



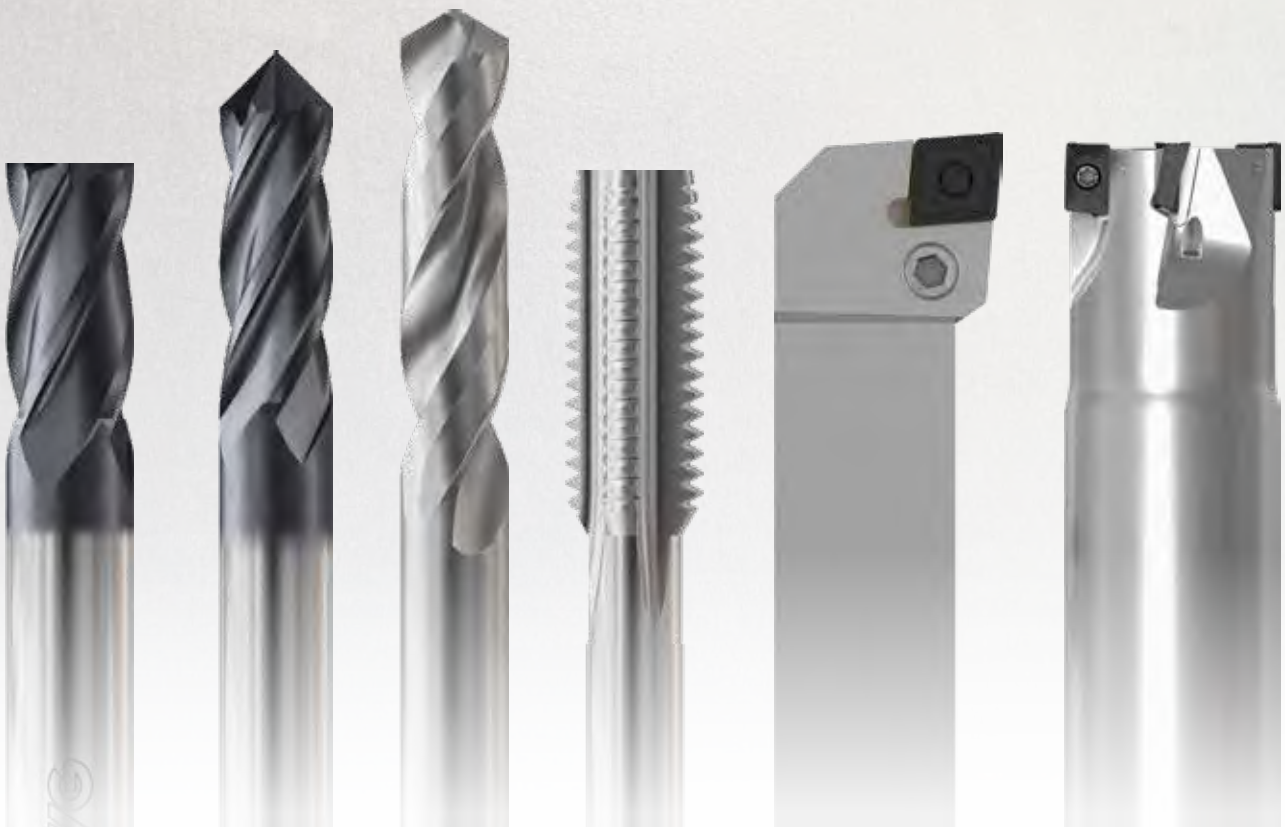
BEST VALUE IN THE WORLD OF CUTTING TOOLS

AHB

TOOLING & MACHINERY

COMPLETE MANUFACTURING SOLUTIONS

Holemaking | Threading | Milling | Indexable Inserts | Rotary Tool Holders





General Purpose Tooling Solutions for General Purpose Applications







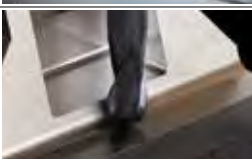




AHB Tooling & Machinery and YG-1 have partnered to make it easy for you to select the right general purpose tools for your general purpose machining applications.

In addition offering reliable quality and performance, you will also discover that these products are priced to give you the best value in the world in cutting tools.

This catalog only represents a small portion of our overall standard product portfolio. If you can't find what you need here, please visit www.ahbinc.com or www.YG1USA.com to explore our full range of product offerings.

If you require a custom engineered solution or product reconditioning, we can provide that as well. Just contact us, and we will be there to develop the solution you need.

With our extensive inventory and high service levels, we look forward to getting you the right product when you need it!

PRODUCTS		Page	
HOLEMAKING		SOLID CARBIDE DRILLS – 3xD, 5xD Coolant Thru – 3xD, 5xD Non-Coolant Thru – General Purpose Jobber Length	6
		GOLD-P JOBBER DRILLS – HSS and HSSCo – Fractional, Letter, Wire, and Metric Sizes – Standard and Parabolic Flute	24
		CENTER DRILLS – Carbide and HSS – 60° and 90° – Standard and Long Length	40
		SPOTTING DRILLS – Carbide and HSS – 90° and 120°	45
		REAMERS – Carbide and HSS – Straight Flute Chucking Reamers	48
THREADING		TAPS – HSS and HSS-E – Spiral Flute, Spiral Point, and Straight Flute – Bright, Steam Oxide, TiN, and Hardslick Coating	68
MILLING		SOLID CARBIDE END MILLS – Square, Corner Radius, and Ball Nose – Multihelix, 2-Flute, 3-Flute, and 4-Flute – X-Coated and Uncoated	97
		HSS & COBALT END MILLS – Square, Ball Nose, Corner Rounding – Roughing or Finishing – 2, 3, 4, 5, 6, and 8 Flute	148
		POWDER METAL END MILLS – PM60 ONLY ONE Product – Solution to Prevent Carbide Chipping in Less Stable Conditions – Roughing or Finishing Profiles	201
INDEXABLE		INDEXABLE INSERTS & CUTTER KITS – Milling Inserts – Turning Inserts – Indexable Milling Kits	214
ROTARY TOOL HOLDERS		ROTARY TOOL HOLDERS – End Mill Holders with Spray Coolant Option – ER Collet Chucks and ER Collets – Shell Mill Arbors – CAT40, CAT50, BT40, and BT50	231

GUIDE LINE TO ICONS

Tool Material

CARBIDE	Carbide
HSS PM	YG-1 Premium Powder Metallurgy HSS
PM 60	Powder Metallurgy HSS
HSS Co8	8% Cobalt HSS
HSS-E	5% Cobalt HSS
HSS	High Speed Steel

Cutting Condition

	Milling		Holemaking
	Reaming		Threading

Helix Angle

		End mills
		Drills
		Taps

The Type of Shank

	Plain shank (with DIN Standard)
	Flat shank (with DIN Standard)

Tolerance of Radius

		Tolerance of Ball Radius .0008", ±0.02 mm
		Tolerance of Corner Radius ±0.001"

Standard of Tools

No. of Flute

--	--	--

Surface Treatment

	Titanium Aluminum Nitride Coating
	TiAlN + WC/C Coating
	Titanium Nitride Coating
	Titanium Carbon Nitride Coating
	Bright Finish
	Steam Oxide

Point Angle

Chamfer Angle

	Reamers
--	---------

Chamfer Lead Acc.

--	--	--	--

Tolerance of Dimension

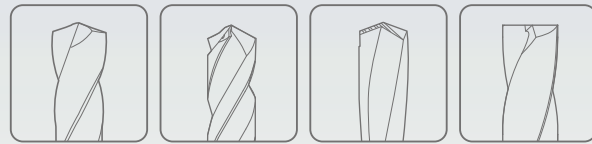
			Tolerance of Outside Diameter
			Tolerance of Shank Diameter

Thread Angle

--

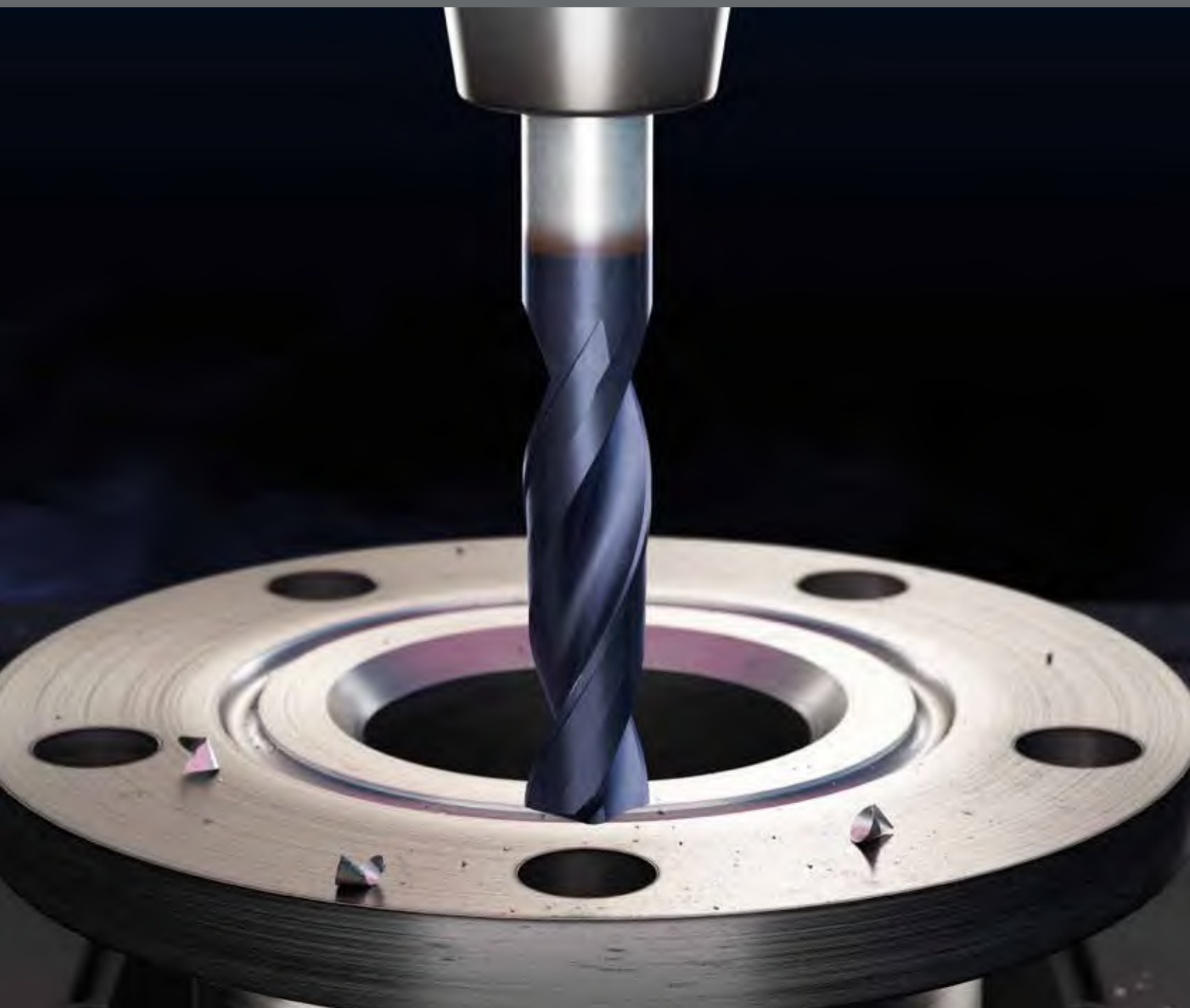
Working Material

--



HOLEMAKING

YGBasix SOLID CARBIDE DRILLS



YGBasix SOLID CARBIDE DRILLS

SELECTION GUIDE

YGBasix SOLID CARBIDE DRILLS

- For drilling in Steels, Cast Iron, and some Stainless Steels.
- R-thinning point geometry for better self-centering.
- Wave shaped cutting edge to reduce drilling torque resulting in longer tool life.
- Optimized flute shape for improved strength and better chip evacuation.

SERIES	DB310	DB510	DB301	DB501
DRILLING DEPTH	3xD	5xD	3xD	5xD
COOLANT	INTERNAL	INTERNAL	EXTERNAL	EXTERNAL
SIZE MIN	D3.0	D1.0	D3.0	D1.0
SIZE MAX	D20.0	D20.0	D20.0	D20.0
PAGE	8	10	13	15
SURFACE TREATMENT	TiAlN			



◎ : Excellent ○ : Good

Recommended cutting conditions : P. 17 & 18

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC					
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎	
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎	
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎	
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	○	○	
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎	
	7			Quenched & Tempered	275	29	◎	◎	◎	◎	
	8			Quenched & Tempered	300	32	○	○	○	○	
	9			Quenched & Tempered	350	38	○	○	○	○	
	10		High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎
	11				Quenched & Tempered	325	35	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○	○	○	
	13		Martensitic	Quenched & Tempered	240	23	○	○	○	○	
	14		Austenitic		180	10					
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎	◎	
	16		Pearlitic (Martensitic)		260	26	○	○	○	○	
	17	Nodular cast iron	Ferritic		160	3	◎	◎	◎	◎	
	18		Pearlitic		250	25	○	○	○	○	
	19	Malleable cast iron	Ferritic		130		◎	◎	◎	◎	
20	Pearlitic			230	21	○	○	○	○		
N	21	Aluminum-wrought alloy	Not Curable		60						
	22		Curable Hardened		100						
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75						
	24		≤ 12% Si, Curable Hardened		90						
	25		> 12% Si, Not Curable		130						
	26		Cutting Alloys, PB>1%		110						
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)		90						
	28		CuSn, lead-free copper and electrolytic copper		100						
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15					
	32		Cured	280	30						
	33			Annealed	250	25					
	34		Ni or Co Based	Cured	350	38					
	35			Cast	320	34					
	36	Titanium Alloys	Pure Titanium		400 Rm						
37	Alpha + Beta Alloys		Hardened	1050 Rm							
H	38	Hardened steel		Hardened	550	55	○	○	○	○	
	39			Hardened	630	60					
	40	Chilled Cast Iron		Cast	400	42					
	41	Hardened Cast Iron		Hardened	550	55					

Holemaking

Threading

Milling

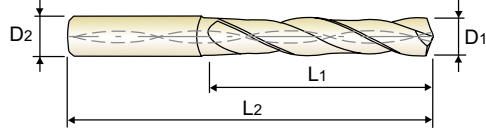
Indexable

Rotary Tool Holder

YGBasix SOLID CARBIDE DRILLS

DB310 SERIES

3xD COOLANT THRU



P.17

3 × D

Unit : mm

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal						Metric	Imperial	Decimal			
TiAlN		D1			D2	L1	L2	TiAlN		D1			D2	L1	L2
DB310030	\$38.88	3.0		.1181	6	20	62	DB310016F	\$51.12	6.35	1/4	.2500	8	34	79
DB310031	\$38.88	3.1		.1220	6	20	62	DB310064	\$51.12	6.4		.2520	8	34	79
DB310008F	\$38.88	3.18	1/8	.1250	6	20	62	DB310065	\$51.12	6.5		.2559	8	34	79
DB310032	\$38.88	3.2		.1260	6	20	62	DB310006L	\$51.12	6.53	F	.2570	8	34	79
DB310033	\$38.88	3.3		.1299	6	20	62	DB310066	\$51.12	6.6		.2598	8	34	79
DB310034	\$38.88	3.4		.1339	6	20	62	DB310067	\$51.12	6.7		.2638	8	34	79
DB310035	\$38.88	3.5		.1378	6	20	62	DB310017F	\$51.12	6.75	17/64	.2656	8	34	79
DB310009F	\$38.88	3.57	9/64	.1406	6	20	62	DB310068	\$51.12	6.8		.2677	8	34	79
DB310036	\$38.88	3.6		.1417	6	20	62	DB310069	\$51.12	6.9		.2717	8	34	79
DB310037	\$38.88	3.7		.1457	6	20	62	DB310009L	\$51.12	6.91	I	.2720	8	34	79
DB310038	\$38.88	3.8		.1496	6	24	66	DB310070	\$51.12	7.0		.2756	8	34	79
DB310039	\$38.88	3.9		.1535	6	24	66	DB310071	\$51.12	7.1		.2795	8	41	79
DB310010F	\$38.88	3.97	5/32	.1563	6	24	66	DB310018F	\$51.12	7.14	9/32	.2813	8	41	79
DB310040	\$38.88	4.0		.1575	6	24	66	DB310072	\$51.12	7.2		.2835	8	41	79
DB310041	\$38.88	4.1		.1614	6	24	66	DB310073	\$51.12	7.3		.2874	8	41	79
DB310042	\$38.88	4.2		.1654	6	24	66	DB310074	\$51.12	7.4		.2913	8	41	79
DB310043	\$38.88	4.3		.1693	6	24	66	DB310075	\$51.12	7.5		.2953	8	41	79
DB310011F	\$38.88	4.37	11/64	.1719	6	24	66	DB310019F	\$51.12	7.54	19/64	.2969	8	41	79
DB310044	\$38.88	4.4		.1732	6	24	66	DB310076	\$51.12	7.6		.2992	8	41	79
DB310045	\$38.88	4.5		.1772	6	24	66	DB310077	\$51.12	7.7		.3031	8	41	79
DB310046	\$38.88	4.6		.1811	6	24	66	DB310078	\$51.12	7.8		.3071	8	41	79
DB310047	\$38.88	4.7		.1850	6	24	66	DB310079	\$51.12	7.9		.3110	8	41	79
DB310012F	\$38.88	4.76	3/16	.1875	6	28	66	DB310020F	\$51.12	7.94	5/16	.3125	8	41	79
DB310048	\$38.88	4.8		.1890	6	28	66	DB310080	\$51.12	8.0		.3150	8	41	79
DB310049	\$38.88	4.9		.1929	6	28	66	DB310081	\$72.87	8.1		.3189	10	47	89
DB310050	\$38.88	5.0		.1969	6	28	66	DB310082	\$72.87	8.2		.3228	10	47	89
DB310051	\$38.88	5.1		.2008	6	28	66	DB310083	\$72.87	8.3		.3268	10	47	89
DB310013F	\$38.88	5.16	13/64	.2031	6	28	66	DB310021F	\$72.87	8.33	21/64	.3281	10	47	89
DB310052	\$38.88	5.2		.2047	6	28	66	DB310084	\$72.87	8.4		.3307	10	47	89
DB310053	\$38.88	5.3		.2087	6	28	66	DB310017L	\$72.87	8.43	Q	.3320	10	47	89
DB310054	\$38.88	5.4		.2126	6	28	66	DB310085	\$72.87	8.5		.3346	10	47	89
DB310055	\$38.88	5.5		.2165	6	28	66	DB310086	\$72.87	8.6		.3386	10	47	89
DB310014F	\$38.88	5.56	7/32	.2188	6	28	66	DB310087	\$72.87	8.7		.3425	10	47	89
DB310056	\$38.88	5.6		.2205	6	28	66	DB310022F	\$72.87	8.73	11/32	.3438	10	47	89
DB310057	\$38.88	5.7		.2244	6	28	66	DB310088	\$72.87	8.8		.3465	10	47	89
DB310058	\$38.88	5.8		.2283	6	28	66	DB310089	\$72.87	8.9		.3504	10	47	89
DB310059	\$38.88	5.9		.2323	6	28	66	DB310090	\$72.87	9.0		.3543	10	47	89
DB310015F	\$38.88	5.95	15/64	.2344	6	28	66	DB310091	\$72.87	9.1		.3583	10	47	89
DB310060	\$38.88	6.0		.2362	6	28	66	DB310023F	\$72.87	9.13	23/64	.3594	10	47	89
DB310061	\$51.12	6.1		.2402	8	34	79	DB310092	\$72.87	9.2		.3622	10	47	89
DB310062	\$51.12	6.2		.2441	8	34	79	DB310093	\$72.87	9.3		.3661	10	47	89
DB310063	\$51.12	6.3		.2480	8	34	79	DB310021L	\$72.87	9.35	U	.3680	10	47	89

▶ NEXT PAGE

YGBasix SOLID CARBIDE DRILLS

Unit : mm

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal						Metric	Imperial	Decimal			
TiAIN		D1			D2	L1	L2	TiAIN		D1			D2	L1	L2
DB310094	\$72.87	9.4		.3701	10	47	89	DB310144	\$140.95	14.4		.5669	16	65	115
DB310095	\$72.87	9.5		.3740	10	47	89	DB310145	\$140.95	14.5		.5709	16	65	115
DB310024F	\$72.87	9.53	3/8	.3750	10	47	89	DB310146	\$140.95	14.6		.5748	16	65	115
DB310096	\$72.87	9.6		.3780	10	47	89	DB310147	\$140.95	14.7		.5787	16	65	115
DB310097	\$72.87	9.7		.3819	10	47	89	DB310148	\$140.95	14.8		.5827	16	65	115
DB310098	\$72.87	9.8		.3858	10	47	89	DB310149	\$140.95	14.9		.5866	16	65	115
DB310099	\$72.87	9.9		.3898	10	47	89	DB310150	\$140.95	15.0		.5906	16	65	115
DB310025F	\$72.87	9.92	25/64	.3906	10	47	89	DB310151	\$140.95	15.1		.5945	16	65	115
DB310100	\$72.87	10.0		.3937	10	47	89	DB310152	\$140.95	15.2		.5984	16	65	115
DB310101	\$105.37	10.1		.3976	12	55	102	DB310153	\$140.95	15.3		.6024	16	65	115
DB310102	\$105.37	10.2		.4016	12	55	102	DB310154	\$140.95	15.4		.6063	16	65	115
DB310103	\$105.37	10.3		.4055	12	55	102	DB310155	\$140.95	15.5		.6102	16	65	115
DB310026F	\$105.37	10.32	13/32	.4063	12	55	102	DB310156	\$140.95	15.6		.6142	16	65	115
DB310104	\$105.37	10.4		.4094	12	55	102	DB310157	\$140.95	15.7		.6181	16	65	115
DB310105	\$105.37	10.5		.4134	12	55	102	DB310158	\$140.95	15.8		.6220	16	65	115
DB310106	\$105.37	10.6		.4173	12	55	102	DB310040F	\$140.95	15.88	5/8	.6250	16	65	115
DB310107	\$105.37	10.7		.4213	12	55	102	DB310159	\$140.95	15.9		.6260	16	65	115
DB310027F	\$105.37	10.72	27/64	.4219	12	55	102	DB310160	\$140.95	16.0		.6299	16	65	115
DB310108	\$105.37	10.8		.4252	12	55	102	DB310161	\$257.33	16.1		.6339	18	73	123
DB310109	\$105.37	10.9		.4291	12	55	102	DB310162	\$257.33	16.2		.6378	18	73	123
DB310110	\$105.37	11.0		.4331	12	55	102	DB310163	\$257.33	16.3		.6417	18	73	123
DB310111	\$105.37	11.1		.4370	12	55	102	DB310164	\$257.33	16.4		.6457	18	73	123
DB310028F	\$105.37	11.11	7/16	.4375	12	55	102	DB310165	\$257.33	16.5		.6496	18	73	123
DB310112	\$105.37	11.2		.4409	12	55	102	DB310166	\$257.33	16.6		.6535	18	73	123
DB310113	\$105.37	11.3		.4449	12	55	102	DB310167	\$257.33	16.7		.6575	18	73	123
DB310114	\$105.37	11.4		.4488	12	55	102	DB310168	\$257.33	16.8		.6614	18	73	123
DB310115	\$105.37	11.5		.4528	12	55	102	DB310169	\$257.33	16.9		.6654	18	73	123
DB310029F	\$105.37	11.51	29/64	.4531	12	55	102	DB310170	\$249.34	17.0		.6693	18	73	123
DB310116	\$105.37	11.6		.4567	12	55	102	DB310171	\$249.34	17.1		.6732	18	73	123
DB310117	\$105.37	11.7		.4606	12	55	102	DB310172	\$249.34	17.2		.6772	18	73	123
DB310118	\$105.37	11.8		.4646	12	55	102	DB310173	\$249.34	17.3		.6811	18	73	123
DB310119	\$105.37	11.9		.4685	12	55	102	DB310174	\$249.34	17.4		.6850	18	73	123
DB310030F	\$105.37	11.91	15/32	.4688	12	55	102	DB310044F	\$249.34	17.46	11/16	.6875	18	73	123
DB310120	\$105.37	12.0		.4724	12	55	102	DB310175	\$249.34	17.5		.6890	18	73	123
DB310121	\$125.95	12.1		.4764	14	60	107	DB310176	\$249.34	17.6		.6929	18	73	123
DB310122	\$125.95	12.2		.4803	14	60	107	DB310177	\$249.34	17.7		.6969	18	73	123
DB310123	\$125.95	12.3		.4843	14	60	107	DB310178	\$249.34	17.8		.7008	18	73	123
DB310031F	\$125.95	12.30	31/64	.4844	14	60	107	DB310179	\$249.34	17.9		.7047	18	73	123
DB310124	\$125.95	12.4		.4882	14	60	107	DB310180	\$257.33	18.0		.7087	18	73	123
DB310125	\$125.95	12.5		.4921	14	60	107	DB310181	\$283.93	18.1		.7126	20	79	131
DB310126	\$125.95	12.6		.4961	14	60	107	DB310182	\$283.93	18.2		.7165	20	79	131
DB310032F	\$125.95	12.70	1/2	.5000	14	60	107	DB310183	\$283.93	18.3		.7205	20	79	131
DB310128	\$125.95	12.8		.5039	14	60	107	DB310184	\$283.93	18.4		.7244	20	79	131
DB310129	\$125.95	12.9		.5079	14	60	107	DB310185	\$283.93	18.5		.7283	20	79	131
DB310130	\$125.95	13.0		.5118	14	60	107	DB310186	\$283.93	18.6		.7323	20	79	131
DB310131	\$125.95	13.1		.5157	14	60	107	DB310187	\$283.93	18.7		.7362	20	79	131
DB310132	\$125.95	13.2		.5197	14	60	107	DB310188	\$283.93	18.8		.7402	20	79	131
DB310133	\$125.95	13.3		.5236	14	60	107	DB310189	\$283.93	18.9		.7441	20	79	131
DB310134	\$125.95	13.4		.5276	14	60	107	DB310190	\$283.93	19.0		.7480	20	79	131
DB310033F	\$125.95	13.49	17/32	.5313	14	60	107	DB310048F	\$283.93	19.05	3/4	.7500	20	79	131
DB310135	\$125.95	13.5		.5315	14	60	107	DB310191	\$283.93	19.1		.7520	20	79	131
DB310136	\$125.95	13.6		.5354	14	60	107	DB310192	\$283.93	19.2		.7559	20	79	131
DB310137	\$125.95	13.7		.5394	14	60	107	DB310193	\$283.93	19.3		.7598	20	79	131
DB310138	\$125.95	13.8		.5433	14	60	107	DB310194	\$283.93	19.4		.7638	20	79	131
DB310139	\$125.95	13.9		.5472	14	60	107	DB310195	\$283.93	19.5		.7677	20	79	131
DB310140	\$125.95	14.0		.5512	14	60	107	DB310196	\$283.93	19.6		.7717	20	79	131
DB310141	\$140.95	14.1		.5551	16	65	115	DB310197	\$283.93	19.7		.7756	20	79	131
DB310142	\$140.95	14.2		.5591	16	65	115	DB310198	\$283.93	19.8		.7795	20	79	131
DB310036F	\$140.95	14.29	9/16	.5625	16	65	115	DB310199	\$283.93	19.9		.7835	20	79	131
DB310143	\$140.95	14.3		.5630	16	65	115	DB310200	\$283.93	20.0		.7874	20	79	131

Holemaking

Threading

Milling

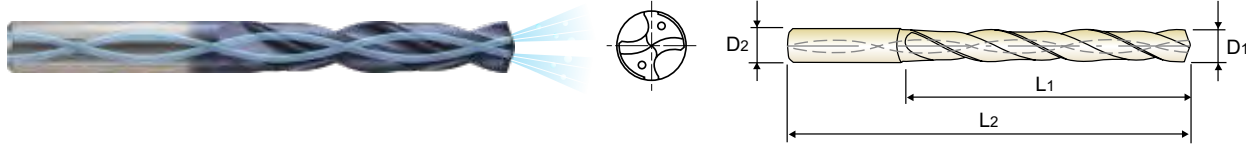
Indexable

Rotary Tool Holder

YGBasix SOLID CARBIDE DRILLS

DB510 SERIES

5xD COOLANT THRU



5xD

Unit : mm

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal						Metric	Imperial	Decimal			
TiAlN		D1			D2	L1	L2	TiAlN		D1			D2	L1	L2
DB510010	\$43.02	1.0		.0394	3	8	55	DB510042	\$48.54	4.2		.1654	6	36	74
DB510011	\$43.02	1.1		.0433	3	12	55	DB510043	\$48.54	4.3		.1693	6	36	74
DB510012	\$43.02	1.2		.0472	3	12	55	DB510011F	\$48.54	4.37	11/64	.1719	6	36	74
DB510013	\$43.02	1.3		.0512	3	12	55	DB510044	\$48.54	4.4		.1732	6	36	74
DB510014	\$43.02	1.4		.0551	3	12	55	DB510045	\$48.54	4.5		.1772	6	36	74
DB510015	\$43.02	1.5		.0591	3	16	55	DB510046	\$48.54	4.6		.1811	6	36	74
DB510004F	\$43.02	1.59	1/16	.0625	3	16	55	DB510047	\$48.54	4.7		.1850	6	36	74
DB510016	\$43.02	1.6		.0630	3	16	55	DB510012F	\$48.54	4.76	3/16	.1875	6	44	82
DB510017	\$43.02	1.7		.0669	3	16	55	DB510048	\$48.54	4.8		.1890	6	44	82
DB510018	\$43.02	1.8		.0709	3	16	55	DB510049	\$48.54	4.9		.1929	6	44	82
DB510019	\$43.02	1.9		.0748	3	16	55	DB510050	\$48.54	5.0		.1969	6	44	82
DB510005F	\$43.02	1.98	5/64	.0781	3	16	55	DB510051	\$48.54	5.1		.2008	6	44	82
DB510020	\$43.02	2.0		.0787	4	21	57	DB510013F	\$48.54	5.16	13/64	.2031	6	44	82
DB510021	\$43.02	2.1		.0827	4	21	57	DB510052	\$48.54	5.2		.2047	6	44	82
DB510022	\$43.02	2.2		.0866	4	21	57	DB510053	\$48.54	5.3		.2087	6	44	82
DB510023	\$43.02	2.3		.0906	4	21	57	DB510054	\$48.54	5.4		.2126	6	44	82
DB510006F	\$43.02	2.38	3/32	.0938	4	21	57	DB510055	\$48.54	5.5		.2165	6	44	82
DB510024	\$43.02	2.4		.0945	4	21	57	DB510014F	\$48.54	5.56	7/32	.2188	6	44	82
DB510025	\$43.02	2.5		.0984	4	21	57	DB510056	\$48.54	5.6		.2205	6	44	82
DB510026	\$43.02	2.6		.1024	4	21	57	DB510057	\$48.54	5.7		.2244	6	44	82
DB510027	\$43.02	2.7		.1063	4	21	57	DB510058	\$48.54	5.8		.2283	6	44	82
DB510007F	\$43.02	2.78	7/64	.1094	4	21	57	DB510059	\$48.54	5.9		.2323	6	44	82
DB510028	\$43.02	2.8		.1102	4	21	57	DB510015F	\$48.54	5.95	15/64	.2344	6	44	82
DB510029	\$43.02	2.9		.1142	4	21	57	DB510060	\$48.54	6.0		.2362	6	44	82
DB510030	\$48.54	3.0		.1181	6	28	66	DB510061	\$56.91	6.1		.2402	8	53	91
DB510031	\$48.54	3.1		.1220	6	28	66	DB510062	\$56.91	6.2		.2441	8	53	91
DB510008F	\$48.54	3.18	1/8	.1250	6	28	66	DB510063	\$56.91	6.3		.2480	8	53	91
DB510032	\$48.54	3.2		.1260	6	28	66	DB510016F	\$56.91	6.35	1/4	.2500	8	53	91
DB510033	\$48.54	3.3		.1299	6	28	66	DB510064	\$56.91	6.4		.2520	8	53	91
DB510034	\$48.54	3.4		.1339	6	28	66	DB510065	\$56.91	6.5		.2559	8	53	91
DB510035	\$48.54	3.5		.1378	6	28	66	DB510006L	\$56.91	6.53	F	.2570	8	53	91
DB510009F	\$48.54	3.57	9/64	.1406	6	28	66	DB510066	\$56.91	6.6		.2598	8	53	91
DB510036	\$48.54	3.6		.1417	6	28	66	DB510067	\$56.91	6.7		.2638	8	53	91
DB510037	\$48.54	3.7		.1457	6	28	66	DB510017F	\$56.91	6.75	17/64	.2656	8	53	91
DB510038	\$48.54	3.8		.1496	6	36	74	DB510068	\$56.91	6.8		.2677	8	53	91
DB510039	\$48.54	3.9		.1535	6	36	74	DB510069	\$56.91	6.9		.2717	8	53	91
DB510010F	\$48.54	3.97	5/32	.1562	6	36	74	DB510009L	\$56.91	6.91	I	.2720	8	53	91
DB510040	\$48.54	4.0		.1575	6	36	74	DB510070	\$56.91	7.0		.2756	8	53	91
DB510041	\$48.54	4.1		.1614	6	36	74	DB510071	\$56.91	7.1		.2795	8	53	91

▶ NEXT PAGE

YGBasix SOLID CARBIDE DRILLS

Unit : mm

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal			
TiAIN		D1			D2	L1	L2
DB510018F	\$56.91	7.14	9/32	.2812	8	53	91
DB510072	\$56.91	7.2		.2835	8	53	91
DB510073	\$56.91	7.3		.2874	8	53	91
DB510074	\$56.91	7.4		.2913	8	53	91
DB510075	\$56.91	7.5		.2953	8	53	91
DB510019F	\$56.91	7.54	19/64	.2969	8	53	91
DB510076	\$56.91	7.6		.2992	8	53	91
DB510077	\$56.91	7.7		.3031	8	53	91
DB510078	\$56.91	7.8		.3071	8	53	91
DB510079	\$56.91	7.9		.3110	8	53	91
DB510020F	\$56.91	7.94	5/16	.3125	8	53	91
DB510080	\$56.91	8.0		.3150	8	53	91
DB510081	\$76.19	8.1		.3189	10	61	103
DB510082	\$76.19	8.2		.3228	10	61	103
DB510083	\$76.19	8.3		.3268	10	61	103
DB510021F	\$76.19	8.33	21/64	.3281	10	61	103
DB510084	\$76.19	8.4		.3307	10	61	103
DB510017L	\$76.19	8.43	Q	.3320	10	61	103
DB510085	\$76.19	8.5		.3346	10	61	103
DB510086	\$76.19	8.6		.3386	10	61	103
DB510087	\$76.19	8.7		.3425	10	61	103
DB510022F	\$76.19	8.73	11/32	.3438	10	61	103
DB510088	\$76.19	8.8		.3465	10	61	103
DB510089	\$76.19	8.9		.3504	10	61	103
DB510090	\$76.19	9.0		.3543	10	61	103
DB510091	\$76.19	9.1		.3583	10	61	103
DB510023F	\$76.19	9.13	23/64	.3594	10	61	103
DB510092	\$76.19	9.2		.3622	10	61	103
DB510093	\$76.19	9.3		.3661	10	61	103
DB510021L	\$76.19	9.35	U	.3680	10	61	103
DB510094	\$76.19	9.4		.3701	10	61	103
DB510095	\$76.19	9.5		.3740	10	61	103
DB510024F	\$76.19	9.53	3/8	.3750	10	61	103
DB510096	\$76.19	9.6		.3780	10	61	103
DB510097	\$76.19	9.7		.3819	10	61	103
DB510098	\$76.19	9.8		.3858	10	61	103
DB510099	\$76.19	9.9		.3898	10	61	103
DB510025F	\$76.19	9.92	25/64	.3906	10	61	103
DB510100	\$76.19	10.0		.3937	10	61	103
DB510101	\$116.57	10.1		.3976	12	71	118
DB510102	\$116.57	10.2		.4016	12	71	118
DB510103	\$116.57	10.3		.4055	12	71	118
DB510026F	\$116.57	10.32	13/32	.4062	12	71	118
DB510104	\$116.57	10.4		.4094	12	71	118
DB510105	\$116.57	10.5		.4134	12	71	118
DB510106	\$116.57	10.6		.4173	12	71	118
DB510107	\$116.57	10.7		.4213	12	71	118
DB510027F	\$116.57	10.72	27/64	.4219	12	71	118
DB510108	\$116.57	10.8		.4252	12	71	118
DB510109	\$116.57	10.9		.4291	12	71	118
DB510110	\$116.57	11.0		.4331	12	71	118
DB510111	\$116.57	11.1		.4370	12	71	118
DB510028F	\$116.57	11.11	7/16	.4375	12	71	118
DB510112	\$116.57	11.2		.4409	12	71	118

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal			
TiAIN		D1			D2	L1	L2
DB510113	\$116.57	11.3		.4449	12	71	118
DB510114	\$116.57	11.4		.4488	12	71	118
DB510115	\$116.57	11.5		.4528	12	71	118
DB510029F	\$116.57	11.51	29/64	.4531	12	71	118
DB510116	\$116.57	11.6		.4567	12	71	118
DB510117	\$116.57	11.7		.4606	12	71	118
DB510118	\$116.57	11.8		.4646	12	71	118
DB510119	\$116.57	11.9		.4685	12	71	118
DB510030F	\$116.57	11.91	15/32	.4688	12	71	118
DB510120	\$116.57	12.0		.4724	12	71	118
DB510121	\$147.34	12.1		.4764	14	77	124
DB510122	\$147.34	12.2		.4803	14	77	124
DB510123	\$147.34	12.3		.4843	14	77	124
DB510031F	\$147.34	12.30	31/64	.4844	14	77	124
DB510124	\$147.34	12.4		.4882	14	77	124
DB510125	\$147.34	12.5		.4921	14	77	124
DB510126	\$147.34	12.6		.4961	14	77	124
DB510032F	\$147.34	12.70	1/2	.5000	14	77	124
DB510128	\$147.34	12.8		.5039	14	77	124
DB510129	\$147.34	12.9		.5079	14	77	124
DB510130	\$147.34	13.0		.5118	14	77	124
DB510131	\$147.34	13.1		.5157	14	77	124
DB510132	\$147.34	13.2		.5197	14	77	124
DB510133	\$147.34	13.3		.5236	14	77	124
DB510134	\$147.34	13.4		.5276	14	77	124
DB510033F	\$147.34	13.49	17/32	.5313	14	77	124
DB510135	\$147.34	13.5		.5315	14	77	124
DB510136	\$147.34	13.6		.5354	14	77	124
DB510137	\$147.34	13.7		.5394	14	77	124
DB510138	\$147.34	13.8		.5433	14	77	124
DB510139	\$147.34	13.9		.5472	14	77	124
DB510140	\$147.34	14.0		.5512	14	77	124
DB510141	\$181.14	14.1		.5551	16	83	133
DB510142	\$181.14	14.2		.5591	16	83	133
DB510036F	\$181.14	14.29	9/16	.5625	16	83	133
DB510143	\$181.14	14.3		.5630	16	83	133
DB510144	\$181.14	14.4		.5669	16	83	133
DB510145	\$181.14	14.5		.5709	16	83	133
DB510146	\$181.14	14.6		.5748	16	83	133
DB510147	\$181.14	14.7		.5787	16	83	133
DB510148	\$181.14	14.8		.5827	16	83	133
DB510149	\$181.14	14.9		.5866	16	83	133
DB510150	\$181.14	15.0		.5906	16	83	133
DB510151	\$181.14	15.1		.5945	16	83	133
DB510152	\$181.14	15.2		.5984	16	83	133
DB510153	\$181.14	15.3		.6024	16	83	133
DB510154	\$181.14	15.4		.6063	16	83	133
DB510155	\$181.14	15.5		.6102	16	83	133
DB510156	\$181.14	15.6		.6142	16	83	133
DB510157	\$181.14	15.7		.6181	16	83	133
DB510158	\$181.14	15.8		.6220	16	83	133
DB510040F	\$181.14	15.88	5/8	.6250	16	83	133
DB510159	\$181.14	15.9		.6260	16	83	133
DB510160	\$181.14	16.0		.6299	16	83	133

