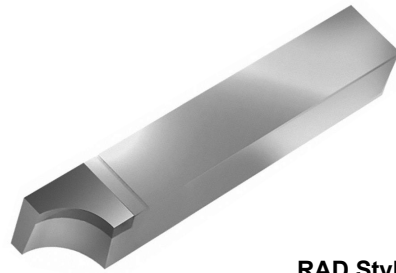
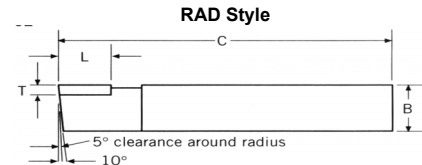
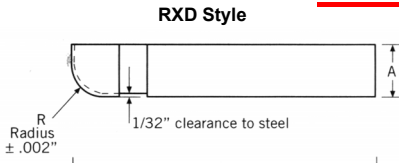


## CONVEX & CONCAVE RADIUS TOOLS



RXD Style



RAD Style

SHANK			TIP		RXD STYLE		RAD STYLE		Price Each		
A	B	C	T	L	R	Right Hand	Left Hand	Right Hand		Left Hand	
3/8	3/8	2-1/2	3/32	3/8	1/32	MI-RXD1	MI-RXL1	MI-RAD1	MI-RAL1	\$37.45	
					1/16	MI-RXD2	MI-RXL2	MI-RAD2	MI-RAL2	\$37.45	
					3/32	MI-RXD3	MI-RXL3	MI-RAD3	MI-RAL3	\$37.45	
					1/8	MI-RXD4	MI-RXL4	MI-RAD4	MI-RAL4	\$37.45	
					5/32	MI-RXD5	MI-RXL5	MI-RAD5	MI-RAL5	\$37.45	
					3/16	MI-RXD6	MI-RXL6	MI-RAD6	MI-RAL6	\$37.45	
1/2	1/2	3-1/2	1/8	1/2	7/32	MI-RXD7	MI-RXL7	MI-RAD7	MI-RAL7	\$37.45	
					1/4	MI-RXD8	MI-RXL8	MI-RAD8	MI-RAL8	\$37.45	
					9/32	MI-RXD9	MI-RXL9	MI-RAD9	MI-RAL9	\$40.70	
					5/16	MI-RXD10	MI-RXL10	MI-RAD10	MI-RAL10	\$40.70	
					11/32	MI-RXD11	MI-RXL11	MI-RAD11	MI-RAL11	\$40.70	
					3/8	MI-RXD12	MI-RXL12	MI-RAD12	MI-RAL12	\$40.70	
3/4	3/4	4-1/2	3/16	3/4	13/32	MI-RXD13	MI-RXL13	MI-RAD13	MI-RAL13	\$45.85	
					7/16	MI-RXD14	MI-RXL14	MI-RAD14	MI-RAL14	\$45.85	
					15/32	MI-RXD15	MI-RXL15	MI-RAD15	MI-RAL15	\$45.85	
					1/2	MI-RXD16	MI-RXL16	MI-RAD16	MI-RAL16	\$45.85	
					Set of 4: 1/16, 1/8, 1/4, 3/8 radius		MI-RXD21	MI-RXL21	MI-RAD21	MI-RAL21	\$144.90
					*Set of 8: 1/32 to 1/4 radius in 1/32 increments		MI-RXD22	MI-RXL22	MI-RAD22	MI-RAL22	\$282.65
Set of 8: 1/16 to 1/2 radius in 1/16 increments		MI-RXD23	MI-RXL23	MI-RAD23	MI-RAL23	\$295.60					
Set of 16: 1/32 to 1/2 radius in 1/32 increments		MI-RXD24	MI-RXL24	MI-RAD24	MI-RAL24	\$578.25					

