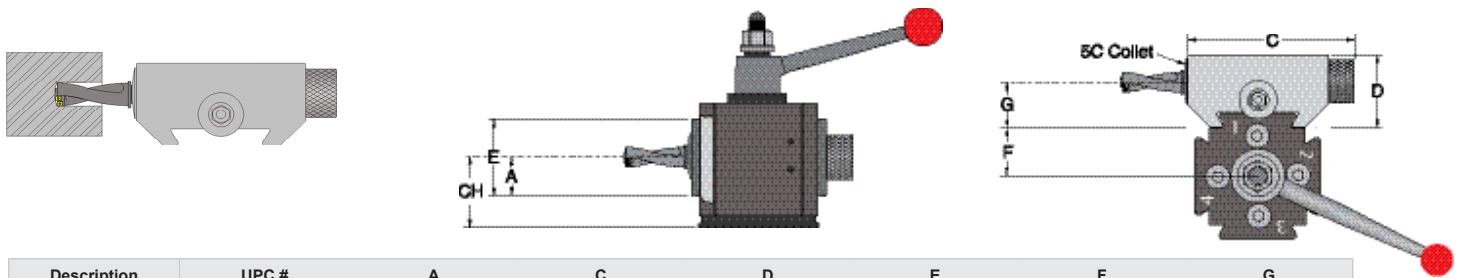
This holder is best used for holding cut-off blades. It has a taper locking system for maximum rigidity and performance in cut-off and face grooving operations. Fits industry standard tool posts.



Description	UPC #	A	Slot Grip Blade T	C	D	E	F	G
QITP25N-7-71C	00126	23.70	SGIH-19-2	69.85	31.75	50.80	22.35	28.63
QITP30N-7-71C	00276	23.70		82.60	31.80	50.80	28.30	28.60
QITP35N-7-71C	00428	31.88	SGIH-26-2 to 26-6	95.25	44.45	63.50	31.62	38.61
QITP40N-7-71C	00576	31.88		114.30	44.45	76.20	38.86	38.61
QITP50N-7-71C	00726	37.67	SGIH-32-3 to 32-9	152.40	50.80	76.20	48.26	43.43
QITP60N-7-71C	00876	52.07		177.80	57.15	88.90	56.06	54.61

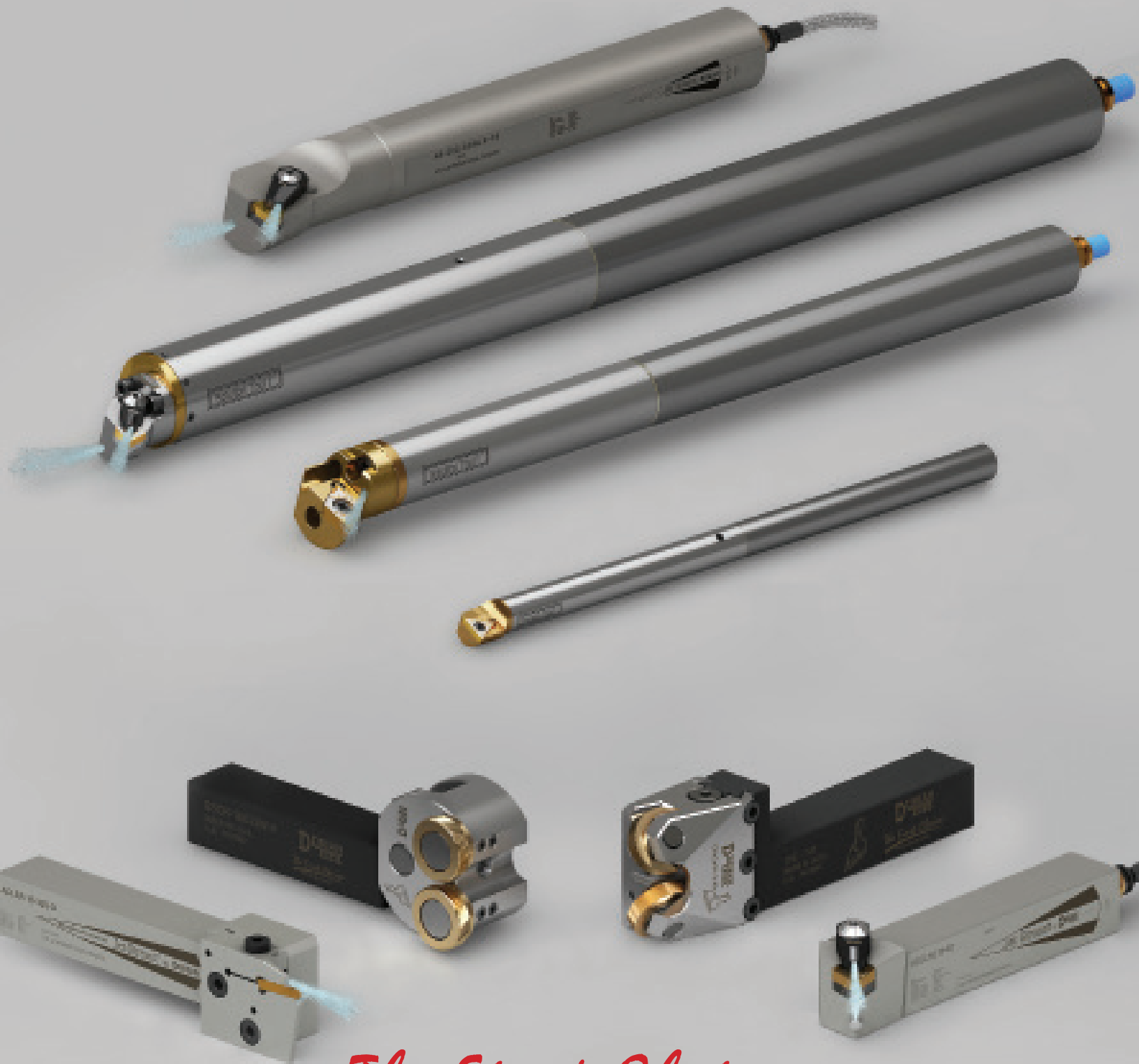
No. QITPN-36 5C Collet Tool holder

This holder's wide range of collet adaptability makes this tool ideal for holding drills, taps, chucks, & boring bars. It holds the tools with extreme rigidity without scarring them. Fits industry standard tool posts.



Description	UPC #	A	C	D	E	F	G
QITP25N-36	00142	28.58	107.95	63.50	57.15	22.35	38.10
QITP30N-36	00292	28.58	107.95	63.50	57.15	28.32	38.10
QITP35N-36	00444	34.93	114.30	69.85	69.85	31.62	41.28
QITP40N-36	00592	34.93	127.00	69.85	69.85	38.86	41.28

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Dorian Tool International, Inc.
615 County Rd 219, East Bernard
TX 77435, USA
Phone: 979-282-2861
Toll free: 800-627-0266
Fax: 888-508-7055
sales@doriantool.com
www.doriantool.com