Holemaking

Threading

Milling

Indexable

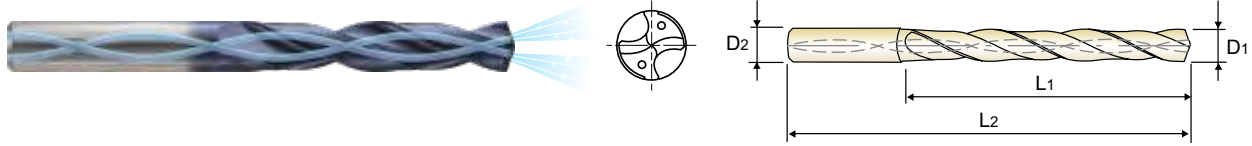
Rotary Tool Holder

▶ NEXT PAGE

YGBasix SOLID CARBIDE DRILLS

DB510 SERIES

5xD COOLANT THRU



5 × D

Unit : mm

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal						Metric	Imperial	Decimal			
TiAlN		D1			D2	L1	L2	TiAlN		D1			D2	L1	L2
DB510161	\$255.16	16.1		.6339	18	93	143	DB510181	\$315.44	18.1		.7126	20	101	153
DB510162	\$255.16	16.2		.6378	18	93	143	DB510182	\$315.44	18.2		.7165	20	101	153
DB510163	\$255.16	16.3		.6417	18	93	143	DB510183	\$315.44	18.3		.7205	20	101	153
DB510164	\$255.16	16.4		.6457	18	93	143	DB510184	\$315.44	18.4		.7244	20	101	153
DB510165	\$255.16	16.5		.6496	18	93	143	DB510185	\$315.44	18.5		.7283	20	101	153
DB510166	\$255.16	16.6		.6535	18	93	143	DB510186	\$315.44	18.6		.7323	20	101	153
DB510167	\$255.16	16.7		.6575	18	93	143	DB510187	\$315.44	18.7		.7362	20	101	153
DB510168	\$255.16	16.8		.6614	18	93	143	DB510188	\$315.44	18.8		.7402	20	101	153
DB510169	\$255.16	16.9		.6654	18	93	143	DB510189	\$315.44	18.9		.7441	20	101	153
DB510170	\$255.16	17.0		.6693	18	93	143	DB510190	\$315.44	19.0		.7480	20	101	153
DB510171	\$255.16	17.1		.6732	18	93	143	DB510048F	\$315.44	19.05	3/4	.7500	20	101	153
DB510172	\$255.16	17.2		.6772	18	93	143	DB510191	\$315.44	19.1		.7520	20	101	153
DB510173	\$255.16	17.3		.6811	18	93	143	DB510192	\$315.44	19.2		.7559	20	101	153
DB510174	\$255.16	17.4		.6850	18	93	143	DB510193	\$315.44	19.3		.7598	20	101	153
DB510044F	\$255.16	17.46	11/16	.6875	18	93	143	DB510194	\$315.44	19.4		.7638	20	101	153
DB510175	\$255.16	17.5		.6890	18	93	143	DB510195	\$315.44	19.5		.7677	20	101	153
DB510176	\$255.16	17.6		.6929	18	93	143	DB510196	\$315.44	19.6		.7717	20	101	153
DB510177	\$255.16	17.7		.6969	18	93	143	DB510197	\$315.44	19.7		.7756	20	101	153
DB510178	\$255.16	17.8		.7008	18	93	143	DB510198	\$315.44	19.8		.7795	20	101	153
DB510179	\$255.16	17.9		.7047	18	93	143	DB510199	\$315.44	19.9		.7835	20	101	153
DB510180	\$255.16	18.0		.7087	18	93	143	DB510200	\$315.44	20.0		.7874	20	101	153

Holemaking

Threading

Milling

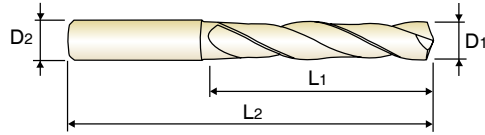
Indexable

Rotary Tool Holder

YGBasix SOLID CARBIDE DRILLS

DB301 SERIES

3xD NON-COOLANT THRU



P. 18

3 × D

Unit : mm

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal			
TiAlN		D1			D2	L1	L2
DB301030	\$17.48	3.0		.1181	3	16	46
DB301031	\$17.65	3.1		.1220	3.1	18	49
DB301008F	\$16.81	3.18	1/8	.1250	6	20	62
DB301032	\$17.65	3.2		.1260	3.2	18	49
DB301033	\$17.65	3.3		.1299	3.3	18	49
DB301034	\$18.44	3.4		.1339	3.4	20	52
DB301035	\$18.44	3.5		.1378	3.5	20	52
DB301009F	\$18.56	3.57	9/64	.1406	6	20	62
DB301036	\$19.49	3.6		.1417	3.6	20	52
DB301037	\$19.49	3.7		.1457	3.7	20	52
DB301038	\$20.44	3.8		.1496	3.8	22	55
DB301039	\$20.44	3.9		.1535	3.9	22	55
DB301010F	\$19.47	3.97	5/32	.1563	6	24	66
DB301040	\$20.44	4.0		.1575	4	22	55
DB301041	\$20.87	4.1		.1614	4.1	22	55
DB301042	\$20.87	4.2		.1654	4.2	22	55
DB301043	\$20.87	4.3		.1693	4.3	24	58
DB301011F	\$19.88	4.37	11/64	.1719	6	24	66
DB301044	\$20.87	4.4		.1732	4.4	24	58
DB301045	\$20.87	4.5		.1772	4.5	24	58
DB301046	\$20.87	4.6		.1811	4.6	24	58
DB301047	\$21.05	4.7		.1850	4.7	24	58
DB301012F	\$20.06	4.76	3/16	.1875	6	28	66
DB301048	\$21.05	4.8		.1890	4.8	26	62
DB301049	\$21.05	4.9		.1929	4.9	26	62
DB301050	\$21.05	5.0		.1969	5	26	62
DB301051	\$21.05	5.1		.2008	5.1	26	62
DB301013F	\$20.43	5.16	13/64	.2031	6	28	66
DB301052	\$21.44	5.2		.2047	5.2	26	62
DB301053	\$21.44	5.3		.2087	5.3	26	62
DB301054	\$21.44	5.4		.2126	5.4	28	66
DB301055	\$21.44	5.5		.2165	5.5	28	66
DB301014F	\$21.07	5.56	7/32	.2188	6	28	66
DB301056	\$22.11	5.6		.2205	5.6	28	66
DB301057	\$22.11	5.7		.2244	5.7	28	66
DB301058	\$22.11	5.8		.2283	5.8	28	66
DB301059	\$22.11	5.9		.2323	5.9	28	66
DB301015F	\$21.07	5.95	15/64	.2344	6	28	66
DB301060	\$22.11	6.0		.2362	6	28	66

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal			
TiAlN		D1			D2	L1	L2
DB301061	\$31.47	6.1		.2402	6.1	31	70
DB301062	\$31.47	6.2		.2441	6.2	31	70
DB301063	\$31.47	6.3		.2480	6.3	31	70
DB301016F	\$29.97	6.35	1/4	.2500	8	34	79
DB301064	\$31.47	6.4		.2520	6.4	31	70
DB301065	\$34.76	6.5		.2559	6.5	31	70
DB301066	\$39.78	6.6		.2598	6.6	31	70
DB301067	\$39.78	6.7		.2638	6.7	31	70
DB301017F	\$38.00	6.75	17/64	.2656	8	34	79
DB301068	\$39.89	6.8		.2677	6.8	34	74
DB301069	\$39.89	6.9		.2717	6.9	34	74
DB301070	\$39.89	7.0		.2756	7	34	74
DB301071	\$40.86	7.1		.2795	7.1	34	74
DB301018F	\$38.91	7.14	9/32	.2813	8	41	79
DB301072	\$40.86	7.2		.2835	7.2	34	74
DB301073	\$40.86	7.3		.2874	7.3	34	74
DB301074	\$40.86	7.4		.2913	7.4	34	74
DB301075	\$40.86	7.5		.2953	7.5	34	74
DB301019F	\$42.75	7.54	19/64	.2969	8	41	79
DB301076	\$44.87	7.6		.2992	7.6	37	79
DB301077	\$44.87	7.7		.3031	7.7	37	79
DB301078	\$44.87	7.8		.3071	7.8	37	79
DB301079	\$44.87	7.9		.3110	7.9	37	79
DB301020F	\$42.75	7.94	5/16	.3125	8	41	79
DB301080	\$44.87	8.0		.3150	8	37	79
DB301081	\$55.74	8.1		.3189	8.1	37	79
DB301082	\$55.74	8.2		.3228	8.2	37	79
DB301083	\$55.74	8.3		.3268	8.3	37	79
DB301021F	\$53.10	8.33	21/64	.3281	10	47	89
DB301084	\$55.74	8.4		.3307	8.4	37	79
DB301085	\$57.26	8.5		.3346	8.5	37	79
DB301086	\$57.26	8.6		.3386	8.6	40	84
DB301087	\$57.26	8.7		.3425	8.7	40	84
DB301022F	\$54.55	8.73	11/32	.3438	10	47	89
DB301088	\$57.26	8.8		.3465	8.8	40	84
DB301089	\$57.26	8.9		.3504	8.9	40	84
DB301090	\$57.79	9.0		.3543	9	40	84
DB301091	\$58.52	9.1		.3583	9.1	40	84
DB301023F	\$55.73	9.13	23/64	.3594	10	47	89

▶ NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasix SOLID CARBIDE DRILLS

DB301 SERIES

3xD NON-COOLANT THRU



P. 18

3 × D

Unit : mm

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal			
TiAlN		D1			D2	L1	L2
DB301092	\$58.52	9.2		.3622	9.2	40	84
DB301093	\$58.52	9.3		.3661	9.3	40	84
DB301094	\$58.52	9.4		.3701	9.4	40	84
DB301095	\$58.52	9.5		.3740	9.5	40	84
DB301024F	\$57.44	9.53	3/8	.3750	10	47	89
DB301096	\$60.30	9.6		.3780	9.6	43	89
DB301097	\$60.30	9.7		.3819	9.7	43	89
DB301098	\$60.30	9.8		.3858	9.8	43	89
DB301099	\$60.30	9.9		.3898	9.9	43	89
DB301025F	\$70.95	9.92	25/64	.3906	10	47	89
DB301100	\$58.07	10.0		.3937	10	43	89
DB301102	\$74.49	10.2		.4016	10.2	43	89
DB301026F	\$71.97	10.32	13/32	.4063	12	55	102
DB301105	\$75.55	10.5		.4134	10.5	43	89
DB301027F	\$78.64	10.72	27/64	.4219	12	55	102
DB301110	\$82.39	11.0		.4331	11	47	95
DB301028F	\$78.64	11.11	7/16	.4375	12	55	102
DB301115	\$82.57	11.5		.4528	11.5	47	95
DB301029F	\$78.64	11.51	29/64	.4531	12	55	102
DB301030F	\$78.64	11.91	15/32	.4688	12	55	102
DB301120	\$82.57	12.0		.4724	12	51	102
DB301031F	\$98.08	12.30	31/64	.4844	14	60	107

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal			
TiAlN		D1			D2	L1	L2
DB301032F	\$98.08	12.70	1/2	.5000	14	60	107
DB301130	\$102.99	13.0		.5118	13	51	102
DB301033F	\$106.55	13.49	17/32	.5313	14	60	107
DB301135	\$106.55	13.5		.5315	13.5	54	107
DB301140	\$107.44	14.0		.5512	14	54	107
DB301036F	\$107.54	14.29	9/16	.5625	16	65	115
DB301145	\$112.91	14.5		.5709	14.5	56	111
DB301150	\$115.62	15.0		.5906	15	56	111
DB301155	\$117.44	15.5		.6102	15.5	58	115
DB301040F	\$112.59	15.88	5/8	.6250	16	65	115
DB301160	\$118.22	16.0		.6299	16	58	115
DB301165	\$153.24	16.5		.6496	16.5	60	119
DB301170	\$155.47	17.0		.6693	17	60	119
DB301044F	\$149.11	17.46	11/16	.6875	18	73	123
DB301175	\$156.57	17.5		.6890	17.5	62	123
DB301180	\$156.11	18.0		.7087	18	62	123
DB301185	\$198.42	18.5		.7283	18.5	64	127
DB301190	\$200.51	19.0		.7480	19	64	127
DB301048F	\$194.70	19.05	3/4	.7500	20	79	131
DB301195	\$202.53	19.5		.7677	19.5	66	131
DB301200	\$204.43	20.0		.7874	20	66	131

Holemaking

Threading

Milling

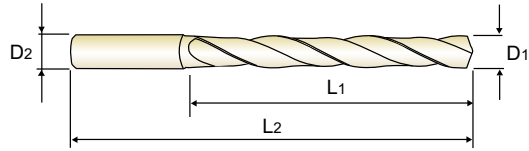
Indexable

Rotary Tool Holder

YGBasix SOLID CARBIDE DRILLS

DB501 SERIES

5xD NON-COOLANT THRU



P. 18

5 x D

Unit : mm

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal			
TiAlN		D1			D2	L1	L2
DB501010	\$32.18	1.0		.0394	3	8	55
DB501011	\$32.18	1.1		.0433	3	12	55
DB501012	\$32.18	1.2		.0472	3	12	55
DB501013	\$32.18	1.3		.0512	3	12	55
DB501014	\$32.18	1.4		.0551	3	12	55
DB501015	\$32.18	1.5		.0591	3	16	55
DB501004F	\$32.18	1.59	1/16	.0625	3	16	55
DB501016	\$32.18	1.6		.0630	3	16	55
DB501017	\$32.18	1.7		.0669	3	16	55
DB501018	\$32.18	1.8		.0709	3	16	55
DB501019	\$32.18	1.9		.0748	3	16	55
DB501005F	\$32.18	1.98	5/64	.0781	3	16	55
DB501020	\$32.18	2.0		.0787	4	21	57
DB501021	\$32.18	2.1		.0827	4	21	57
DB501022	\$32.18	2.2		.0866	4	21	57
DB501023	\$32.18	2.3		.0906	4	21	57
DB501006F	\$32.18	2.38	3/32	.0938	4	21	57
DB501024	\$32.18	2.4		.0945	4	21	57
DB501025	\$32.18	2.5		.0984	4	21	57
DB501026	\$32.18	2.6		.1024	4	21	57
DB501027	\$32.18	2.7		.1063	4	21	57
DB501007F	\$32.18	2.78	7/64	.1094	4	21	57
DB501028	\$32.18	2.8		.1102	4	21	57
DB501029	\$32.18	2.9		.1142	4	21	57
DB501030	\$36.89	3.0		.1181	6	28	66
DB501031	\$36.89	3.1		.1220	6	28	66
DB501008F	\$36.89	3.18	1/8	.1250	6	28	66
DB501032	\$36.89	3.2		.1260	6	28	66
DB501033	\$36.89	3.3		.1299	6	28	66
DB501034	\$36.89	3.4		.1339	6	28	66
DB501035	\$36.89	3.5		.1378	6	28	66
DB501009F	\$36.89	3.57	9/64	.1406	6	28	66
DB501036	\$36.89	3.6		.1417	6	28	66
DB501037	\$36.89	3.7		.1457	6	28	66
DB501038	\$36.89	3.8		.1496	6	36	74
DB501039	\$36.89	3.9		.1535	6	36	74
DB501010F	\$36.89	3.97	5/32	.1563	6	36	74
DB501040	\$36.89	4.0		.1575	6	36	74

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal			
TiAlN		D1			D2	L1	L2
DB501041	\$36.89	4.1		.1614	6	36	74
DB501042	\$36.89	4.2		.1654	6	36	74
DB501043	\$36.89	4.3		.1693	6	36	74
DB501011F	\$36.89	4.37	11/64	.1719	6	36	74
DB501044	\$36.89	4.4		.1732	6	36	74
DB501045	\$36.89	4.5		.1772	6	36	74
DB501046	\$36.89	4.6		.1811	6	36	74
DB501047	\$36.89	4.7		.1850	6	36	74
DB501012F	\$36.89	4.76	3/16	.1875	6	44	82
DB501048	\$36.89	4.8		.1890	6	44	82
DB501049	\$36.89	4.9		.1929	6	44	82
DB501050	\$36.89	5.0		.1969	6	44	82
DB501051	\$36.89	5.1		.2008	6	44	82
DB501013F	\$36.89	5.16	13/64	.2031	6	44	82
DB501052	\$36.89	5.2		.2047	6	44	82
DB501053	\$36.89	5.3		.2087	6	44	82
DB501054	\$36.89	5.4		.2126	6	44	82
DB501055	\$36.89	5.5		.2165	6	44	82
DB501014F	\$36.89	5.56	7/32	.2188	6	44	82
DB501056	\$36.89	5.6		.2205	6	44	82
DB501057	\$36.89	5.7		.2244	6	44	82
DB501058	\$36.89	5.8		.2283	6	44	82
DB501059	\$36.89	5.9		.2323	6	44	82
DB501015F	\$36.89	5.95	15/64	.2344	6	44	82
DB501060	\$36.89	6.0		.2362	6	44	82
DB501061	\$45.55	6.1		.2402	8	53	91
DB501062	\$45.55	6.2		.2441	8	53	91
DB501063	\$45.55	6.3		.2480	8	53	91
DB501016F	\$45.55	6.35	1/4	.2500	8	53	91
DB501064	\$45.55	6.4		.2520	8	53	91
DB501065	\$45.55	6.5		.2559	8	53	91
DB501066	\$45.55	6.6		.2598	8	53	91
DB501067	\$45.55	6.7		.2638	8	53	91
DB501017F	\$43.39	6.75	17/64	.2656	8	53	91
DB501068	\$45.55	6.8		.2677	8	53	91
DB501069	\$45.55	6.9		.2717	8	53	91
DB501070	\$45.55	7.0		.2756	8	53	91
DB501071	\$45.55	7.1		.2795	8	53	91

▶ NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasix SOLID CARBIDE DRILLS

Unit : mm

EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length	EDP No.	Price	Drill Diameter			Shank Diameter	Flute Length	Overall Length
		Metric	Imperial	Decimal						Metric	Imperial	Decimal			
TiAIN		D1			D2	L1	L2	TiAIN		D1			D2	L1	L2
DB501018F	\$45.55	7.14	9/32	.2813	8	53	91	DB501106	\$99.11	10.6		.4173	12	71	118
DB501072	\$45.55	7.2		.2835	8	53	91	DB501107	\$99.11	10.7		.4213	12	71	118
DB501073	\$45.55	7.3		.2874	8	53	91	DB501027F	\$99.11	10.72	27/64	.4219	12	71	118
DB501074	\$45.55	7.4		.2913	8	53	91	DB501108	\$99.11	10.8		.4252	12	71	118
DB501075	\$45.55	7.5		.2953	8	53	91	DB501109	\$99.11	10.9		.4291	12	71	118
DB501019F	\$45.55	7.54	19/64	.2969	8	53	91	DB501110	\$99.11	11.0		.4331	12	71	118
DB501076	\$45.55	7.6		.2992	8	53	91	DB501111	\$99.11	11.1		.4370	12	71	118
DB501077	\$45.55	7.7		.3031	8	53	91	DB501028F	\$99.11	11.11	7/16	.4375	12	71	118
DB501078	\$45.55	7.8		.3071	8	53	91	DB501112	\$99.11	11.2		.4409	12	71	118
DB501079	\$45.55	7.9		.3110	8	53	91	DB501113	\$99.11	11.3		.4449	12	71	118
DB501020F	\$45.55	7.94	5/16	.3125	8	53	91	DB501114	\$99.11	11.4		.4488	12	71	118
DB501080	\$45.55	8.0		.3150	8	53	91	DB501115	\$99.11	11.5		.4528	12	71	118
DB501081	\$59.69	8.1		.3189	10	61	103	DB501029F	\$99.11	11.51	29/64	.4531	12	71	118
DB501082	\$59.69	8.2		.3228	10	61	103	DB501116	\$99.11	11.6		.4567	12	71	118
DB501083	\$59.69	8.3		.3268	10	61	103	DB501117	\$99.11	11.7		.4606	12	71	118
DB501021F	\$59.69	8.33	21/64	.3281	10	61	103	DB501118	\$99.11	11.8		.4646	12	71	118
DB501084	\$59.69	8.4		.3307	10	61	103	DB501119	\$99.11	11.9		.4685	12	71	118
DB501085	\$59.69	8.5		.3346	10	61	103	DB501030F	\$99.11	11.91	15/32	.4688	12	71	118
DB501086	\$59.69	8.6		.3386	10	61	103	DB501120	\$99.11	12.0		.4724	12	71	118
DB501087	\$59.69	8.7		.3425	10	61	103	DB501031F	\$120.05	12.30	31/64	.4844	14	77	124
DB501022F	\$59.69	8.73	11/32	.3438	10	61	103	DB501125	\$120.05	12.5		.4921	14	77	124
DB501088	\$59.69	8.8		.3465	10	61	103	DB501032F	\$120.05	12.70	1/2	.5000	14	77	124
DB501089	\$59.69	8.9		.3504	10	61	103	DB501130	\$120.05	13.0		.5118	14	77	124
DB501090	\$59.69	9.0		.3543	10	61	103	DB501033F	\$120.05	13.49	17/32	.5315	14	77	124
DB501091	\$59.69	9.1		.3583	10	61	103	DB501135	\$120.05	13.5		.5315	14	77	124
DB501023F	\$59.69	9.13	23/64	.3594	10	61	103	DB501140	\$120.05	14.0		.5512	14	77	124
DB501092	\$59.69	9.2		.3622	10	61	103	DB501036F	\$120.05	14.29	9/16	.5625	16	83	133
DB501093	\$59.69	9.3		.3661	10	61	103	DB501145	\$125.25	14.5		.5709	16	83	133
DB501094	\$59.69	9.4		.3701	10	61	103	DB501150	\$125.25	15.0		.5906	16	83	133
DB501095	\$59.69	9.5		.3740	10	61	103	DB501155	\$125.25	15.5		.6102	16	83	133
DB501024F	\$59.69	9.53	3/8	.3750	10	61	103	DB501040F	\$120.05	15.88	5/8	.6250	16	83	133
DB501096	\$59.69	9.6		.3780	10	61	103	DB501160	\$125.25	16.0		.6299	16	83	133
DB501097	\$59.69	9.7		.3819	10	61	103	DB501165	\$173.28	16.5		.6496	18	93	143
DB501098	\$59.69	9.8		.3858	10	61	103	DB501170	\$173.28	17.0		.6693	18	93	143
DB501099	\$59.69	9.9		.3898	10	61	103	DB501044F	\$173.28	17.46	11/16	.6875	18	93	143
DB501025F	\$59.69	9.92	25/64	.3906	10	61	103	DB501175	\$173.28	17.5		.6890	18	93	143
DB501100	\$59.69	10.0		.3937	10	61	103	DB501180	\$173.28	18.0		.7087	18	93	143
DB501101	\$99.11	10.1		.3976	12	71	118	DB501185	\$210.43	18.5		.7283	20	101	153
DB501102	\$99.11	10.2		.4016	12	71	118	DB501190	\$210.43	19.0		.7480	20	101	153
DB501103	\$99.11	10.3		.4055	12	71	118	DB501048F	\$210.43	19.05	3/4	.7500	20	101	153
DB501026F	\$99.11	10.32	13/32	.4063	12	71	118	DB501195	\$210.43	19.5		.7677	20	101	153
DB501104	\$99.11	10.4		.4094	12	71	118	DB501200	\$210.43	20.0		.7874	20	101	153
DB501105	\$99.11	10.5		.4134	12	71	118								

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasix SOLID CARBIDE DRILLS

RECOMMENDED CUTTING CONDITIONS

Drills with Coolant Holes

SFM : ft/min.
FEED(IPR) : Inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter											
				METRIC	3.0	-	4.0	-	5.0	6.0	-	-	8.0	-	10.0
				FRACTIONAL	-	1/8	-	3/16	-	-	1/4	5/16	-	3/8	-
				DECIMAL	.1181	.1250	.1575	.1875	.1969	.2362	.2500	.3125	.3150	.3750	.3937
P	1-2	Non-alloy steel	230 ~ 265	FEED	.0024 - .0047	.0031 - .0055	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0075 - .0106					
	3		230 ~ 265	FEED	.0024 - .0047	.0031 - .0055	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0075 - .0106					
	4		230 ~ 265	FEED	.0016 - .0039	.0028 - .0051	.0039 - .0063	.0047 - .0071	.0055 - .0079	.0059 - .0091					
	5		180 ~ 210	FEED	.0016 - .0039	.0028 - .0051	.0039 - .0063	.0047 - .0071	.0055 - .0079	.0059 - .0091					
	6	Low alloy steel	230 ~ 265	FEED	.0024 - .0047	.0031 - .0055	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0075 - .0106					
	7		190 ~ 230	FEED	.0024 - .0047	.0031 - .0055	.0039 - .0079	.0047 - .0094	.0063 - .0110	.0075 - .0106					
	8		190 ~ 230	FEED	.0016 - .0039	.0028 - .0051	.0039 - .0063	.0047 - .0071	.0055 - .0079	.0059 - .0091					
	9	High alloyed steel, and tool steel	85 ~ 105	FEED	.0012 - .0031	.0020 - .0043	.0031 - .0055	.0039 - .0063	.0047 - .0071	.0051 - .0075					
	10		160 ~ 200	FEED	.0016 - .0039	.0028 - .0051	.0039 - .0063	.0047 - .0071	.0055 - .0079	.0059 - .0091					
	11		85 ~ 105	FEED	.0012 - .0031	.0020 - .0043	.0031 - .0055	.0039 - .0063	.0047 - .0071	.0051 - .0075					
	M	12	Stainless steel	160 ~ 190	FEED	.0024 - .0047	.0031 - .0055	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0075 - .0106				
13		100 ~ 120		FEED	.0016 - .0039	.0028 - .0051	.0039 - .0063	.0047 - .0071	.0055 - .0079	.0059 - .0091					
K	15	Grey cast iron	230 ~ 265	FEED	.0031 - .0055	.0047 - .0071	.0059 - .0087	.0079 - .0102	.0087 - .0110	.0098 - .0130					
	16		190 ~ 210	FEED	.0024 - .0047	.0031 - .0055	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0075 - .0106					
	17	Nodular cast iron	230 ~ 265	FEED	.0031 - .0055	.0047 - .0071	.0059 - .0087	.0079 - .0102	.0087 - .0110	.0098 - .0130					
	18		160 ~ 185	FEED	.0024 - .0047	.0031 - .0055	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0075 - .0106					
	19	Malleable cast iron	190 ~ 210	FEED	.0031 - .0055	.0047 - .0071	.0059 - .0087	.0079 - .0102	.0087 - .0110	.0098 - .0130					
20	160 ~ 185		FEED	.0024 - .0047	.0031 - .0055	.0055 - .0079	.0063 - .0087	.0071 - .0094	.0075 - .0106						

ISO	VDI 3323	Material Description	SFM	Drill Diameter									
				METRIC	12.0	-	14.0	-	-	16.0	18.0	-	20.0
				FRACTIONAL	-	1/2	-	9/16	5/8	-	-	3/4	-
				DECIMAL	.4724	.5000	.5512	.5625	.6250	.6299	.7087	.7500	.7874
P	1-2	Non-alloy steel	230 ~ 265	FEED	.0083 - .0114	.0083 - .0114	.0091 - .0122	.0098 - .0130	.0110 - .0150	.0110 - .0150	.0118 - .0157		
	3		230 ~ 265	FEED	.0083 - .0114	.0083 - .0114	.0091 - .0122	.0098 - .0130	.0110 - .0150	.0110 - .0150	.0118 - .0157		
	4		230 ~ 265	FEED	.0067 - .0098	.0067 - .0098	.0071 - .0102	.0075 - .0106	.0079 - .0118	.0079 - .0118	.0087 - .0126		
	5		180 ~ 210	FEED	.0067 - .0098	.0067 - .0098	.0071 - .0102	.0075 - .0106	.0079 - .0118	.0079 - .0118	.0087 - .0126		
	6	Low alloy steel	230 ~ 265	FEED	.0083 - .0114	.0083 - .0114	.0091 - .0122	.0098 - .0130	.0110 - .0150	.0110 - .0150	.0118 - .0157		
	7		190 ~ 230	FEED	.0083 - .0114	.0083 - .0114	.0091 - .0122	.0098 - .0130	.0110 - .0150	.0110 - .0150	.0118 - .0157		
	8		190 ~ 230	FEED	.0067 - .0098	.0067 - .0098	.0071 - .0102	.0075 - .0106	.0079 - .0118	.0079 - .0118	.0087 - .0126		
	9	High alloyed steel, and tool steel	85 ~ 105	FEED	.0055 - .0079	.0055 - .0079	.0059 - .0083	.0063 - .0087	.0067 - .0098	.0063 - .0102	.0071 - .0110		
	10		160 ~ 200	FEED	.0067 - .0098	.0067 - .0098	.0071 - .0102	.0075 - .0106	.0079 - .0118	.0079 - .0118	.0087 - .0126		
	11		85 ~ 105	FEED	.0055 - .0079	.0055 - .0079	.0059 - .0083	.0063 - .0087	.0067 - .0098	.0063 - .0102	.0071 - .0110		
	M	12	Stainless steel	160 ~ 190	FEED	.0083 - .0114	.0083 - .0114	.0091 - .0122	.0098 - .0130	.0110 - .0150	.0110 - .0150	.0118 - .0157	
13		100 ~ 120		FEED	.0067 - .0098	.0067 - .0098	.0071 - .0102	.0075 - .0106	.0079 - .0118	.0079 - .0118	.0087 - .0126		
K	15	Grey cast iron	230 ~ 265	FEED	.0106 - .0138	.0106 - .0138	.0114 - .0146	.0122 - .0154	.0126 - .0165	.0126 - .0165	.0134 - .0173		
	16		190 ~ 210	FEED	.0083 - .0114	.0083 - .0114	.0091 - .0122	.0098 - .0130	.0110 - .0150	.0110 - .0150	.0118 - .0157		
	17	Nodular cast iron	230 ~ 265	FEED	.0106 - .0138	.0106 - .0138	.0114 - .0146	.0122 - .0154	.0126 - .0165	.0126 - .0165	.0134 - .0173		
	18		160 ~ 185	FEED	.0083 - .0114	.0083 - .0114	.0091 - .0122	.0098 - .0130	.0110 - .0150	.0110 - .0150	.0118 - .0157		
	19	Malleable cast iron	190 ~ 210	FEED	.0106 - .0138	.0106 - .0138	.0114 - .0146	.0122 - .0154	.0126 - .0165	.0126 - .0165	.0134 - .0173		
20	160 ~ 185		FEED	.0083 - .0114	.0083 - .0114	.0091 - .0122	.0098 - .0130	.0110 - .0150	.0110 - .0150	.0118 - .0157			

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasix SOLID CARBIDE DRILLS

RECOMMENDED CUTTING CONDITIONS

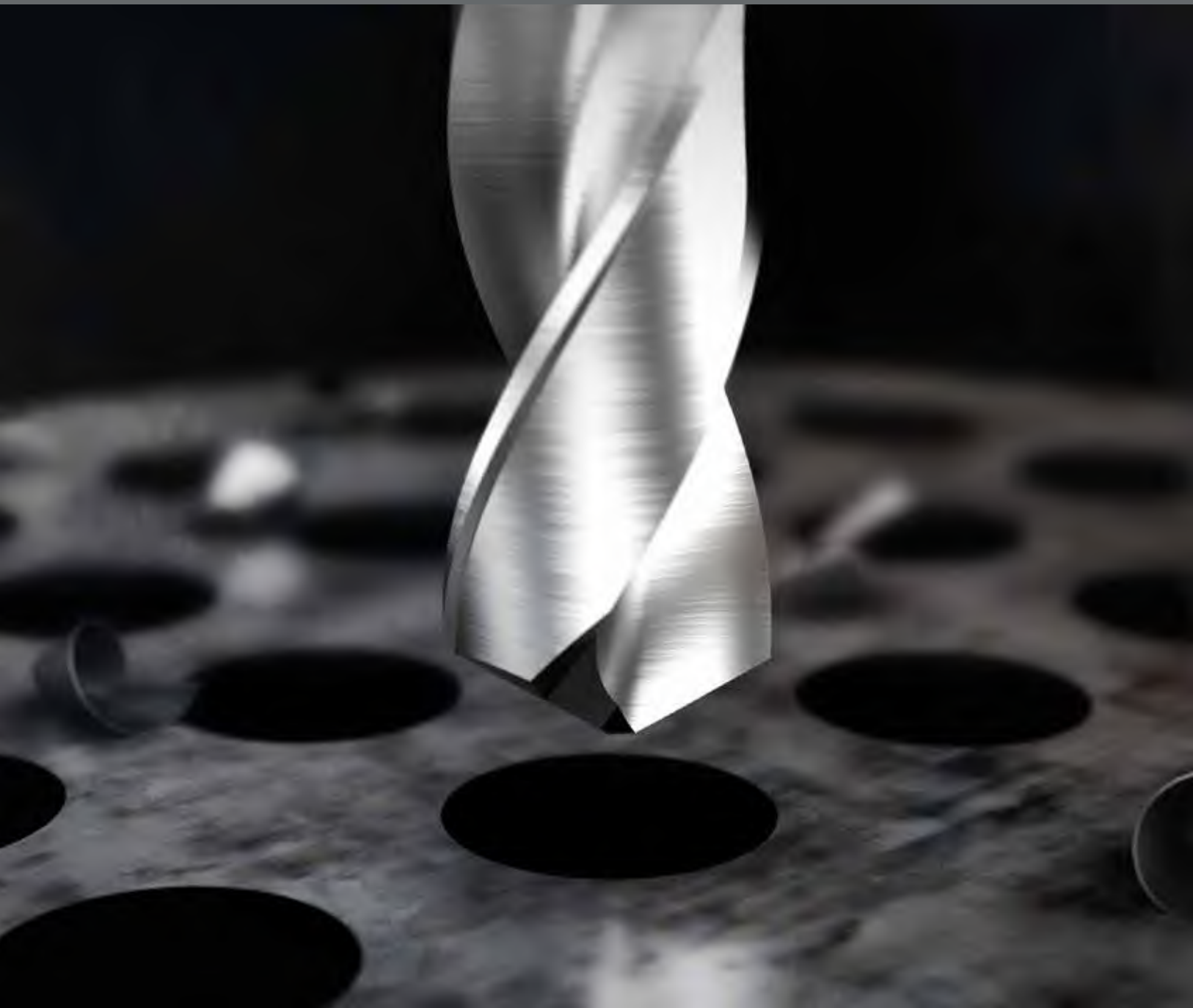
Drills without Coolant Holes

SFM : ft/min.
FEED(IPR) : Inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter											
				METRIC	3.0	-	4.0	-	5.0	6.0	-	-	8.0	-	10.0
				FRACTIONAL	-	1/8	-	3/16	-	-	1/4	5/16	-	3/8	-
DECIMAL	.1181	.1250	.1575	.1875	.1969	.2362	.2500	.3125	.3150	.3750	.3937				
P	1-2	Non-alloy steel	230 ~ 265	FEED	.0024-.0047	.0031-.0055	.0055-.0079	.0063-.0087	.0071-.0094	.0087-.011					
	3		230 ~ 265	FEED	.0024-.0047	.0031-.0055	.0055-.0079	.0063-.0087	.0071-.0094	.0087-.011					
	4		230 ~ 265	FEED	.0016-.0039	.0028-.0051	.0039-.0063	.0047-.0071	.0055-.0079	.0071-.0094					
	5		180 ~ 210	FEED	.0016-.0039	.0028-.0051	.0039-.0063	.0047-.0071	.0055-.0079	.0071-.0094					
	6	Low alloy steel	230 ~ 265	FEED	.0024-.0047	.0031-.0055	.0055-.0079	.0063-.0087	.0071-.0094	.0087-.011					
	7		190 ~ 230	FEED	.0024-.0047	.0031-.0055	.0039-.0079	.0047-.0094	.0063-.011	.0079-.0118					
	8		190 ~ 230	FEED	.0016-.0039	.0028-.0051	.0039-.0063	.0047-.0071	.0055-.0079	.0071-.0094					
	9	High alloyed steel, and tool steel	85 ~ 105	FEED	.0012-.0031	.002-.0043	.0031-.0055	.0039-.0063	.0047-.0071	.0055-.0079					
	10		160 ~ 200	FEED	.0016-.0039	.0028-.0051	.0039-.0063	.0047-.0071	.0055-.0079	.0071-.0094					
	11		85 ~ 105	FEED	.0012-.0031	.002-.0043	.0031-.0055	.0039-.0063	.0047-.0071	.0055-.0079					
	M	12	Stainless steel	160 ~ 190	FEED	.0024-.0047	.0031-.0055	.0055-.0079	.0063-.0087	.0071-.0094	.0087-.011				
13		100 ~ 120		FEED	.0016-.0039	.0028-.0051	.0039-.0063	.0047-.0071	.0055-.0079	.0071-.0094					
K	15	Grey cast iron	230 ~ 265	FEED	.0031-.0055	.0047-.0071	.0071-.0094	.0055-.0102	.0063-.011	.0094-.0134					
	16		190 ~ 210	FEED	.0024-.0047	.0031-.0055	.0055-.0079	.0063-.0087	.0071-.0094	.0087-.011					
	17	Nodular cast iron	230 ~ 265	FEED	.0031-.0055	.0047-.0071	.0071-.0094	.0055-.0102	.0063-.011	.0094-.0134					
	18		160 ~ 185	FEED	.0024-.0047	.0031-.0055	.0055-.0079	.0063-.0087	.0071-.0094	.0087-.011					
	19	Malleable cast iron	190 ~ 210	FEED	.0031-.0055	.0047-.0071	.0071-.0094	.0055-.0102	.0063-.011	.0094-.0134					
	20		160 ~ 185	FEED	.0024-.0047	.0031-.0055	.0055-.0079	.0063-.0087	.0071-.0094	.0087-.011					

ISO	VDI 3323	Material Description	SFM	Drill Diameter									
				METRIC	12.0	-	14.0	-	-	16.0	18.0	-	20.0
				FRACTIONAL	-	1/2	-	9/16	5/8	-	-	3/4	-
DECIMAL	.4724	.5000	.5512	.5625	.6250	.6299	.7087	.7500	.7874				
P	1-2	Non-alloy steel	230 ~ 265	FEED	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157		
	3		230 ~ 265	FEED	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157		
	4		230 ~ 265	FEED	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126		
	5		180 ~ 210	FEED	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126		
	6	Low alloy steel	230 ~ 265	FEED	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157		
	7		190 ~ 230	FEED	.0083-.0118	.0083-.0118	.0087-.0138	.0098-.0142	.011-.015	.011-.015	.0118-.0157		
	8		190 ~ 230	FEED	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126		
	9	High alloyed steel, and tool steel	85 ~ 105	FEED	.0047-.0087	.0047-.0087	.0051-.0091	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011		
	10		160 ~ 200	FEED	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126		
	11		85 ~ 105	FEED	.0047-.0087	.0047-.0087	.0051-.0091	.0055-.0094	.0063-.0102	.0063-.0102	.0071-.011		
	M	12	Stainless steel	160 ~ 190	FEED	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157	
13		100 ~ 120		FEED	.0055-.0094	.0055-.0094	.0063-.0102	.0071-.011	.0079-.0118	.0079-.0118	.0087-.0126		
K	15	Grey cast iron	230 ~ 265	FEED	.0102-.0142	.0102-.0142	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173		
	16		190 ~ 210	FEED	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157		
	17	Nodular cast iron	230 ~ 265	FEED	.0102-.0142	.0102-.0142	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173		
	18		160 ~ 185	FEED	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157		
	19	Malleable cast iron	190 ~ 210	FEED	.0102-.0142	.0102-.0142	.011-.015	.0118-.0157	.0126-.0165	.0126-.0165	.0134-.0173		
	20		160 ~ 185	FEED	.0079-.0118	.0079-.0118	.0087-.0126	.0094-.0134	.011-.015	.011-.015	.0118-.0157		

CARBIDE JOBBER DRILL



CARBIDE JOBBER DRILLS

SELECTION GUIDE

CARBIDE JOBBER DRILLS

- For drilling steels, cast iron, stainless steel, aluminum and other non-ferrous materials
- Diameters greater than .1181" have special split point geometry
- 118° for easy entry into workpiece
- Available as uncoated or TiAlN coated

SURFACE TREATMENT

Bright/TiAlN

SERIES	D5412 DH412	D5413 DH413	D5417 DH417
LENGTH	JOBBER	JOBBER	JOBBER
SIZE MIN	#56	A	D3/64
SIZE MAX	#1	Z	D1/2
PAGE	21	22	22
Bright/TiAlN			

◎ : Excellent ○ : Good

Recommended cutting conditions : P.23

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc				
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎
	2		About 0.45% C	Annealed	190	13	○	○	○
	3		About 0.45% C	Quenched & Tempered	250	25			
	4		About 0.75% C	Annealed	270	28			
	5		About 0.75% C	Quenched & Tempered	300	32			
	6	Low alloy steel		Annealed	180	10	○	○	○
	7			Quenched & Tempered	275	29			
	8			Quenched & Tempered	300	32			
	9			Quenched & Tempered	350	38			
	10		High alloyed steel, and tool steel		Annealed	200	15		
	11			Quenched & Tempered	325	35			
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○	○
	13		Martensitic	Quenched & Tempered	240	23			
	14		Austenitic		180	10			
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	○
	16		Pearlitic (Martensitic)		260	26			
	17	Nodular cast iron	Ferritic		160	3			
	18		Pearlitic		250	25			
	19	Malleable cast iron	Ferritic		130				
	20		Pearlitic		230	21			
N	21	Aluminum-wrought alloy	Not Curable		60		◎	◎	◎
	22		Curable	Hardened	100		◎	◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		◎	◎	◎
	24		≤ 12% Si, Curable	Hardened	90		◎	◎	◎
	25		> 12% Si, Not Curable		130				
	26	Copper and Copper Alloys	Cutting Alloys, PB>1%		110				
	27		CuZn, CuSnZn (Brass)		90				
	28	(Bronze / Brass)	CuSn, lead-free copper and electrolytic copper		100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33			Annealed	250	25			
	34			Cured	350	38			
	35			Cast	320	34			
	36	Titanium Alloys	Pure Titanium		400 Rm		○	○	○
37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55			
	39			Hardened	630	60			
	40	Chilled Cast Iron		Cast	400	42			
	41	Hardened Cast Iron		Hardened	550	55			