## SPLIT- END RADIUS TOOLS

- Micrograin carbide
- Full radius
- Relieved for right hand cut



One End Split



Two Ends Split



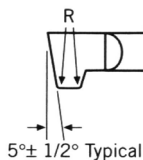
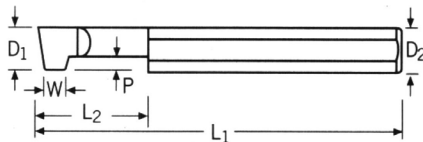
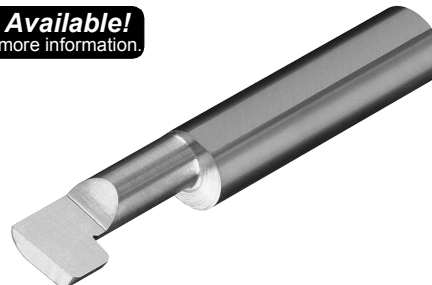
Shank	OAL	Split Length	ONE SPLIT END		TWO SPLIT ENDS	
			Part Number	Price Each	Part Number	Price Each
1/8	1-1/2	3/8	MI-RSF1251	\$20.25	MI-RSF1252	\$25.10
3/16	2	3/8	MI-RSF1871	\$24.35	MI-RSF1872	\$30.35
1/4	2-1/2	3/8	MI-RSF2501	\$28.05	MI-RSF2502	\$36.10
5/16	2-1/2	1/2	MI-RSF3121	\$41.50	MI-RSF3122	\$53.45
3/8	2-1/2	1/2	MI-RSF3751	\$53.45	MI-RSF3752	\$68.70
1/2	3	5/8	MI-RSF5001	\$78.95	MI-RSF5002	\$97.90

## GROOVE TOOLS FOR "O" RING GROOVES

### N/C GENERATION

- Shank Diameter: -.0001 to -.0003"
- Minimum Hole Dia.: +.000 - .005"
- Depth: +.050 - .000"
- Overall Length: ±1/64"

**Full Line Available!**  
Please call for more information.

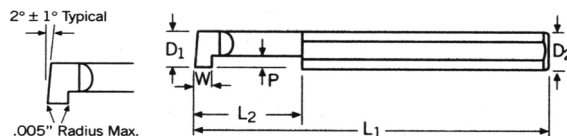


Bore D1	Shank D2	OAL L1	Depth L2	Proj. P	Radius R	Width W	Part Number	Price Each
.250	1/4	2-1/2	1/2	.100	.010/.020	.096/.098	MI-OR0968	\$33.60
			9/16		.035/.045	.141/.143	MI-OR1419	
			5/8		.035/.045	.144/.146	MI-OR14410	
.375	3/8	2-1/2	3/4		.010/.020	.174/.176	MI-OR17412	\$55.15
			13/16		.035/.045	.208/.210	MI-OR20813	
			15/16		.035/.045	.241/.243	MI-OR24115	

Call Us Or Visit Our Website For Our Complete Selection!

# SOLID CARBIDE GROOVE TOOLS

## SOLID CARBIDE GROOVE TOOLS



- For retaining ring grooves
- Lockdown flat automatically locates tool on center
- Micrograin carbide
- Made in USA

### N/C GENERATION

Shank Diameter      -.0001 to -.0003"  
 Minimum Hole Dia.   +.000 - .005"  
 Maximum Hole Depth   +.050 - .000"  
 Overall Length       +1/64"

**Full Line Available!**  
 Please call for more information.

Left-hand groove tools and other sizes also available.