Holemaking

Threading

Milling

Indexable

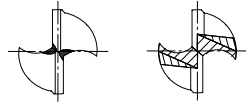
Rotary Tool Holder

CARBIDE JOBBER DRILLS

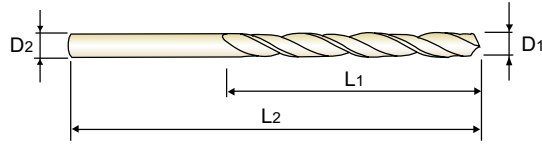
DH412 SERIES
D5412 SERIES

CARBIDE DRILLS

JOBBER



under .1181 inch .1181 inch & over



D₁=D₂

► Wire gauge sizes

Unit : Inch

EDP No.	Price	EDP No.	Price	Diameter		Flute Length	Overall Length	EDP No.	Price	EDP No.	Price	Diameter		Flute Length	Overall Length
				Wire size	Dec.							Wire size	Dec.		
Bright		TiAlN		D ₁ = D ₂		L ₁	L ₂	Bright		TiAlN		D ₁ = D ₂		L ₁	L ₂
D5412101	\$24.67	DH412101	\$29.01	1	.2280	1-3/4	3	D5412129	\$14.62	DH412129	\$17.96	29	.1360	1-3/8	2-1/2
D5412102	\$24.43	DH412102	\$28.79	2	.2210	1-3/4	3	D5412130	\$13.54	DH412130	\$16.76	30	.1285	1-1/4	2-1/4
D5412103	\$23.53	DH412103	\$27.76	3	.2130	1-3/4	3	D5412131	\$12.93	DH412131	\$16.05	31	.1200	1-1/4	2-1/4
D5412104	\$22.94	DH412104	\$27.18	4	.2090	1-3/4	3	D5412132	\$12.81	DH412132	\$16.05	32	.1160	1-1/4	2-1/4
D5412105	\$22.35	DH412105	\$26.52	5	.2055	1-3/4	3	D5412133	\$12.60	DH412133	\$15.71	33	.1130	1-1/4	2-1/4
D5412106	\$21.98	DH412106	\$26.10	6	.2040	1-3/4	3	D5412134	\$12.60	DH412134	\$15.71	34	.1110	1-1/4	2-1/4
D5412107	\$21.20	DH412107	\$25.32	7	.2010	1-3/4	3	D5412135	\$12.16	DH412135	\$15.28	35	.1100	1-1/4	2-1/4
D5412108	\$21.20	DH412108	\$25.32	8	.1990	1-3/4	3	D5412136	\$12.02	DH412136	\$15.15	36	.1065	1-1/4	2-1/4
D5412109	\$21.20	DH412109	\$25.32	9	.1960	1-3/4	3	D5412137	\$12.02	DH412137	\$15.15	37	.1040	1-1/4	2-1/4
D5412110	\$19.92	DH412110	\$23.55	10	.1935	1-5/8	2-3/4	D5412138	\$12.02	DH412138	\$15.15	38	.1015	1-1/4	2-1/4
D5412111	\$19.64	DH412111	\$23.29	11	.1910	1-5/8	2-3/4	D5412139	\$11.58	DH412139	\$14.63	39	.0995	1-1/4	2-1/4
D5412112	\$19.38	DH412112	\$22.99	12	.1890	1-5/8	2-3/4	D5412140	\$11.45	DH412140	\$14.47	40	.0980	1	2
D5412113	\$18.96	DH412113	\$22.54	13	.1850	1-5/8	2-3/4	D5412141	\$11.06	DH412141	\$14.07	41	.0960	1	2
D5412114	\$18.82	DH412114	\$22.41	14	.1820	1-5/8	2-3/4	D5412142	\$10.98	DH412142	\$14.02	42	.0935	1	2
D5412115	\$18.73	DH412115	\$22.41	15	.1800	1-5/8	2-3/4	D5412143	\$10.71	DH412143	\$13.72	43	.0890	1	2
D5412116	\$18.57	DH412116	\$22.12	16	.1770	1-5/8	2-3/4	D5412144	\$10.71	DH412144	\$13.72	44	.0860	1	2
D5412117	\$18.28	DH412117	\$21.79	17	.1730	1-5/8	2-3/4	D5412145	\$10.45	DH412145	\$13.43	45	.0820	7/8	1-3/4
D5412118	\$18.05	DH412118	\$21.57	18	.1695	1-5/8	2-3/4	D5412146	\$10.21	DH412146	\$13.17	46	.0810	7/8	1-3/4
D5412119	\$17.59	DH412119	\$21.10	19	.1660	1-5/8	2-3/4	D5412147	\$10.21	DH412147	\$13.17	47	.0785	7/8	1-3/4
D5412120	\$17.01	DH412120	\$20.41	20	.1610	1-3/8	2-1/2	D5412148	\$10.21	DH412148	\$13.17	48	.0760	7/8	1-3/4
D5412121	\$16.88	DH412121	\$20.28	21	.1590	1-3/8	2-1/2	D5412149	\$9.87	DH412149	\$12.76	49	.0730	7/8	1-3/4
D5412122	\$16.52	DH412122	\$19.92	22	.1570	1-3/8	2-1/2	D5412150	\$9.70	DH412150	\$12.65	50	.0700	7/8	1-3/4
D5412123	\$15.90	DH412123	\$19.32	23	.1540	1-3/8	2-1/2	D5412151	\$9.65	DH412151	\$12.54	51	.0670	3/4	1-1/2
D5412124	\$15.59	DH412124	\$18.93	24	.1520	1-3/8	2-1/2	D5412152	\$9.65	DH412152	\$12.54	52	.0635	3/4	1-1/2
D5412125	\$15.59	DH412125	\$18.93	25	.1495	1-3/8	2-1/2	D5412153	\$9.65	DH412153	\$12.54	53	.0595	3/4	1-1/2
D5412126	\$15.59	DH412126	\$18.93	26	.1470	1-3/8	2-1/2	D5412154	\$9.65	DH412154	\$12.54	54	.0550	3/4	1-1/2
D5412127	\$14.62	DH412127	\$17.96	27	.1440	1-3/8	2-1/2	D5412155	\$9.54	DH412155	\$12.54	55	.0520	3/4	1-1/2
D5412128	\$14.62	DH412128	\$17.96	28	.1405	1-3/8	2-1/2	D5412156	\$9.54	DH412156	\$12.54	56	.0465	3/4	1-1/2

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

CARBIDE JOBBER DRILLS

DH413 SERIES
D5413 SERIES

CARBIDE DRILLS

JOBBER

► Letter sizes

Unit : Inch

EDP No.	Price	EDP No.	Price	Diameter		Flute Length	Overall Length	EDP No.	Price	EDP No.	Price	Diameter		Flute Length	Overall Length
				Letter	Dec.							Letter	Dec.		
Bright		TiAIN		D1=D2		L1	L2	Bright		TiAIN		D1=D2		L1	L2
D5413201	\$24.67	DH413201	\$29.01	A	.2340	2	3-1/4	D5413214	\$32.82	DH413214	\$43.03	N	.3020	2-3/8	3-3/4
D5413202	\$24.67	DH413202	\$29.01	B	.2380	2	3-1/4	D5413215	\$35.79	DH413215	\$43.03	O	.3160	2-3/8	3-3/4
D5413203	\$24.67	DH413203	\$29.01	C	.2420	2	3-1/4	D5413216	\$35.79	DH413216	\$43.03	P	.3230	2-3/8	3-3/4
D5413204	\$24.67	DH413204	\$29.01	D	.2460	2	3-1/4	D5413217	\$35.79	DH413217	\$47.21	Q	.3320	2-1/2	4
D5413205	\$24.67	DH413205	\$29.01	E	.2500	2	3-1/4	D5413218	\$39.69	DH413218	\$47.21	R	.3390	2-1/2	4
D5413206	\$25.92	DH413206	\$31.96	F	.2570	2	3-1/4	D5413219	\$39.69	DH413219	\$47.21	S	.3480	2-1/2	4
D5413207	\$25.92	DH413207	\$31.96	G	.2610	2-1/8	3-1/2	D5413220	\$43.35	DH413220	\$51.52	T	.3580	2-3/4	4-1/4
D5413208	\$25.92	DH413208	\$31.96	H	.2660	2-1/8	3-1/2	D5413221	\$43.35	DH413221	\$51.52	U	.3680	2-3/4	4-1/4
D5413209	\$26.12	DH413209	\$34.13	I	.2720	2-1/8	3-1/2	D5413222	\$47.02	DH413222	\$55.50	V	.3770	2-3/4	4-1/4
D5413210	\$27.99	DH413210	\$34.13	J	.2770	2-1/8	3-1/2	D5413223	\$53.10	DH413223	\$62.04	W	.3860	2-7/8	4-1/2
D5413211	\$27.99	DH413211	\$37.40	K	.2810	2-1/8	3-1/2	D5413224	\$58.94	DH413224	\$68.31	X	.3970	2-7/8	4-1/2
D5413212	\$30.98	DH413212	\$37.93	L	.2900	2-1/8	3-1/2	D5413225	\$58.94	DH413225	\$68.31	Y	.4040	2-7/8	4-1/2
D5413213	\$30.98	DH413213	\$39.86	M	.2950	2-3/8	3-3/4	D5413226	\$58.94	DH413226	\$68.31	Z	.4130	2-7/8	4-1/2

DH417 SERIES
D5417 SERIES

CARBIDE DRILLS

JOBBER

► Fractional sizes

Unit : Inch

EDP No.	Price	EDP No.	Price	Diameter		Flute Length	Overall Length	EDP No.	Price	EDP No.	Price	Diameter		Flute Length	Overall Length
				Letter	Dec.							Letter	Dec.		
Bright		TiAIN		D1=D2		L1	L2	Bright		TiAIN		D1=D2		L1	L2
D5417003	\$9.26	DH417003	\$12.48	3/64	.0469	3/4	1-1/2	D5417018	\$27.99	DH417018	\$34.13	9/32	.2813	2-1/8	3-1/2
D5417004	\$9.32	DH417004	\$12.54	1/16	.0625	3/4	1-1/2	D5417019	\$30.98	DH417019	\$37.93	19/64	.2969	2-3/8	3-3/4
D5417005	\$9.90	DH417005	\$13.17	5/64	.0781	7/8	1-3/4	D5417020	\$32.82	DH417020	\$39.86	5/16	.3125	2-3/8	3-3/4
D5417006	\$11.13	DH417006	\$14.57	3/32	.0938	1	2	D5417021	\$35.79	DH417021	\$43.03	21/64	.3281	2-1/2	4
D5417007	\$12.16	DH417007	\$15.64	7/64	.1094	1-1/4	2-1/4	D5417022	\$39.69	DH417022	\$47.21	11/32	.3438	2-1/2	4
D5417008	\$12.76	DH417008	\$16.38	1/8	.1250	1-1/4	2-1/4	D5417023	\$43.35	DH417023	\$51.52	23/64	.3594	2-3/4	4-1/4
D5417009	\$14.89	DH417009	\$18.73	9/64	.1406	1-3/8	2-1/2	D5417024	\$47.02	DH417024	\$55.50	3/8	.3750	2-3/4	4-1/4
D5417010	\$15.74	DH417010	\$19.70	5/32	.1563	1-3/8	2-1/2	D5417025	\$53.10	DH417025	\$62.04	25/64	.3906	2-7/8	4-1/2
D5417011	\$18.47	DH417011	\$22.65	11/64	.1719	1-5/8	2-3/4	D5417026	\$58.94	DH417026	\$68.31	13/32	.4063	2-7/8	4-1/2
D5417012	\$18.69	DH417012	\$22.94	3/16	.1875	1-5/8	2-3/4	D5417027	\$64.57	DH417027	\$74.41	27/64	.4219	2-7/8	4-1/2
D5417013	\$22.55	DH417013	\$27.54	13/64	.2031	1-3/4	3	D5417028	\$64.57	DH417028	\$74.41	7/16	.4375	2-7/8	4-1/2
D5417014	\$23.14	DH417014	\$28.20	7/32	.2188	1-3/4	3	D5417029	\$69.91	DH417029	\$80.78	29/64	.4531	3	4-3/4
D5417015	\$23.90	DH417015	\$29.01	15/64	.2344	2	3-1/4	D5417030	\$69.91	DH417030	\$80.78	15/32	.4688	3	4-3/4
D5417016	\$24.67	DH417016	\$29.01	1/4	.2500	2	3-1/4	D5417031	\$71.92	DH417031	\$82.97	31/64	.4844	3	4-3/4
D5417017	\$25.92	DH417017	\$31.96	17/64	.2656	2-1/8	3-1/2	D5417032	\$71.92	DH417032	\$82.97	1/2	.5000	3	4-3/4

CARBIDE JOBBER DRILLS

RECOMMENDED CUTTING CONDITIONS

DH412, DH413, DH417, D5412, D5413, D5417 SERIES

JOBBER LENGTH CARBIDE DRILLS

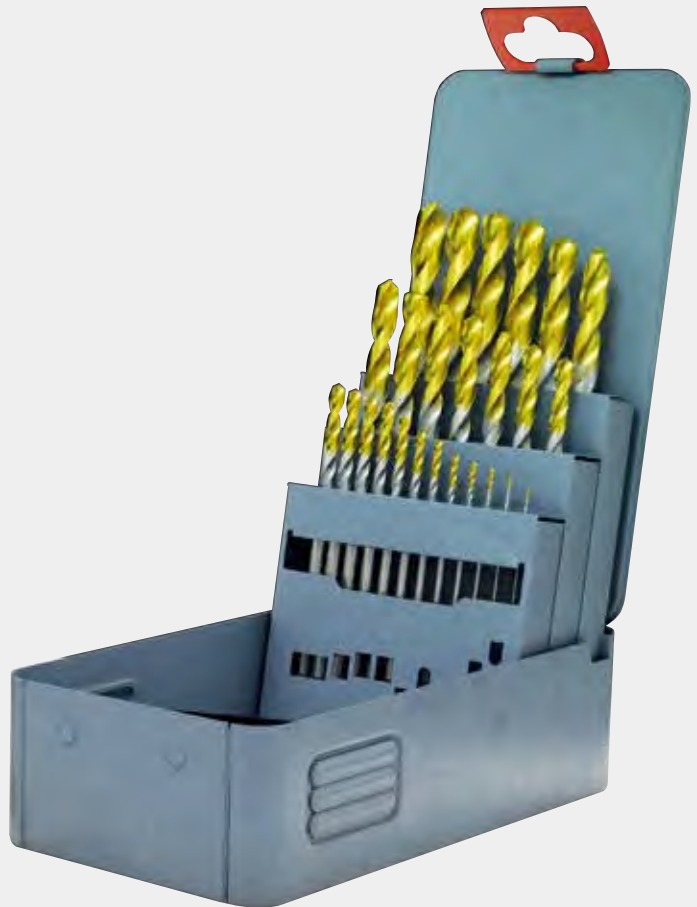
SFM : ft/min.
FEED(IPR) : Inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter			SFM	Drill Diameter			
				METRIC	1.0	2.0		METRIC	3.0	-	4.0
				FRACTIONAL	-	-		FRACTIONAL	-	1/8	-
DECIMAL	.0394	.0787	DECIMAL	.1181	.1250	.1575					
P	1	Non-alloy steel	180	RPM	17510	8750	230	RPM	7430	5570	
			FEED	.0008 - .0012	.0008 - .0016	FEED	.0012 - .0020	.0012 - .0024			
	2	150	RPM	14320	7160	200	RPM	6,370	4770		
			FEED	.0008 - .0012	.0008 - .0016		FEED	.0012 - .0020	.0012 - .0024		
	6	Low alloy steel	115	RPM	11140	5570	165	RPM	5310	3980	
			FEED	.0008 - .0012	.0008 - .0016		FEED	.0012 - .0020	.0012 - .0024		
M	12	Stainless steel	50	RPM	4770	2390	80	RPM	2650	1990	
			FEED	.0004 - .0008	.0004 - .0012		FEED	.0008 - .0016	.0008 - .0020		
K	15	Grey cast iron	80	RPM	7960	3980	150	RPM	4770	3580	
			FEED	.0012 - .0016	.0012 - .0020		FEED	.0016 - .0024	.0016 - .0028		
N	21	Aluminum-wrought alloy	330	RPM	31830	15920	460	RPM	14850	11140	
			FEED	.0016 - .0020	.0016 - .0024	FEED	.0020 - .0028	.0020 - .0031			
	22	295	RPM	28650	14320	395	RPM	12730	9550		
	FEED	.0016 - .0020	.0016 - .0024	FEED	.0020 - .0028	.0020 - .0031					
23	Aluminum-cast, alloyed	230	RPM	22280	11140	330	RPM	10610	7960		
		FEED	.0016 - .0020	.0016 - .0024	FEED	.0020 - .0028	.0020 - .0031				
24	200	RPM	19100	9550	260	RPM	8490	6370			
			FEED	.0016 - .0020	.0016 - .0024		FEED	.0020 - .0028	.0020 - .0031		
S	36	Titanium Alloys	30	RPM	3180	1590	65	RPM	2120	1590	
			FEED	.0004 - .0008	.0004 - .0012		FEED	.0008 - .0016	.0008 - .0020		

SFM : ft/min.
FEED(IPR) : Inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter											
				METRIC	-	5.0	6.0	-	-	8.0	-	10.0	12.0	-	13.0
				FRACTIONAL	3/16	-	-	1/4	5/16	-	3/8	-	-	-	1/2
DECIMAL	.1875	.1969	.2362	.2500	.3125	.3150	.3750	.3937	.4724	.5000	.5118				
P	1	Non-alloy steel	230	RPM	4460	3710	2790	2230	1860	1710					
			FEED	.0016 - .0028	.0020 - .0031	.0028 - .0039	.0031 - .0047	.0039 - .0055	.0047 - .0063						
	2	200	RPM	3820	3180	2390	1910	1590	1470						
			FEED	.0016 - .0028	.0020 - .0031	.0028 - .0039	.0031 - .0047	.0039 - .0055	.0047 - .0063						
	6	Low alloy steel	165	RPM	3180	2650	1990	1590	1330	1220					
			FEED	.0016 - .0028	.0020 - .0031	.0028 - .0039	.0031 - .0047	.0039 - .0055	.0047 - .0063						
M	12	Stainless steel	80	RPM	1590	1330	990	800	660	610					
			FEED	.0012 - .0024	.0016 - .0028	.0024 - .0035	.0028 - .0043	.0031 - .0047	.0035 - .0051						
K	15	Grey cast iron	150	RPM	2860	2390	1790	1430	1190	1,100					
			FEED	.0020 - .0031	.0024 - .0035	.0035 - .0047	.0047 - .0063	.0055 - .0071	.0063 - .0079						
N	21	Aluminum-wrought alloy	460	RPM	8910	7430	5570	4460	3710	3430					
			FEED	.0024 - .0035	.0031 - .0043	.0047 - .0059	.0059 - .0075	.0075 - .0091	.0083 - .0098						
	22	395	RPM	7640	6370	4770	3820	3180	2940						
	FEED	.0024 - .0035	.0031 - .0043	.0047 - .0059	.0059 - .0075	.0075 - .0091	.0083 - .0098								
23	Aluminum-cast, alloyed	330	RPM	6370	5310	3980	3180	2650	2450						
		FEED	.0024 - .0035	.0031 - .0043	.0047 - .0059	.0059 - .0075	.0075 - .0091	.0083 - .0098							
24	260	RPM	5090	4240	3180	2550	2120	1960							
			FEED	.0024 - .0035	.0031 - .0043	.0047 - .0059	.0059 - .0075	.0075 - .0091	.0083 - .0098						
S	36	Titanium Alloys	65	RPM	1270	1060	800	640	530	490					
			FEED	.0012 - .0024	.0016 - .0028	.0024 - .0035	.0028 - .0043	.0031 - .0047	.0035 - .0051						

GOLD-P JOBBER DRILLS



GOLD-P JOBBER DRILLS

SELECTION GUIDE

GOLD-P JOBBER DRILLS

- For drilling in steels, cast iron, stainless steel, aluminum, and other non-ferrous materials
- HSS, HSSCo5, and HSSCo8
- Bright shank with TiN coating on working part.
- Right-hand helix, straight shank
- Standard and Parabolic Flute

◎ : Excellent ○ : Good

Recommended cutting conditions : P.39

SERIES	D1GP182	D1GP139	D1GP138	D2GP185	D2GP186	D2GP187
STANDARD	ANSI					
MATERIAL	HSS			HSS Co8		
SIZE MIN	1/64	A	#80	1/64	A	#80
SIZE MAX	D3/4	Z	#1	D1/2	Z	#1
PAGE	27	28	29	30	31	32

SURFACE TREATMENT

TiN



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc						
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	◎	◎
	4		About 0.75% C Annealed	270	28	○	○	○	○	○	○
	5		About 0.75% C Quenched & Tempered	300	32						
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	◎	◎
	7		Quenched & Tempered	275	29	○	○	○	○	○	○
	8		Quenched & Tempered	300	32	○	○	○	○	○	○
	9		Quenched & Tempered	350	38						
	10	High alloyed steel, and tool steel	Annealed	200	15	○	○	○	○	○	○
	11		Quenched & Tempered	325	35						
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎	◎	◎	◎
	13		Martensitic Quenched & Tempered	240	23	○	○	○	○	○	○
	14		Austenitic	180	10	○	○	○	○	○	○
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○	○	○	○
	16		Pearlitic (Martensitic)	260	26	○	○	○	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○	○	○	○
	18		Pearlitic	250	25						
	19	Malleable cast iron	Ferritic	130		○	○	○	○	○	○
20	Pearlitic		230	21							
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○	○	○	○
	22		Curable Hardened	100		○	○	○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○	○	○	○
	24		≤ 12% Si, Curable Hardened	90							
	25		> 12% Si, Not Curable	130							
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110							
	27		CuZn, CuSnZn (Brass)	90							
	28		CuSn, lead-free copper and electrolytic copper	100							
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic Rubber, Wood, etc.			○	○	○	○	○
	30										
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15						
	32		Cured	280	30						
	33		Annealed	250	25						
	34		Ni or Co Based Cured	350	38						
	35	Cast	320	34							
	36	Titanium Alloys	Pure Titanium	400 Rm		○	○	○	○	○	○
37	Alpha + Beta Alloys Hardened		1050 Rm								
H	38	Hardened steel	Hardened	550	55						
	39		Hardened	630	60						
	40	Chilled Cast Iron	Cast	400	42						
	41	Hardened Cast Iron	Hardened	550	55						

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

GOLD-P JOBBER DRILLS

SELECTION GUIDE

GOLD-P JOBBER DRILLS

- For drilling in steels, cast iron, stainless steel, aluminum, and other non-ferrous materials
- HSS, HSSCo5, and HSSCo8
- Bright shank with TiN coating on working part.
- Right-hand helix, straight shank
- Standard and Parabolic Flute

SURFACE TREATMENT

◎ : Excellent ○ : Good

Recommended cutting conditions : P.39

SERIES	DLGP195	DLGP511	DLGP512	DLGP513	DLGP506
STANDARD	DIN338	ANSI			DIN338
MATERIAL	HSS Co5				
SIZE MIN	D1.0	D5/64	#47	A	D2.0
SIZE MAX	D18.0	D1/2	9/16	Z	D14.5
PAGE	33	35	35	36	37

TIN



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	DLGP195	DLGP511	DLGP512	DLGP513	DLGP506
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	◎
	4		About 0.75% C Annealed	270	28	○	○	○	○	○
	5		About 0.75% C Quenched & Tempered	300	32					
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	◎
	7		Quenched & Tempered	275	29	○	○	○	○	○
	8		Quenched & Tempered	300	32	○	○	○	○	○
	9		Quenched & Tempered	350	38					
	10	High alloyed steel, and tool steel	Annealed	200	15	○	○	○	○	○
	11		Quenched & Tempered	325	35					
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎				
	13		Martensitic Quenched & Tempered	240	23	○				
	14		Austenitic	180	10	○				
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○	○	○
	16		Pearlitic (Martensitic)	260	26	○	○	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○	○	○
	18		Pearlitic	250	25		○	○	○	○
	19	Malleable cast iron	Ferritic	130		○	○	○	○	○
	20		Pearlitic	230	21		○	○	○	○
N	21	Aluminum-wrought alloy	Not Curable	60		○				
	22		Curable Hardened	100		○				
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○				
	24		≤ 12% Si, Curable Hardened	90						
	25		> 12% Si, Not Curable	130						
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110						
	27		CuZn, CuSnZn (Brass)	90						
	28		CuSn, lead-free copper and electrolytic copper	100						
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			○			
	30	Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15					
	32		Fe Based Cured	280	30					
	33		Ni or Co Based Annealed	250	25					
	34		Ni or Co Based Cured	350	38					
	35	Titanium Alloys Cast	320	34						
	36	Pure Titanium	400 Rm		○					
37	Alpha + Beta Alloys Hardened	1050 Rm								
H	38	Hardened steel	Hardened	550	55					
	39		Hardened	630	60					
	40	Chilled Cast Iron	Cast	400	42					
	41	Hardened Cast Iron	Hardened	550	55					

Holemaking

Threading

Milling

Indexable

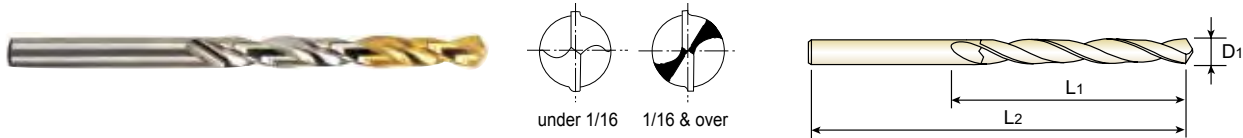
Rotary Tool Holder

GOLD-P JOBBER DRILLS

D1GP182 SERIES

HSS - Fractional Sizes

- **Point Angle:** Drills under 1/16" : 118° Standard point
Drills 1/16" and larger : 135° Split point
- **Surface treatment:** Drills 3/64" and larger : bright shank, TiN coated working part



D1 Ø3/64, 118°

► Fractional sizes

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Frac.	Dec.		
		D1			
* D1182001	\$2.13	1/64	.0156	3/16	3/4
* D1182002	\$1.72	1/32	.0313	1/2	1-3/8
* D1GP113003	\$1.07	3/64	.0469	3/4	1-3/4
* D1GP182004	\$1.12	1/16	.0625	7/8	1-7/8
* D1GP182005	\$1.12	5/64	.0781	1	2
* D1GP182006	\$1.12	3/32	.0938	1-1/4	2-1/4
* D1GP182007	\$1.12	7/64	.1094	1-1/2	2-5/8
* D1GP182008	\$1.12	1/8	.1250	1-5/8	2-3/4
* D1GP182009	\$1.22	9/64	.1406	1-3/4	2-7/8
* D1GP182010	\$1.25	5/32	.1563	2	3-1/8
* D1GP182011	\$1.34	11/64	.1719	2-1/8	3-1/4
* D1GP182012	\$1.48	3/16	.1875	2-5/16	3-1/2
* D1GP182013	\$1.80	13/64	.2031	2-7/16	3-5/8
* D1GP182014	\$1.89	7/32	.2188	2-1/2	3-3/4
* D1GP182015	\$2.10	15/64	.2344	2-5/8	3-7/8
* D1GP182016	\$2.21	1/4	.2500	2-3/4	4
* D1GP182017	\$2.55	17/64	.2656	2-7/8	4-1/8
* D1GP182018	\$2.79	9/32	.2813	2-15/16	4-1/4
* D1GP182019	\$3.13	19/64	.2969	3-1/16	4-3/8
* D1GP182020	\$3.36	5/16	.3125	3-3/16	4-1/2
** D1GP182021	\$3.82	21/64	.3281	3-5/16	4-5/8
** D1GP182022	\$4.19	11/32	.3438	3-7/16	4-3/4
** D1GP182023	\$4.64	23/64	.3594	3-1/2	4-7/8

Tolerance Diameter (Inch)	
up to 1/8(.1250)	0 ~ -.0005
over 1/8(.1250) up to 1/4(.2500)	0 ~ -.0007
over 1/4(.2500) up to 1/2(.5000)	0 ~ -.0010

Unit : Inch

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Frac.	Dec.		
		D1			
** D1GP182024	\$4.71	3/8	.3750	3-5/8	5
** D1GP182025	\$5.35	25/64	.3906	3-3/4	5-1/8
** D1GP182026	\$5.63	13/32	.4063	3-7/8	5-1/4
** D1GP182027	\$6.06	27/64	.4219	3-15/16	5-3/8
** D1GP182028	\$6.59	7/16	.4375	4-1/16	5-1/2
** D1GP182029	\$7.23	29/64	.4531	4-3/16	5-5/8
** D1GP182030	\$7.60	15/32	.4688	4-5/16	5-3/4
** D1GP182031	\$8.22	31/64	.4844	4-3/8	5-7/8
** D1GP182032	\$8.53	1/2	.5000	4-1/2	6
** D8182033	\$21.46	33/64	.5156	4-13/16	6-5/8
** D8182034	\$22.00	17/32	.5313	4-13/16	6-5/8
** D8182035	\$22.98	35/64	.5469	4-13/16	6-5/8
** D8182036	\$23.04	9/16	.5625	4-13/16	6-5/8
** D8182037	\$25.77	37/64	.5781	4-13/16	6-5/8
* D8182038	\$26.39	19/32	.5938	5-3/16	7-1/8
* D8182039	\$27.18	39/64	.6094	5-3/16	7-1/8
* D8182040	\$27.18	5/8	.6250	5-3/16	7-1/8
* D8182042	\$29.73	21/32	.6563	5-3/16	7-1/8
* D8182044	\$33.50	11/16	.6875	5-5/8	7-5/8
* D8182045	\$43.50	45/64	.7031	5-5/8	9-1/2
* D8182046	\$47.01	23/32	.7188	5-5/8	9-1/2
* D8182047	\$49.65	47/64	.7344	5-5/8	9-3/4
* D8182048	\$49.65	3/4	.7500	5-7/8	9-3/4

- * 10pcs per package
- ** 5pcs per package
- * 3pcs per package

Holemaking

Threading

Milling

Indexable

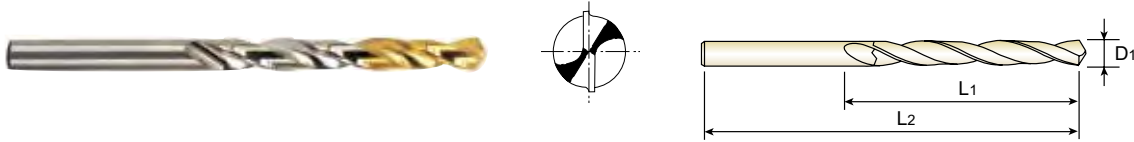
Rotary Tool Holder

GOLD-P JOBBER DRILLS

D1GP139 SERIES

HSS - Letter Sizes

- ▶ **Point Angle:** 135° : Split point
- ▶ **Surface treatment:** Bright shank, TiN coated working part



▶ Letter sizes

Unit : Inch

EDP No.	Price	Diameter		Flute Length	Overall Length
		Letter	Dec.		
		D1			
* D1GP139101	\$2.39	A	.2340	2-5/8	3-7/8
* D1GP139102	\$2.79	B	.2380	2-3/4	4
* D1GP139103	\$2.79	C	.2420	2-3/4	4
* D1GP139104	\$2.79	D	.2460	2-3/4	4
* D1GP139105	\$2.79	E	.2500	2-3/4	4
* D1GP139106	\$2.97	F	.2570	2-7/8	4-1/8
* D1GP139107	\$2.97	G	.2610	2-7/8	4-1/8
* D1GP139108	\$2.97	H	.2660	2-7/8	4-1/8
* D1GP139109	\$3.22	I	.2720	2-7/8	4-1/8
* D1GP139110	\$3.40	J	.2770	2-7/8	4-1/8
* D1GP139111	\$3.40	K	.2810	2-15/16	4-1/4
* D1GP139112	\$3.82	L	.2900	2-15/16	4-1/4
* D1GP139113	\$3.82	M	.2950	3-1/16	4-3/8

EDP No.	Price	Diameter		Flute Length	Overall Length
		Letter	Dec.		
		D1			
* D1GP139114	\$4.10	N	.3020	3-1/16	4-3/8
* D1GP139115	\$4.49	O	.3160	3-3/16	4-1/2
* D1GP139116	\$4.49	P	.3230	3-5/16	4-5/8
** D1GP139117	\$4.89	Q	.3320	3-7/16	4-3/4
** D1GP139118	\$4.89	R	.3390	3-7/16	4-3/4
** D1GP139119	\$5.47	S	.3480	3-1/2	4-7/8
** D1GP139120	\$5.50	T	.3580	3-1/2	4-7/8
** D1GP139121	\$5.79	U	.3680	3-5/8	5
** D1GP139122	\$5.79	V	.3770	3-5/8	5
** D1GP139123	\$6.31	W	.3860	3-3/4	5-1/8
** D1GP139124	\$6.92	X	.3970	3-3/4	5-1/8
** D1GP139125	\$6.92	Y	.4040	3-7/8	5-1/4
** D1GP139126	\$7.53	Z	.4130	3-7/8	5-1/4

Tolerance Diameter (Inch)	
up to 1/8(.1250)	0 ~ -.0005
over 1/8(.1250) up to 1/4(.2500)	0 ~ -.0007
over 1/4(.2500) up to 1/2(.5000)	0 ~ -.0010

- * 10pcs per package
- ** 5pcs per package

Holmaking

Threading

Milling

Indexable

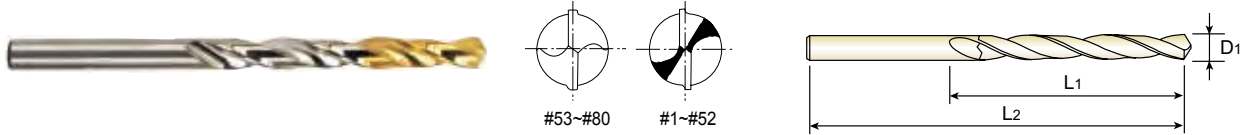
Rotary Tool Holder

GOLD-P JOBBER DRILLS

D1GP138 SERIES

HSS - Wire Sizes

- ▶ **Point Angle:** #61 ~ #80 : 118° point
#1 ~ #60 : 135° point
- ▶ **Surface treatment:** #1 ~ #60 : bright shank, TiN coated working part



▶ Wire gauge sizes

EDP No.	Price	Diameter		Flute Length	Overall Length
		Wiresize	Dec.		
		D1	L1	L2	
* D1GP138256	\$2.25	1	.2280	2-5/8	3-7/8
* D1GP138255	\$2.25	2	.2210	2-5/8	3-7/8
* D1GP138254	\$2.08	3	.2130	2-1/2	3-3/4
* D1GP138253	\$2.08	4	.2090	2-1/2	3-3/4
* D1GP138252	\$2.08	5	.2055	2-1/2	3-3/4
* D1GP138251	\$2.08	6	.2040	2-1/2	3-3/4
* D1GP138250	\$1.89	7	.2010	2-7/16	3-5/8
* D1GP138249	\$1.89	8	.1990	2-7/16	3-5/8
* D1GP138248	\$1.89	9	.1960	2-7/16	3-5/8
* D1GP138247	\$1.75	10	.1935	2-7/16	3-5/8
* D1GP138246	\$1.72	11	.1910	2-5/16	3-1/2
* D1GP138245	\$1.72	12	.1890	2-5/16	3-1/2
* D1GP138244	\$1.61	13	.1850	2-5/16	3-1/2
* D1GP138243	\$1.61	14	.1820	2-3/16	3-3/8
* D1GP138242	\$1.61	15	.1800	2-3/16	3-3/8
* D1GP138241	\$1.61	16	.1770	2-3/16	3-3/8
* D1GP138240	\$1.61	17	.1730	2-3/16	3-3/8
* D1GP138239	\$1.34	18	.1695	2-1/8	3-1/4
* D1GP138238	\$1.34	19	.1660	2-1/8	3-1/4
* D1GP138237	\$1.34	20	.1610	2-1/8	3-1/4
* D1GP138236	\$1.29	21	.1590	2-1/8	3-1/4
* D1GP138235	\$1.29	22	.1570	2	3-1/8
* D1GP138234	\$1.25	23	.1540	2	3-1/8
* D1GP138233	\$1.25	24	.1520	2	3-1/8
* D1GP138232	\$1.22	25	.1495	1-7/8	3
* D1GP138231	\$1.22	26	.1470	1-7/8	3
* D1GP138230	\$1.22	27	.1440	1-7/8	3
* D1GP138229	\$1.12	28	.1405	1-3/4	2-7/8
* D1GP138228	\$1.12	29	.1360	1-3/4	2-7/8
* D1GP138227	\$1.12	30	.1285	1-5/8	2-3/4
* D1GP138226	\$1.12	31	.1200	1-5/8	2-3/4
* D1GP138225	\$1.12	32	.1160	1-5/8	2-3/4
* D1GP138224	\$1.12	33	.1130	1-1/2	2-5/8
* D1GP138223	\$1.12	34	.1110	1-1/2	2-5/8
* D1GP138222	\$1.12	35	.1100	1-1/2	2-5/8
* D1GP138221	\$1.12	36	.1065	1-7/16	2-1/2
* D1GP138220	\$1.12	37	.1040	1-7/16	2-1/2
* D1GP138219	\$1.12	38	.1015	1-7/16	2-1/2
* D1GP138218	\$1.12	39	.0995	1-3/8	2-3/8
* D1GP138217	\$1.12	40	.0980	1-3/8	2-3/8
* D1GP138216	\$1.12	41	.0960	1-3/8	2-3/8
* D1GP138215	\$1.12	42	.0935	1-1/4	2-1/4
* D1GP138214	\$1.12	43	.0890	1-1/4	2-1/4
* D1GP138213	\$1.12	44	.0860	1-1/8	2-1/8

Unit : Inch

EDP No.	Price	Diameter		Flute Length	Overall Length
		Wiresize	Dec.		
		D1	L1	L2	
* D1GP138212	\$1.12	45	.0820	1-1/8	2-1/8
* D1GP138211	\$1.12	46	.0810	1-1/8	2-1/8
* D1GP138210	\$1.12	47	.0785	1	2
* D1GP138209	\$1.12	48	.0760	1	2
* D1GP138208	\$1.12	49	.0730	1	2
* D1GP138207	\$1.12	50	.0700	1	2
* D1GP138206	\$1.25	51	.0670	1	2
* D1GP138205	\$1.25	52	.0635	7/8	1-7/8
* D1GP134204	\$1.22	53	.0595	7/8	1-7/8
* D1GP134203	\$1.22	54	.0550	7/8	1-7/8
* D1GP134202	\$1.22	55	.0520	7/8	1-7/8
* D1GP134201	\$1.22	56	.0465	3/4	1-3/4
* D1GP138200	\$1.34	57	.0430	3/4	1-3/4
* D1GP138199	\$1.34	58	.0420	11/16	1-5/8
* D1GP138198	\$1.34	59	.0410	11/16	1-5/8
* D1GP138197	\$1.34	60	.0400	11/16	1-5/8
* D1138196	\$1.48	61	.0390	11/16	1-5/8
* D1138195	\$1.48	62	.0380	5/8	1-1/2
* D1138194	\$1.48	63	.0370	5/8	1-1/2
* D1138193	\$1.48	64	.0360	5/8	1-1/2
* D1138192	\$1.48	65	.0350	5/8	1-1/2
* D1138191	\$1.72	66	.0330	1/2	1-3/8
* D1138190	\$1.72	67	.0320	1/2	1-3/8
* D1138189	\$1.72	68	.0310	1/2	1-3/8
* D1138188	\$1.81	69	.0292	1/2	1-3/8
* D1138187	\$1.81	70	.0280	3/8	1-1/4
* D1138186	\$1.81	71	.0260	3/8	1-1/4
* D1138185	\$1.81	72	.0250	5/16	1-1/8
* D1138184	\$1.81	73	.0240	5/16	1-1/8
* D1138183	\$1.81	74	.0225	1/4	1
* D1138182	\$1.81	75	.0210	1/4	1
* D1138181	\$1.81	76	.0200	3/16	7/8
* D1138180	\$1.89	77	.0180	3/16	7/8
* D1138179	\$2.13	78	.0160	3/16	7/8
* D1138178	\$3.13	79	.0145	1/8	3/4
* D1138177	\$3.13	80	.0135	1/8	3/4

Tolerance Diameter (Inch)		* 10pcs per package
up to 1/8(.1250)	0 ~ -.0005	
over 1/8(.1250) up to 1/4(.2500)	0 ~ -.0007	
over 1/4(.2500) up to 1/2(.5000)	0 ~ -.0010	

Holemaking

Threading

Milling

Indexable

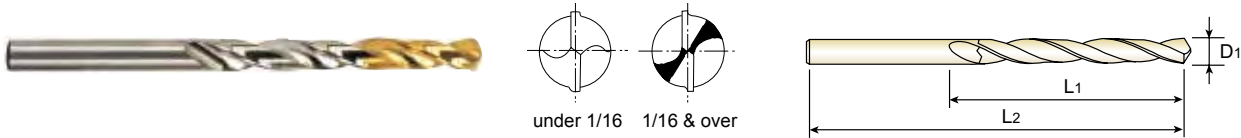
Rotary Tool Holder

GOLD-P JOBBER DRILLS

D2GP185 SERIES

HSSCo8 - Fractional Sizes

- **Point Angle:** Under 1/16" : 118° Standard Point
1/16" and larger : 135° Split Point
- **Surface treatment:** Drills 3/64" and larger : bright shank, TiN coated working part



► Fractional sizes

Unit : Inch

EDP No.	Price	Diameter		Flute Length	Overall Length	
		Frac.	Dec.		L1	L2
		D1				
* D2185001	\$2.21	1/64	.0156	3/16	3/4	
* D2185002	\$1.81	1/32	.0313	1/2	1-3/8	
* D2GP185003	\$1.37	3/64	.0469	3/4	1-3/4	
* D2GP185004	\$1.37	1/16	.0625	7/8	1-7/8	
* D2GP185005	\$1.37	5/64	.0781	1	2	
* D2GP185006	\$1.37	3/32	.0938	1-1/4	2-1/4	
* D2GP185007	\$1.44	7/64	.1094	1-1/2	2-5/8	
* D2GP185008	\$1.72	1/8	.1250	1-5/8	2-3/4	
* D2GP185009	\$1.72	9/64	.1406	1-3/4	2-7/8	
* D2GP185010	\$1.97	5/32	.1563	2	3-1/8	
* D2GP185011	\$2.08	11/64	.1719	2-1/8	3-1/4	
* D2GP185012	\$2.25	3/16	.1875	2-5/16	3-1/2	
* D2GP185013	\$2.79	13/64	.2031	2-7/16	3-5/8	
* D2GP185014	\$3.03	7/32	.2188	2-1/2	3-3/4	
* D2GP185015	\$3.28	15/64	.2344	2-5/8	3-7/8	
* D2GP185016	\$3.46	1/4	.2500	2-3/4	4	

EDP No.	Price	Diameter		Flute Length	Overall Length	
		Frac.	Dec.		L1	L2
		D1				
* D2GP185017	\$3.88	17/64	.2656	2-7/8	4-1/8	
* D2GP185018	\$4.13	9/32	.2813	2-15/16	4-1/4	
* D2GP185019	\$4.89	19/64	.2969	3-1/16	4-3/8	
* D2GP185020	\$5.19	5/16	.3125	3-3/16	4-1/2	
** D2GP185021	\$5.81	21/64	.3281	3-5/16	4-5/8	
** D2GP185022	\$6.23	11/32	.3438	3-7/16	4-3/4	
** D2GP185023	\$7.10	23/64	.3594	3-1/2	4-7/8	
** D2GP185024	\$7.10	3/8	.3750	3-5/8	5	
** D2GP185025	\$7.98	25/64	.3906	3-3/4	5-1/8	
** D2GP185026	\$8.42	13/32	.4063	3-7/8	5-1/4	
** D2GP185027	\$9.26	27/64	.4219	3-15/16	5-3/8	
** D2GP185028	\$9.69	7/16	.4375	4-1/16	5-1/2	
** D2GP185029	\$11.39	29/64	.4531	4-3/16	5-5/8	
** D2GP185030	\$11.57	15/32	.4688	4-5/16	5-3/4	
** D2GP185031	\$12.04	31/64	.4844	4-3/8	5-7/8	
** D2GP185032	\$12.42	1/2	.5000	4-1/2	6	

Tolerance Diameter (Inch)	
up to 1/8(.1250)	0 ~ -.0005
over 1/8(.1250) up to 1/4(.2500)	0 ~ -.0007
over 1/4(.2500) up to 1/2(.5000)	0 ~ -.0010

- * 10pcs per package
- ** 5pcs per package

Holmaking

Threading

Milling

Indexable

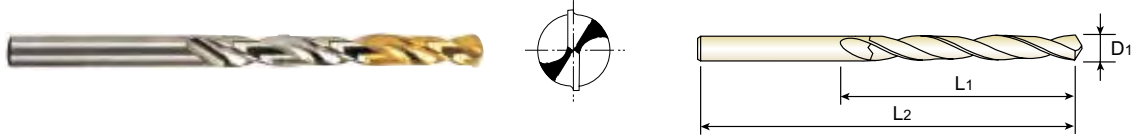
Rotary Tool Holder

GOLD-P JOBBER DRILLS

D2GP186 SERIES

HSSCo8 - Letter Sizes

- ▶ **Point Angle:** 135° : Split point
- ▶ **Surface treatment:** Bright shank, TiN coated working part



▶ Letter sizes

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Letter	Dec.		
		D1			
* D2GP186101	\$3.32	A	.2340	2-5/8	3-7/8
* D2GP186102	\$3.88	B	.2380	2-3/4	4
* D2GP186103	\$3.88	C	.2420	2-3/4	4
* D2GP186104	\$4.24	D	.2460	2-3/4	4
* D2GP186105	\$3.52	E	.2500	2-3/4	4
* D2GP186106	\$3.88	F	.2570	2-7/8	4-1/8
* D2GP186107	\$3.88	G	.2610	2-7/8	4-1/8
* D2GP186108	\$4.24	H	.2660	2-7/8	4-1/8
* D2GP186109	\$4.00	I	.2720	2-7/8	4-1/8
* D2GP186110	\$4.40	J	.2770	2-7/8	4-1/8
* D2GP186111	\$4.40	K	.2810	2-15/16	4-1/4
* D2GP186112	\$4.89	L	.2900	2-15/16	4-1/4
* D2GP186113	\$5.15	M	.2950	3-1/16	4-3/8

Tolerance Diameter (Inch)	
up to 1/8(.1250)	0 ~ -.0005
over 1/8(.1250) up to 1/4(.2500)	0 ~ -.0007
over 1/4(.2500) up to 1/2(.5000)	0 ~ -.0010

Unit : Inch

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Letter	Dec.		
		D1			
* D2GP186114	\$5.15	N	.3020	3-1/16	4-3/8
* D2GP186115	\$5.75	O	.3160	3-3/16	4-1/2
* D2GP186116	\$6.11	P	.3230	3-5/16	4-5/8
** D2GP186117	\$6.30	Q	.3320	3-7/16	4-3/4
** D2GP186118	\$6.30	R	.3390	3-7/16	4-3/4
** D2GP186119	\$7.53	S	.3480	3-1/2	4-7/8
** D2GP186120	\$7.59	T	.3580	3-1/2	4-7/8
** D2GP186121	\$7.59	U	.3680	3-5/8	5
** D2GP186122	\$8.24	V	.3770	3-5/8	5
** D2GP186123	\$8.24	W	.3860	3-3/4	5-1/8
** D2GP186124	\$8.38	X	.3970	3-3/4	5-1/8
** D2GP186125	\$8.84	Y	.4040	3-7/8	5-1/4
** D2GP186126	\$9.57	Z	.4130	3-7/8	5-1/4

- * 10pcs per package
- ** 5pcs per package

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

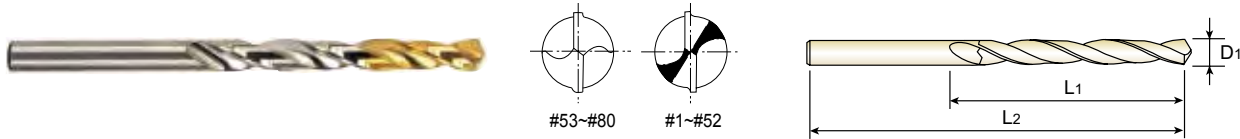
GOLD-P JOBBER DRILLS

D2GP187 SERIES

HSSCo8 - Wire Sizes

- ▶ **Point Angle:** #61 ~ #80 : 118° point
#1 ~ #60 : 135° point

- ▶ **Surface treatment:** Sizes #1 ~ #60 : Bright shank, TiN coated working part



▶ Wire gauge sizes

Unit : Inch

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Wiresize	Dec.		
		D1			
* D2GP187256	\$3.52	1	.2280	2-5/8	3-7/8
* D2GP187255	\$3.52	2	.2210	2-5/8	3-7/8
* D2GP187254	\$3.28	3	.2130	2-1/2	3-3/4
* D2GP187253	\$3.28	4	.2090	2-1/2	3-3/4
* D2GP187252	\$3.28	5	.2055	2-1/2	3-3/4
* D2GP187251	\$2.65	6	.2040	2-1/2	3-3/4
* D2GP187250	\$2.65	7	.2010	2-7/16	3-5/8
* D2GP187249	\$2.65	8	.1990	2-7/16	3-5/8
* D2GP187248	\$2.65	9	.1960	2-7/16	3-5/8
* D2GP187247	\$2.54	10	.1935	2-7/16	3-5/8
* D2GP187246	\$2.54	11	.1910	2-5/16	3-1/2
* D2GP187245	\$2.54	12	.1890	2-5/16	3-1/2
* D2GP187244	\$2.40	13	.1850	2-5/16	3-1/2
* D2GP187243	\$2.40	14	.1820	2-3/16	3-3/8
* D2GP187242	\$2.40	15	.1800	2-3/16	3-3/8
* D2GP187241	\$2.29	16	.1770	2-3/16	3-3/8
* D2GP187240	\$2.21	17	.1730	2-3/16	3-3/8
* D2GP187239	\$2.08	18	.1695	2-1/8	3-1/4
* D2GP187238	\$2.04	19	.1660	2-1/8	3-1/4
* D2GP187237	\$2.04	20	.1610	2-1/8	3-1/4
* D2GP187236	\$2.04	21	.1590	2-1/8	3-1/4
* D2GP187235	\$2.04	22	.1570	2	3-1/8
* D2GP187234	\$1.97	23	.1540	2	3-1/8
* D2GP187233	\$1.97	24	.1520	2	3-1/8
* D2GP187232	\$1.80	25	.1495	1-7/8	3
* D2GP187231	\$1.80	26	.1470	1-7/8	3
* D2GP187230	\$1.80	27	.1440	1-7/8	3
* D2GP187229	\$1.72	28	.1405	1-3/4	2-7/8
* D2GP187228	\$1.65	29	.1360	1-3/4	2-7/8
* D2GP187227	\$1.55	30	.1285	1-5/8	2-3/4
* D2GP187226	\$1.55	31	.1200	1-5/8	2-3/4
* D2GP187225	\$1.55	32	.1160	1-5/8	2-3/4
* D2GP187224	\$1.48	33	.1130	1-1/2	2-5/8
* D2GP187223	\$1.48	34	.1110	1-1/2	2-5/8
* D2GP187222	\$1.48	35	.1100	1-1/2	2-5/8
* D2GP187221	\$1.44	36	.1065	1-7/16	2-1/2
* D2GP187220	\$1.44	37	.1040	1-7/16	2-1/2
* D2GP187219	\$1.34	38	.1015	1-7/16	2-1/2
* D2GP187218	\$1.34	39	.0995	1-3/8	2-3/8
* D2GP187217	\$1.34	40	.0980	1-3/8	2-3/8
* D2GP187216	\$1.34	41	.0960	1-3/8	2-3/8
* D2GP187215	\$1.34	42	.0935	1-1/4	2-1/4
* D2GP187214	\$1.34	43	.0890	1-1/4	2-1/4
* D2GP187213	\$1.34	44	.0860	1-1/8	2-1/8

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Wiresize	Dec.		
		D1			
* D2GP187212	\$1.34	45	.0820	1-1/8	2-1/8
* D2GP187211	\$1.34	46	.0810	1-1/8	2-1/8
* D2GP187210	\$1.34	47	.0785	1	2
* D2GP187209	\$1.34	48	.0760	1	2
* D2GP187208	\$1.34	49	.0730	1	2
* D2GP187207	\$1.34	50	.0700	1	2
* D2GP187206	\$1.34	51	.0670	1	2
* D2GP187205	\$1.34	52	.0635	7/8	1-7/8
* D2GP187204	\$1.44	53	.0595	7/8	1-7/8
* D2GP187203	\$1.44	54	.0550	7/8	1-7/8
* D2GP187202	\$1.44	55	.0520	7/8	1-7/8
* D2GP187201	\$1.57	56	.0465	3/4	1-3/4
* D2GP187200	\$1.45	57	.0430	3/4	13/4
* D2GP187199	\$1.45	58	.0420	11/16	15/8
* D2GP187198	\$1.45	59	.0410	11/16	15/8
* D2GP187197	\$1.45	60	.0400	11/16	15/8
* D2187196	\$1.61	61	.0390	11/16	15/8
* D2187195	\$1.61	62	.0380	5/8	11/2
* D2187194	\$1.61	63	.0370	5/8	11/2
* D2187193	\$1.61	64	.0360	5/8	11/2
* D2187192	\$1.61	65	.0350	5/8	11/2
* D2187191	\$1.84	66	.0330	1/2	13/8
* D2187190	\$1.84	67	.0320	1/2	13/8
* D2187189	\$1.84	68	.0310	1/2	13/8
* D2187188	\$1.93	69	.0292	1/2	13/8
* D2187187	\$1.93	70	.0280	3/8	11/4
* D2187186	\$1.93	71	.0260	3/8	11/4
* D2187185	\$1.93	72	.0250	5/16	11/8
* D2187184	\$1.93	73	.0240	5/16	11/8
* D2187183	\$1.93	74	.0225	1/4	1
* D2187182	\$1.93	75	.0210	1/4	1
* D2187181	\$1.93	76	.0200	3/16	7/8
* D2187180	\$2.00	77	.0180	3/16	7/8
* D2187179	\$2.25	78	.0160	3/16	7/8
* D2187178	\$3.31	79	.0145	1/8	3/4
* D2187177	\$3.31	80	.0135	1/8	3/4

Tolerance Diameter (Inch)	
up to 1/8(.1250)	0 ~ -.0005
over 1/8(.1250) up to 1/4(.2500)	0 ~ -.0007
over 1/4(.2500) up to 1/2(.5000)	0 ~ -.0010

* 10pcs per package

Holemaking

Threading

Milling

Indexable

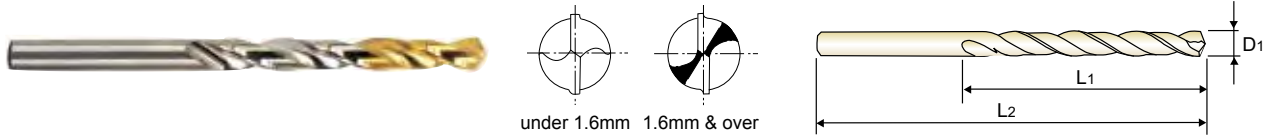
Rotary Tool Holder

GOLD-P JOBBER DRILLS

DLGP195 SERIES

HSSCo5 - Metric Sizes

- **Point Angle:** under 1.6mm : 135° Standard point
1.6mm and larger : 135° Split point
- **Surface treatment:** Bright shank and TiN coated working part



EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Metric	Inch		
		D1			
* DLGP195010	\$1.23	1.0	.0394	12	34
* DLGP195011	\$1.23	1.1	.0433	14	36
* DLGP195012	\$1.23	1.2	.0472	16	38
* DLGP195013	\$1.23	1.3	.0512	16	38
* DLGP195014	\$1.23	1.4	.0551	18	40
* DLGP195015	\$1.23	1.5	.0591	18	40
* DLGP195016	\$1.27	1.6	.0630	20	43
* DLGP195017	\$1.27	1.7	.0669	20	43
* DLGP195018	\$1.27	1.8	.0709	22	46
* DLGP195019	\$1.27	1.9	.0748	22	46
* DLGP195020	\$1.27	2.0	.0787	24	49
* DLGP195021	\$1.31	2.1	.0827	24	49
* DLGP195022	\$1.31	2.2	.0866	27	53
* DLGP195023	\$1.31	2.3	.0906	27	53
* DLGP195024	\$1.31	2.4	.0945	30	57
* DLGP195025	\$1.31	2.5	.0984	30	57
* DLGP195026	\$1.51	2.6	.1024	30	57
* DLGP195027	\$1.51	2.7	.1063	33	61
* DLGP195028	\$1.51	2.8	.1102	33	61
* DLGP195029	\$1.51	2.9	.1142	33	61
* DLGP195030	\$1.51	3.0	.1181	33	61
* DLGP195031	\$1.75	3.1	.1220	36	65
* DLGP195032	\$1.75	3.2	.1260	36	65
* DLGP195033	\$1.75	3.3	.1299	36	65
* DLGP195034	\$1.75	3.4	.1339	39	70
* DLGP195035	\$1.75	3.5	.1378	39	70
* DLGP195036	\$2.03	3.6	.1417	39	70
* DLGP195037	\$2.03	3.7	.1457	39	70
* DLGP195038	\$2.03	3.8	.1496	43	75
* DLGP195039	\$2.03	3.9	.1535	43	75
* DLGP195040	\$2.03	4.0	.1575	43	75
* DLGP195041	\$2.35	4.1	.1614	43	75
* DLGP195042	\$2.35	4.2	.1654	43	75
* DLGP195043	\$2.35	4.3	.1693	47	80
* DLGP195044	\$2.35	4.4	.1732	47	80
* DLGP195045	\$2.35	4.5	.1772	47	80
* DLGP195046	\$2.35	4.6	.1811	47	80
* DLGP195047	\$2.35	4.7	.1850	47	80
* DLGP195048	\$2.35	4.8	.1890	52	86
* DLGP195049	\$2.35	4.9	.1929	52	86

* 10pcs per package

** 5pcs per package

► NEXT PAGE

Unit : Inch

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Metric	Inch		
		D1			
* DLGP195050	\$2.35	5.0	.1969	52	86
* DLGP195051	\$3.00	5.1	.2008	52	86
* DLGP195052	\$3.00	5.2	.2047	52	86
* DLGP195053	\$3.00	5.3	.2087	52	86
* DLGP195054	\$3.00	5.4	.2126	57	93
* DLGP195055	\$3.00	5.5	.2165	57	93
* DLGP195056	\$3.26	5.6	.2205	57	93
* DLGP195057	\$3.26	5.7	.2244	57	93
* DLGP195058	\$3.26	5.8	.2283	57	93
* DLGP195059	\$3.26	5.9	.2323	57	93
* DLGP195060	\$3.26	6.0	.2362	57	93
* DLGP195061	\$3.68	6.1	.2402	63	101
* DLGP195062	\$3.68	6.2	.2441	63	101
* DLGP195063	\$3.68	6.3	.2480	63	101
* DLGP195064	\$3.68	6.4	.2520	63	101
* DLGP195065	\$3.68	6.5	.2559	63	101
* DLGP195066	\$3.93	6.6	.2598	63	101
* DLGP195067	\$3.93	6.7	.2638	63	101
* DLGP195068	\$3.93	6.8	.2677	69	109
* DLGP195069	\$3.93	6.9	.2717	69	109
* DLGP195070	\$3.93	7.0	.2756	69	109
* DLGP195071	\$4.80	7.1	.2795	69	109
* DLGP195072	\$4.80	7.2	.2835	69	109
* DLGP195073	\$4.80	7.3	.2874	69	109
* DLGP195074	\$4.80	7.4	.2913	69	109
* DLGP195075	\$4.80	7.5	.2953	69	109
* DLGP195076	\$5.28	7.6	.2992	75	117
* DLGP195077	\$5.28	7.7	.3031	75	117
* DLGP195078	\$5.28	7.8	.3071	75	117
* DLGP195079	\$5.28	7.9	.3110	75	117
* DLGP195080	\$5.28	8.0	.3150	75	117
* DLGP195081	\$5.84	8.1	.3189	75	117
* DLGP195082	\$5.84	8.2	.3228	75	117
* DLGP195083	\$5.84	8.3	.3268	75	117
** DLGP195084	\$5.84	8.4	.3307	75	117
** DLGP195085	\$5.84	8.5	.3346	75	117
** DLGP195086	\$6.57	8.6	.3386	81	125
** DLGP195087	\$6.57	8.7	.3425	81	125
** DLGP195088	\$6.57	8.8	.3465	81	125
** DLGP195089	\$6.57	8.9	.3504	81	125

Holemaking

Threading

Milling

Indexable

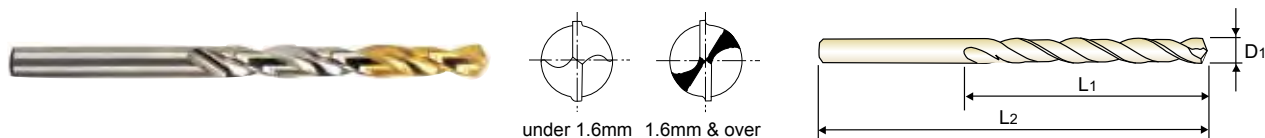
Rotary Tool Holder

GOLD-P JOBBER DRILLS

DLGP195 SERIES

HSSCo5 - Metric Sizes

- **Point Angle:** under 1.6mm : Standard point
1.6mm and larger : Split point
- **Surface treatment:** Bright shank and TiN coated working part



Unit : Inch

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Metric D1	Inch		
** DLGP195090	\$6.57	9.0	.3543	81	125
** DLGP195091	\$8.18	9.1	.3583	81	125
** DLGP195092	\$8.18	9.2	.3622	81	125
** DLGP195093	\$8.18	9.3	.3661	81	125
** DLGP195094	\$8.18	9.4	.3701	81	125
** DLGP195095	\$8.18	9.5	.3740	81	125
** DLGP195096	\$8.18	9.6	.3780	87	133
** DLGP195097	\$8.18	9.7	.3819	87	133
** DLGP195098	\$8.18	9.8	.3858	87	133
** DLGP195099	\$8.18	9.9	.3898	87	133
** DLGP195100	\$8.18	10.0	.3937	87	133
** DLGP195101	\$9.46	10.1	.3976	87	133
** DLGP195102	\$9.46	10.2	.4016	87	133
** DLGP195103	\$9.46	10.3	.4055	87	133
** DLGP195104	\$9.46	10.4	.4094	87	133
** DLGP195105	\$9.46	10.5	.4134	87	133
** DLGP195106	\$9.78	10.6	.4173	87	133
** DLGP195107	\$9.78	10.7	.4213	94	142
** DLGP195108	\$9.78	10.8	.4252	94	142
** DLGP195109	\$9.78	10.9	.4291	94	142
** DLGP195110	\$9.78	11.0	.4331	94	142
** DLGP195111	\$11.68	11.1	.4370	94	142
** DLGP195112	\$11.68	11.2	.4409	94	142
** DLGP195113	\$11.68	11.3	.4448	94	142
** DLGP195114	\$11.68	11.4	.4488	94	142
** DLGP195115	\$11.68	11.5	.4528	94	142

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Metric D1	Inch		
** DLGP195116	\$11.68	11.6	.4567	94	142
** DLGP195117	\$11.68	11.7	.4606	94	142
** DLGP195118	\$11.68	11.8	.4646	94	142
** DLGP195119	\$11.68	11.9	.4685	101	151
** DLGP195120	\$11.68	12.0	.4724	101	151
** DLGP195121	\$13.03	12.1	.4764	101	151
** DLGP195122	\$13.03	12.2	.4803	101	151
** DLGP195123	\$13.03	12.3	.4843	101	151
** DLGP195124	\$13.03	12.4	.4882	101	151
** DLGP195125	\$13.47	12.5	.4921	101	151
** DLGP195126	\$13.47	12.6	.4961	101	151
** DLGP195127	\$13.47	12.7	.5000	101	151
** DLGP195128	\$13.47	12.8	.5039	101	151
** DLGP195129	\$13.47	12.9	.5079	101	151
** DLGP195130	\$13.81	13.0	.5118	101	151
** DLGP195135	\$19.22	13.5	.5315	108	160
** DLGP195140	\$19.22	14.0	.5512	108	160
** DLGP195145	\$22.98	14.5	.5709	114	169
** DLGP195150	\$22.98	15.0	.5906	114	169
** DLGP195155	\$27.64	15.5	.6102	120	178
** DLGP195160	\$27.64	16.0	.6299	120	178
** DLGP195165	\$30.61	16.5	.6496	125	184
** DLGP195170	\$30.61	17.0	.6693	125	184
** DLGP195175	\$34.71	17.5	.6890	130	191
** DLGP195180	\$34.71	18.0	.7087	130	191

** 5pcs per package

Holmaking

Threading

Milling

Indexable

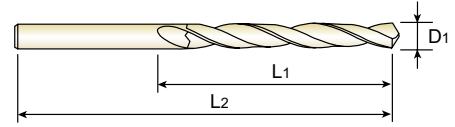
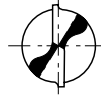
Rotary Tool Holder

GOLD-P JOBBER DRILLS

DLGP511 SERIES
DLGP512 SERIES

HSSCo5 Parabolic Flute - Fractional & Wire Sizes

- ▶ **Point Angle:** 130° : Split point
- ▶ **Surface treatment:** Bright shank and TiN coated working part
- ▶ **Application:** Improved chip evacuation in most materials, especially in deep drilling applications



P. 39

▶ Fractional sizes

Unit : Inch

EDP No.	Price	Diameter		Flute Length	Overall Length
		Frac.	Dec.		
		D1		L1	L2
* DLGP511005	\$1.34	5/64	.0781	1	2
* DLGP511006	\$1.34	3/32	.0938	1-1/4	2-1/4
* DLGP511007	\$1.51	7/64	.1094	1-1/2	2-5/8
* DLGP511008	\$1.51	1/8	.1250	1-5/8	2-3/4
* DLGP511009	\$1.53	9/64	.1406	1-3/4	2-7/8
* DLGP511010	\$1.63	5/32	.1563	2	3-1/8
* DLGP511011	\$1.69	11/64	.1719	2-1/8	3-1/4
* DLGP511012	\$1.88	3/16	.1875	2-5/16	3-1/2
* DLGP511013	\$2.17	13/64	.2031	2-7/16	3-5/8
* DLGP511014	\$2.49	7/32	.2188	2-1/2	3-3/4
* DLGP511015	\$2.70	15/64	.2344	2-5/8	3-7/8
* DLGP511016	\$2.81	1/4	.2500	2-3/4	4
* DLGP511017	\$3.16	17/64	.2656	2-7/8	4-1/8
* DLGP511018	\$3.40	9/32	.2813	2-15/16	4-1/4
* DLGP511019	\$3.88	19/64	.2969	3-1/16	4-3/8
* DLGP511020	\$4.24	5/16	.3125	3-3/16	4-1/2

EDP No.	Price	Diameter		Flute Length	Overall Length
		Frac.	Dec.		
		D1		L1	L2
** DLGP511021	\$4.87	21/64	.3281	3-5/16	4-5/8
** DLGP511022	\$5.20	11/32	.3438	3-7/16	4-3/4
** DLGP511023	\$5.78	23/64	.3594	3-1/2	4-7/8
** DLGP511024	\$6.00	3/8	.3750	3-5/8	5
** DLGP511025	\$6.62	25/64	.3906	3-3/4	5-1/8
** DLGP511026	\$6.97	13/32	.4063	3-7/8	5-1/4
** DLGP511027	\$7.82	27/64	.4219	3-15/16	5-3/8
** DLGP511028	\$8.11	7/16	.4375	4-1/16	5-1/2
** DLGP511029	\$8.99	29/64	.4531	4-3/16	5-5/8
** DLGP511030	\$9.43	15/32	.4688	4-5/16	5-3/4
** DLGP511031	\$9.97	31/64	.4844	4-3/8	5-7/8
** DLGP511032	\$10.50	1/2	.5000	4-1/2	6
** DLGP511033	\$20.21	33/64	.5156	4-13/16	6-5/8
** DLGP511034	\$21.07	17/32	.5313	4-13/16	6-5/8
** DLGP511035	\$22.91	35/64	.5625	4-13/16	6-5/8
** DLGP511036	\$23.69	9/16	.5625	4-13/16	6-5/8

▶ Wire gauge sizes

Unit : Inch

EDP No.	Price	Diameter		Flute Length	Overall Length
		Wiresize	Dec.		
		D1		L1	L2
* DLGP512247	\$2.91	1	.2280	2-5/8	3-7/8
* DLGP512246	\$2.91	2	.2210	2-5/8	3-7/8
* DLGP512245	\$2.65	3	.2130	2-1/2	3-3/4
* DLGP512244	\$2.65	4	.2090	2-1/2	3-3/4
* DLGP512243	\$2.65	5	.2055	2-1/2	3-3/4
* DLGP512242	\$2.65	6	.2040	2-1/2	3-3/4
* DLGP512241	\$2.35	7	.2010	2-7/16	3-5/8
* DLGP512240	\$2.35	8	.1990	2-7/16	3-5/8
* DLGP512239	\$2.35	9	.1960	2-7/16	3-5/8
* DLGP512238	\$2.21	10	.1935	2-7/16	3-5/8
* DLGP512237	\$2.17	11	.1910	2-5/16	3-1/2
* DLGP512236	\$2.17	12	.1890	2-5/16	3-1/2
* DLGP512235	\$2.05	13	.1850	2-5/16	3-1/2
* DLGP512234	\$2.05	14	.1820	2-3/16	3-3/8
* DLGP512233	\$2.05	15	.1800	2-3/16	3-3/8
* DLGP512232	\$2.05	16	.1770	2-3/16	3-3/8
* DLGP512231	\$2.05	17	.1730	2-3/16	3-3/8
* DLGP512230	\$1.72	18	.1695	2-1/8	3-1/4
* DLGP512229	\$1.72	19	.1660	2-1/8	3-1/4
* DLGP512228	\$1.72	20	.1610	2-1/8	3-1/4
* DLGP512227	\$1.69	21	.1590	2-1/8	3-1/4
* DLGP512226	\$1.69	22	.1570	2	3-1/8
* DLGP512225	\$1.63	23	.1540	2	3-1/8
* DLGP512224	\$1.63	24	.1520	2	3-1/8
* DLGP512223	\$1.53	25	.1495	1-7/8	3
* DLGP512222	\$1.53	26	.1470	1-7/8	3
* DLGP512221	\$1.53	27	.1440	1-7/8	3

EDP No.	Price	Diameter		Flute Length	Overall Length
		Wiresize	Dec.		
		D1		L1	L2
* DLGP512220	\$1.45	28	.1405	1-3/4	2-7/8
* DLGP512219	\$1.45	29	.1360	1-3/4	2-7/8
* DLGP512218	\$1.45	30	.1285	1-5/8	2-3/4
* DLGP512217	\$1.45	31	.1200	1-5/8	2-3/4
* DLGP512216	\$1.45	32	.1160	1-5/8	2-3/4
* DLGP512215	\$1.45	33	.1130	1-1/2	2-5/8
* DLGP512214	\$1.45	34	.1110	1-1/2	2-5/8
* DLGP512213	\$1.45	35	.1100	1-1/2	2-5/8
* DLGP512212	\$1.45	36	.1065	1-7/16	2-1/2
* DLGP512211	\$1.45	37	.1040	1-7/16	2-1/2
* DLGP512210	\$1.45	38	.1015	1-7/16	2-1/2
* DLGP512209	\$1.45	39	.0995	1-3/8	2-3/8
* DLGP512208	\$1.45	40	.0980	1-3/8	2-3/8
* DLGP512207	\$1.45	41	.0960	1-3/8	2-3/8
* DLGP512206	\$1.45	42	.0935	1-1/4	2-1/4
* DLGP512205	\$1.45	43	.0890	1-1/4	2-1/4
* DLGP512204	\$1.45	44	.0860	1-1/8	2-1/8
* DLGP512203	\$1.45	45	.0820	1-1/8	2-1/8
* DLGP512202	\$1.45	46	.0810	1-1/8	2-1/8
* DLGP512201	\$1.45	47	.0785	1	2

Tolerance Diameter (Inch)	
up to 1/8(.1250)	0 ~ -.0005
over 1/8(.1250) up to 1/4(.2500)	0 ~ -.0007
over 1/4(.2500) up to 1/2(.5000)	0 ~ -.0010

* 10pcs per package ** 5pcs per package

Holemaking

Threading

Milling

Indexable

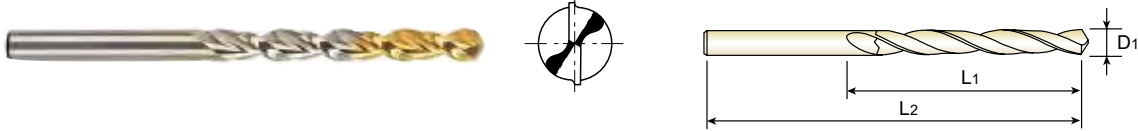
Rotary Tool Holder

GOLD-P JOBBER DRILLS

DLGP513 SERIES

HSSCo5 Parabolic Flute - Letter Sizes

- ▶ **Point Angle:** 130° : Split point
- ▶ **Surface treatment:** Bright shank and TiN coated working part
- ▶ **Application:** Improved chip evacuation in most materials, especially in deep drilling applications



P. 39

▶ Letter sizes

Unit : Inch

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Letter	Dec.		
* DLGP513101	\$3.00	A	.2340	2-5/8	3-7/8
* DLGP513102	\$3.52	B	.2380	2-3/4	4
* DLGP513103	\$3.52	C	.2420	2-3/4	4
* DLGP513104	\$3.52	D	.2460	2-3/4	4
* DLGP513105	\$3.52	E	.2500	2-3/4	4
* DLGP513106	\$3.84	F	.2570	2-7/8	4-1/8
* DLGP513107	\$3.84	G	.2610	2-7/8	4-1/8
* DLGP513108	\$3.84	H	.2660	2-7/8	4-1/8
* DLGP513109	\$4.13	I	.2720	2-7/8	4-1/8
* DLGP513110	\$4.26	J	.2770	2-7/8	4-1/8
* DLGP513111	\$4.26	K	.2810	2-15/16	4-1/4
* DLGP513112	\$4.88	L	.2900	2-15/16	4-1/4
* DLGP513113	\$4.88	M	.2950	3-1/16	4-3/8

EDP No.	Price	Diameter		Flute Length L1	Overall Length L2
		Letter	Dec.		
* DLGP513114	\$5.29	N	.3020	3-1/16	4-3/8
* DLGP513115	\$5.69	O	.3160	3-3/16	4-1/2
* DLGP513116	\$5.69	P	.3230	3-5/16	4-5/8
** DLGP513117	\$6.32	Q	.3320	3-7/16	4-3/4
** DLGP513118	\$6.32	R	.3390	3-7/16	4-3/4
** DLGP513119	\$7.06	S	.3480	3-1/2	4-7/8
** DLGP513120	\$7.10	T	.3580	3-1/2	4-7/8
** DLGP513121	\$7.47	U	.3680	3-5/8	5
** DLGP513122	\$7.47	V	.3770	3-5/8	5
** DLGP513123	\$8.19	W	.3860	3-3/4	5-1/8
** DLGP513124	\$8.94	X	.3970	3-3/4	5-1/8
** DLGP513125	\$8.94	Y	.4040	3-7/8	5-1/4
** DLGP513126	\$9.78	Z	.4130	3-7/8	5-1/4

Tolerance Diameter (Inch)	
up to 1/8(.1250)	0 ~ -.0005
over 1/8(.1250) up to 1/4(.2500)	0 ~ -.0007
over 1/4(.2500) up to 1/2(.5000)	0 ~ -.0010

* 10pcs per package
** 5pcs per package

Holemaking

Threading

Milling

Indexable

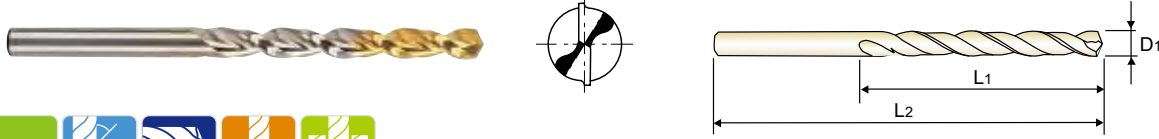
Rotary Tool Holder

GOLD-P JOBBER DRILLS

DLGP506 SERIES

HSSCo5 Parabolic Flute - Metric Sizes

- **Point Angle:** 130° : Split point
- **Surface treatment:** Bright shank and TiN coated working part
- **Application:** Improved chip evacuation in most materials, especially in deep drilling applications



P. 39

Unit : Inch

EDP No.	Price	Diameter		Flute Length	Overall Length
		Metric	Inch		
		D1		L1	L2
* DLGP506020	\$1.51	2.0	.0787	24	49
* DLGP506021	\$1.61	2.1	.0827	24	49
* DLGP506022	\$1.61	2.2	.0866	27	53
* DLGP506023	\$1.61	2.3	.0906	27	53
* DLGP506024	\$1.61	2.4	.0945	30	57
* DLGP506025	\$1.61	2.5	.0984	30	57
* DLGP506026	\$1.82	2.6	.1024	30	57
* DLGP506027	\$1.82	2.7	.1063	33	61
* DLGP506028	\$1.82	2.8	.1102	33	61
* DLGP506029	\$1.82	2.9	.1142	33	61
* DLGP506030	\$1.82	3.0	.1181	33	61
* DLGP506031	\$2.07	3.1	.1220	36	65
* DLGP506032	\$2.07	3.2	.1260	36	65
* DLGP506033	\$2.07	3.3	.1299	36	65
* DLGP506034	\$2.07	3.4	.1339	39	70
* DLGP506035	\$2.07	3.5	.1378	39	70
* DLGP506036	\$2.39	3.6	.1417	39	70
* DLGP506037	\$2.39	3.7	.1457	39	70
* DLGP506038	\$2.39	3.8	.1496	43	75
* DLGP506039	\$2.39	3.9	.1535	43	75
* DLGP506040	\$2.39	4.0	.1575	43	75
* DLGP506041	\$2.83	4.1	.1614	43	75
* DLGP506042	\$2.83	4.2	.1654	43	75
* DLGP506043	\$2.83	4.3	.1693	47	80
* DLGP506044	\$2.83	4.4	.1732	47	80
* DLGP506045	\$2.83	4.5	.1772	47	80
* DLGP506046	\$2.83	4.6	.1811	47	80
* DLGP506047	\$2.83	4.7	.1850	47	80
* DLGP506048	\$2.83	4.8	.1890	52	86
* DLGP506049	\$2.83	4.9	.1929	52	86
* DLGP506050	\$2.83	5.0	.1969	52	86
* DLGP506051	\$3.62	5.1	.2008	52	86
* DLGP506052	\$3.62	5.2	.2047	52	86
* DLGP506053	\$3.62	5.3	.2087	52	86
* DLGP506054	\$3.62	5.4	.2126	57	93
* DLGP506055	\$3.62	5.5	.2165	57	93
* DLGP506056	\$3.84	5.6	.2205	57	93
* DLGP506057	\$3.84	5.7	.2244	57	93
* DLGP506058	\$3.84	5.8	.2283	57	93
* DLGP506059	\$3.84	5.9	.2323	57	93

EDP No.	Price	Diameter		Flute Length	Overall Length
		Metric	Inch		
		D1		L1	L2
* DLGP506060	\$3.84	6.0	.2362	57	93
* DLGP506061	\$4.31	6.1	.2402	63	101
* DLGP506062	\$4.31	6.2	.2441	63	101
* DLGP506063	\$4.31	6.3	.2480	63	101
* DLGP506064	\$4.31	6.4	.2520	63	101
* DLGP506065	\$4.31	6.5	.2559	63	101
* DLGP506066	\$4.78	6.6	.2598	63	101
* DLGP506067	\$4.78	6.7	.2638	63	101
* DLGP506068	\$4.78	6.8	.2677	69	109
* DLGP506069	\$4.78	6.9	.2717	69	109
* DLGP506070	\$4.78	7.0	.2756	69	109
* DLGP506071	\$5.78	7.1	.2795	69	109
* DLGP506072	\$5.78	7.2	.2835	69	109
* DLGP506073	\$5.78	7.3	.2874	69	109
* DLGP506074	\$5.78	7.4	.2913	69	109
* DLGP506075	\$5.78	7.5	.2953	69	109
* DLGP506076	\$6.20	7.6	.2992	75	117
* DLGP506077	\$6.20	7.7	.3031	75	117
* DLGP506078	\$6.20	7.8	.3071	75	117
* DLGP506079	\$6.20	7.9	.3110	75	117
* DLGP506080	\$6.20	8.0	.3150	75	117
* DLGP506081	\$7.06	8.1	.3189	75	117
* DLGP506082	\$7.06	8.2	.3228	75	117
* DLGP506083	\$7.06	8.3	.3268	75	117
** DLGP506084	\$7.06	8.4	.3307	75	117
** DLGP506085	\$7.06	8.5	.3346	75	117
** DLGP506086	\$7.82	8.6	.3386	81	125
** DLGP506087	\$7.82	8.7	.3425	81	125
** DLGP506088	\$7.82	8.8	.3465	81	125
** DLGP506089	\$7.82	8.9	.3504	81	125
** DLGP506090	\$7.82	9.0	.3543	81	125
** DLGP506091	\$9.98	9.1	.3583	81	125
** DLGP506092	\$9.98	9.2	.3622	81	125
** DLGP506093	\$9.98	9.3	.3661	81	125
** DLGP506094	\$9.98	9.4	.3701	81	125
** DLGP506095	\$9.98	9.5	.3740	81	125
** DLGP506096	\$9.98	9.6	.3780	87	133
** DLGP506097	\$9.98	9.7	.3819	87	133
** DLGP506098	\$9.98	9.8	.3858	87	133
** DLGP506099	\$9.98	9.9	.3898	87	133