Min. Bore D1	Shank Dia. D2	OAL L1	Proj. P	Tool Width W	Max. Depth L2	Part Number	Price Each
.250	1/4	2-1/2	.050	.017/.018	1/4	MI-RR0174	<b>\$33.60</b>
					3/8	MI-RR0176	
					1/2	MI-RR0178	
					5/8	MI-RR01710	
.250	1/4	2-1/2	.050	.025/.026	1/4	MI-RR0254	<b>\$33.60</b>
					3/8	MI-RR0256	
					1/2	MI-RR0258	
					5/8	MI-RR02510	
.250	1/4	2-1/2	.050	.030/.031	1/4	MI-RR0304	<b>\$33.60</b>
					3/8	MI-RR0306	
					1/2	MI-RR0308	
					5/8	MI-RR03010	
.312	5/16	2-1/2	.100	.033/.034	1/4	MI-RR0334	<b>\$41.90</b>
					3/8	MI-RR0336	
					1/2	MI-RR0338	
					3/4	MI-RR03312	
.312	5/16	2-1/2	.100	.038/.039	1/4	MI-RR0384	<b>\$41.90</b>
					3/8	MI-RR0386	
					1/2	MI-RR0388	
					3/4	MI-RR03812	
.375	3/8	2-1/2	.100	.039/.041	1/4	MI-RR0394	<b>\$54.60</b>
					3/8	MI-RR0396	
					1/2	MI-RR0398	
					3/4	MI-RR03912	
					1	MI-RR03916	
.375	3/8	2-1/2	.100	.046/.048	1-1/4	MI-RR03920	<b>\$54.60</b>
					1/4	MI-RR0464	
					3/8	MI-RR0466	
					1/2	MI-RR0468	
					3/4	MI-RR04612	
.375	3/8	2-1/2	.100	.046/.048	1	MI-RR04616	<b>\$54.60</b>
					1-1/4	MI-RR04620	

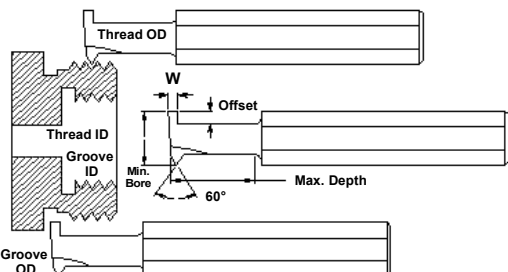
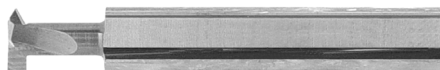
Min. Bore D1	Shank Dia. D2	OAL L1	Proj. P	Tool Width W	Max. Depth L2	Part Number	Price Each
.375	3/8	2-1/2	.100	.055/.057	1/4	MI-RR0554	<b>\$54.60</b>
					3/8	MI-RR0556	
					1/2	MI-RR0558	
					3/4	MI-RR05512	
					1	MI-RR05516	
.375	3/8	2-1/2	.100	.062/.064	1-1/4	MI-RR05520	<b>\$54.60</b>
					1/4	MI-RR0624	
					3/8	MI-RR0626	
					1/2	MI-RR0628	
					3/4	MI-RR06212	
.375	3/8	2-1/2	.100	.069/.071	1	MI-RR06216	<b>\$54.60</b>
					1-1/4	MI-RR06220	
					1/4	MI-RR0694	
					3/8	MI-RR0696	
					1/2	MI-RR0698	
.375	3/8	2-1/2	.100	.087/.089	3/4	MI-RR06912	<b>\$54.60</b>
					1	MI-RR06916	
					1-1/4	MI-RR06920	
					1/4	MI-RR0874	
					3/8	MI-RR0876	
.375	3/8	2-1/2	.100	.087/.089	1/2	MI-RR0878	<b>\$54.60</b>
					3/4	MI-RR08712	
					1	MI-RR08716	
					1-1/4	MI-RR08720	
					1/2	MI-RR0938	
.500	1/2	3	.150	.093/.095	3/4	MI-RR09312	<b>\$76.55</b>
					1	MI-RR09316	
					1-1/4	MI-RR09320	
					1-1/2	MI-RR09324	
					1/2	MI-RR1258	
.500	1/2	3	.150	.125/.127	3/4	MI-RR12512	<b>\$76.55</b>
					1	MI-RR12516	
					1-1/4	MI-RR12520	
					1-1/2	MI-RR12524	
					1/2	MI-RR1568	
.500	1/2	3	.150	.156/.158	3/4	MI-RR15612	<b>\$76.55</b>
					1	MI-RR15616	
					1-1/4	MI-RR15620	
					1-1/2	MI-RR15624	
					1/2	MI-RR1878	
.500	1/2	3	.150	.187/.189	3/4	MI-RR18712	<b>\$76.55</b>
					1	MI-RR18716	
					1-1/4	MI-RR18720	
					1-1/2	MI-RR18724	
					1/2	MI-RR2508	
.500	1/2	3	.150	.250/.252	1	MI-RR25012	<b>\$76.55</b>
					1-1/4	MI-RR25016	
					1-1/2	MI-RR25020	
					1-1/2	MI-RR25024	