* 10pcs per package ** 5pcs per package

► NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

GOLD-P JOBBER DRILLS

Unit : Inch

EDP No.	Price	Diameter		Flute Length	Overall Length
		Metric	Inch		
		D1		L1	L2
** DLGP506100	\$9.98	10.0	.3937	87	133
** DLGP506101	\$11.41	10.1	.3976	87	133
** DLGP506102	\$11.41	10.2	.4016	87	133
** DLGP506103	\$11.41	10.3	.4055	87	133
** DLGP506104	\$11.41	10.4	.4094	87	133
** DLGP506105	\$11.41	10.5	.4134	87	133
** DLGP506106	\$11.52	10.6	.4173	87	133
** DLGP506107	\$11.52	10.7	.4212	94	142
** DLGP506108	\$11.52	10.8	.4252	94	142
** DLGP506109	\$11.52	10.9	.4291	94	142
** DLGP506110	\$11.52	11.0	.4331	94	142
** DLGP506111	\$14.25	11.1	.4370	94	142
** DLGP506112	\$14.25	11.2	.4409	94	142
** DLGP506113	\$14.25	11.3	.4448	94	142
** DLGP506114	\$14.25	11.4	.4488	94	142
** DLGP506115	\$14.25	11.5	.4528	94	142
** DLGP506116	\$14.25	11.6	.4567	94	142

EDP No.	Price	Diameter		Flute Length	Overall Length
		Metric	Inch		
		D1		L1	L2
** DLGP506117	\$14.25	11.7	.4606	94	142
** DLGP506118	\$14.25	11.8	.4646	94	142
** DLGP506119	\$14.25	11.9	.4685	101	151
** DLGP506120	\$14.25	12.0	.4724	101	151
** DLGP506121	\$15.84	12.1	.4764	101	151
** DLGP506122	\$15.84	12.2	.4803	101	151
** DLGP506123	\$15.84	12.3	.4843	101	151
** DLGP506124	\$15.84	12.4	.4882	101	151
** DLGP506125	\$16.18	12.5	.4921	101	151
** DLGP506126	\$16.18	12.6	.4961	101	151
** DLGP506127	\$16.18	12.7	.5000	101	151
** DLGP506128	\$16.18	12.8	.5039	101	151
** DLGP506129	\$16.18	12.9	.5079	101	151
** DLGP506130	\$16.18	13.0	.5118	101	151
** DLGP506135	\$22.57	13.5	.5315	108	160
** DLGP506140	\$22.57	14.0	.5512	108	160
** DLGP506145	\$27.00	14.5	.5709	114	169

* 10pcs per package
** 5pcs per package

GOLD-P JOBBER DRILL SETS



EDP No.	Price	Description	SIZE	QUANTITY
D1GP138SET	\$73.81	HSS Straight Shank, Wire Sizes	#1~#56	56 pcs
D1GP139SET	\$107.67	HSS Straight Shank, Letter Sizes	A~Z	26 pcs
D1GP182SET	\$98.21	HSS Straight Shank, Fractional Sizes	Ø1/16~Ø1/2	29 pcs
D2GP185SET	\$147.52	HSSCo8 Straight Shank, Fractional Sizes	Ø1/16~Ø1/2	29 pcs
D2GP186SET	\$141.94	HSSCo8 Straight Shank, Letter Sizes	A~Z	26 pcs
D2GP187SET	\$102.25	HSSCo8 Straight Shank, Wire Sizes	#1~#56	56 pcs
DLGP511SET	\$123.45	HSSCo5 Straight Shank, Parabolic Flute, Fractional Sizes	Ø5/64~Ø1/2	28 pcs
DLGP512SET	\$82.84	HSSCo5 Straight Shank, Parabolic Flute, Wire Sizes	#1~#47	47 pcs
DLGP513SET	\$140.78	HSSCo5 Straight Shank, Parabolic Flute, Letter Sizes	A~Z	26 pcs

GOLD-P JOBBER DRILLS

RECOMMENDED CUTTING CONDITIONS

HSS, HSSCo5 & HSSCo8 STRAIGHT SHANK, GOLD-P JOBBER DRILLS

SFM : ft/min.
FEED(IPR) : Inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter												
				METRIC	2.0	3.0	-	4.0	6.0	-	-	8.0	-	10.0	-	13.0
				FRACTIONAL	-	-	1/8	-	-	1/4	5/16	-	3/8	-	1/2	-
DECIMAL	.0787	.1181	.1250	.1575	.2362	.2500	.3125	.3150	.3750	.3937	.5000	.5118				
P	1	Non-alloy steel	132	RPM	6370	4240	3180	2120	1590	1270	980					
				FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094					
			115	RPM	5570	3710	2790	1860	1390	1110	860					
				FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094					
	99		RPM	4770	3180	2390	1590	1190	950	730						
			FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094						
	66		RPM	3180	2120	1590	1060	800	640	490						
			FEED	.0008 - .002	.0008 - .0024	.0016 - .0031	.0016 - .0039	.0024 - .0047	.0031 - .0055	.0047 - .0071						
	6	Low alloy steel	115	RPM	5570	3710	2790	1860	1390	1110	860					
				FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094					
99			RPM	4770	3180	2390	1590	1190	950	730						
			FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094						
99	RPM		4770	3180	2390	1590	1190	950	730							
	FEED		.0008 - .002	.0008 - .0024	.0016 - .0031	.0016 - .0039	.0024 - .0047	.0031 - .0055	.0047 - .0071							
10	High alloyed steel, and tool steel		66	RPM	3180	2120	1590	1060	800	640	490					
				FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094					
M	12	Stainless steel	82	RPM	3980	2650	1990	1330	990	800	610					
				FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094					
			66	RPM	3180	2120	1590	1060	800	640	490					
FEED	.0016 - .0031			.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094							
49	RPM		2390	1590	1190	800	600	480	370							
	FEED		.0008 - .002	.0008 - .0024	.0016 - .0031	.0016 - .0039	.0024 - .0047	.0031 - .0055	.0047 - .0071							
K	15	Grey cast iron	132	RPM	6370	4240	3180	2120	1590	1270	980					
				FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094					
	115		RPM	5570	3710	2790	1860	1390	1110	860						
			FEED	.0008 - .002	.0008 - .0024	.0016 - .0031	.0016 - .0039	.0024 - .0047	.0031 - .0055	.0047 - .0071						
	17	Nodular cast iron	132	RPM	6370	4240	3180	2120	1590	1270	980					
				FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094					
99	RPM		4770	3180	2390	1590	1190	950	730							
	FEED		.0008 - .002	.0008 - .0024	.0016 - .0031	.0016 - .0039	.0024 - .0047	.0031 - .0055	.0047 - .0071							
19	Malleable cast iron	115	RPM	5570	3710	2790	1860	1390	1110	860						
			FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094						
99		RPM	4770	3180	2390	1590	1190	950	730							
		FEED	.0008 - .002	.0008 - .0024	.0016 - .0031	.0016 - .0039	.0024 - .0047	.0031 - .0055	.0047 - .0071							
N	21	Aluminum-wrought alloy	214	RPM	10350	6900	5170	3450	2590	2070	1590					
				FEED	.002 - .0035	.0028 - .0043	.0047 - .0063	.0047 - .0071	.0055 - .0079	.0063 - .0087	.0087 - .011					
	22		RPM	10350	6900	5170	3450	2590	2070	1590						
			FEED	.002 - .0035	.0028 - .0043	.0047 - .0063	.0047 - .0071	.0055 - .0079	.0063 - .0087	.0087 - .011						
23	Aluminum-cast, alloyed	165	RPM	7960	5310	3980	2650	1990	1590	1220						
			FEED	.002 - .0035	.0028 - .0043	.0047 - .0063	.0047 - .0071	.0055 - .0079	.0063 - .0087	.0087 - .011						
29	Non Metallic Materials	99	RPM	4770	3180	2390	1590	1190	950	730						
			FEED	.0016 - .0031	.0024 - .0039	.0031 - .0047	.0047 - .0063	.0047 - .0071	.0063 - .0087	.0071 - .0094						
S	36	Titanium Alloys	66	RPM	3180	2120	1590	1060	800	640	490					
				FEED	.0008 - .002	.0008 - .0024	.0016 - .0031	.002 - .0035	.0024 - .0039	.0028 - .0051	.0031 - .0055					

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

CENTER DRILLS



CENTER DRILLS

SELECTION GUIDE

HSS & CARBIDE CENTER DRILLS

- Drill and Countersink in 1 operation
- Carbide for longer tool life
- Double ended for greater value

SERIES	D1C90	D5331	D5332
MATERIAL	HSS	CARBIDE	
STANDARD	60°	60°	90°
SIZE MIN	#1	#1	#1
SIZE MAX	#6	#8	#8
PAGE	42	43	43
SURFACE TREATMENT	Bright		
			

◎ : Excellent ○ : Good

Recommended cutting conditions : P.42 & 43

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC			
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	○	◎	◎
	4		About 0.75% C	Annealed	270	28			
	5		About 0.75% C	Quenched & Tempered	300	32			
	6	Low alloy steel		Annealed	180	10	◎	◎	◎
	7			Quenched & Tempered	275	29	○	○	○
	8			Quenched & Tempered	300	32			
	9			Quenched & Tempered	350	38			
	10	High alloyed steel, and tool steel		Annealed	200	15			
	11			Quenched & Tempered	325	35			
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○	○
	13		Martensitic	Quenched & Tempered	240	23			
	14		Austenitic		180	10			
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎
	16		Pearlitic (Martensitic)		260	26	○	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○	○
	18		Pearlitic		250	25			
	19		Ferritic		130		○	○	○
20	Malleable cast iron	Pearlitic		230	21				
N	21	Aluminum-wrought alloy		Not Curable	60				
	22			Curable	100				
	23	Aluminum-cast, alloyed		≤ 12% Si, Not Curable	75				
	24			≤ 12% Si, Curable	90				
	25			> 12% Si, Not Curable	130				
	26	Copper and Copper Alloys (Bronze / Brass)		Cutting Alloys, PB>1%	110				
	27			CuZn, CuSnZn (Brass)	90				
	28			CuSn, lead-free copper and electrolytic copper	100				
	29								
	30	Non Metallic Materials		Duroplastic, Fiber Reinforced Plastic Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33			Annealed	250	25			
	34		Ni or Co Based	Cured	350	38			
	35			Cast	320	34			
	36								
37	Titanium Alloys		Pure Titanium	400 Rm					
H	38	Hardened steel		Hardened	550	55			
	39			Hardened	630	60			
	40	Chilled Cast Iron		Cast	400	42			
	41	Hardened Cast Iron		Hardened	550	55			

Holemaking

Threading

Milling

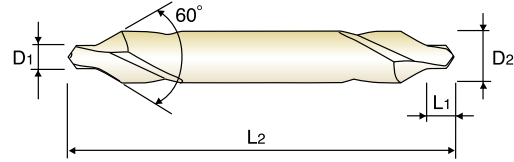
Indexable

Rotary Tool Holder

CENTER DRILLS

D1C90 SERIES

HSS Center Drills 60°



60°

EDP No.	Price	Size	Dia.		Drill Length		Overall Length	
			D1	D2	L1	L2		
D1C90079	\$2.89	1	3/64	1/8	1/16	1-1/2		
D1C90080	\$3.00	2	1/16	3/16	5/64	1-3/4		
D1C90081	\$3.85	3	3/32	1/4	1/8	2		
D1C90082	\$4.67	4	1/8	5/16	5/32	2-1/4		
D1C90083	\$5.77	5	3/16	7/16	1/4	2-1/2		
D1C90084	\$8.42	6	7/32	1/2	7/32	3		

LONG LENGTH (60°)

Unit : Inch

EDP No.	Price	Size	Dia.		Drill Length		Overall Length	
			D1	D2	L1	L2		
D1C90085	\$3.79	1	3/64	1/8	3/64	3		
D1C90086	\$3.92	1	3/64	1/8	3/64	4		
D1C90087	\$5.43	1	3/64	1/8	3/64	5		
D1C90088	\$7.15	1	3/64	1/8	3/64	6		
D1C90089	\$4.28	2	5/64	3/16	5/64	3		
D1C90090	\$6.84	2	5/64	3/16	5/64	4		
D1C90091	\$8.74	2	5/64	3/16	5/64	5		
D1C90092	\$11.37	2	5/64	3/16	5/64	6		
D1C90093	\$5.09	3	7/64	1/4	7/64	4		
D1C90094	\$6.66	3	7/64	1/4	7/64	5		
D1C90095	\$8.07	3	7/64	1/4	7/64	6		
D1C90096	\$6.31	4	1/8	5/16	1/8	4		
D1C90097	\$8.07	4	1/8	5/16	1/8	5		
D1C90098	\$9.36	4	1/8	5/16	1/8	6		
D1C90099	\$7.87	5	3/16	7/16	3/16	4		
D1C90100	\$15.04	5	3/16	7/16	3/16	5		
D1C90101	\$16.85	5	3/16	7/16	3/16	6		
D1C90102	\$10.89	6	7/32	1/2	7/32	4		
D1C90103	\$20.79	6	7/32	1/2	7/32	5		
D1C90104	\$25.08	6	7/32	1/2	7/32	6		

60°

EDP No.	Price	Size	Dia.		Drill Length		Overall Length	
			D1	D2	L1	L2		
D1C90141	\$2.89	1	3/64	1/8	3/64	1-1/4		
D1C90142	\$3.00	2	5/64	3/16	5/64	1-7/8		
D1C90143	\$3.85	3	7/64	1/4	7/64	2		
D1C90144	\$4.67	4	1/8	5/16	1/8	2-1/8		
D1C90145	\$5.77	5	3/16	7/16	3/16	2-3/4		

HSS CENTER DRILLS

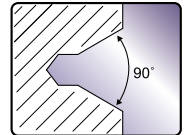
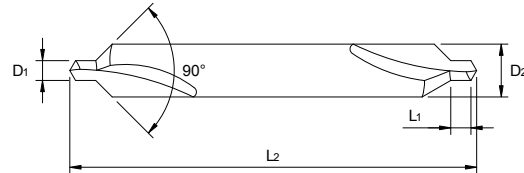
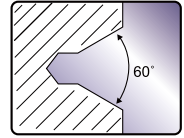
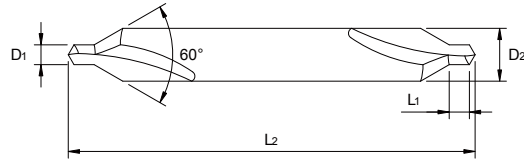
SFM : ft/min.
FEED(IPR) : Inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter												
				METRIC	1.0	2.0	3.0	-	4.0	6.0	-	-	8.0	-	10.0	
				FRACTIONAL				1/8			1/4	5/16		3/8		
				DECIMAL	0.394	.0787	.1181	.1250	.1575	.2362	.2500	.3125	.3150	.3750	.3937	
P	1	Non-alloy steel	132	RPM	12730	6370	4240	3180	2120	1590	1270					
			FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0020-.0035	.0028-.0047	.0035-.0059	.0047-.0071						
			99	RPM	9550	4770	3180	2390	1590	1190	950					
	FEED		.0008-.0016	.0012-.0024	.0016-.0031	.0020-.0035	.0028-.0047	.0035-.0059	.0047-.0071							
	82		RPM	7960	3980	2650	1990	1330	990	800						
	FEED		.0004-.0012	.0004-.0014	.0004-.0020	.0008-.0024	.0016-.0031	.0024-.0047	.0031-.0055							
6	Low alloy steel	99	RPM	9550	4770	3180	2390	1590	1190	950						
		FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0020-.0035	.0028-.0047	.0035-.0059	.0047-.0071							
		86	RPM	6370	3180	2120	1590	1060	800	640						
FEED		.0004-.0012	.0004-.0014	.0004-.0020	.0008-.0024	.0016-.0031	.0024-.0047	.0031-.0055								
M		12	Stainless steel	33	RPM	3180	1590	1060	800	530	400	320				
FEED		.0004-.0012	.0004-.0014	.0004-.0020	.0008-.0024	.0016-.0031	.0024-.0047	.0031-.0055								
K	15	Grey cast iron	132	RPM	12730	6370	4240	3180	2120	1590	1270					
			FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0020-.0035	.0028-.0047	.0035-.0059	.0047-.0071						
	99		RPM	9550	4770	3180	2390	1590	1190	950						
	FEED		.0004-.0012	.0004-.0014	.0004-.0020	.0008-.0024	.0016-.0031	.0024-.0047	.0031-.0055							
17	Nodular cast iron	132	RPM	12730	6370	4240	3180	2120	1590	1270						
		FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0020-.0035	.0028-.0047	.0035-.0059	.0047-.0071							
19		Malleable cast iron	82	RPM	7960	3980	2650	1990	1330	990	800					
			FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0020-.0035	.0028-.0047	.0024-.0047	.0047-.0071						

CENTER DRILLS

D5331 SERIES
D5332 SERIES

Solid Carbide Center Drills 60° & 90°



60°

EDP No.	Price	Size	Dia.		Drill Length		Overall Length	
			D1	D2	L1	L2		
D5331008	\$14.28	1	3/64	1/8	3/64	1-1/2		
D5331012	\$21.51	2	5/64	3/16	5/64	1-7/8		
D5331016	\$28.64	3	7/64	1/4	7/64	2		
D5331020	\$36.48	4	1/8	5/16	1/8	2-1/8		
D5331028	\$56.74	5	3/16	7/16	3/16	2-3/4		
D5331032	\$74.89	6	7/32	1/2	7/32	3		
D5331040	\$167.24	7	1/4	5/8	1/4	3-3/4		
D5331048	\$228.07	8	5/16	3/4	5/16	4		

90°

Unit : Inch

EDP No.	Price	Size	Dia.		Drill Length		Overall Length	
			D1	D2	L1	L2		
D5332008	\$14.28	1	3/64	1/8	3/64	1-1/2		
D5332012	\$21.51	2	5/64	3/16	5/64	1-7/8		
D5332016	\$28.64	3	7/64	1/4	7/64	2		
D5332020	\$36.48	4	1/8	5/16	1/8	2-1/8		
D5332028	\$56.74	5	3/16	7/16	3/16	2-3/4		
D5332032	\$74.89	6	7/32	1/2	7/32	3		
D5332040	\$167.24	7	1/4	5/8	1/4	3-3/4		
D5332048	\$228.07	8	5/16	3/4	5/16	4		

SOLID CARBIDE CENTER DRILLS

SFM : ft/min.
FEED(IPR) : Inch/rev.

ISO	VDI 3323	Material Description	SFM	Drill Diameter							
				METRIC		-		-		-	
				FRACTIONAL	3/64	5/64	1/8	3/16	1/4	3/4	
P	1	Non-alloy steel	165	RPM	15920	7960	5310	3200	2650	1260	
				FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0024-.0039	.0028-.0047	.0051-.0075	
			132	RPM	12730	6370	4240	2560	2120	1170	
	FEED	.0008-.0016		.0012-.0024	.0016-.0031	.0024-.0039	.0028-.0047	.0051-.0075			
	3	Low alloy steel	99	RPM	9550	4770	3180	1920	1590	1090	
				FEED	.0004-.0012	.0004-.0014	.0004-.002	.0012-.0028	.0016-.0031	.0043-.0067	
6	Low alloy steel	132	RPM	12730	6370	4240	2560	2120	1170		
			FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0024-.0039	.0028-.0047	.0051-.0075		
7	Low alloy steel	99	RPM	9550	4770	3180	1920	1590	920		
			FEED	.0004-.0012	.0004-.0014	.0004-.002	.0012-.0028	.0016-.0031	.0043-.0067		
M	12	Stainless steel	66	RPM	6370	3180	2120	1280	1060	590	
K	15	Grey cast iron	197	RPM	19100	9550	6370	3820	3180	1510	
				FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0024-.0039	.0028-.0047	.0071-.0094	
	16	Grey cast iron	165	RPM	15920	7960	5310	3202	2650	1170	
				FEED	.0004-.0012	.0004-.0014	.0004-.002	.0012-.0028	.0016-.0031	.0043-.0067	
	17	Nodular cast iron	197	RPM	19100	9550	6370	3820	3180	1510	
				FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0024-.0039	.0028-.0047	.0071-.0094	
	19	Malleable cast iron	132	RPM	12730	6370	4240	2560	2120	1000	
				FEED	.0008-.0016	.0012-.0024	.0016-.0031	.0024-.0039	.0028-.0047	.0071-.0094	

SPOTTING DRILLS



SPOTTING DRILLS

SELECTION GUIDE

HSSCo8 & CARBIDE SPOTTING DRILLS

- Spot center for more precise drilling operation
- 90° for chamfering holes
- HSSCo8 for greater toughness
- Carbide for longer tool life

SERIES	D2N90		D5321	D5322
MATERIAL	HSSCo8		CARBIDE	
POINT ANGLE	90°	120°	90°	120°
SIZE MIN	D1/8	D1/8	D1/8	D1/8
SIZE MAX	D1	D1	D3/4	D3/4
PAGE	46			
SURFACE TREATMENT	Bright			



◎ : Excellent ○ : Good

Recommended cutting conditions : P.47

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC				
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28				
	5		About 0.75% C	Quenched & Tempered	300	32				
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎
	7			Quenched & Tempered	275	29	○	○	○	○
	8			Quenched & Tempered	300	32				
	9			Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel		Annealed	200	15			
	11			Quenched & Tempered	325	35				
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○	○	○
	13		Martensitic	Quenched & Tempered	240	23				
	14		Austenitic		180	10				
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎	◎
	16		Pearlitic (Martensitic)		260	26	○	○	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○	○	○
	18		Pearlitic		250	25				
	19		Ferritic		130		○	○	○	○
	20	Malleable cast iron	Pearlitic		230	21				
N	21	Aluminum-wrought alloy		Not Curable	60		○	○	○	○
	22			Curable	Hardened	100	○	○	○	○
	23	Aluminum-cast, alloyed		≤ 12% Si, Not Curable	75		○	○	○	○
	24			≤ 12% Si, Curable	Hardened	90				
	25			> 12% Si, Not Curable		130				
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110				
	27			CuZn, CuSnZn (Brass)		90				
	28			CuSn, lead-free copper and electrolytic copper		100				
	29	Non Metallic Materials		Duroplastic, Fiber Reinforced Plastic						
	30			Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm			○	○	
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55				
	39			Hardened	630	60				
	40	Chilled Cast Iron		Cast	400	42				
	41	Hardened Cast Iron		Hardened	550	55				

Holemaking

Threading

Milling

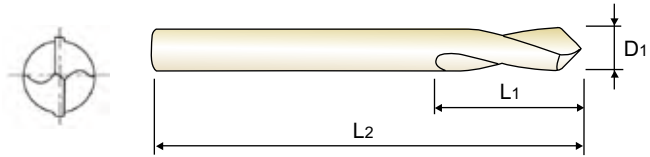
Indexable

Rotary Tool Holder

SPOTTING DRILLS

D2N90 SERIES

HSSCo8 Spotting Drills, 90° & 120°



P. 47

90°

Unit : Inch

EDP No.	Price	Drill Diameter	Flute Length	Overall Length
		D1	L1	L2
0081L	\$5.03	1/8	.472	1.93
0121L	\$5.60	3/16	.590	2.44
0161L	\$5.89	1/4	.669	2.76
0201L	\$6.78	5/16	.984	3.11
0241L	\$8.49	3/8	.827	3.50
0321L	\$13.59	1/2	.984	4.02
0401L	\$21.79	5/8	1.575	4.53
0481L	\$30.19	3/4	1.968	5.16
0641L	\$46.96	1	1.968	6.14

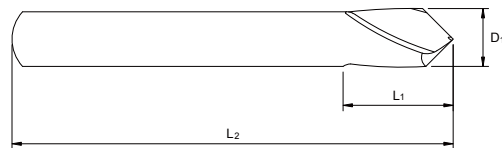
120°

Unit : Inch

EDP No.	Price	Drill Diameter	Flute Length	Overall Length
		D1	L1	L2
2081L	\$5.03	1/8	.472	1.93
2121L	\$5.60	3/16	.590	2.44
2161L	\$5.89	1/4	.669	2.76
2201L	\$6.78	5/16	.984	3.11
2241L	\$8.49	3/8	.827	3.50
2321L	\$13.59	1/2	.984	4.02
2401L	\$21.79	5/8	1.575	4.53
2481L	\$30.19	3/4	1.968	5.16
2641L	\$46.96	1	1.968	6.14

D5321 SERIES
D5322 SERIES

Carbide Spotting Drills, 90° & 120°



P.47

90°

Unit : Inch

EDP No.	Price	Drill Diameter	Flute Length	Overall Length
		D1	L1	L2
D5321008	\$17.76	1/8	5/8	2
D5321012	\$23.33	3/16	3/4	2
D5321016	\$29.77	1/4	3/4	2-1/2
D5321020	\$35.92	5/16	1	2-1/2
D5321024	\$41.12	3/8	1	3
D5321032	\$64.28	1/2	1	3
D5321040	\$118.39	5/8	1-1/4	3
D5321048	\$197.61	3/4	1-3/4	4

120°

Unit : Inch

EDP No.	Price	Drill Diameter	Flute Length	Overall Length
		D1	L1	L2
D5322008	\$17.76	1/8	5/8	2
D5322012	\$23.33	3/16	3/4	2
D5322016	\$29.77	1/4	3/4	2-1/2
D5322020	\$35.92	5/16	1	2-1/2
D5322024	\$41.12	3/8	1	3
D5322032	\$64.28	1/2	1	3
D5322040	\$118.39	5/8	1-1/4	3
D5322048	\$197.61	3/4	1-3/4	4

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

SPOTTING DRILLS

RECOMMENDED CUTTING CONDITIONS – HSSCo8 (Cobalt)

SFM : ft/min.
FEED(IPR) : Inch/rev.

ISO	VDI 3323	Material Description	SFM	Parameter	Drill Diameter								
					2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1	Non-alloy steel	82	RPM	3980	2650	1990	1330	990	800	660	500	400
				FEED	.0008 - .0016	.0016 - .0024	.002 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	.0059 - .0083
			82	RPM	3980	2650	1990	1330	990	800	660	500	400
	FEED			.0008 - .0016	.0016 - .0024	.002 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	.0059 - .0083	
	49		RPM	2390	1590	1190	800	600	480	400	300	240	
			FEED	.0004 - .0012	.0012 - .002	.0016 - .0028	.002 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	
	6	Low alloy steel	66	RPM	3180	2120	1590	1060	800	640	530	400	320
FEED				.0008 - .0016	.0016 - .0024	.002 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	.0059 - .0083	
49		RPM	2390	1590	1190	800	600	480	400	300	240		
		FEED	.0004 - .0012	.0012 - .002	.0016 - .0028	.002 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075		
M	12	Stainless steel	49	RPM	2390	1590	1190	800	600	480	400	300	240
				FEED	.0008 - .0016	.0016 - .0024	.002 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	.0059 - .0083
K	15	Grey cast iron	99	RPM	4770	3180	2390	1590	1190	950	800	600	480
				FEED	.0012 - .002	.002 - .0028	.0024 - .0035	.0031 - .0043	.0039 - .0051	.0047 - .0063	.0059 - .0079	.0071 - .0094	.0087 - .011
	82		RPM	3980	2650	1990	1330	990	800	660	500	400	
			FEED	.0004 - .0012	.0012 - .002	.0016 - .0028	.002 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	
	17	Nodular cast iron	99	RPM	4770	3180	2390	1590	1190	950	800	600	480
				FEED	.0012 - .002	.002 - .0028	.0024 - .0035	.0031 - .0043	.0039 - .0051	.0047 - .0063	.0059 - .0079	.0071 - .0094	.0087 - .011
	19	Malleable cast iron	66	RPM	3180	2120	1590	1060	800	640	530	400	320
FEED				.0012 - .002	.002 - .0028	.0024 - .0035	.0031 - .0043	.0039 - .0051	.0047 - .0063	.0059 - .0079	.0071 - .0094	.0087 - .011	
N	21	Aluminum-wrought alloy	214	RPM	10350	6900	5170	3450	2590	2070	1720	1290	1030
				FEED	.0016 - .0024	.0024 - .0035	.0031 - .0043	.0039 - .0051	.0047 - .0059	.0059 - .0075	.0071 - .0091	.0083 - .0106	.0098 - .0122
	197		RPM	9550	6370	4770	3180	2390	1910	1590	1190	950	
			FEED	.0016 - .0024	.0024 - .0035	.0031 - .0043	.0039 - .0051	.0047 - .0059	.0059 - .0075	.0071 - .0091	.0083 - .0106	.0098 - .0122	
	23	Aluminum-cast, alloyed	165	RPM	7960	5310	3980	2650	1990	1590	1330	990	800
				FEED	.0016 - .0024	.0024 - .0035	.0031 - .0043	.0039 - .0051	.0047 - .0059	.0059 - .0075	.0071 - .0091	.0083 - .0106	.0098 - .0122

RECOMMENDED CUTTING CONDITIONS – Carbide

SFM : ft/min.
FEED(IPR) : Inch/rev.

ISO	VDI 3323	Material Description	SFM	Parameter	Drill Diameter							
					.1250	.1875	.2500	.3125	.3750	.5000	.6250	.6250
P	1	Non-alloy steel	82	RPM	7960	4790	3980	2980	2390	1890	1490	1490
				FEED	.0016 - .0024	.0024 - .0035	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	.0051 - .0075
			82	RPM	7430	4460	3710	2790	2230	1760	1390	1390
	FEED			.0016 - .0024	.0024 - .0035	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	.0051 - .0075	
	49		RPM	6900	4150	3450	2590	2070	1630	1290	1290	
			FEED	.0012 - .002	.0018 - .003	.0020 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0043 - .0067	
	6	Low alloy steel	66	RPM	7430	4460	3710	2790	2230	1760	1390	1390
FEED				.0016 - .0024	.0024 - .0035	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	.0051 - .0075	
49		RPM	5840	3510	2920	2190	1750	1380	1090	1090		
		FEED	.0012 - .0020	.0018 - .0030	.0020 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0043 - .0067		
M	12	Stainless steel	49	RPM	3710	2230	1860	1390	1110	880	700	700
				FEED	.0016 - .0024	.0024 - .0035	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0051 - .0075	.0051 - .0075
K	15	Grey cast iron	99	RPM	9550	5740	4770	3580	2860	2260	1790	1790
				FEED	.0020 - .0028	.0028 - .0039	.0031 - .0043	.0039 - .0051	.0047 - .0063	.0059 - .0079	.0071 - .0094	.0071 - .0094
	82		RPM	7430	4460	3710	2790	2230	1760	1390	1390	
			FEED	.0012 - .0020	.0018 - .0030	.0020 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0043 - .0067	
	17	Nodular cast iron	99	RPM	9550	5740	4770	3580	2860	2260	1790	1790
				FEED	.002 - .0028	.0028 - .0039	.0031 - .0043	.0039 - .0051	.0047 - .0063	.0059 - .0079	.0071 - .0094	.0071 - .0094
	19	Malleable cast iron	66	RPM	6370	3820	3180	2390	1910	1510	1190	1190
FEED				.0020 - .0028	.0028 - .0039	.0031 - .0043	.0039 - .0051	.0047 - .0063	.0059 - .0079	.0071 - .0094	.0071 - .0094	
N	21	Aluminum-wrought alloy	214	RPM	17510	10530	8750	6570	5250	4150	3280	3280
				FEED	.0024 - .0035	.0035 - .0047	.0039 - .0051	.0047 - .0059	.0059 - .0075	.0071 - .0091	.0083 - .0106	.0083 - .0106
	197		RPM	13790	8300	6900	5170	4140	3270	2590	2590	
			FEED	.0024 - .0035	.0035 - .0047	.0039 - .0051	.0047 - .0059	.0059 - .0075	.0071 - .0091	.0083 - .0106	.0083 - .0106	
	23	Aluminum-cast, alloyed	165	RPM	11670	7020	5840	4380	3500	2770	2190	2190
				FEED	.0024 - .0035	.0035 - .0047	.0039 - .0051	.0047 - .0059	.0059 - .0075	.0071 - .0091	.0083 - .0106	.0083 - .0106
S	36	Titanium Alloys	115	RPM	3710	2230	1860	1390	1110	880	700	700
				FEED	.0012 - .0020	.0018 - .0030	.0020 - .0031	.0028 - .0039	.0031 - .0047	.0035 - .0055	.0043 - .0067	.0043 - .0067

REAMERS



REAMERS

SELECTION GUIDE

HSS & CARBIDE REAMERS

– Straight Flute Chucking Reamers

Precision reamers for a variety of materials, applications and sizes that ensure close hole tolerance and excellent surface finish

TOOL MATERIAL	HSS	CARBIDE
FLUTE TYPE	Straight Flute	
CHAMFER ANGLE	45°	
HAND CUT	Right Hand Cut	
SIZE MIN	.0135	.0280
SIZE MAX	.7500	.6299
SURFACE TREATMENT	Bright	
PAGE	50	54



◎ : Excellent ○ : Good

Recommended cutting conditions : P.65-66

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC	HSS	CARBIDE
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	○	○
	4		About 0.75% C Annealed	270	28	○	○
	5		About 0.75% C Quenched & Tempered	300	32		
	6	Low alloy steel	Annealed	180	10	◎	◎
	7		Quenched & Tempered	275	29	○	○
	8		Quenched & Tempered	300	32		
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	○
	11	Quenched & Tempered		325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○
	13		Martensitic Quenched & Tempered	240	23	○	○
	14		Austenitic	180	10	○	○
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○
	16		Pearlitic (Martensitic)	260	26	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○
	18		Pearlitic	250	25	○	○
	19	Malleable cast iron	Ferritic	130		○	○
20	Pearlitic		230	21	○	○	
N	21	Aluminum-wrought alloy	Not Curable	60		○	○
	22		Curable Hardened	100		○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○
	24		≤ 12% Si, Curable Hardened	90		○	○
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	○
	27		CuZn, CuSnZn (Brass)	90		○	○
	28		CuSn, lead-free copper and electrolytic copper	100		○	○
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			
	30	Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Fe Based Cured	280	30		
	33		Fe Based Annealed	250	25		
	34		Ni or Co Based Cured	350	38		
	35		Ni or Co Based Cast	320	34		
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		

Holemaking

Threading

Milling

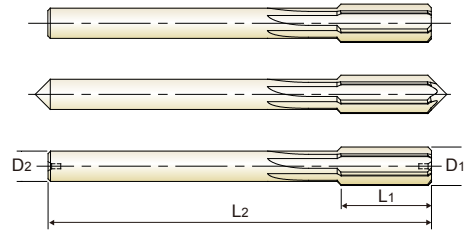
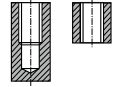
Indexable

Rotary Tool Holder

HSS REAMERS

- ▶ Straight Flute, Right Hand Cut
- ▶ Type of Center
 - Up to .0393" : Non-Center
 - Over .0393" to .1799" : External
 - Over .1799" : Internal

Hole type



P. 66-67

Unit : Inch

	Nominal Size				Shank Diameter D2	Flute Length L1	Overall Length L2		No. of Flute	EDP No.	Price
	Metric	Fractional	Letter	Wire Gauge			Decimal	D1			
				#80	.0135	.0135	3/8	3/4	2	K610200135	\$15.02
				#79	.0145	.0145	3/8	3/4	2	K610200145	\$15.02
		1/64			.0156	.0156	3/8	3/4	2	K610100156	\$15.02
				#78	.0160	.0160	3/8	7/8	2	K610200160	\$15.02
				#77	.0180	.0180	3/8	7/8	2	K610200180	\$15.02
				#76	.0200	.0200	3/8	7/8	2	K610200200	\$15.02
				#75	.0210	.0210	1/2	1	3	K610200210	\$15.02
				#74	.0225	.0225	1/2	1	3	K610200225	\$15.02
				#73	.0240	.0240	1/2	1-1/8	3	K610200240	\$15.02
				#72	.0250	.0250	1/2	1-1/8	3	K610200250	\$15.02
				#71	.0260	.0260	1/2	1-1/4	3	K610200260	\$15.02
				#70	.0280	.0280	1/2	1-1/4	3	K610200280	\$15.02
				#69	.0292	.0292	1/2	1-3/8	3	K610200292	\$15.02
		1/32		#68	.0310	.0310	1/2	1-3/8	3	K610200310	\$15.02
					.0312	.0312	1/2	1-3/8	3	K610100312	\$12.00
				#67	.0320	.0320	1/2	1-3/8	3	K610200320	\$12.00
				#66	.0330	.0330	1/2	1-3/8	3	K610200330	\$12.00
				#65	.0350	.0350	1/2	1-1/2	3	K610200350	\$12.00
				#64	.0360	.0360	1/2	1-1/2	3	K610200360	\$12.00
				#63	.0370	.0370	1/2	1-1/2	3	K610200370	\$12.00
				#62	.0380	.0380	1/2	1-1/2	3	K610200380	\$12.00
				#61	.0390	.0390	1/2	1-1/2	3	K610200390	\$12.00
	1.00				.0394	.0394	1/2	2-1/2	4	K610600394	\$12.00
				#60	.0400	.0390	1/2	2-1/2	4	K610200400	\$12.00
				#59	.0410	.0390	1/2	2-1/2	4	K610200410	\$12.00
				#58	.0420	.0390	1/2	2-1/2	4	K610200420	\$12.00
				#57	.0430	.0390	1/2	2-1/2	4	K610200430	\$12.00
		3/64		#56	.0465	.0455	1/2	2-1/2	4	K610200465	\$12.00
					.0469	.0455	1/2	2-1/2	4	K610100469	\$12.00
				#55	.0520	.0510	1/2	2-1/2	4	K610200520	\$12.00
				#54	.0550	.0510	1/2	2-1/2	4	K610200550	\$12.00
	1.50				.0591	.0510	1/2	2-1/2	4	K610600591	\$12.00
				#53	.0595	.0585	1/2	2-1/2	4	K610200595	\$12.00
		1/16			.0625	.0585	1/2	2-1/2	4	K610100625	\$12.00
				#52	.0635	.0585	1/2	2-1/2	4	K610200635	\$12.00
				#51	.0670	.0660	3/4	3	4	K610200670	\$12.00
				#50	.0700	.0660	3/4	3	4	K610200700	\$12.00
				#49	.0730	.0660	3/4	3	4	K610200730	\$12.00
				#48	.0760	.0720	3/4	3	4	K610200760	\$12.00
		5/64			.0781	.0720	3/4	3	4	K610100781	\$12.00
				#47	.0785	.0720	3/4	3	4	K610200785	\$12.00
	2.00				.0787	.0720	3/4	3	4	K610600787	\$12.00
				#46	.0810	.0771	3/4	3	4	K610200810	\$12.00
				#45	.0820	.0771	3/4	3	4	K610200820	\$12.00

▶ NEXT PAGE

HSS REAMERS

Unit : Inch

Metric	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Fractional	Letter	Wire Gauge	Decimal						
D1				D2	L1	L2				
			#44	.0860	.0810	3/4	3	4	K610200860	\$12.00
			#43	.0890	.0810	3/4	3	4	K610200890	\$12.00
			#42	.0935	.0880	3/4	3	4	K610200935	\$12.00
	3/32			.0938	.0880	3/4	3	4	K610100938	\$12.00
			#41	.0960	.0928	7/8	3-1/2	4	K610200960	\$12.00
2.50			#40	.0980	.0928	7/8	3-1/2	4	K610200980	\$12.00
				.0984	.0928	7/8	3-1/2	4	K610600984	\$12.00
			#39	.0995	.0928	7/8	3-1/2	4	K610200995	\$12.00
			#38	.1015	.0950	7/8	3-1/2	4	K610201015	\$12.00
			#37	.1040	.0950	7/8	3-1/2	4	K610201040	\$12.00
			#36	.1065	.1030	7/8	3-1/2	4	K610201065	\$12.00
	7/64			.1094	.1030	7/8	3-1/2	4	K610101094	\$12.00
			#35	.1100	.1030	7/8	3-1/2	4	K610201100	\$12.00
			#34	.1110	.1055	7/8	3-1/2	4	K610201110	\$12.00
			#33	.1130	.1055	7/8	3-1/2	4	K610201130	\$12.00
			#32	.1160	.1120	7/8	3-1/2	4	K610201160	\$12.00
3.00				.1181	.1120	7/8	3-1/2	4	K610601181	\$12.00
			#31	.1200	.1120	7/8	3-1/2	4	K610201200	\$12.00
	U/S 1/8			.1240	.1190	7/8	3-1/2	4	K610501240	\$12.00
	1/8			.1250	.1190	7/8	3-1/2	4	K610101250	\$12.00
	O/S 1/8			.1260	.1190	7/8	3-1/2	4	K610501260	\$12.00
			#30	.1285	.1190	7/8	3-1/2	4	K610201285	\$12.00
3.50			#29	.1360	.1275	1	4	4	K610201360	\$12.00
				.1378	.1350	1	4	4	K610601378	\$12.00
			#28	.1405	.1350	1	4	4	K610201405	\$12.00
	9/64			.1406	.1350	1	4	4	K610101406	\$12.00
			#27	.1440	.1350	1	4	4	K610201440	\$12.00
			#26	.1470	.1430	1	4	4	K610201470	\$12.00
			#25	.1495	.1430	1	4	4	K610201495	\$12.00
			#24	.1520	.1460	1	4	4	K610201520	\$12.00
			#23	.1540	.1460	1	4	4	K610201540	\$12.00
	5/32			.1562	.1510	1	4	4	K610101562	\$12.00
			#22	.1570	.1510	1	4	6	K610201570	\$12.00
4.00				.1575	.1530	1	4	6	K610601575	\$12.00
			#21	.1590	.1530	1-1/8	4-1/2	6	K610201590	\$13.01
			#20	.1610	.1530	1-1/8	4-1/2	6	K610201610	\$13.01
			#19	.1660	.1595	1-1/8	4-1/2	6	K610201660	\$13.01
			#18	.1695	.1595	1-1/8	4-1/2	6	K610201695	\$13.01
	11/64			.1719	.1645	1-1/8	4-1/2	6	K610101719	\$12.00
			#17	.1730	.1645	1-1/8	4-1/2	6	K610201730	\$13.01
			#16	.1770	.1704	1-1/8	4-1/2	6	K610201770	\$13.01
4.50				.1772	.1704	1-1/8	4-1/2	6	K610601772	\$12.00
			#15	.1800	.1755	1-1/8	4-1/2	6	K610201800	\$13.01
			#14	.1820	.1755	1-1/8	4-1/2	6	K610201820	\$13.01
			#13	.1850	.1805	1-1/8	4-1/2	6	K610201850	\$13.01
	U/S 3/16			.1865	.1805	1-1/8	4-1/2	6	K610501865	\$12.00
	3/16			.1875	.1805	1-1/8	4-1/2	6	K610101875	\$12.00
	O/S 3/16			.1885	.1805	1-1/8	4-1/2	6	K610501885	\$12.00
			#12	.1890	.1805	1-1/8	4-1/2	6	K610201890	\$13.01
			#11	.1910	.1860	1-1/4	5	6	K610201910	\$15.02
			#10	.1935	.1860	1-1/4	5	6	K610201935	\$15.02
			#9	.1960	.1895	1-1/4	5	6	K610201960	\$15.02
5.00				.1969	.1895	1-1/4	5	6	K610601969	\$16.51
			#8	.1990	.1895	1-1/4	5	6	K610201990	\$15.02
			#7	.2010	.1945	1-1/4	5	6	K610202010	\$15.02
	13/64			.2031	.1945	1-1/4	5	6	K610102031	\$12.00
			#6	.2040	.1945	1-1/4	5	6	K610202040	\$15.02
			#5	.2055	.2016	1-1/4	5	6	K610202055	\$15.02
			#4	.2090	.2016	1-1/4	5	6	K610202090	\$15.02
			#3	.2130	.2075	1-1/4	5	6	K610202130	\$15.02

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

▶ NEXT PAGE

HSS REAMERS

Unit : Inch

Metric	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Fractional	Letter	Wire Gauge	Decimal						
D1				D2	L1	L2				
5.50				.2165	.2075	1-1/4	5	6	K610602165	\$16.51
	7/32			.2188	.2075	1-1/4	5	6	K610102188	\$12.00
			#2	.2210	.2173	1-1/2	6	6	K610202210	\$15.02
			#1	.2280	.2173	1-1/2	6	6	K610202280	\$15.02
		A		.2340	.2265	1-1/2	6	6	K610302340	\$15.02
6.00	15/64			.2344	.2265	1-1/2	6	6	K610102344	\$16.51
				.2362	.2265	1-1/2	6	6	K610602362	\$16.51
		B		.2380	.2329	1-1/2	6	6	K610302380	\$16.51
		C		.2420	.2329	1-1/2	6	6	K610302420	\$16.51
		D		.2460	.2329	1-1/2	6	6	K610302460	\$16.51
	U/S 1/4			.2490	.2405	1-1/2	6	6	K610502490	\$16.51
	1/4	E		.2500	.2405	1-1/2	6	6	K610102500	\$16.51
	O/S 1/4			.2510	.2405	1-1/2	6	6	K610502510	\$16.51
6.50				.2559	.2405	1-1/2	6	6	K610602559	\$16.51
		F		.2570	.2485	1-1/2	6	6	K610302570	\$16.51
		G		.2610	.2485	1-1/2	6	6	K610302610	\$16.51
	17/64			.2656	.2485	1-1/2	6	6	K610102656	\$16.51
		H		.2660	.2485	1-1/2	6	6	K610302660	\$16.51
		I		.2720	.2485	1-1/2	6	6	K610302720	\$16.51
7.00				.2756	.2485	1-1/2	6	6	K610602756	\$16.51
		J		.2770	.2485	1-1/2	6	6	K610302770	\$16.51
		K		.2810	.2485	1-1/2	6	6	K610302810	\$16.51
	9/32			.2812	.2485	1-1/2	6	6	K610102812	\$16.51
		L		.2900	.2792	1-1/2	6	6	K610302900	\$16.51
		M		.2950	.2792	1-1/2	6	6	K610302950	\$16.51
7.50				.2953	.2792	1-1/2	6	6	K610602953	\$16.51
	19/64			.2969	.2792	1-1/2	6	6	K610102969	\$16.51
		N		.3020	.2792	1-1/2	6	6	K610303020	\$16.51
	U/S 5/16			.3115	.2792	1-1/2	6	6	K610503115	\$16.51
	5/16			.3125	.2792	1-1/2	6	6	K610103125	\$16.51
	O/S 5/16			.3135	.2792	1-1/2	6	6	K610503135	\$16.51
8.00				.3150	.2792	1-1/2	6	6	K610603150	\$16.51
		O		.3160	.2792	1-1/2	6	6	K610303160	\$16.51
		P		.3230	.2792	1-1/2	6	6	K610303230	\$18.01
	21/64			.3281	.2792	1-1/2	6	6	K610103281	\$18.02
		Q		.3320	.2792	1-1/2	6	6	K610303320	\$18.01
8.50				.3346	.2792	1-1/2	6	6	K610603346	\$21.02
		R		.3390	.2792	1-1/2	6	6	K610303390	\$18.01
	11/32			.3438	.2792	1-1/2	6	6	K610103438	\$16.51
		S		.3480	.3105	1-3/4	7	6	K610303480	\$18.01
9.00				.3543	.3105	1-3/4	7	6	K610603543	\$21.02
		T		.3580	.3105	1-3/4	7	6	K610303580	\$18.01
	23/64			.3594	.3105	1-3/4	7	6	K610103594	\$16.51
		U		.3680	.3105	1-3/4	7	6	K610303680	\$18.01
	U/S 3/8			.3740	.3105	1-3/4	7	6	K610503740	\$21.02
	3/8			.3750	.3105	1-3/4	7	6	K610103750	\$17.01
	O/S 3/8			.3760	.3105	1-3/4	7	6	K610503760	\$21.02
		V		.3770	.3105	1-3/4	7	6	K610303770	\$21.02
		W		.3860	.3105	1-3/4	7	6	K610303860	\$21.02
	25/64			.3906	.3105	1-3/4	7	6	K610103906	\$17.01
10.00				.3937	.3105	1-3/4	7	6	K610603937	\$21.02
		X		.3970	.3105	1-3/4	7	6	K610303970	\$21.02
		Y		.4040	.3105	1-3/4	7	6	K610304040	\$21.02
	13/32			.4062	.3105	1-3/4	7	6	K610104062	\$17.01
		Z		.4130	.3730	1-3/4	7	6	K610304130	\$21.02
10.50				.4134	.3730	1-3/4	7	6	K610604134	\$21.02
	27/64			.4219	.3730	1-3/4	7	6	K610104219	\$17.01
11.00				.4331	.3730	1-3/4	7	6	K610604331	\$21.02
	U/S 7/16			.4365	.3730	1-3/4	7	6	K610504365	\$19.90
	7/16			.4375	.3730	1-3/4	7	6	K610104375	\$17.01

▶ NEXT PAGE

HSS REAMERS

Unit : Inch

Metric	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Fractional	Letter	Wire Gauge	Decimal						
		D1			D2	L1	L2			
11.50	O/S 7/16			.4385	.3730	1-3/4	7	6	K610504385	\$21.02
				.4528	.3730	1-3/4	7	6	K610604528	\$21.02
	29/64			.4531	.3730	1-3/4	7	6	K610104531	\$17.01
	15/32			.4688	.3730	1-3/4	7	6	K610104688	\$17.01
12.00				.4724	.4355	2	8	6	K610604724	\$21.02
	31/64			.4844	.4355	2	8	6	K610104844	\$17.01
12.50				.4921	.4355	2	8	6	K610604921	\$21.02
	U/S 1/2			.4990	.4355	2	8	6	K610504990	\$21.02
	1/2			.5000	.4355	2	8	6	K610105000	\$17.01
	O/S 1/2			.5010	.4355	2	8	6	K610505010	\$21.02
13.00				.5118	.4355	2	8	6	K610605118	\$28.02
	33/64			.5156	.4355	2	8	6	K610105156	\$28.02
	17/32			.5312	.4355	2	8	6	K610105313	\$28.02
13.50				.5315	.4355	2	8	6	K610605315	\$28.02
	35/64			.5469	.4355	2	8	8	K610105469	\$28.02
14.00				.5512	.4355	2	8	8	K610605512	\$28.02
	9/16			.5625	.4355	2	8	8	K610105625	\$28.02
14.50				.5709	.4355	2	8	8	K610605709	\$28.02
	37/64			.5781	.4355	2	8	8	K610105781	\$28.02
15.00				.5906	.4355	2	8	8	K610605906	\$28.02
	19/32			.5938	.4355	2	8	8	K610105938	\$28.02
	39/64			.6094	.5620	2-1/4	9	8	K610106094	\$33.02
15.50				.6102	.5620	2-1/4	9	8	K610606102	\$33.02
	U/S 5/8			.6240	.5615	2-1/4	9	8	K610506240	\$33.02
	5/8			.6250	.5620	2-1/4	9	8	K610106250	\$33.02
	O/S 5/8			.6260	.5615	2-1/4	9	8	K610506260	\$35.49
16.00				.6299	.5620	2-1/4	9	8	K610606299	\$33.02
	41/64			.6406	.5620	2-1/4	9	8	K610106406	\$33.02
16.50				.6496	.5620	2-1/4	9	8	K610606496	\$37.03
	21/32			.6562	.5620	2-1/4	9	8	K610106562	\$37.03
17.00				.6693	.5620	2-1/4	9	8	K610606693	\$37.03
	43/64			.6719	.5620	2-1/4	9	8	K610106719	\$37.03
	U/S 11/16			.6865	.5615	2-1/4	9	8	K610506865	\$37.03
	11/16			.6875	.5620	2-1/4	9	8	K610106875	\$37.03
	O/S 11/16			.6885	.5615	2-1/4	9	8	K610506885	\$37.03
17.50				.6890	.5620	2-1/4	9	8	K610606890	\$42.02
	45/64			.7031	.5620	2-1/4	9	8	K610107031	\$42.02
18.00				.7087	.5620	2-1/4	9	8	K610607087	\$42.02
	23/32			.7188	.5620	2-1/4	9	8	K610107188	\$42.02
18.50				.7283	.6245	2-1/4	9	8	K610607283	\$42.02
	47/64			.7344	.6245	2-1/2	9-1/2	8	K610107344	\$42.02
19.00				.7480	.6245	2-1/4	9	8	K610607480	\$45.03
	U/S 3/4			.7490	.6240	2-1/2	9	8	K610507490	\$42.02
	3/4			.7500	.6245	2-1/2	9-1/2	8	K610107500	\$42.02

O.D. Tolerance	Shank Dia. Tolerance
Up to 1/2 Inch : +.0002"/-.0000"	Up to .4355" : +.0000"/-.0010"
Over 1/2 to 5/8 Inch : '+.0003"/-.0000"	Over .4355" : +.0000"/-.0015"
Over 5/8 to 1 Inch : '+.0004"/+.0001"	

Holemaking

Threading

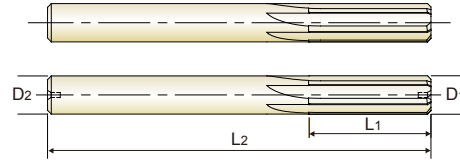
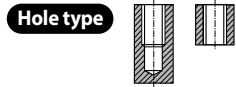
Milling

Indexable

Rotary Tool Holder

CARBIDE REAMERS

- ▶ Straight Flute, Right Hand Cut
- ▶ Shank Diameter ≠ Nominal Reamer Diameter
- ▶ Type of Center
Up to .1177" : Non-Center
Over .1177" : Internal



Unit : Inch

Metric	Nominal Size				Shank Diameter D2	Flute Length L1	Overall Length L2	No. of Flute	EDP No.	Price
	Fractional	Letter D1	Wire Gauge	Decimal						
			#70	.0280	.0280	1/4	1- 1/2	4	K910200280	\$21.65
			#69	.0292	.0292	1/4	1- 1/2	4	K910200292	\$21.65
			#68	.0310	.0310	1/4	1- 1/2	4	K910200310	\$21.65
			#67	.0320	.0320	1/4	1- 1/2	4	K910200320	\$21.65
			#66	.0330	.0330	1/4	1- 1/2	4	K910200330	\$21.65
			#65	.0350	.0350	1/4	1- 1/2	4	K910200350	\$21.65
				.0355	.0355	1/4	1- 1/2	4	K910700355	\$21.65
			#64	.0360	.0360	1/4	1- 1/2	4	K910200360	\$21.65
				.0365	.0365	1/4	1- 1/2	4	K910700365	\$21.65
			#63	.0370	.0370	1/4	1- 1/2	4	K910200370	\$21.65
				.0375	.0375	1/4	1- 1/2	4	K910700375	\$21.65
			#62	.0380	.0380	1/4	1- 1/2	4	K910200380	\$21.65
				.0385	.0385	1/4	1- 1/2	4	K910700385	\$21.65
			#61	.0390	.0390	1/4	1- 1/2	4	K910200390	\$21.65
				.0395	.0395	1/4	1- 1/2	4	K910700395	\$21.65
			#60	.0400	.0400	1/4	1- 1/2	4	K910200400	\$21.65
				.0405	.0405	3/8	1- 1/2	4	K910700405	\$21.65
			#59	.0410	.0410	3/8	1- 1/2	4	K910200410	\$21.65
			#58	.0420	.0420	3/8	1- 1/2	4	K910200420	\$21.65
				.0425	.0425	3/8	1- 1/2	4	K910700425	\$21.65
			#57	.0430	.0430	3/8	1- 1/2	4	K910200430	\$21.65
				.0435	.0435	3/8	1- 1/2	4	K910700435	\$21.65
				.0440	.0440	3/8	1- 1/2	4	K910700440	\$21.65
				.0450	.0450	3/8	1- 1/2	4	K910700450	\$21.65
				.0460	.0460	3/8	1- 1/2	4	K910700460	\$21.65
			#56	.0465	.0465	3/8	1- 1/2	4	K910200465	\$21.65
				.0469	.0469	3/8	1- 1/2	4	K910700469	\$21.65
				.0470	.0470	3/8	1- 1/2	4	K910700470	\$21.65
				.0475	.0475	3/8	1- 1/2	4	K910700475	\$21.65
				.0480	.0480	3/8	1- 1/2	4	K910700480	\$21.65
				.0485	.0485	3/8	1- 1/2	4	K910700485	\$21.65
				.0490	.0490	3/8	1- 1/2	4	K910700490	\$21.65
				.0500	.0500	3/8	1- 1/2	4	K910700500	\$21.65
				.0505	.0505	3/8	1- 1/2	4	K910700505	\$21.65
				.0510	.0510	3/8	1- 1/2	4	K910700510	\$21.65
				.0515	.0515	3/8	1- 1/2	4	K910700515	\$21.65
			#55	.0520	.0520	3/8	1- 1/2	4	K910200520	\$21.65
				.0525	.0525	3/8	1- 1/2	4	K910700525	\$21.65
				.0530	.0530	3/8	1- 1/2	4	K910700530	\$21.65
				.0540	.0540	3/8	1- 1/2	4	K910700540	\$21.65
			#54	.0550	.0550	3/8	1- 1/2	4	K910200550	\$21.65
				.0560	.0560	3/8	1- 1/2	4	K910700560	\$21.65

▶ NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

CARBIDE REAMERS

Unit : Inch

Metric	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Fractional	Letter	Wire Gauge	Decimal						
D1					D2	L1	L2			
				.0570	.0570	3/8	1-1/2	4	K910700570	\$21.65
				.0580	.0580	3/8	1-1/2	4	K910700580	\$21.65
				.0590	.0590	3/8	1-1/2	4	K910700590	\$21.65
1.50				.0591	.0591	3/8	1-1/2	4	K910600591	\$21.65
			#53	.0595	.0595	3/8	1-1/2	4	K910200595	\$21.65
				.0600	.0600	3/8	1-1/2	4	K910700600	\$21.65
				.0605	.0605	3/8	1-1/2	4	K910700605	\$21.65
				.0610	.0610	3/8	1-1/2	4	K910700610	\$21.65
				.0615	.0615	3/8	1-1/2	4	K910700615	\$21.65
				.0620	.0620	3/8	1-1/2	4	K910700620	\$21.65
	1/16			.0625	.0625	3/8	1-1/2	4	K910700625	\$21.65
				.0630	.0630	3/8	1-1/2	4	K910700630	\$21.65
			#52	.0635	.0635	3/8	1-1/2	4	K910200635	\$21.65
				.0640	.0640	3/8	1-1/2	4	K910700640	\$21.65
				.0645	.0645	3/8	1-1/2	4	K910700645	\$21.65
				.0650	.0650	3/8	1-1/2	4	K910700650	\$21.65
				.0655	.0655	3/8	1-1/2	4	K910700655	\$21.65
				.0660	.0660	1/2	1-3/4	4	K910700660	\$21.65
			#51	.0670	.0670	1/2	1-3/4	4	K910200670	\$21.65
				.0675	.0675	1/2	1-3/4	4	K910700675	\$21.65
				.0680	.0680	1/2	1-3/4	4	K910700680	\$21.65
				.0690	.0690	1/2	1-3/4	4	K910700690	\$21.65
			#50	.0700	.0700	1/2	1-3/4	4	K910200700	\$21.65
				.0705	.0705	1/2	1-3/4	4	K910700705	\$21.65
				.0710	.0710	1/2	1-3/4	4	K910700710	\$21.65
				.0720	.0720	1/2	1-3/4	4	K910700720	\$21.65
			#49	.0730	.0730	1/2	1-3/4	4	K910200730	\$21.65
				.0740	.0740	1/2	1-3/4	4	K910700740	\$21.65
				.0750	.0750	1/2	1-3/4	4	K910700750	\$21.65
			#48	.0760	.0760	1/2	1-3/4	4	K910200760	\$21.65
				.0765	.0765	1/2	1-3/4	4	K910700765	\$21.65
				.0770	.0770	1/2	1-3/4	4	K910700770	\$21.65
				.0775	.0775	1/2	1-3/4	4	K910700775	\$21.65
				.0780	.0780	1/2	1-3/4	4	K910700780	\$21.65
	5/64			.0781	.0781	1/2	1-3/4	4	K910700781	\$21.65
			#47	.0785	.0785	1/2	1-3/4	4	K910200785	\$21.65
2.00				.0787	.0787	1/2	1-3/4	4	K910600787	\$21.65
				.0790	.0790	1/2	1-3/4	4	K910700790	\$21.65
				.0795	.0795	1/2	1-3/4	4	K910700795	\$21.65
				.0800	.0800	1/2	1-3/4	4	K910700800	\$21.65
			#46	.0810	.0810	1/2	2	4	K910200810	\$21.65
			#45	.0820	.0820	1/2	2	4	K910200820	\$21.65
				.0830	.0830	1/2	2	4	K910700830	\$21.65
				.0840	.0840	1/2	2	4	K910700840	\$21.65
				.0850	.0850	1/2	2	4	K910700850	\$21.65
			#44	.0860	.0860	1/2	2	4	K910200860	\$21.65
				.0865	.0865	1/2	2	4	K910700865	\$21.65
				.0870	.0870	1/2	2	4	K910700870	\$21.65
				.0880	.0880	1/2	2	4	K910700880	\$21.65
			#43	.0890	.0890	1/2	2	4	K910200890	\$21.65
				.0900	.0900	1/2	2	4	K910700900	\$21.65
				.0905	.0905	1/2	2	4	K910700905	\$21.65
				.0910	.0910	1/2	2	4	K910700910	\$21.65
				.0915	.0915	1/2	2	4	K910700915	\$21.65
				.0920	.0920	1/2	2	4	K910700920	\$21.65
				.0925	.0925	1/2	2	4	K910700925	\$21.65
				.0930	.0930	1/2	2	4	K910700930	\$21.65
			#42	.0935	.0935	1/2	2	4	K910200935	\$21.65
	3/32			.0938	.0938	1/2	2	4	K910700938	\$21.65
				.0940	.0940	1/2	2	4	K910700940	\$21.65

▶ NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

CARBIDE REAMERS

Unit : Inch

	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price	
	Metric	Fractional	Letter	Wire Gauge							Decimal
	D1				D2	L1	L2				
				.0945	.0945	1/2	2	4	K910700945	\$21.65	
				.0950	.0950	1/2	2	4	K910700950	\$21.65	
				.0955	.0955	1/2	2	4	K910700955	\$21.65	
2.45			#41	.0960	.0960	5/8	2	4	K910200960	\$21.65	
				.0965	.0965	1/2	2	4	K910600965	\$21.65	
				.0970	.0970	5/8	2	4	K910700970	\$21.65	
				.0975	.0975	5/8	2-1/4	4	K910700975	\$21.65	
			#40	.0980	.0980	5/8	2	4	K910200980	\$21.65	
2.50				.0984	.0984	5/8	2	4	K910600984	\$21.65	
				.0985	.0985	5/8	2-1/4	4	K910700985	\$21.65	
				.0990	.0990	5/8	2-1/4	4	K910700990	\$21.65	
			#39	.0995	.0995	5/8	2-1/4	4	K910200995	\$21.65	
				.1000	.1000	5/8	2-1/4	4	K910701000	\$21.65	
			.1010	.1010	5/8	2-1/4	4	K910701010	\$21.65		
		#38	.1015	.1015	5/8	2-1/4	4	K910201015	\$21.65		
			.1020	.1020	5/8	2-1/4	4	K910701020	\$21.65		
			.1030	.1030	5/8	2-1/4	4	K910701030	\$21.65		
		#37	.1040	.1040	5/8	2-1/4	4	K910201040	\$21.65		
			.1050	.1050	5/8	2-1/4	4	K910701050	\$21.65		
			.1050	.1050	5/8	2-1/4	4	K910701550	\$25.58		
			.1060	.1060	5/8	2-1/4	4	K910701060	\$21.65		
		#36	.1065	.1065	5/8	2-1/4	4	K910201065	\$21.65		
			.1070	.1070	5/8	2-1/4	4	K910701070	\$21.65		
			.1080	.1080	5/8	2-1/4	4	K910701080	\$21.65		
			.1090	.1090	5/8	2-1/4	4	K910701090	\$21.65		
	7/64		.1094	.1094	5/8	2-1/4	4	K910701094	\$21.65		
		#35	.1100	.1100	5/8	2-1/4	4	K910201100	\$21.65		
		#34	.1110	.1110	5/8	2-1/4	4	K910201110	\$21.65		
			.1120	.1120	5/8	2-1/4	4	K910701120	\$21.65		
		#33	.1130	.1130	5/8	2-1/4	4	K910201130	\$21.65		
			.1140	.1140	5/8	2-1/4	4	K910701140	\$21.65		
			.1150	.1150	5/8	2-1/4	4	K910701150	\$21.65		
		#32	.1160	.1160	5/8	2-1/4	4	K910201160	\$21.65		
			.1170	.1170	5/8	2-1/4	4	K910701170	\$21.65		
			.1175	.1175	5/8	2-1/4	4	K910701175	\$21.65		
3.00				.1180	.1180	5/8	2-1/4	4	K910701180	\$21.65	
				.1181	.1181	5/8	2-1/4	4	K910601181	\$21.65	
				.1185	.1185	5/8	2-1/4	4	K910701185	\$21.65	
				.1190	.1190	5/8	2-1/4	4	K910701190	\$21.65	
				.1195	.1195	5/8	2-1/4	4	K910701195	\$21.65	
		#31	.1200	.1200	5/8	2-1/4	4	K910201200	\$21.65		
			.1205	.1205	5/8	2-1/4	4	K910701205	\$21.65		
			.1210	.1210	5/8	2-1/4	4	K910701210	\$21.65		
			.1215	.1215	5/8	2-1/4	4	K910701215	\$21.65		
			.1220	.1220	5/8	2-1/4	4	K910701220	\$21.65		
			.1225	.1225	5/8	2-1/4	4	K910701225	\$21.65		
			.1230	.1230	5/8	2-1/4	4	K910701230	\$21.65		
			.1235	.1235	5/8	2-1/4	4	K910701235	\$21.65		
			.1240	.1240	5/8	2-1/4	4	K910701240	\$21.65		
			.1245	.1245	5/8	2-1/4	4	K910701245	\$21.65		
			.1247	.1247	5/8	2-1/4	4	K910701247	\$21.65		
1/8				.1250	.1250	5/8	2-1/4	4	K910701250	\$21.65	
				.1255	.1255	5/8	2-1/4	4	K910701255	\$21.65	
				.1260	.1260	5/8	2-1/4	4	K910701260	\$21.65	
				.1265	.1265	5/8	2-1/4	4	K910701265	\$21.65	
				.1270	.1270	5/8	2-1/4	4	K910701270	\$21.65	
				.1275	.1275	5/8	2-1/4	4	K910701275	\$21.65	
	3.25				.1280	.1280	5/8	2-1/4	4	K910601280	\$21.65
				#30	.1285	.1285	5/8	2-1/4	4	K910201285	\$21.65

▶ NEXT PAGE

CARBIDE REAMERS

Unit : Inch

Metric	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Fractional	Letter	Wire Gauge	Decimal						
D1					D2	L1	L2			
				.1290	.1290	5/8	2-1/4	4	K910701290	\$21.65
				.1295	.1295	3/4	2-1/2	4	K910701295	\$21.65
				.1300	.1300	5/8	2-1/2	4	K910701300	\$21.65
				.1305	.1305	3/4	2-1/2	4	K910701305	\$25.58
				.1310	.1310	3/4	2-1/2	4	K910701310	\$25.58
				.1315	.1315	3/4	2-1/2	4	K910701315	\$25.58
				.1320	.1320	3/4	2-1/2	4	K910701320	\$25.58
				.1330	.1330	3/4	2-1/2	4	K910701330	\$25.58
				.1340	.1340	3/4	2-1/2	4	K910701340	\$25.58
				.1350	.1350	3/4	2-1/2	4	K910701350	\$25.58
			#29	.1360	.1360	3/4	2-1/2	4	K910201360	\$25.58
				.1365	.1365	3/4	2-1/2	4	K910701365	\$25.58
				.1370	.1370	3/4	2-1/2	4	K910701370	\$25.58
3.50				.1378	.1378	3/4	2-1/2	4	K910601378	\$27.55
				.1380	.1380	3/4	2-1/2	4	K910701380	\$25.58
				.1390	.1390	3/4	2-1/2	4	K910701390	\$25.58
				.1400	.1400	3/4	2-1/2	4	K910701400	\$25.58
			#28	.1405	.1405	3/4	2-1/2	4	K910201405	\$25.58
	9/64			.1406	.1406	3/4	2-1/2	4	K910701406	\$25.58
				.1410	.1410	3/4	2-1/2	4	K910701410	\$25.58
				.1415	.1415	3/4	2-1/2	4	K910701415	\$25.58
				.1420	.1420	3/4	2-1/2	4	K910701420	\$25.58
				.1430	.1430	3/4	2-1/2	4	K910701430	\$25.58
				.1435	.1435	3/4	2-1/2	4	K910701435	\$25.58
			#27	.1440	.1440	3/4	2-1/2	4	K910201440	\$25.58
				.1450	.1450	3/4	2-1/2	4	K910701450	\$25.58
				.1460	.1460	3/4	2-1/2	4	K910701460	\$25.58
			#26	.1470	.1470	3/4	2-1/2	4	K910201470	\$25.58
				.1480	.1480	3/4	2-1/2	4	K910701480	\$25.58
				.1490	.1490	3/4	2-1/2	4	K910701490	\$25.58
			#25	.1495	.1495	3/4	2-1/2	4	K910201495	\$25.58
				.1500	.1500	3/4	2-1/2	4	K910701500	\$25.58
				.1510	.1510	3/4	2-1/2	4	K910701510	\$25.58
			#24	.1520	.1520	3/4	2-1/2	4	K910201520	\$25.58
				.1530	.1530	3/4	2-1/2	4	K910701530	\$25.58
			#23	.1540	.1540	3/4	2-1/2	4	K910201540	\$25.58
				.1545	.1545	3/4	2-1/2	4	K910701545	\$25.58
				.1545	.1545	3/4	2-1/2	4	K910701565	\$25.58
				.1555	.1555	3/4	2-1/2	4	K910701555	\$25.58
				.1560	.1560	3/4	2-1/2	4	K910701560	\$25.58
	5/32			.1562	.1562	3/4	2-1/2	4	K910701562	\$25.58
			#22	.1570	.1570	3/4	2-1/2	4	K910201570	\$25.58
4.00				.1575	.1575	3/4	2-1/2	4	K910601575	\$27.55
				.1580	.1580	3/4	2-1/2	4	K910701580	\$25.58
				.1585	.1585	3/4	2-1/2	4	K910701585	\$25.58
			#21	.1590	.1590	3/4	2-1/2	4	K910201590	\$25.58
				.1600	.1600	3/4	2-1/2	4	K910701600	\$25.58
				.1605	.1605	7/8	2-3/4	4	K910701605	\$25.58
			#20	.1610	.1610	7/8	2-1/2	4	K910201610	\$27.55
				.1615	.1615	7/8	2-3/4	4	K910701615	\$25.58
				.1620	.1620	7/8	2-3/4	4	K910701620	\$27.55
				.1630	.1630	7/8	2-3/4	4	K910701630	\$27.55
				.1640	.1640	7/8	2-3/4	4	K910701640	\$27.55
				.1650	.1650	7/8	2-3/4	4	K910701650	\$27.55
			#19	.1660	.1660	7/8	2-3/4	4	K910201660	\$27.55
				.1670	.1670	7/8	2-3/4	4	K910701670	\$27.55
				.1680	.1680	7/8	2-3/4	4	K910701680	\$27.55
				.1690	.1690	7/8	2-3/4	4	K910701690	\$27.55
			#18	.1695	.1695	7/8	2-3/4	4	K910201695	\$27.55
				.1700	.1700	7/8	2-3/4	4	K910701700	\$27.55

▶ NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

CARBIDE REAMERS

Unit : Inch

Metric	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Fractional	Letter	Wire Gauge	Decimal						
D1					D2	L1	L2			
				.1710	.1710	7/8	2-3/4	4	K910701710	\$27.55
	11/64			.1719	.1719	7/8	2-3/4	4	K910701719	\$27.55
				.1720	.1720	7/8	2-3/4	4	K910701720	\$27.55
			#17	.1730	.1730	7/8	2-3/4	4	K910201730	\$27.55
				.1740	.1740	7/8	2-3/4	4	K910701740	\$27.55
				.1750	.1750	7/8	2-3/4	4	K910701750	\$27.55
				.1760	.1760	7/8	2-3/4	4	K910701760	\$27.55
4.50			#16	.1770	.1770	7/8	2-3/4	4	K910201770	\$27.55
				.1772	.1772	7/8	2-3/4	4	K910601772	\$35.42
				.1780	.1780	7/8	2-3/4	4	K910701780	\$27.55
				.1790	.1790	7/8	2-3/4	4	K910701790	\$27.55
			#15	.1800	.1800	7/8	2-3/4	4	K910201800	\$27.55
				.1810	.1810	7/8	2-3/4	4	K910701810	\$29.52
			#14	.1820	.1820	7/8	2-3/4	4	K910201820	\$27.55
				.1830	.1830	7/8	2-3/4	4	K910701830	\$29.52
				.1840	.1840	7/8	2-3/4	4	K910701840	\$29.52
			#13	.1850	.1850	7/8	2-3/4	4	K910201850	\$27.55
				.1855	.1855	7/8	2-3/4	4	K910701855	\$29.52
				.1860	.1860	7/8	2-3/4	4	K910701860	\$29.52
				.1865	.1865	7/8	2-3/4	4	K910701865	\$29.52
				.1870	.1870	7/8	2-3/4	4	K910701870	\$29.52
	3/16			.1875	.1875	7/8	2-3/4	4	K910701875	\$29.52
				.1880	.1880	7/8	2-3/4	4	K910701880	\$29.52
				.1885	.1885	7/8	2-3/4	4	K910701885	\$29.52
			#12	.1890	.1890	7/8	2-3/4	4	K910201890	\$27.55
				.1895	.1895	7/8	2-3/4	4	K910701895	\$29.52
				.1900	.1900	7/8	2-3/4	4	K910701900	\$29.52
				.1905	.1905	7/8	2-3/4	4	K910701905	\$29.52
			#11	.1910	.1910	7/8	2-3/4	4	K910201910	\$35.42
				.1915	.1915	1	3	4	K910701915	\$35.42
				.1920	.1920	7/8	2-3/4	4	K910701920	\$35.42
				.1925	.1925	1	3	4	K910701925	\$35.42
				.1930	.1930	7/8	2-3/4	4	K910701930	\$35.42
			#10	.1935	.1935	7/8	2-3/4	4	K910201935	\$35.42
				.1940	.1940	7/8	2-3/4	4	K910701940	\$35.42
				.1950	.1950	7/8	2-3/4	4	K910701950	\$35.42
				.1955	.1955	1	3	4	K910701955	\$35.42
			#9	.1960	.1960	1	3	4	K910201960	\$35.42
				.1965	.1965	1	3	4	K910701965	\$35.42
5.00				.1969	.1969	1	3	4	K910601969	\$35.42
				.1970	.1970	1	3	4	K910701970	\$35.42
				.1980	.1980	1	3	4	K910701980	\$35.42
			#8	.1990	.1990	1	3	4	K910201990	\$35.42
				.2000	.2000	1	3	4	K910702000	\$35.42
				.2005	.2005	1	3	4	K910702005	\$35.42
			#7	.2010	.2010	1	3	4	K910202010	\$35.42
				.2015	.2015	1	3	4	K910702015	\$35.42
				.2020	.2020	1	3	4	K910702020	\$35.42
				.2025	.2025	1	3	4	K910702025	\$35.42
				.2030	.2030	1	3	4	K910702030	\$35.42
	13/64			.2031	.2031	1	3	4	K910102031	\$39.36
			#6	.2040	.2040	1	3	4	K910202040	\$35.42
				.2050	.2050	1	3	4	K910702050	\$35.42
			#5	.2055	.2055	1	3	4	K910202055	\$35.42
				.2060	.2060	1	3	4	K910702060	\$35.42
				.2070	.2070	1	3	4	K910702070	\$35.42
				.2080	.2080	1	3	4	K910702080	\$35.42
			#4	.2090	.2090	1	3	4	K910202090	\$35.42
				.2100	.2100	1	3	4	K910702100	\$35.42
				.2110	.2110	1	3	4	K910702110	\$35.42

▶ NEXT PAGE

CARBIDE REAMERS

Unit : Inch

Metric	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Fractional	Letter	Wire Gauge	Decimal						
D1					D2	L1	L2			
				.2120	.2120	1	3	4	K910702120	\$35.42
			#3	.2130	.2130	1	3	4	K910202130	\$35.42
				.2140	.2140	1	3	4	K910702140	\$35.42
				.2150	.2150	1	3	4	K910702150	\$35.42
5.50				.2160	.2160	1	3	4	K910702160	\$35.42
				.2165	.2165	1	3	4	K910602165	\$39.36
				.2170	.2170	1	3	4	K910702170	\$35.42
	7/32			.2180	.2180	1	3	4	K910702180	\$35.42
				.2188	.2188	1	3	4	K910702188	\$35.42
				.2190	.2190	1	3	4	K910702190	\$35.42
			#2	.2200	.2200	1	3	4	K910702200	\$35.42
				.2210	.2210	1	3	4	K910202210	\$35.42
				.2220	.2220	1	3	4	K910702220	\$35.42
				.2230	.2230	1	3	4	K910702230	\$39.36
				.2240	.2240	1	3	4	K910702240	\$39.36
				.2250	.2250	1	3	4	K910702250	\$39.36
				.2260	.2260	1	3	4	K910702260	\$39.36
				.2270	.2270	1	3	4	K910702270	\$39.36
			#1	.2280	.2280	1	3	4	K910202280	\$39.36
				.2290	.2290	1	3	4	K910702290	\$39.36
				.2300	.2300	1	3	4	K910702300	\$39.36
				.2310	.2310	1	3	4	K910702310	\$39.36
				.2320	.2320	1	3	4	K910702320	\$39.36
				.2330	.2330	1	3	4	K910702330	\$39.36
		A		.2340	.2340	1	3	4	K910302340	\$39.36
	15/64			.2344	.2344	1	3	4	K910102344	\$39.36
				.2350	.2350	1	3	4	K910702350	\$39.36
				.2355	.2355	1	3	4	K910702355	\$39.36
				.2360	.2360	1	3	4	K910702360	\$39.36
6.00				.2362	.2362	1	3	4	K910602362	\$39.36
				.2365	.2365	1	3	4	K910702365	\$39.36
				.2370	.2370	1	3	4	K910702370	\$39.36
				.2375	.2375	1	3	4	K910702375	\$39.36
		B		.2380	.2380	1	3	4	K910302380	\$39.36
				.2390	.2390	1	3	4	K910702390	\$39.36
				.2400	.2400	1	3	4	K910702400	\$39.36
				.2410	.2410	1	3	4	K910702410	\$39.36
		C		.2420	.2420	1	3	4	K910302420	\$39.36
				.2430	.2430	1	3	4	K910702430	\$39.36
				.2440	.2440	1	3	4	K910702440	\$39.36
				.2450	.2450	1	3	4	K910702450	\$39.36
		D		.2460	.2460	1	3	4	K910302460	\$39.36
				.2470	.2470	1	3	4	K910702470	\$39.36
				.2480	.2480	1	3	4	K910702480	\$39.36
				.2485	.2485	1	3	4	K910702485	\$39.36
				.2490	.2490	1	3	4	K910702490	\$39.36
				.2495	.2495	1	3	4	K910702495	\$39.36
				.2498	.2498	1	3	4	K910402498	\$39.36
	1/4	E		.2500	.2500	1	3	4	K910702500	\$39.36
				.2505	.2505	1	3	4	K910702505	\$39.36
				.2510	.2510	1	3	4	K910702510	\$39.36
				.2515	.2515	1	3	4	K910702515	\$39.36
				.2520	.2520	1	3	4	K910702520	\$39.36
				.2530	.2530	1	3	4	K910702530	\$39.36
				.2540	.2540	1	3	4	K910702540	\$39.36
				.2550	.2550	1	3	6	K910702550	\$39.36
6.50				.2559	.2559	1-1/8	3-1/4	6	K910602559	\$47.23
				.2560	.2560	1-1/8	3-1/4	6	K910702560	\$54.12
		F		.2570	.2570	1-1/8	3-1/4	6	K910302570	\$54.12
				.2580	.2580	1-1/8	3-1/4	6	K910702580	\$54.12