## COMBINATION THREAD & GROOVE TOOL

Save Tool Change Time!



- Thread and groove with the same tool!
- Micrograin carbide
  - Right hand cutting
  - Please specify groove width when ordering



Tool ID No.	Max Depth	Groove W	Min Bore	Offset	Shank	OAL	Part Number	Price Each
TG-240-500	.500	3/32 max	1/4	.050	1/4	2-1/2	IT-52-1100	<b>\$58.05</b>
TG-240-750	.750							
TG-240-1000	1.000							
TG-310-500	.500	1/8 max	5/16	.060	5/16	2-1/2	IT-52-1115	<b>\$72.65</b>
TG-310-750	.750							
TG-310-1000	1.000							
TG-360-500	.500	5/32 max	3/8	.080	3/8	2-1/2	IT-52-1130	<b>\$89.05</b>
TG-360-750	.750							
TG-360-1000	1.000							

Call Us Today For All Of Your Machine Tool Needs!

## MICRO-QUIK™ QUICK CHANGE TOOLING INTERNAL THREADING TOOLS

**Full Line Available!**  
Please call for more information.

**MICRO 100™**

### FEATURES & BENEFITS

- Reduces machine setup, downtime and tooling costs
- Ensures high degree of tool length repeatability
- Toolholder features unique "3 point" locking/locating system ensures tool to tool change repeats +/-0.0005" from centerline
- Distance from tip of tool to this registration point is controlled to +/--.001"
- Ideal for cutting aluminum, brass, copper, stainless steels, high temperature alloys and composites

### TOOL INFORMATION:

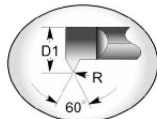
- Micro 100 Super Carbide Tools will not chip or break under normal machining conditions
- Shank dia tolerance: -.0001" to -.0003"
- Min. bore dia tolerance: +/--.0005"
- Minimum bore diameter range: 0.035" to 0.490"
- Maximum bore depth range: 0.075" to 2.000"
- Point radius: .002"
- Shank sizes available: 3/16", 1/4", 5/16", 3/8" & 1/2"



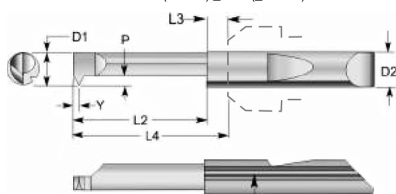
Threading Tool



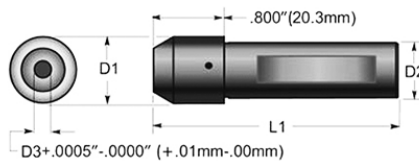
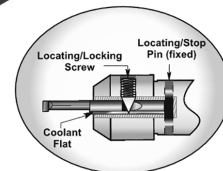
Threading Tool w/ Holder



Tool Radius: .002"(.05mm) ±.001" (±.03mm)