▶ NEXT PAGE

Holemaking
Threading
Milling
Indexable
Rotary Tool Holder

CARBIDE REAMERS

Unit : Inch

	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Metric	Fractional	Letter	Wire Gauge						
	D1				D2	L1	L2			
				.2590	.2590	1-1/8	3-1/4	6	K910702590	\$54.12
				.2600	.2600	1-1/8	3-1/4	6	K910702600	\$54.12
		G		.2610	.2610	1-1/8	3-1/4	6	K910302610	\$54.12
				.2620	.2620	1-1/8	3-1/4	6	K910702620	\$54.12
				.2630	.2630	1-1/8	3-1/4	6	K910702630	\$54.12
				.2640	.2640	1-1/8	3-1/4	6	K910702640	\$54.12
				.2650	.2650	1-1/8	3-1/4	6	K910702650	\$54.12
	17/64			.2656	.2656	1-1/8	3-1/4	6	K910102656	\$54.12
		H		.2660	.2660	1-1/8	3-1/4	6	K910302660	\$54.12
				.2670	.2670	1-1/8	3-1/4	6	K910702670	\$54.12
				.2680	.2680	1-1/8	3-1/4	6	K910702680	\$54.12
				.2690	.2690	1-1/8	3-1/4	6	K910702690	\$54.12
				.2700	.2700	1-1/8	3-1/4	6	K910702700	\$54.12
				.2710	.2710	1-1/8	3-1/4	6	K910702710	\$54.12
		I		.2720	.2720	1-1/8	3-1/4	6	K910302720	\$54.12
				.2730	.2730	1-1/8	3-1/4	6	K910702730	\$54.12
				.2740	.2740	1-1/8	3-1/4	6	K910702740	\$54.12
	7.00			.2750	.2750	1-1/8	3-1/4	6	K910702750	\$54.12
				.2756	.2756	1-1/8	3-1/4	6	K910602756	\$47.23
				.2760	.2760	1-1/8	3-1/4	6	K910702760	\$54.12
		J		.2770	.2770	1-1/8	3-1/4	6	K910302770	\$54.12
				.2780	.2780	1-1/8	3-1/4	6	K910702780	\$54.12
				.2790	.2790	1-1/8	3-1/4	6	K910702790	\$54.12
				.2800	.2800	1-1/8	3-1/4	6	K910702800	\$54.12
		K		.2810	.2810	1-1/8	3-1/4	6	K910302810	\$54.12
	9/32			.2812	.2812	1-1/8	3-1/4	6	K910702812	\$54.12
				.2820	.2820	1-1/8	3-1/4	6	K910702820	\$54.12
				.2830	.2830	1-1/8	3-1/4	6	K910702830	\$54.12
				.2840	.2840	1-1/8	3-1/4	6	K910702840	\$54.12
				.2850	.2850	1-1/8	3-1/4	6	K910702850	\$54.12
				.2860	.2860	1-1/8	3-1/4	6	K910702860	\$54.12
				.2870	.2870	1-1/8	3-1/4	6	K910702870	\$54.12
				.2880	.2880	1-1/8	3-1/4	6	K910702880	\$54.12
				.2890	.2890	1-1/8	3-1/4	6	K910702890	\$54.12
		L		.2900	.2900	1-1/8	3-1/4	6	K910302900	\$54.12
				.2910	.2910	1-1/8	3-1/4	6	K910702910	\$54.12
				.2920	.2920	1-1/8	3-1/4	6	K910702920	\$54.12
				.2930	.2930	1-1/8	3-1/4	6	K910702930	\$54.12
				.2940	.2940	1-1/8	3-1/4	6	K910702940	\$54.12
	7.50	M		.2950	.2950	1-1/8	3-1/4	6	K910302950	\$54.12
				.2953	.2953	1-1/8	3-1/4	6	K910602953	\$47.23
				.2960	.2960	1-1/8	3-1/4	6	K910702960	\$54.12
	19/64			.2969	.2969	1-1/8	3-1/4	6	K910102969	\$54.12
				.2970	.2970	1-1/8	3-1/4	6	K910702970	\$54.12
				.2980	.2980	1-1/8	3-1/4	6	K910702980	\$54.12
				.2990	.2990	1-1/8	3-1/4	6	K910702990	\$54.12
				.3000	.3000	1-1/8	3-1/4	6	K910703000	\$54.12
				.3010	.3010	1-1/8	3-1/4	6	K910703010	\$54.12
		N		.3020	.3020	1-1/8	3-1/4	6	K910303020	\$54.12
				.3030	.3030	1-1/8	3-1/4	6	K910703030	\$54.12
				.3040	.3040	1-1/8	3-1/4	6	K910703040	\$54.12
				.3050	.3050	1-1/8	3-1/4	6	K910703050	\$54.12
				.3060	.3060	1-1/8	3-1/4	6	K910703060	\$54.12
				.3070	.3070	1-1/8	3-1/4	6	K910703070	\$54.12
				.3080	.3080	1-1/8	3-1/4	6	K910703080	\$54.12
				.3090	.3090	1-1/8	3-1/4	6	K910703090	\$54.12
				.3100	.3100	1-1/8	3-1/4	6	K910703100	\$54.12
				.3105	.3105	1-1/8	3-1/4	6	K910703105	\$54.12
				.3110	.3110	1-1/8	3-1/4	6	K910703110	\$54.12
				.3115	.3115	1-1/8	3-1/4	6	K910703115	\$54.12

▶ NEXT PAGE

CARBIDE REAMERS

Unit : Inch

Metric	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price	
	Fractional	Letter	Wire Gauge	Decimal							
D1					D2	L1	L2				
8.00	5/16			.3120	.3120	1-1/8	3-1/4	6	K910703120	\$54.12	
				.3125	.3125	1-1/8	3-1/4	6	K910703125	\$54.12	
				.3130	.3130	1-1/8	3-1/4	6	K910703130	\$54.12	
				.3135	.3135	1-1/8	3-1/4	6	K910703135	\$54.12	
				.3140	.3140	1-1/8	3-1/4	6	K910703140	\$54.12	
		O			.3150	.3150	1-1/8	3-1/4	6	K910603150	\$47.23
				.3160	.3160	1-1/8	3-1/4	6	K910303160	\$54.12	
				.3170	.3170	1-1/8	3-1/4	6	K910703170	\$54.12	
				.3180	.3180	1-1/8	3-1/4	6	K910703180	\$54.12	
				.3190	.3190	1-1/8	3-1/4	6	K910703190	\$54.12	
		P			.3200	.3200	1-1/8	3-1/4	6	K910703200	\$54.12
				.3210	.3210	1-1/4	3-1/2	6	K910703210	\$54.12	
				.3220	.3220	1-1/4	3-1/2	6	K910703220	\$54.12	
				.3230	.3230	1-1/4	3-1/2	6	K910303230	\$54.12	
				.3240	.3240	1-1/4	3-1/2	6	K910703240	\$54.12	
	21/64			.3250	.3250	1-1/4	3-1/2	6	K910703250	\$54.12	
			.3260	.3260	1-1/4	3-1/2	6	K910703260	\$54.12		
			.3270	.3270	1-1/4	3-1/2	6	K910703270	\$54.12		
			.3280	.3280	1-1/4	3-1/2	6	K910703280	\$54.12		
			.3281	.3281	1-1/4	3-1/2	6	K910103281	\$54.12		
	Q			.3290	.3290	1-1/4	3-1/2	6	K910703290	\$54.12	
			.3300	.3300	1-1/4	3-1/2	6	K910703300	\$54.12		
			.3310	.3310	1-1/4	3-1/2	6	K910703310	\$54.12		
			.3320	.3320	1-1/4	3-1/2	6	K910303320	\$54.12		
			.3330	.3330	1-1/4	3-1/2	6	K910703330	\$54.12		
8.50				.3340	.3340	1-1/4	3-1/2	6	K910703340	\$54.12	
				.3345	.3345	1-1/4	3-1/2	6	K910603346	\$54.12	
				.3350	.3350	1-1/4	3-1/2	6	K910703350	\$54.12	
				.3360	.3360	1-1/4	3-1/2	6	K910703360	\$54.12	
				.3370	.3370	1-1/4	3-1/2	6	K910703370	\$54.12	
	R			.3380	.3380	1-1/4	3-1/2	6	K910703380	\$54.12	
			.3390	.3390	1-1/4	3-1/2	6	K910303390	\$54.12		
			.3400	.3400	1-1/4	3-1/2	6	K910703400	\$54.12		
			.3410	.3410	1-1/4	3-1/2	6	K910703410	\$54.12		
			.3420	.3420	1-1/4	3-1/2	6	K910703420	\$54.12		
	11/32			.3430	.3430	1-1/4	3-1/2	6	K910703430	\$54.12	
			.3438	.3438	1-1/4	3-1/2	6	K910703438	\$54.12		
			.3440	.3440	1-1/4	3-1/2	6	K910703440	\$54.12		
			.3450	.3450	1-1/4	3-1/2	6	K910703450	\$54.12		
			.3460	.3460	1-1/4	3-1/2	6	K910703460	\$54.12		
	S			.3470	.3470	1-1/4	3-1/2	6	K910703470	\$54.12	
			.3480	.3480	1-1/4	3-1/2	6	K910303480	\$54.12		
			.3490	.3490	1-1/4	3-1/2	6	K910703490	\$54.12		
			.3500	.3500	1-1/4	3-1/2	6	K910703500	\$54.12		
			.3510	.3510	1-1/4	3-1/2	6	K910703510	\$54.12		
9.00				.3520	.3520	1-1/4	3-1/2	6	K910703520	\$54.12	
				.3530	.3530	1-1/4	3-1/2	6	K910703530	\$54.12	
				.3540	.3540	1-1/4	3-1/2	6	K910703540	\$54.12	
				.3543	.3543	1-1/4	3-1/2	6	K910603543	\$54.12	
				.3550	.3550	1-1/4	3-1/2	6	K910703550	\$54.12	
	T			.3560	.3560	1-1/4	3-1/2	6	K910703560	\$54.12	
			.3570	.3570	1-1/4	3-1/2	6	K910703570	\$59.04		
			.3580	.3580	1-1/4	3-1/2	6	K910303580	\$54.12		
			.3590	.3590	1-1/4	3-1/2	6	K910703590	\$59.04		
			.3594	.3594	1-1/4	3-1/2	6	K910103594	\$57.07		
	23/64			.3600	.3600	1-1/4	3-1/2	6	K910703600	\$59.04	
			.3610	.3610	1-1/4	3-1/2	6	K910703610	\$59.04		
			.3620	.3620	1-1/4	3-1/2	6	K910703620	\$59.04		
			.3630	.3630	1-1/4	3-1/2	6	K910703630	\$59.04		
			.3640	.3640	1-1/4	3-1/2	6	K910703640	\$59.04		

▶ NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

CARBIDE REAMERS

Unit : Inch

	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Metric	Fractional	Letter	Wire Gauge						
	D1				D2	L1	L2			
				.3650	.3650	1-1/4	3-1/2	6	K910703650	\$59.04
				.3660	.3660	1-1/4	3-1/2	6	K910703660	\$59.04
				.3670	.3670	1-1/4	3-1/2	6	K910703670	\$59.04
		U		.3680	.3680	1-1/4	3-1/2	6	K910303680	\$54.12
				.3690	.3690	1-1/4	3-1/2	6	K910703690	\$59.04
				.3700	.3700	1-1/4	3-1/2	6	K910703700	\$59.04
				.3710	.3710	1-1/4	3-1/2	6	K910703710	\$59.04
				.3720	.3720	1-1/4	3-1/2	6	K910703720	\$59.04
				.3730	.3730	1-1/4	3-1/2	6	K910703730	\$59.04
9.50				.3740	.3740	1-1/4	3-1/2	6	K910603740	\$90.53
				.3745	.3745	1-1/4	3-1/2	6	K910703745	\$73.81
	3/8			.3750	.3750	1-1/4	3-1/2	6	K910703750	\$73.81
				.3755	.3755	1-1/4	3-1/2	6	K910703755	\$73.81
				.3760	.3760	1-1/4	3-1/2	6	K910703760	\$73.81
				.3765	.3765	1-1/4	3-1/2	6	K910703765	\$73.81
		V		.3770	.3770	1-1/4	3-1/2	6	K910303770	\$90.53
				.3780	.3780	1-1/4	3-1/2	6	K910703780	\$73.81
				.3790	.3790	1-1/4	3-1/2	6	K910703790	\$73.81
				.3800	.3800	1-1/4	3-1/2	6	K910703800	\$73.81
				.3810	.3810	1-1/4	3-1/2	6	K910703810	\$73.81
				.3820	.3820	1-1/4	3-1/2	6	K910703820	\$73.81
				.3830	.3830	1-1/4	3-1/2	6	K910703830	\$73.81
				.3840	.3840	1-1/4	3-1/2	6	K910703840	\$73.81
				.3850	.3850	1-1/4	3-1/2	6	K910703850	\$73.81
		W		.3860	.3860	1-1/4	3-1/2	6	K910303860	\$90.53
				.3870	.3870	1-1/4	3-1/2	6	K910703870	\$90.53
				.3880	.3880	1-1/4	3-1/2	6	K910703880	\$90.53
				.3890	.3890	1-1/4	3-1/2	6	K910703890	\$90.53
				.3900	.3900	1-1/4	3-1/2	6	K910703900	\$90.53
	25/64			.3905	.3905	1-1/4	3-1/2	6	K910103906	\$90.53
				.3910	.3910	1-1/4	3-1/2	6	K910703910	\$90.53
				.3920	.3920	1-1/4	3-1/2	6	K910703920	\$90.53
				.3930	.3930	1-1/4	3-1/2	6	K910703930	\$90.53
10.00				.3937	.3937	1-1/4	3-1/2	6	K910603937	\$90.53
				.3940	.3940	1-1/4	3-1/2	6	K910703940	\$90.53
				.3950	.3950	1-1/4	3-1/2	6	K910703950	\$90.53
				.3960	.3960	1-1/4	3-1/2	6	K910703960	\$90.53
		X		.3970	.3970	1-1/4	3-1/2	6	K910303970	\$90.53
				.3980	.3980	1-1/4	3-1/2	6	K910703980	\$90.53
				.3990	.3990	1-1/4	3-1/2	6	K910703990	\$90.53
				.4000	.4000	1-1/4	3-1/2	6	K910704000	\$90.53
				.4010	.4010	1-1/4	3-1/2	6	K910704010	\$90.53
				.4020	.4020	1-1/4	3-1/2	6	K910704020	\$90.53
				.4030	.4030	1-1/4	3-1/2	6	K910704030	\$90.53
		Y		.4040	.4040	1-1/4	3-1/2	6	K910304040	\$90.53
				.4050	.4050	1-1/4	3-1/2	6	K910704050	\$90.53
				.4060	.4060	1-1/4	3-1/2	6	K910704060	\$90.53
	13/32			.4062	.4062	1-1/4	3-1/2	6	K910104062	\$90.53
				.4070	.4070	1-1/4	3-1/2	6	K910704070	\$90.53
				.4080	.4080	1-1/4	3-1/2	6	K910704080	\$90.53
				.4090	.4090	1-1/4	3-1/2	6	K910704090	\$90.53
				.4100	.4100	1-1/4	3-1/2	6	K910704100	\$90.53
				.4110	.4110	1-1/4	3-1/2	6	K910704110	\$90.53
				.4120	.4120	1-1/4	3-1/2	6	K910704120	\$90.53
		Z		.4130	.4130	1-1/4	3-1/2	6	K910304130	\$90.53
10.50				.4134	.4134	1-1/4	3-1/2	6	K910604134	\$90.53
				.4140	.4140	1-1/4	3-1/2	6	K910704140	\$90.53
				.4150	.4150	1-1/4	3-1/2	6	K910704150	\$90.53
				.4160	.4160	1-3/8	4	6	K910704160	\$90.53
				.4170	.4170	1-3/8	4	6	K910704170	\$90.53

▶ NEXT PAGE

CARBIDE REAMERS

Unit : Inch

Metric	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price
	Fractional	Letter	Wire Gauge	Decimal						
D1					D2	L1	L2			
				.4180	.4180	1-3/8	4	6	K910704180	\$90.53
				.4190	.4190	1-3/8	4	6	K910704190	\$90.53
				.4200	.4200	1-3/8	4	6	K910704200	\$90.53
	27/64			.4210	.4210	1-3/8	4	6	K910704210	\$90.53
				.4219	.4219	1-3/8	4	6	K910104219	\$90.53
				.4220	.4220	1-3/8	4	6	K910704220	\$90.53
				.4230	.4230	1-3/8	4	6	K910704230	\$90.53
				.4240	.4240	1-3/8	4	6	K910704240	\$90.53
				.4250	.4250	1-3/8	4	6	K910704250	\$90.53
				.4260	.4260	1-3/8	4	6	K910704260	\$90.53
				.4270	.4270	1-3/8	4	6	K910704270	\$90.53
				.4280	.4280	1-3/8	4	6	K910704280	\$90.53
				.4290	.4290	1-3/8	4	6	K910704290	\$90.53
				.4300	.4300	1-3/8	4	6	K910704300	\$90.53
				.4310	.4310	1-3/8	4	6	K910704310	\$90.53
				.4320	.4320	1-3/8	4	6	K910704320	\$90.53
11.00				.4330	.4330	1-3/8	4	6	K910704330	\$90.53
				.4331	.4331	1-3/8	4	6	K910604331	\$90.53
				.4340	.4340	1-3/8	4	6	K910704340	\$90.53
				.4350	.4350	1-3/8	4	6	K910704350	\$90.53
				.4360	.4360	1-3/8	4	6	K910704360	\$90.53
				.4365	.4365	1-3/8	4	6	K910704365	\$90.53
	7/16			.4370	.4370	1-3/8	4	6	K910704370	\$90.53
				.4375	.4375	1-3/8	4	6	K910704375	\$90.53
				.4380	.4380	1-3/8	4	6	K910704380	\$90.53
				.4385	.4385	1-3/8	4	6	K910704385	\$90.53
				.4390	.4390	1-3/8	4	6	K910704390	\$90.53
				.4400	.4400	1-3/8	4	6	K910704400	\$90.53
				.4410	.4410	1-3/8	4	6	K910704410	\$102.34
				.4420	.4420	1-3/8	4	6	K910704420	\$102.34
				.4430	.4430	1-3/8	4	6	K910704430	\$102.34
				.4440	.4440	1-3/8	4	6	K910704440	\$102.34
				.4450	.4450	1-3/8	4	6	K910704450	\$102.34
				.4460	.4460	1-3/8	4	6	K910704460	\$102.34
				.4470	.4470	1-3/8	4	6	K910704470	\$102.34
				.4480	.4480	1-3/8	4	6	K910704480	\$102.34
				.4490	.4490	1-3/8	4	6	K910704490	\$102.34
				.4500	.4500	1-3/8	4	6	K910704500	\$102.34
				.4510	.4510	1-3/8	4	6	K910704510	\$102.34
11.50				.4520	.4520	1-3/8	4	6	K910704520	\$102.34
				.4528	.4528	1-3/8	4	6	K910604528	\$102.34
				.4530	.4530	1-3/8	4	6	K910704530	\$102.34
	29/64			.4531	.4531	1-3/8	4	6	K910104531	\$102.34
				.4540	.4540	1-3/8	4	6	K910704540	\$102.34
				.4550	.4550	1-3/8	4	6	K910704550	\$102.34
				.4560	.4560	1-3/8	4	6	K910704560	\$102.34
				.4570	.4570	1-3/8	4	6	K910704570	\$102.34
				.4580	.4580	1-3/8	4	6	K910704580	\$102.34
				.4590	.4590	1-3/8	4	6	K910704590	\$102.34
				.4600	.4600	1-3/8	4	6	K910704600	\$102.34
				.4610	.4610	1-3/8	4	6	K910704610	\$102.34
				.4620	.4620	1-3/8	4	6	K910704620	\$102.34
				.4630	.4630	1-3/8	4	6	K910704630	\$102.34
				.4640	.4640	1-3/8	4	6	K910704640	\$102.34
				.4650	.4650	1-3/8	4	6	K910704650	\$102.34
				.4660	.4660	1-3/8	4	6	K910704660	\$102.34
				.4670	.4670	1-3/8	4	6	K910704670	\$102.34
				.4680	.4680	1-3/8	4	6	K910704680	\$102.34
	15/32			.4688	.4688	1-3/8	4	6	K910104688	\$102.34
				.4690	.4690	1-3/8	4	6	K910704690	\$108.24

▶ NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

CARBIDE REAMERS

Unit : Inch

	Nominal Size				Shank Diameter	Flute Length	Overall Length	No. of Flute	EDP No.	Price	
	Metric	Fractional	Letter	Wire Gauge							Decimal
	D1				D2	L1	L2				
Holmaking					.4700	.4700	1-3/8	4	6	K910704700	\$108.24
					.4710	.4710	1-3/8	4	6	K910704710	\$108.24
					.4720	.4720	1-3/8	4	6	K910704720	\$108.24
	12.00				.4724	.4724	1-3/8	4	6	K910604724	\$132.84
					.4730	.4730	1-3/8	4	6	K910704730	\$108.24
					.4740	.4740	1-3/8	4	6	K910704740	\$108.24
					.4750	.4750	1-3/8	4	6	K910704750	\$108.24
					.4760	.4760	1-1/2	4	6	K910704760	\$108.24
					.4770	.4770	1-1/2	4	6	K910704770	\$108.24
					.4780	.4780	1-1/2	4	6	K910704780	\$108.24
					.4790	.4790	1-1/2	4	6	K910704790	\$108.24
					.4800	.4800	1-1/2	4	6	K910704800	\$108.24
					.4810	.4810	1-1/2	4	6	K910704810	\$108.24
					.4820	.4820	1-1/2	4	6	K910704820	\$108.24
Threading					.4830	.4830	1-1/2	4	6	K910704830	\$108.24
					.4840	.4840	1-1/2	4	6	K910704840	\$108.24
		31/64			.4844	.4844	1-1/2	4	6	K910104844	\$132.84
					.4850	.4850	1-1/2	4	6	K910704850	\$108.24
					.4860	.4860	1-1/2	4	6	K910704860	\$108.24
					.4870	.4870	1-1/2	4	6	K910704870	\$132.84
					.4880	.4880	1-1/2	4	6	K910704880	\$132.84
					.4890	.4890	1-1/2	4	6	K910704890	\$132.84
					.4900	.4900	1-1/2	4	6	K910704900	\$132.84
					.4910	.4910	1-1/2	4	6	K910704910	\$132.84
					.4920	.4920	1-1/2	4	6	K910704920	\$132.84
	12.50				.4921	.4921	1-1/2	4	6	K910604921	\$132.84
					.4930	.4930	1-1/2	4	6	K910704930	\$132.84
					.4940	.4940	1-1/2	4	6	K910704940	\$132.84
Milling					.4950	.4950	1-1/2	4	6	K910704950	\$132.84
					.4960	.4960	1-1/2	4	6	K910704960	\$132.84
					.4970	.4970	1-1/2	4	6	K910704970	\$132.84
					.4980	.4980	1-1/2	4	6	K910704980	\$132.84
					.4990	.4990	1-1/2	4	6	K910704990	\$132.84
					.4995	.4995	1-1/2	4	6	K910704995	\$132.84
					.5000	.5000	1-1/2	4	6	K910705000	\$132.84
					.5005	.5005	1-1/2	4	6	K910705005	\$132.84
					.5010	.5010	1-1/2	4	6	K910705010	\$132.84
					.5020	.5020	1-1/2	4	6	K910705020	\$132.84
	13.00				.5118	.5118	1-1/2	4	6	K910605118	\$157.44
	14.00				.5512	.5512	1-1/2	4	6	K910605512	\$157.44
		9/16			.5625	.5625	1-1/2	4	6	K910105625	\$157.44
	Rotary Tool Holder		5/8		.6250	.6250	1-3/4	4	6	K910106250	\$177.12
16.00				.6299	.6299	1-3/4	4	6	K910606299	\$177.12	

TOLERANCE FOR SERIES K9107 REAMERS

O.D. Tolerance	Shank Dia. Tolerance	O.D. Tolerance	Shank Dia. Tolerance
Up to 1/4 Inch : +.0000"/-.0002" Over 1/4 Inch : +.0000"/-.0003"	+.0000"/-.0010"	Up to .2504" : +.0002"/-.0000" Over .2504" : +.0003"/-.0000"	+.0000"/-.0010"

REAMERS

RECOMMENDED CUTTING CONDITIONS – HSS

SFM = ft/min.
IPR = Inch/rev.

ISO	VDI 3323	Material Description	SFM (ft/min.)	IPR(inch/rev.)					
				<Ø.0394	Ø.0394	Ø.0787	Ø.1575	Ø.2362	Ø.315
P	1	Non-alloy steel	46	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0055
	2		46	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0055
	3		33	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0051
	4		26	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0051
	6	Low alloy steel	39	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0051
	7		26	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0051
	10		High alloyed steel, and tool steel	20	.0004~.0008	.0008~.0012	.0012~.0016	.0016~.002	.002~.0024
M	12	Stainless steel	20	.0004~.0008	.0008~.0012	.0012~.0016	.0016~.002	.002~.0024	.0024~.0028
	13		16	.0004~.0008	.0008~.0012	.0012~.0016	.0016~.002	.002~.0024	.0024~.0028
	14		13	.0004~.0008	.0008~.0012	.0012~.0016	.0016~.002	.002~.0024	.0024~.0028
K	15	Grey cast iron	46	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0055
	16		36	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0051
	17	Nodular cast iron	39	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0055
	18		33	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0051
	19		Malleable cast iron	39	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035	.0035~.0043
20	33	.0004~.0012		.0012~.002	.002~.0028	.0028~.0035	.0035~.0043	.0043~.0051	
N	21	Aluminum-wrought alloy	59	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0075	.0075~.0087
	22		59	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0075	.0075~.0087
	23	Aluminum-cast, alloyed	59	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0075	.0075~.0087
	24		56	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0075	.0075~.0087
	26		Copper and Copper Alloys (Bronze / Brass)	59	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0075
	27	52		.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0075	.0075~.0087
	28	66		.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0075	.0075~.0087

ISO	VDI 3323	Material Description	SFM (ft/min.)	IPR(inch/rev.)				
				Ø.3937	Ø.4724	Ø.5512	Ø.6299	Ø.7874
P	1	Non-alloy steel	46	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102	.0102~.0114
	2		46	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102	.0102~.0114
	3		33	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
	4		26	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
	6	Low alloy steel	39	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
	7		26	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
	10		High alloyed steel, and tool steel	20	.0028~.0031	.0031~.0039	.0039~.0047	.0047~.0055
M	12	Stainless steel	20	.0028~.0031	.0031~.0039	.0039~.0047	.0047~.0055	.0055~.0063
	13		16	.0028~.0031	.0031~.0039	.0039~.0047	.0047~.0055	.0055~.0063
	14		13	.0028~.0031	.0031~.0039	.0039~.0047	.0047~.0055	.0055~.0063
K	15	Grey cast iron	46	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102	.0102~.0114
	16		36	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
	17	Nodular cast iron	39	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102	.0102~.0114
	18		33	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
	19		Malleable cast iron	39	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102
20	33	.0051~.0059		.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091	
N	21	Aluminum-wrought alloy	59	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
	22		59	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
	23	Aluminum-cast, alloyed	59	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
	24		56	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
	26		Copper and Copper Alloys (Bronze / Brass)	59	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134
	27	52		.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
	28	66		.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146

REAMING ALLOWANCE

Unit : inch

Size Range	Up to Ø.2362"	Ø.2362"~Ø.3937"	Ø.3937"~Ø.6299"	Ø.6299"~Ø1.0000"	Over Ø1.0000"
Removal Amount	.004" ~ .008"	.008" ~ .012"	.008" ~ .016"	.012" ~ .020"	.012" ~ .024"

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

REAMERS

RECOMMENDED CUTTING CONDITIONS – CARBIDE

SFM = ft./min.
IPR = Inch/rev.

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

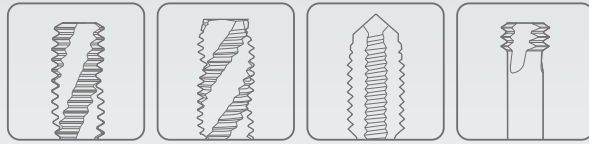
ISO	VDI 3323	Material Description	SFM (ft./min.)	IPR(inch/rev.)				
				<Ø.0394	Ø.0394	Ø.0787	Ø.1575	Ø.2362
P	1	Non-alloy steel	59	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
	2		56	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
	3		49	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
	4		49	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
	5		49	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
	6	Low alloy steel	56	.0008~.0016	.0016~.0024	.0024~.0031	.0031~.0039	.0039~.0047
	7		46	.0008~.0016	.0016~.0024	.0024~.0031	.0031~.0039	.0039~.0047
	8		46	.0008~.0016	.0016~.0024	.0024~.0031	.0031~.0039	.0039~.0047
	10		High alloyed steel, and tool steel	43	.0008~.0016	.0016~.0024	.0024~.0031	.0031~.0039
	M	12	Stainless steel	26	.0008~.0016	.0016~.0024	.0024~.0031	.0031~.0039
13		23		.0008~.0016	.0016~.0024	.0024~.0031	.0031~.0039	.0039~.0047
14		20		.0008~.0016	.0016~.0024	.0024~.0031	.0031~.0039	.0039~.0047
K	15	Grey cast iron	66	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
	16		49	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
	17	Nodular cast iron	59	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
	18		43	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
	19	Malleable cast iron	59	.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063
20	43		.0008~.002	.002~.0031	.0031~.0039	.0039~.0047	.0047~.0063	
N	21	Aluminum-wrought alloy	98	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0079
	22		98	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0079
	23	Aluminum-cast, alloyed	98	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0079
	24		82	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0079
	26	Copper and Copper Alloys (Bronze / Brass)	82	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0079
	27		72	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0079
	28		75	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063	.0063~.0079

ISO	VDI 3323	Material Description	SFM (ft./min.)	IPR(inch/rev.)				
				Ø.315	Ø.3937	Ø.4724	Ø.5512	Ø.6299
P	1	Non-alloy steel	59	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
	2		56	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
	3		49	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
	4		49	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
	5		49	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
	6	Low alloy steel	56	.0047~.0059	.0059~.0071	.0071~.0083	.0083~.0094	.0094~.0106
	7		46	.0047~.0059	.0059~.0071	.0071~.0083	.0083~.0094	.0094~.0106
	8		46	.0047~.0059	.0059~.0071	.0071~.0083	.0083~.0094	.0094~.0106
	10		High alloyed steel, and tool steel	43	.0047~.0059	.0059~.0071	.0071~.0083	.0083~.0094
	M	12	Stainless steel	26	.0047~.0059	.0059~.0071	.0071~.0083	.0083~.0094
13		23		.0047~.0059	.0059~.0071	.0071~.0083	.0083~.0094	.0094~.0106
14		20		.0047~.0059	.0059~.0071	.0071~.0083	.0083~.0094	.0094~.0106
K	15	Grey cast iron	66	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
	16		49	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
	17	Nodular cast iron	59	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
	18		43	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
	19	Malleable cast iron	59	.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142
20	43		.0063~.0079	.0079~.0094	.0094~.011	.011~.0126	.0126~.0142	
N	21	Aluminum-wrought alloy	98	.0079~.0098	.0098~.0118	.0118~.0138	.0138~.0157	.0157~.0177
	22		98	.0079~.0098	.0098~.0118	.0118~.0138	.0138~.0157	.0157~.0177
	23	Aluminum-cast, alloyed	98	.0079~.0098	.0098~.0118	.0118~.0138	.0138~.0157	.0157~.0177
	24		82	.0079~.0098	.0098~.0118	.0118~.0138	.0138~.0157	.0157~.0177
	26	Copper and Copper Alloys (Bronze / Brass)	82	.0079~.0098	.0098~.0118	.0118~.0138	.0138~.0157	.0157~.0177
	27		72	.0079~.0098	.0098~.0118	.0118~.0138	.0138~.0157	.0157~.0177
	28		75	.0079~.0098	.0098~.0118	.0118~.0138	.0138~.0157	.0157~.0177

REAMING ALLOWANCE

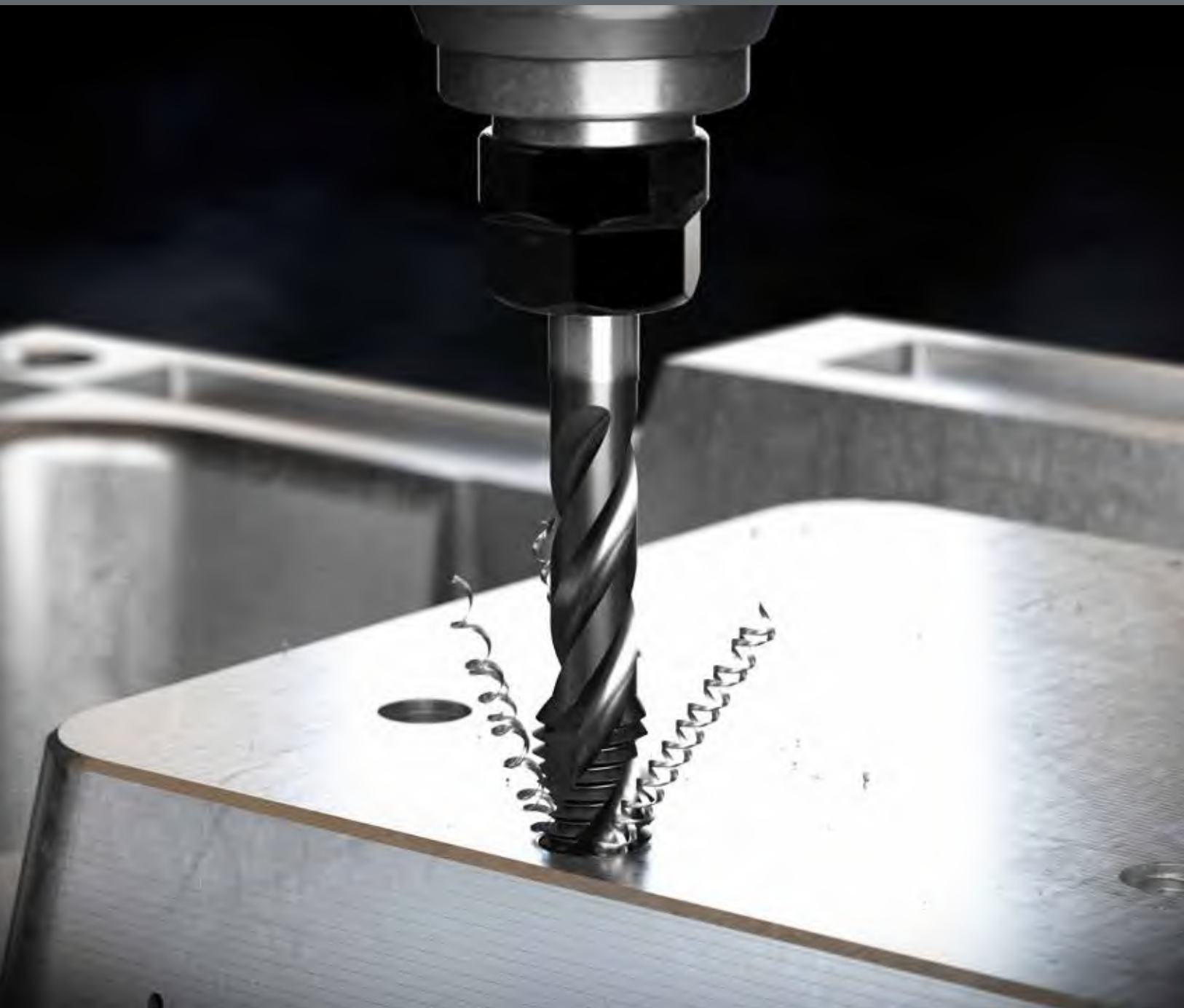
Unit : inch

Size Range	Up to Ø.2362"	Ø.2362"~Ø.3937"	Ø.3937"~Ø.6299"	Ø.6299"~Ø1.0000"	Over Ø1.0000"
Removal Amount	.004" ~ .008"	.008" ~ .012"	.008" ~ .016"	.012" ~ .020"	.012" ~ .024"



THREADING

TAPS



TAPS

SELECTION GUIDE

HSS & HSS-E TAPS

- Spiral Flute for blind holes to pull the chip up out of the hole
- Spiral Point for through holes to push the chip through
- Straight Flute taps for short chipping materials and hand tapping operations
- Offered in Bright Finish, Steam Oxide, TiN, and TiCN coating
- Use Hardslick coating for gummy materials

◎ : Excellent ○ : Good

HOLE TYPE		 Max. 2.5xD Blind Hole					
FLUTE TYPE		Spiral Flute					
CHAMFER LEAD		1.5P-2P					
TOOL MATERIAL		HSS-E					
SPIRAL FLUTE ANGLE		R45			R50		
PAGE NO.	M/MF					76	76
	UNC/UNF	74	74	75	75		
	UNC/UNF/UNS						
SURFACE TREATMENT / COATING		Bright Steam Oxide	TiN Hardslick	Steam Oxide	TiN Hardslick	Bright	TiCN Hardslick
MODEL							

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
	2		About 0.45% C Annealed	190	13	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
	3		About 0.45% C Quenched & Tempered	250	25	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
	4		About 0.75% C Annealed	270	28	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35
	5	About 0.75% C Quenched & Tempered	300	32	○ 6-30	○ 10-35	○ 6-30	○ 10-35	○ 6-30	○ 10-35	
	6	Low alloy steel	Annealed	180	10	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35
	7		Quenched & Tempered	275	29	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35
	8		Quenched & Tempered	300	32	○ 6-30	○ 10-35	○ 6-30	○ 10-35	○ 6-30	○ 10-35
	9		Quenched & Tempered	350	38						
	10		High alloyed steel, and tool steel	Annealed	200	15					
			Quenched & Tempered	325	35						
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○ 12-35	○ 20-50	○ 12-35	○ 20-50	○ 12-35	○ 20-50
	13		Martensitic Quenched & Tempered	240	23	○ 12-35	○ 20-50	○ 12-35	○ 20-50	○ 12-35	○ 20-50
	14		Austenitic	180	10						
K	15	Grey cast iron	Pearlitic / ferritic	180	10						
	16		Pearlitic (Martensitic)	260	26						
	17	Nodular cast iron	Ferritic	160	3	○ 12-45	○ 25-55	○ 12-45	○ 25-55	○ 12-45	○ 25-55
	18		Pearlitic	250	25	○ 12-45	○ 25-55	○ 12-45	○ 25-55	○ 12-45	○ 25-55
	19	Malleable cast iron	Ferritic	130							
20	Pearlitic		230	21							
N	21	Aluminum-wrought alloy	Not Curable	60							
	22		Curable Hardened	100							
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○ 40-65	○ 45-90	○ 40-65	○ 45-90	○ 40-65	○ 45-90
	24		≤ 12% Si, Curable Hardened	90		○ 40-65	○ 45-90	○ 40-65	○ 45-90	○ 40-65	○ 45-90
	25		> 12% Si, Not Curable	130							
	26		Cutting Alloys, PB>1%	110		○ 50-60	○ 65-100	○ 50-60	○ 65-100	○ 50-60	○ 65-100
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		○ 30-50	○ 50-65	○ 30-50	○ 50-65	○ 30-50	○ 50-65
	28		CuSn, lead-free copper and electrolytic copper	100							
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15						
	32		Cured	280	30						
	33		Annealed	250	25						
	34		Ni or Co Based Cured	350	38						
	35		Cast	320	34						
	36	Titanium Alloys	Pure Titanium	400 Rm							
37		Alpha + Beta Alloys Hardened	1050 Rm								
H	38	Hardened steel	Hardened	550	55						
	39		Hardened	630	60						
	40	Chilled Cast Iron	Cast	400	42						
	41	Hardened Cast Iron	Hardened	550	55						

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder





TAPS

SELECTION GUIDE

HSS & HSS-E TAPS

- Spiral Flute for blind holes to pull the chip up out of the hole
- Spiral Point for through holes to push the chip through
- Straight Flute taps for short chipping materials and hand tapping operations
- Offered in Bright Finish, Steam Oxide, TiN, and TiCN coating
- Use Hardslick coating for gummy materials

◎ : Excellent ○ : Good

HOLE TYPE		 Max. 2.5xD Blind Hole									
FLUTE TYPE		Spiral Flute									
CHAMFER LEAD		2P-3P		4P-5P, 1.5P-2P							
TOOL MATERIAL		HSS-E		HSS							
SPIRAL FLUTE ANGLE		R45		R50							
PAGE NO.	M/MF					79	79				
	UNC/UNF	77	77	78	78						
	UNC/UNF/UNS										
SURFACE TREATMENT / COATING		Bright	TiN Hardslick	Bright Steam Oxide	TiN	Bright Steam Oxide	TiCN				
MODEL											
ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
	2		About 0.45% C Annealed	190	13	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
	3		About 0.45% C Quenched & Tempered	250	25	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
	4		About 0.75% C Annealed	270	28	○ 6-30	○ 10-35	○ 6-30	○ 10-35	○ 6-30	○ 10-35
	5	About 0.75% C Quenched & Tempered	300	32	○ 6-30	○ 10-35	○ 6-30	○ 10-35	○ 6-30	○ 10-35	
	6	Low alloy steel	Annealed	180	10	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35
	7		Quenched & Tempered	275	29	○ 6-30	○ 10-35	○ 6-30	○ 10-35	○ 6-30	○ 10-35
	8		Quenched & Tempered	300	32	○ 6-30	○ 10-35	○ 6-30	○ 10-35	○ 6-30	○ 10-35
	9		Quenched & Tempered	350	38						
	10		High alloyed steel, and tool steel	Annealed	200	15					
	11	Quenched & Tempered		325	35						
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○ 12-35	○ 20-50	○ 12-35	○ 20-50	○ 12-35	○ 20-50
	13		Martensitic Quenched & Tempered	240	23	○ 12-35	○ 20-50	○ 12-35	○ 20-50	○ 12-35	○ 20-50
	14		Austenitic	180	10						
K	15	Grey cast iron	Pearlitic / ferritic	180	10						
	16		Pearlitic (Martensitic)	260	26						
	17	Nodular cast iron	Ferritic	160	3	○ 12-45	○ 25-55	○ 12-45	○ 25-55	○ 12-45	○ 25-55
	18		Pearlitic	250	25	○ 12-45	○ 25-55	○ 12-45	○ 25-55	○ 12-45	○ 25-55
	19	Malleable cast iron	Ferritic	130							
20	Pearlitic		230	21							
N	21	Aluminum-wrought alloy	Not Curable	60							
	22		Curable Hardened	100							
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○ 40-65	○ 45-90	○ 40-65	○ 45-90	○ 40-65	○ 45-90
	24		≤ 12% Si, Curable Hardened	90		○ 40-65	○ 45-90	○ 40-65	○ 45-90	○ 40-65	○ 45-90
	25		> 12% Si, Not Curable	130							
	26		Cutting Alloys, PB>1%	110		○ 50-60	○ 65-100	○ 50-60	○ 65-100	○ 50-60	○ 65-100
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		○ 30-50	○ 50-65	○ 30-50	○ 50-65	○ 30-50	○ 50-65
	28		CuSn, lead-free copper and electrolytic copper	100							
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15						
	32		Cured	280	30						
	33		Annealed	250	25						
	34		Cured	350	38						
	35	Ni or Co Based Cast	320	34							
	36	Titanium Alloys	Pure Titanium	400 Rm							
37	Alpha + Beta Alloys Hardened		1050 Rm								
H	38	Hardened steel	Hardened	550	55						
	39		Hardened	630	60						
	40	Hardened Cast Iron	Cast	400	42						
	41		Hardened	550	55						