Coolant Flat / Groove



### INTERNAL THREADING TOOLS

Min.Hole Dia D1	Shank Dia D2	OAL L1	Depth L2	Proj. P	Offset Point Y	Part Number	Price Each
.080	3/16	1-1/2	.350	.020	.012	QIT-080350	\$36.50
.080	3/16	1-1/2	.500	.020	.012	QIT-080500	\$36.50
.160	3/16	2	1.000	.040	.023	QIT-1601000	\$36.50
.180	1/4	2	.350	.040	.023	QIT-180350	\$39.00
.180	1/4	2	.500	.040	.023	QIT-180500	\$39.00
.180	1/4	2-1/2	1.000	.040	.023	QIT-1801000	\$39.00
.200	1/4	2	.750	.045	.026	QIT-200750	\$39.00
.230	5/16	2	.400	.055	.032	QIT230400	\$48.80
.230	5/16	2	.600	.055	.032	QIT-230600	\$48.80
.230	5/16	2	.750	.055	.032	QIT230750	\$48.80
.290	5/16	2	.500	.070	.040	QIT-290500	\$48.80
.290	5/16	2	.750	.070	.040	QIT-290750	\$48.80
.360	3/8	2	.750	.085	.049	QIT-360750	\$63.55
.360	3/8	2-1/12	1.000	.085	.049	QIT-3601000	\$63.55
.360	3/8	2-1/2	1.250	.085	.049	QIT-3601250	\$63.55
.360	3/8	3	1.800	.085	.049	QIT-3601800	\$70.00
.490	1/2	2-1/2	.750	.120	.069	QIT-490750	\$89.10
.490	1/2	3-1/2	2.000	.120	.069	QIT-4902000	\$97.20

### QUICK CHANGE TOOLHOLDERS

OD D2	ID D3	Head Dia D1	OAL L1	Part Number	Price Each
1/2	3/16	1/2	2-3/4	MI-QTH85	\$95.00
1/2	1/4	1/2	2-3/4	MI-QTH86	\$95.00
5/8	3/16	5/8	2-3/4	MI-QTH105	\$95.00
5/8	1/4	5/8	2-3/4	MI-QTH106	\$95.00
5/8	5/16	5/8	2-3/4	MI-QTH107	\$95.00
5/8	3/8	5/8	2-3/4	MI-QTH108	\$95.00
3/4	3/16	3/4	2-3/4	MI-QTH205	\$95.00
3/4	1/4	3/4	3/4	MI-QTH206	\$95.00
3/4	5/16	3/4	3/4	MI-QTH207	\$95.00
3/4	3/8	3/4	3/4	MI-QTH208	\$95.00
3/4	1/2	3/4	3/4	MI-QTH210	\$95.00
1	3/16	1	1	MI-QTH405	\$95.00
1	1/4	1	1	MI-QTH406	\$95.00
1	5/16	1	1	MI-QTH407	\$95.00
1	3/8	1	1	MI-QTH408	\$95.00
1	1/2	1	1	MI-QTH410	\$95.00

\*Additional tool sizes available. Please call for more information.

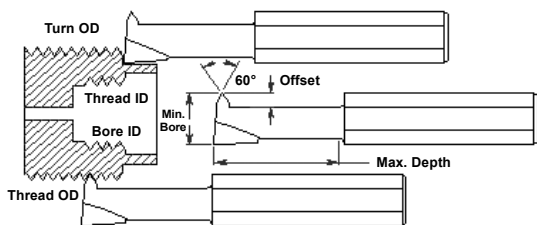
## COMBINATION BORE & THREAD TOOL

- Bore and thread with the same tool!
- Micrograin carbide
- Right hand cutting
- Made in USA



**INTERNAL TOOL**

*Save a Tool Position!*



Max Depth	Thread Width	Min Bore	Offset	Shank	OAL	Part Number	Price Each
.500	.055	1/4	.050	1/4	2-1/2	IT-50-1100	\$51.87
.750	.055	1/4	.050	1/4	2-1/2	IT-50-1105	\$51.87
1.000	.055	1/4	.050	1/4	2-1/2	IT-50-1110	\$51.87
.500	.065	5/16	.060	5/16	2-1/2	IT-50-1115	\$68.54
.750	.065	5/16	.060	5/16	2-1/2	IT-50-1120	\$68.54
1.000	.065	5/16	.060	5/16	2-1/2	IT-50-1125	\$68.54
.500	.090	3/8	.080	3/8	2-1/2	IT-50-1130	\$86.47
.750	.090	3/8	.080	3/8	2-1/2	IT-50-1135	\$86.47
1.000	.090	3/8	.080	3/8	2-1/2	IT-50-1140	\$86.47

Call Us Or Visit Our Website For Our Complete Selection!

LATHE CHUCKS  
LIVE CENTERS

VICE JAWS  
VICE ACCESSORIES

STRAIGHT SHANK  
COLLET HOLDERS

TAP HOLDERS  
DRILL CHUCKS

CARBIDE INSERTS  
THREADING/GROOVING

CUTTING TOOLS  
MACHINERY

PRECISION TOOLS  
DEBURRING

COOLANT/FLUIDS  
TOOL STORAGE

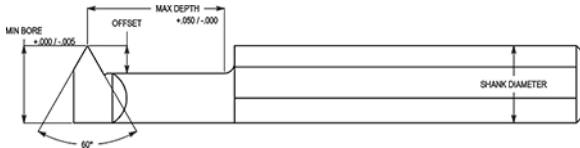


## 60° LEFT HAND & EXTERNAL THREADING TOOLS

**INTERNAL TOOL**

### Left Hand

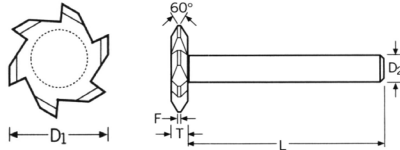
- Solid micrograin carbide
- All shanks have lockdown flat for faster setups
- For threading all types of material
- No tip radius
- For turning external or left hand threads



Min Bore	Max Depth	Offset	Shank Dia	OAL	LEFT HAND Part Number	Price Each
0.180	0.500	0.040	0.250	2.50	IT-31-1200	\$28.18
	0.750	0.040	0.250	2.50	IT-31-1205	\$28.18
	1.000	0.040	0.250	2.50	IT-31-1210	\$28.18
0.200	0.500	0.045	0.250	2.50	IT-31-1215	\$28.18
	0.750	0.045	0.250	2.50	IT-31-1220	\$28.18
	1.000	0.045	0.250	2.50	IT-31-1225	\$28.18
0.230	0.500	0.055	0.312	2.50	IT-31-1230	\$35.36
	0.750	0.055	0.312	2.50	IT-31-1235	\$35.36
	1.000	0.055	0.312	2.50	IT-31-1240	\$35.36
0.290	0.500	0.070	0.312	2.50	IT-31-1245	\$35.36
	0.750	0.070	0.312	2.50	IT-31-1250	\$35.36
	1.000	0.070	0.312	2.50	IT-31-1255	\$35.36
0.320	0.500	0.075	0.375	2.50	IT-31-1260	\$46.07
	0.750	0.075	0.375	2.50	IT-31-1265	\$46.07
	1.000	0.075	0.375	2.50	IT-31-1270	\$46.07
0.360	0.500	0.085	0.375	2.50	IT-31-1275	\$46.07
	0.750	0.085	0.375	2.50	IT-31-1280	\$46.07
	1.000	0.085	0.375	2.50	IT-31-1285	\$46.07

## BRAZED THREAD MILLS

- Designed for milling precision I.D. and O.D. threads in all types of steels, non-ferrous metals and exotic materials
- Equally effective in composites used in the aircraft industry
- Thread form generated is American Standard thread
- Minimum pitch listed is for an internal thread
- Solid carbide head and shank for maximum rigidity



Cutter D1	Shank D2	Flat F	Len. L	Thick T	No. of Flutes	Min. Pitch	Part Number	Price Each
3/8	1/4	.002	2-1/2	.093	4	.031	MI-TM375	\$67.40
1/2	5/16	.0035	2-1/2	.125	5	.050	MI-TM500	\$85.80
3/4	3/8	.0045	2-1/2	.156	6	.062	MI-TM750	\$106.45
1	1/2	.009	3	.187	7	.125	MI-TM001	\$133.00

**MICRO 100**

## SOLID CARBIDE THREAD MILLS

**INTERNAL TOOL**

### AlTiN Coated

- Solid micrograin carbide
- AlTiN coated
- Mill internal or external threads in one pass
- Eliminate special taps by cutting any size, pitch, or taper
- Thread blind holes to the bottom with minimal lead
- 60° Included angle



Size	Cutting Dia	LOC	No. of Flutes	Shank Dia	Shank Length	Part Number	Price Each
6-32	.1150	0.2180	3	.1250	2.00	IT-89-1200	\$91.19
8-32	.1150	0.2500	3	.1250	2.00	IT-89-1205	\$91.19
8-36	.1150	0.2500	3	.1250	2.00	IT-89-1210	\$91.19
10-24	.1200	0.3120	3	.1250	2.00	IT-89-1215	\$91.19
10-32	.1200	0.3120	3	.1250	2.00	IT-89-1220	\$91.19
1/4-20	.1800	0.5000	3	.1870	2.50	IT-89-1225	\$103.13
1/4-28	.1800	0.5000	3	.1870	2.50	IT-89-1230	\$103.13
5/16-18	.2400	0.6250	3	.1870	2.50	IT-89-1235	\$121.37
5/16-24	.2400	0.6250	3	.1870	2.50	IT-89-1240	\$121.37
3/8-16	.2900	0.7500	4	.2500	3.00	IT-89-1245	\$151.95
3/8-24	.2900	0.7500	4	.2500	3.00	IT-89-1250	\$151.95
7/16-14	.3400	0.8750	4	.3120	3.00	IT-89-1255	\$163.93
7/16-20	.3400	0.8750	4	.3120	3.00	IT-89-1260	\$163.93
1/2-13	.3500	0.8750	4	.3750	3.50	IT-89-1265	\$163.93
1/2-20	.3500	0.8750	4	.3750	3.50	IT-89-1270	\$163.93
9/16-12	.3700	0.8750	4	.3750	3.50	IT-89-1275	\$205.22
9/16-18	.3700	0.8750	4	.3750	3.50	IT-89-1280	\$205.22
5/8-11	.4700	1.2500	5	.5000	3.50	IT-89-1285	\$205.22
5/8-18	.4700	1.2500	5	.5000	3.50	IT-89-1290	\$205.22
3/4-10	.4950	1.2500	5	.5000	3.50	IT-89-1295	\$205.22
3/4-16	.4950	1.2500	5	.5000	3.50	IT-89-1300	\$205.22
7/8-9	.6200	1.2500	5	.6250	3.50	IT-89-1305	\$244.00
7/8-14	.6200	1.2500	5	.6250	3.50	IT-89-1310	\$244.00
1"-8	.6200	1.3750	5	.7500	4.00	IT-89-1315	\$244.00
1"-12	.6200	1.3750	5	.7500	4.00	IT-89-1320	\$244.00

Call Us Or Visit Our Website For Our Complete Selection!

LATHE CHUCKS  
LIVE CENTERS

VICE ACCESSORIES  
VICE JAWS

STRAIGHT SHANK  
COLLET HOLDERS

TAP HOLDERS  
DRILL CHUCKS

CARBIDE INSERTS  
THREADING/GROOVING

CUTTING TOOLS  
MACHINERY

PRECISION TOOLS  
DEBRUISING

COOLANT/FLUIDS  
TOOL STORAGE