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

TAPS

Max. 2.5xD Blind Hole		Max. 3.0xD Through Hole								Max. 3.0xD Through Hole					
Spiral Flute		Spiral Point								Spiral Point					
4P-5P, 1.5P-2P		4P-5P								4P-5P		1.5P-2P	4P-5P		
HSS		HSS-E								HSS					
R50															
				82		82						87		87	
79		79	80	80	81	81			83	83	84-85	84-85	86		
Bright	TiN	Bright Steam Oxide	TiN Hardslick	Bright	TiN Hardslick	Bright	TiCN Hardslick	Bright	TiN Hardslick	Bright Steam Oxide	TiN	Bright Steam Oxide	Bright Steam Oxide	TiN	
															
⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 25-50	⊙ 50-80	1
⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 25-50	⊙ 50-80	2
⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 50-80	⊙ 25-50	⊙ 25-50	⊙ 50-80	3
⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 6-30	⊙ 10-35	4
⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 6-30	⊙ 10-35	5
⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 6-30	⊙ 10-35	6
⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 6-30	⊙ 10-35	7
⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 10-35	⊙ 6-30	⊙ 6-30	⊙ 10-35	8
															9
															10
															11
⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 12-35	⊙ 20-50	12
⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50	⊙ 12-35	⊙ 20-50				13
															14
															15
															16
⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 12-45	⊙ 25-55	17
⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 25-55	⊙ 12-45	⊙ 12-45	⊙ 25-55	18
															19
															20
															21
⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 40-65	⊙ 45-90	22
⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 45-90	⊙ 40-65	⊙ 40-65	⊙ 45-90	23
															24
															25
⊙ 50-60	⊙ 65-100	⊙ 50-60	⊙ 65-100	⊙ 50-60	⊙ 65-100	⊙ 50-60	⊙ 65-100	⊙ 50-60	⊙ 65-100	⊙ 50-60	⊙ 65-100	⊙ 50-60	⊙ 50-60	⊙ 65-100	26
⊙ 30-50	⊙ 50-65	⊙ 30-50	⊙ 50-65	⊙ 30-50	⊙ 50-65	⊙ 30-50	⊙ 50-65	⊙ 30-50	⊙ 50-65	⊙ 30-50	⊙ 50-65	⊙ 30-50	⊙ 30-50	⊙ 50-65	27
															28
															29
															30
															31
															32
															33
															34
															35
															36
															37
															38
															39
															40
															41

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder





TAPS

SELECTION GUIDE

HSS & HSS-E TAPS

- Spiral Flute for blind holes to pull the chip up out of the hole
- Spiral Point for through holes to push the chip through
- Straight Flute taps for short chipping materials and hand tapping operations
- Offered in Bright Finish, Steam Oxide, TiN, and TiCN coating
- Use Hardslick coating for gummy materials

◎ : Excellent ○ : Good

HOLE TYPE		 Max. 3.0xD Through Hole									
FLUTE TYPE		Spiral Point									
CHAMFER LEAD		4P-5P									
TOOL MATERIAL		HSS									
SPIRAL FLUTE ANGLE											
PAGE NO.	M/MF			88	88						
	UNC/UNF	88	88			87	87				
	UNC/UNF/UNS										
SURFACE TREATMENT / COATING		Bright Steam Oxide	TiN	Bright Steam Oxide	TiN	Bright Steam Oxide	TiN				
MODEL		.005" oversize		.127mm oversize							
											
ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
	2		About 0.45% C Annealed	190	13	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
	3		About 0.45% C Quenched & Tempered	250	25	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80	◎ 25-50	◎ 50-80
	4		About 0.75% C Annealed	270	28	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35
	5	About 0.75% C Quenched & Tempered	300	32	○ 6-30	○ 10-35	○ 6-30	○ 10-35	○ 6-30	○ 10-35	
	6	Low alloy steel	Annealed	180	10	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35
	7		Quenched & Tempered	275	29	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35	◎ 6-30	◎ 10-35
	8		Quenched & Tempered	300	32	○ 6-30	○ 10-35	○ 6-30	○ 10-35	○ 6-30	○ 10-35
	9		Quenched & Tempered	350	38						
	10		High alloyed steel, and tool steel	Annealed	200	15					
	11		Quenched & Tempered	325	35						
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○ 12-35	○ 20-50	○ 12-35	○ 20-50	○ 12-35	○ 20-50
	13		Martensitic Quenched & Tempered	240	23						
	14		Austenitic	180	10						
K	15	Grey cast iron	Pearlitic / ferritic	180	10						
	16		Pearlitic (Martensitic)	260	26						
	17	Nodular cast iron	Ferritic	160	3	○ 12-45	○ 25-55	○ 12-45	○ 25-55	○ 12-45	○ 25-55
	18		Pearlitic	250	25	○ 12-45	○ 25-55	○ 12-45	○ 25-55	○ 12-45	○ 25-55
	19	Malleable cast iron	Ferritic	130							
20	Pearlitic		230	21							
N	21	Aluminum-wrought alloy	Not Curable	60							
	22		Curable Hardened	100							
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○ 40-65	○ 45-90	○ 40-65	○ 45-90	○ 40-65	○ 45-90
	24		≤ 12% Si, Curable Hardened	90		○ 40-65	○ 45-90	○ 40-65	○ 45-90	○ 40-65	○ 45-90
	25		> 12% Si, Not Curable	130							
	26		Cutting Alloys, PB>1%	110		○ 50-60	○ 65-100	○ 50-60	○ 65-100	○ 50-60	○ 65-100
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		○ 30-50	○ 50-65	○ 30-50	○ 50-65	○ 30-50	○ 50-65
	28		CuSn, lead-free copper and electrolytic copper	100							
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15						
	32		Cured	280	30						
	33		Annealed	250	25						
	34		Ni or Co Based Cured	350	38						
	35	Cast	320	34							
	36	Titanium Alloys	Pure Titanium	400 Rm							
H	37	Alpha + Beta Alloys	Hardened	1050 Rm							
	38	Hardened steel	Hardened	550	55						
	39		Hardened	630	60						
	40	Chilled Cast Iron	Cast	400	42						
	41	Hardened Cast Iron	Hardened	550	55						

Holemaking

Threading

Milling

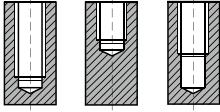
Indexable

Rotary Tool Holder

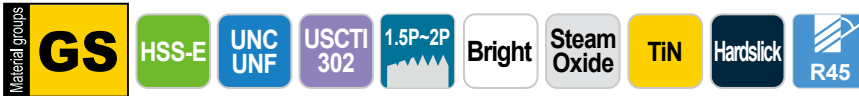
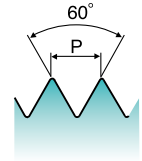
TAPS

SPIRAL FLUTE TAPS BOTTOMING STYLE

Thread Depth / Hole Type 2.5×D



USCTI



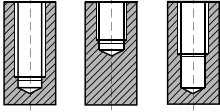
SIZE	Thread Per Inch		Limit	No of Flute	EDP No.		Price	EDP No.		Price	EDP No.		Price
	UNC	UNF			Steam Oxide	Bright		TiN	Price		Hardslick	Price	
#4	40	-	H2	2	C2162	C3162	\$8.62	C4162	\$11.29	D9162	\$12.57		
#5	40	-	H2	3	C2202	C3202	\$8.62	C4202	\$11.29	D9202	\$12.57		
#6	32	-	H3	3	C2243	C3243	\$7.12	C4243	\$9.72	D9243	\$11.06		
#8	32	-	H3	3	C2283	C3283	\$6.29	C4283	\$11.31	D9283	\$13.84		
#10	24	-	H3	3	C2323	C3323	\$6.29	C4323	\$11.31	D9323	\$13.84		
#10	-	32	H3	3	C2343	C3343	\$6.29	C4343	\$11.31	D9343	\$13.84		
1/4	20	-	H3	3	C2403	C3403	\$6.29	C4403	\$11.31	D9403	\$13.84		
1/4	20	-	H5	3	C2405	C3405	\$6.29	C4405	\$11.31	D9405	\$13.84		
1/4	-	28	H3	3	C2423	C3423	\$6.29	C4423	\$11.31	D9423	\$13.84		
5/16	18	-	H3	3	C2443	C3443	\$6.78	C4443	\$14.64	D9443	\$18.59		
5/16	18	-	H5	3	C2445	C3445	\$6.78	C4445	\$14.64	D9445	\$18.59		
5/16	-	24	H3	3	C2463	C3463	\$6.78	C4463	\$14.64	D9463	\$18.59		
3/8	16	-	H3	3	C2483	C3483	\$8.04	C4483	\$15.89	D9483	\$19.81		
3/8	16	-	H5	3	C2485	C3485	\$8.04	C4485	\$15.77	D9485	\$19.81		
3/8	-	24	H3	3	C2503	C3503	\$8.04	C4503	\$15.89	D9503	\$19.81		
7/16	14	-	H3	3	C2523	C3523	\$13.71	C4523	\$21.52	D9523	\$25.46		
7/16	14	-	H5	3	C2525	C3525	\$13.71	C4525	\$21.52	D9525	\$25.46		
7/16	-	20	H3	3	C2543	C3543	\$13.71	C4543	\$21.52	D9543	\$25.46		
7/16	-	20	H5	3	C2545	C3545	\$13.71	C4545	\$21.52	D9545	\$25.46		
1/2	13	-	H3	3	C2563	C3563	\$15.17	C4563	\$23.04	D9563	\$26.95		
1/2	13	-	H5	3	C2565	C3565	\$15.17	C4565	\$23.04	D9565	\$26.95		
1/2	-	20	H3	3	C2583	C3583	\$15.17	C4583	\$23.04	D9583	\$26.95		
1/2	-	20	H5	3	C2585	C3585	\$15.17	C4585	\$23.04	D9585	\$26.95		
9/16	12	-	H5	3	C2605	C3605	\$24.65	C4605	\$30.84	D9605	\$39.05		
9/16	-	18	H5	3	C2625	C3625	\$24.65	C4625	\$30.84	D9625	\$39.05		
5/8	11	-	H3	4	C2643	C3643	\$31.14	C4643	\$46.00	D9643	\$53.36		
5/8	11	-	H5	4	C2645	C3645	\$31.14	C4645	\$46.00	D9645	\$53.36		
5/8	-	18	H3	4	C2663	C3663	\$31.14	C4663	\$45.97	D9663	\$53.36		
3/4	10	-	H3	4	C2703	C3703	\$49.62	C4703	\$66.26	D9703	\$74.58		
3/4	10	-	H5	4	C2705	C3705	\$49.62	C4705	\$66.26	D9705	\$74.58		
3/4	-	16	H3	4	C2723	C3723	\$49.62	C4723	\$66.26	D9723	\$74.58		
7/8	9	-	H4	4	C2744	C3744	\$58.91	C4744	\$70.71	D9744	\$89.01		
7/8	-	14	H6	4	C2766	C3766	\$58.91	C4766	\$70.71	D9766	\$89.01		
1	8	-	H4	4	C2784	C3784	\$80.36	C4784	\$96.42	D9784	\$107.35		

► Refer to technical data on page 69~73.

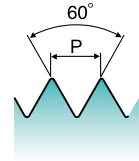
TAPS

SPIRAL FLUTE TAPS BOTTOMING STYLE

Thread Depth / Hole Type 2.5×D



USCTI



SIZE	Thread Per Inch		Limit	No. of Flute	EDP No.	Price	EDP No.	Price	EDP No.	Price
	UNC	UNF			Steam Oxide		TiN		Hardslick	
#2	56	-	H2	2	F4082	\$11.03	F8082	\$14.56	F6082	\$14.92
#4	40	-	H2	2	F4162	\$7.25	F8162	\$10.78	F6162	\$11.20
#5	40	-	H2	2	F4202	\$7.25	F8202	\$10.78	F6202	\$11.20
#6	32	-	H3	3	F4243	\$6.06	F8243	\$9.90	F6243	\$13.60
#8	32	-	H3	3	F4283	\$6.06	F8283	\$9.90	F6283	\$13.60
#10	24	-	H3	3	F4323	\$6.06	F8323	\$9.90	F6323	\$13.60
#10	-	32	H3	3	F4343	\$6.06	F8343	\$9.90	F6343	\$13.60
1/4	20	-	H3	3	F4403	\$6.73	F8403	\$10.58	F6403	\$14.30
1/4	20	-	H5	3	F4405	\$6.73	F8405	\$10.58	F6405	\$14.30
1/4	-	28	H3	3	F4423	\$6.73	F8423	\$10.58	F6423	\$14.30
5/16	18	-	H3	3	F4443	\$7.55	F8443	\$12.10	F6443	\$19.29
5/16	18	-	H5	3	F4445	\$7.55	F8445	\$12.10	F6445	\$19.29
5/16	-	24	H3	3	F4463	\$7.55	F8463	\$12.10	F6463	\$19.29
3/8	16	-	H3	3	F4483	\$8.53	F8483	\$13.71	F6483	\$20.28
3/8	16	-	H5	3	F4485	\$8.53	F8485	\$13.71	F6485	\$20.28
3/8	-	24	H3	3	F4503	\$8.53	F8503	\$13.71	F6503	\$20.28
7/16	14	-	H3	3	F4523	\$11.03	F8523	\$17.48	F6523	\$22.81
7/16	14	-	H5	3	F4525	\$11.03	F8525	\$17.48	F6525	\$22.81
7/16	-	20	H3	3	F4543	\$11.03	F8543	\$17.48	F6543	\$22.81
7/16	-	20	H5	3	F4545	\$11.03	F8545	\$17.48	F6545	\$22.81
1/2	13	-	H3	3	F4563	\$12.80	F8563	\$19.53	F6563	\$24.55
1/2	13	-	H5	3	F4565	\$12.80	F8565	\$19.53	F6565	\$24.55
1/2	-	20	H3	3	F4583	\$12.80	F8583	\$19.53	F6583	\$24.55
1/2	-	20	H5	3	F4585	\$12.80	F8585	\$19.53	F6585	\$24.55
9/16	12	-	H3	3	F4603	\$21.13	F8603	\$28.53	F6603	\$32.91
9/16	12	-	H5	3	F4605	\$21.13	F8605	\$28.53	F6605	\$32.91
9/16	-	18	H3	3	F4623	\$21.13	F8623	\$28.53	F6623	\$32.91
9/16	-	18	H5	3	F4625	\$21.13	F8625	\$28.53	F6625	\$32.91
5/8	11	-	H3	4	F4643	\$24.76	F8643	\$32.89	F6643	\$47.04
5/8	11	-	H5	4	F4645	\$24.76	F8645	\$32.89	F6645	\$47.04
5/8	-	18	H3	4	F4663	\$24.76	F8663	\$32.89	F6663	\$47.04
5/8	-	18	H5	4	F4665	\$24.76	F8665	\$32.89	F6665	\$47.04
3/4	10	-	H3	4	F4703	\$38.91	F8703	\$47.30	F6703	\$63.83
3/4	10	-	H5	4	F4705	\$38.91	F8705	\$47.30	F6705	\$63.83
3/4	-	16	H3	4	F4723	\$38.91	F8723	\$47.30	F6723	\$63.83
3/4	-	16	H5	4	F4725	\$38.91	F8725	\$47.30	F6725	\$63.83
7/8	9	-	H4	4	F4744	\$50.50	F8744	\$61.09	F6744	\$84.81
7/8	9	-	H6	4	F4746	\$50.50	F8746	\$61.09	F6746	\$84.81
7/8	-	14	H4	4	F4764	\$50.50	F8764	\$61.09	F6764	\$84.81
7/8	-	14	H6	4	F4766	\$50.50	F8766	\$61.09	F6766	\$84.81
1	8	-	H4	4	F4784	\$68.86	F8784	\$81.44	F6784	\$115.53
1	8	-	H6	4	F4786	\$68.86	F8786	\$81.44	F6786	\$115.53
1	-	12	H6	4	F4806	\$68.86	F8806	\$81.44	F6806	\$115.53

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

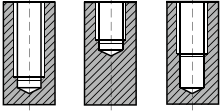
Indexable

Rotary Tool Holder

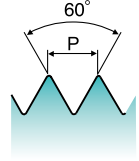
TAPS

METRIC SPIRAL FLUTE TAPS BOTTOMING STYLE

Thread Depth / Hole Type 2.5×D



USCTI



Material groups

- GS**
- HSS-E**
- M MF**
- USCTI 302A**
- 1.5P~2P**
- Bright**
- TiCN**
- Hardslick**
- R50**

SIZE	PITCH	Limit	No. of Flute	EDP No.	Price	EDP No.	Price	EDP No.	Price
				Bright		TiN		Hardslick	
M3	0.5	D3	2	G4203	\$8.84	G5203	\$13.77	G6203	\$15.51
M3.5	0.6	D4	2	G4224	\$7.31	G5224	\$12.26	G6224	\$14.03
M4	0.7	D4	3	G4244	\$7.31	G5244	\$12.26	G6244	\$14.03
M5	0.8	D4	3	G4284	\$7.31	G5284	\$12.26	G6284	\$14.03
M6	1.0	D5	3	G4315	\$8.11	G5315	\$13.04	G6315	\$15.85
M7	1.0	D5	3	G4345	\$9.11	G5345	\$15.93	G6345	\$20.87
M8	1.25	D5	3	G4365	\$9.11	G5365	\$17.16	G6365	\$21.69
M8	1.0	D5	3	G4375	\$9.11	G5375	\$17.16	G6375	\$21.69
M10	1.5	D6	3	G4426	\$9.67	G5426	\$18.79	G6426	\$22.90
M10	1.25	D5	3	G4435	\$9.67	G5435	\$18.79	G6435	\$22.90
M12	1.75	D6	3	G4506	\$14.44	G5506	\$26.03	G6506	\$29.13
M12	1.25	D5	3	G4525	\$14.44	G5525	\$26.03	G6525	\$29.13

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

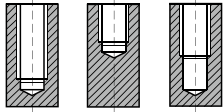
Indexable

Rotary Tool Holder

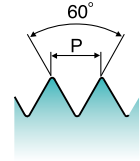
TAPS

SPIRAL FLUTE TAPS BOTTOMING STYLE

Thread Depth / Hole Type 2.5×D



DIN Length-ANSI Shank



Material groups

GS HSS-E UNC UNF 2P~3P Bright TiN Hardslick R45

SIZE	Thread Per Inch		Limit	No. of Flute	EDP No.		Price	EDP No.		Price
	UNC	UNF			Bright	TiN		Hardslick		
#2	56	-	H2	2	G0082	\$13.21	G1082	\$16.73	G2082	\$19.93
#4	40	-	H2	2	G0162	\$8.84	G1162	\$12.66	G2162	\$15.51
#5	40	-	H2	3	G0202	\$8.84	G1202	\$12.66	G2202	\$15.51
#6	32	-	H3	3	G0243	\$7.31	G1243	\$11.15	G2243	\$14.03
#8	32	-	H3	3	G0283	\$7.31	G1283	\$11.15	G2283	\$14.03
#10	24	-	H3	3	G0323	\$7.31	G1323	\$11.15	G2323	\$14.03
#10	-	32	H3	3	G0343	\$7.31	G1343	\$11.15	G2343	\$14.03
1/4	20	-	H3	3	G0403	\$8.11	G1403	\$11.96	G2403	\$15.85
1/4	20	-	H5	3	G0405	\$8.11	G1405	\$11.96	G2405	\$15.85
1/4	-	28	H3	3	G0423	\$8.11	G1423	\$11.96	G2423	\$15.85
5/16	18	-	H3	3	G0443	\$9.11	G1443	\$15.29	G2443	\$21.69
5/16	18	-	H5	3	G0445	\$9.11	G1445	\$15.29	G2445	\$21.69
5/16	-	24	H3	3	G0463	\$9.11	G1463	\$15.29	G2463	\$21.69
3/8	16	-	H3	3	G0483	\$10.29	G1483	\$17.27	G2483	\$24.45
3/8	16	-	H5	3	G0485	\$10.29	G1485	\$17.27	G2485	\$24.45
3/8	-	24	H3	3	G0503	\$10.29	G1503	\$17.27	G2503	\$24.45
7/16	14	-	H3	3	G0523	\$12.39	G1523	\$20.00	G2523	\$25.72
7/16	14	-	H5	3	G0525	\$12.39	G1525	\$20.00	G2525	\$25.72
7/16	-	20	H3	3	G0543	\$12.39	G1543	\$20.00	G2543	\$25.72
7/16	-	20	H5	3	G0545	\$12.39	G1545	\$20.00	G2545	\$25.72
1/2	13	-	H3	3	G0563	\$14.44	G1563	\$23.34	G2563	\$29.13
1/2	13	-	H5	3	G0565	\$14.44	G1565	\$23.34	G2565	\$29.13
1/2	-	20	H3	3	G0583	\$14.44	G1583	\$23.34	G2583	\$29.13
1/2	-	20	H5	3	G0585	\$14.44	G1585	\$23.34	G2585	\$29.13
9/16	12	-	H3	3	G0603	\$24.37	G1603	\$36.13	G2603	\$40.65
9/16	12	-	H5	3	G0605	\$24.37	G1605	\$36.13	G2605	\$40.65
9/16	-	18	H3	3	G0623	\$24.37	G1623	\$36.13	G2623	\$40.65
9/16	-	18	H5	3	G0625	\$24.37	G1625	\$36.13	G2625	\$40.65
5/8	11	-	H3	4	G0643	\$26.26	G1643	\$36.68	G2643	\$41.05
5/8	11	-	H5	4	G0645	\$26.26	G1645	\$36.68	G2645	\$41.05
5/8	-	18	H3	4	G0663	\$26.26	G1663	\$36.68	G2663	\$41.05
5/8	-	18	H5	4	G0665	\$26.26	G1665	\$36.68	G2665	\$41.05
3/4	10	-	H3	4	G0703	\$41.21	G1703	\$55.41	G2703	\$65.59
3/4	10	-	H5	4	G0705	\$41.21	G1705	\$55.41	G2705	\$65.59
3/4	-	16	H3	4	G0723	\$41.21	G1723	\$55.41	G2723	\$65.59
3/4	-	16	H5	4	G0725	\$41.21	G1725	\$55.41	G2725	\$65.59
7/8	9	-	H6	4	G0746	\$53.05	G1746	\$72.00	G2746	\$87.13
7/8	-	14	H4	4	G0764	\$53.05	G1764	\$72.00	G2764	\$87.13
7/8	-	14	H6	4	G0766	\$53.05	G1766	\$72.00	G2766	\$87.13
1	8	-	H6	4	G0786	\$72.34	G1786	\$96.00	G2786	\$121.02
1	-	12	H4	4	G0804	\$72.34	G1804	\$96.00	G2804	\$121.02
1	-	12	H6	4	G0806	\$72.34	G1806	\$96.00	G2806	\$121.02

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

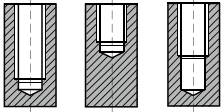
Indexable

Rotary Tool Holder

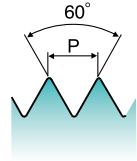
TAPS

SPIRAL FLUTE TAPS

Thread Depth / Hole Type 2.5×D



USCTI



Material groups **GS** HSS UNC UNF USCTI 302 4P~5P Plug 1.5P~2P Bottoming Bright Steam Oxide TiN R50

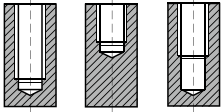
SIZE	Thread Per Inch		Limit	No. of Flute	EDP No. Plug			EDP No. Bottoming			EDP No.			
	UNC	UNF			Bright	Steam Oxide	Price	TiN	Price	Bright	Steam Oxide	Price	TiN	Price
	#3	48			-	H2	2	T7A96122	T6A96122	\$12.17	T8A96122	\$20.70	T7295122	T6295122
#4	40	-	H2	2	T7A96162	T6A96162	\$12.17	T8A96162	\$20.70	T7295162	T6295162	\$12.17	T8295162	\$20.70
#5	40	-	H2	2	T7A96202	T6A96202	\$12.17	T8A96202	\$20.70	T7295202	T6295202	\$12.17	T8295202	\$20.70
#6	32	-	H2	2	T7A96242	T6A96242	\$10.22	T8A96242	\$18.74	T7295242	T6295242	\$10.22	T8295242	\$18.74
#6	32	-	H3	2	T7A96243	T6A96243	\$10.22	T8A96243	\$18.74	T7295243	T6295243	\$10.22	T8295243	\$18.74
#8	32	-	H2	3	T7A96282	T6A96282	\$10.22	T8A96282	\$18.74	T7295282	T6295282	\$10.22	T8295282	\$18.74
#8	32	-	H3	3	T7A96283	T6A96283	\$10.22	T8A96283	\$18.74	T7295283	T6295283	\$10.22	T8295283	\$18.74
#10	24	-	H3	3	T7A96323	T6A96323	\$10.22	T8A96323	\$18.74	T7295323	T6295323	\$10.22	T8295323	\$18.74
#10	-	32	H2	3	T7A96342	T6A96342	\$10.22	T8A96342	\$18.74	T7295342	T6295342	\$10.22	T8295342	\$18.74
#10	-	32	H3	3	T7A96343	T6A96343	\$10.22	T8A96343	\$18.74	T7295343	T6295343	\$10.22	T8295343	\$18.74
#12	24	-	H3	3	T7A96363	T6A96363	\$10.69	T8A96363	\$19.20	T7295363	T6295363	\$10.69	T8295363	\$19.20
1/4	20	-	H3	3	T7A96403	T6A96403	\$10.69	T8A96403	\$19.20	T7295403	T6295403	\$10.69	T8295403	\$19.20
1/4	20	-	H5	3	T7A96405	T6A96405	\$10.69	T8A96405	\$19.20	T7295405	T6295405	\$10.69	T8295405	\$19.20
1/4	-	28	H3	3	T7A96423	T6A96423	\$10.69	T8A96423	\$19.20	T7295423	T6295423	\$10.69	T8295423	\$19.20
5/16	18	-	H3	3	T7A96443	T6A96443	\$11.49	T8A96443	\$21.11	T7295443	T6295443	\$11.49	T8295443	\$21.11
5/16	18	-	H5	3	T7A96445	T6A96445	\$11.49	T8A96445	\$21.11	T7295445	T6295445	\$11.49	T8295445	\$21.11
5/16	-	24	H3	3	T7A96463	T6A96463	\$11.49	T8A96463	\$21.11	T7295463	T6295463	\$11.49	T8295463	\$21.11
3/8	16	-	H3	3	T7A96483	T6A96483	\$13.58	T8A96483	\$23.21	T7295483	T6295483	\$13.58	T8295483	\$23.21
3/8	16	-	H5	3	T7A96485	T6A96485	\$13.58	T8A96485	\$23.21	T7295485	T6295485	\$13.58	T8295485	\$23.21
3/8	-	24	H3	3	T7A96503	T6A96503	\$13.58	T8A96503	\$23.21	T7295503	T6295503	\$13.58	T8295503	\$23.21
7/16	14	-	H3	3	T7A96523	T6A96523	\$20.52	T8A96523	\$33.36	T7295523	T6295523	\$20.52	T8295523	\$33.36
7/16	14	-	H5	3	-	-	-	-	-	T7295525	T6295525	\$20.52	T8295525	\$33.36
7/16	-	20	H3	3	T7A96543	T6A96543	\$20.52	T8A96543	\$33.36	T7295543	T6295543	\$20.52	T8295543	\$33.36
1/2	13	-	H3	3	T7A96563	T6A96563	\$24.48	T8A96563	\$37.33	T7295563	T6295563	\$24.48	T8295563	\$37.33
1/2	13	-	H5	3	T7A96565	T6A96565	\$24.48	T8A96565	\$37.33	T7295565	T6295565	\$24.48	T8295565	\$37.33
1/2	-	20	H3	3	T7A96583	T6A96583	\$24.48	T8A96583	\$37.33	T7295583	T6295583	\$24.48	T8295583	\$37.33
5/8	11	-	H3	4	T7A96643	T6A96643	\$48.81	T8A96643	\$65.00	T7295643	T6295643	\$48.81	T8295643	\$65.00
5/8	-	18	H3	4	T7A96663	T6A96663	\$48.81	T8A96663	\$65.00	T7295663	T6295663	\$48.81	T8295663	\$65.00
3/4	10	-	H3	4	T7A96703	T6A96703	\$65.43	T8A96703	\$91.09	T7295703	T6295703	\$65.43	T8295703	\$91.09
3/4	-	16	H3	4	T7A96723	T6A96723	\$65.43	T8A96723	\$91.09	T7295723	T6295723	\$65.43	T8295723	\$91.09

▶ Refer to technical data on page 69~73.

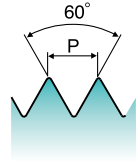
TAPS

METRIC SPIRAL FLUTE TAPS

Thread Depth / Hole Type 2.5×D



USCTI



Material groups **GS** HSS M MF USCTI 302 4P~5P Plug 1.5P~2P Bottoming Bright Steam Oxide TiN R50

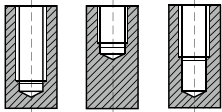
SIZE	Pitch	Limit	No. of Flute	EDP No.			EDP No.			EDP No.			EDP No.	
				Plug			Bottoming							
				Bright	Steam Oxide	Price	TiN	Price	Bright	Steam Oxide	Price	TiN	Price	
M3	0.5	D3	2	T7A86203	T6A86203	\$13.06	T8A86203	\$16.72	T7A85203	T6A85203	\$12.77	T8A85203	\$16.60	
M4	0.7	D4	3	T7A86244	T6A86244	\$10.30	T8A86244	\$14.19	T7A85244	T6A85244	\$10.30	T8A85244	\$14.19	
M5	0.8	D4	3	T7A86284	T6A86284	\$10.60	T8A86284	\$15.24	T7A85284	T6A85284	\$10.60	T8A85284	\$15.24	
M6	1.0	D5	3	T7A86315	T6A86315	\$11.14	T8A86315	\$16.14	T7A85315	T6A85315	\$11.14	T8A85315	\$16.14	
M8	1.25	D5	3	T7A86365	T6A86365	\$12.17	T8A86365	\$17.20	T7A85365	T6A85365	\$12.17	T8A85365	\$17.20	
M10	1.5	D6	3	T7A86426	T6A86426	\$16.39	T8A86426	\$22.18	T7A85426	T6A85426	\$16.39	T8A85426	\$22.18	
M12	1.75	D6	3	T7A86506	T6A86506	\$25.83	T8A86506	\$34.69	T7A85506	T6A85506	\$25.83	T8A85506	\$34.69	

► Refer to technical data on page 69~73.

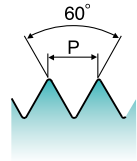
SPIRAL FLUTE TAP, 6" EXTENSION

Extended length for greater reach

Thread Depth / Hole Type 2.5×D



USCTI Long Shank



Material groups **GS** HSS UNC UNF USCTI Long Shank 4P~5P Plug 1.5P~2P Bottoming Bright TiN R50

SIZE	UNC	UNF	Limit	Overall Length	No. of Flutes	EDP No.		EDP No.		EDP No.		EDP No.	
						Plug		Bottoming					
						Bright	Price	TiN	Price	Bright	Price	TiN	Price
#6	32	-	H3	6	2	T7D01243	\$32.56	T8D01243	\$42.89	T7D02243	\$32.56	T8D02243	\$42.89
#8	32	-	H3	6	3	T7D01283	\$32.56	T8D01283	\$42.89	T7D02283	\$32.56	T8D02283	\$42.89
#10	24	-	H3	6	3	T7D01323	\$32.45	T8D01323	\$42.65	T7D02323	\$32.45	T8D02323	\$42.79
#10	-	32	H3	6	3	T7D01343	\$32.45	T8D01343	\$43.97	T7D02343	\$32.45	T8D02343	\$42.79
1/4	20	-	H3	6	3	T7D01403	\$33.62	T8D01403	\$43.97	T7D02403	\$33.62	T8D02403	\$43.97
1/4	-	28	H3	6	3	T7D01423	\$33.62	T8D01423	\$43.97	T7D02423	\$33.62	T8D02423	\$43.97
5/16	18	-	H3	6	3	T7D01443	\$40.10	T8D01443	\$49.60	T7D02443	\$40.10	T8D02443	\$49.60
3/8	16	-	H3	6	3	T7D01483	\$46.40	T8D01483	\$59.50	T7D02483	\$46.40	T8D02483	\$59.50
7/16	14	-	H3	6	3	T7D01523	\$49.01	T8D01523	\$64.27	T7D02523	\$49.01	T8D02523	\$64.27
1/2	13	-	H3	6	3	T7D01563	\$58.44	T8D01563	\$74.15	T7D02563	\$58.44	T8D02563	\$74.15
5/8	11	-	H3	6	4	T7D01643	\$81.85	T8D01643	\$100.37	T7D02643	\$81.85	T8D02643	\$100.37

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

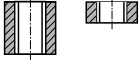
Indexable

Rotary Tool Holder

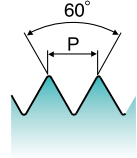
TAPS

SPIRAL POINT PLUG STYLE

Thread Depth / Hole Type 3.0×D



USCTI



Material groups: **GS** HSS-E UNC UNF USCTI 302 4P~5P Bright Steam Oxide TiN Hardslick

SIZE	Thread Per Inch		Limit	No. of Flute	EDP No.		Price	EDP No.		Price	EDP No.		Price
	UNC	UNF			Steam Oxide	Bright		TiN	Hardslick				
#2	56	-	H2	2	19082	J0082	\$11.60	J1082	\$13.95	J7082	\$15.11		
#4	40	-	H2	2	19162	J0162	\$7.66	J1162	\$10.04	J7162	\$11.17		
#5	40	-	H2	2	19202	J0202	\$7.66	J1202	\$10.04	J7202	\$11.17		
#6	32	-	H3	2	19243	J0243	\$6.34	J1243	\$8.66	J7243	\$9.84		
#8	32	-	H3	2	19283	J0283	\$5.60	J1283	\$10.06	J7283	\$12.33		
#10	24	-	H3	2	19323	J0323	\$5.60	J1323	\$10.06	J7323	\$12.33		
#10	-	32	H3	2	19343	J0343	\$5.60	J1343	\$10.06	J7343	\$12.33		
1/4	20	-	H3	2	19403	J0403	\$5.60	J1403	\$10.06	J7403	\$12.33		
1/4	20	-	H5	2	19405	J0405	\$5.60	J1405	\$10.06	J7405	\$12.33		
1/4	-	28	H3	2	19423	J0423	\$5.60	J1423	\$10.06	J7423	\$12.33		
5/16	18	-	H3	2	19443	J0443	\$6.03	J1443	\$13.03	J7443	\$16.56		
5/16	18	-	H5	2	19445	J0445	\$6.03	J1445	\$13.03	J7445	\$16.56		
5/16	-	24	H3	2	19463	J0463	\$6.03	J1463	\$13.03	J7463	\$16.56		
3/8	16	-	H3	3	19483	J0483	\$7.15	J1483	\$14.15	J7483	\$17.62		
3/8	16	-	H5	3	19485	J0485	\$7.15	J1485	\$14.15	J7485	\$17.62		
3/8	-	24	H3	3	19503	J0503	\$7.15	J1503	\$14.15	J7503	\$18.19		
7/16	14	-	H3	3	19523	J0523	\$12.19	J1523	\$19.15	J7523	\$22.64		
7/16	14	-	H5	3	19525	J0525	\$12.19	J1525	\$19.15	J7525	\$22.64		
7/16	-	20	H3	3	19543	J0543	\$12.19	J1543	\$19.15	J7543	\$22.64		
7/16	-	20	H5	3	19545	J0545	\$12.19	J1545	\$19.15	J7545	\$22.64		
1/2	13	-	H3	3	19563	J0563	\$13.49	J1563	\$20.50	J7563	\$23.97		
1/2	13	-	H5	3	19565	J0565	\$13.49	J1565	\$20.50	J7565	\$23.97		
1/2	-	20	H3	3	19583	J0583	\$13.49	J1583	\$20.50	J7583	\$23.97		
1/2	-	20	H5	3	19585	J0585	\$13.49	J1585	\$20.50	J7585	\$23.97		
9/16	12	-	H3	3	19603	J0603	\$21.94	J1603	\$27.44	J7603	\$33.34		
9/16	-	18	H5	3	19625	J0625	\$21.94	J1625	\$27.44	J7625	\$33.34		
5/8	11	-	H3	3	19643	J0643	\$27.70	J1643	\$40.91	J7643	\$47.49		
5/8	11	-	H5	3	19645	J0645	\$27.70	J1645	\$40.91	J7645	\$47.49		
5/8	-	18	H5	3	19665	J0665	\$27.70	J1665	\$40.91	J7665	\$47.49		
3/4	10	-	H3	3	19703	J0703	\$44.16	J1703	\$58.97	J7703	\$66.38		
3/4	10	-	H5	3	19705	J0705	\$44.16	J1705	\$58.97	J7705	\$66.38		
3/4	-	16	H5	3	19725	J0725	\$44.16	J1725	\$58.97	J7725	\$66.38		
7/8	9	-	H4	3	19744	J0744	\$52.42	J1744	\$62.92	J7744	\$70.70		
7/8	-	14	H6	3	19766	J0766	\$52.42	J1766	\$62.92	J7766	\$70.70		
1	8	-	H4	3	19784	J0784	\$71.50	J1784	\$85.80	J7784	\$96.82		

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

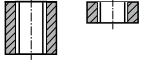
Indexable

Rotary Tool Holder

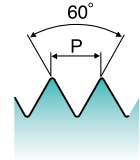
TAPS

SPIRAL POINT TAPS PLUG STYLE

Thread Depth / Hole Type 3.0×D



USCTI



Material groups: **GS** HSS-E UNC UNF USCTI 302A 4P~5P Bright TiN Hardslick

SIZE	Thread Per Inch		Limit	No. of Flute	EDP No.		EDP No.		EDP No.	
	UNC	UNF			Bright	Price	TiCN	Price	Hardslick	Price
#2	56	-	H2	2	K9082	\$9.81	L0082	\$12.96	L1082	\$13.28
#4	40	-	H2	2	K9162	\$6.45	L0162	\$9.60	L1162	\$9.97
#5	40	-	H2	2	K9202	\$6.45	L0202	\$9.60	L1202	\$9.97
#6	32	-	H3	2	K9243	\$5.39	L0243	\$8.81	L1243	\$12.10
#8	32	-	H3	2	K9283	\$5.39	L0283	\$8.81	L1283	\$12.10
#10	24	-	H3	2	K9323	\$5.39	L0323	\$8.81	L1323	\$12.10
#10	-	32	H3	2	K9343	\$5.39	L0343	\$8.81	L1343	\$12.10
1/4	20	-	H3	2	K9403	\$5.98	L0403	\$9.42	L1403	\$12.72
1/4	20	-	H5	2	K9405	\$5.98	L0405	\$9.42	L1405	\$12.72
1/4	-	28	H3	3	K9423	\$5.98	L0423	\$9.42	L1423	\$12.72
5/16	18	-	H3	2	K9443	\$6.71	L0443	\$10.77	L1443	\$17.16
5/16	18	-	H5	3	K9445	\$6.71	L0445	\$10.77	L1445	\$17.16
5/16	-	24	H3	3	K9463	\$6.71	L0463	\$10.77	L1463	\$17.16
3/8	16	-	H3	3	K9483	\$7.59	L0483	\$12.19	L1483	\$18.04
3/8	16	-	H5	3	K9485	\$7.59	L0485	\$12.19	L1485	\$18.04
3/8	-	24	H3	3	K9503	\$7.59	L0503	\$12.19	L1503	\$18.04
7/16	14	-	H3	3	K9523	\$9.81	L0523	\$15.55	L1523	\$20.30
7/16	14	-	H5	3	K9525	\$9.81	L0525	\$15.55	L1525	\$20.30
7/16	-	20	H3	3	K9543	\$9.81	L0543	\$15.55	L1543	\$20.30
7/16	-	20	H5	3	K9545	\$9.81	L0545	\$15.55	L1545	\$20.30
1/2	13	-	H3	3	K9563	\$11.39	L0563	\$17.39	L1563	\$21.84
1/2	13	-	H5	3	K9565	\$11.39	L0565	\$17.39	L1565	\$21.84
1/2	-	20	H3	3	K9583	\$11.39	L0583	\$17.39	L1583	\$21.84
1/2	-	20	H5	3	K9585	\$11.39	L0585	\$17.39	L1585	\$21.84
9/16	12	-	H3	3	K9603	\$18.79	L0603	\$25.38	L1603	\$29.29
9/16	-	18	H3	3	K9623	\$18.79	L0623	\$25.38	L1623	\$29.29
9/16	-	18	H5	3	K9625	\$18.79	L0625	\$25.38	L1625	\$29.29
5/8	11	-	H3	3	K9643	\$22.04	L0643	\$29.27	L1643	\$41.86
5/8	11	-	H5	3	K9645	\$22.04	L0645	\$29.27	L1645	\$41.86
5/8	-	18	H3	3	K9663	\$22.04	L0663	\$29.27	L1663	\$41.86
5/8	-	18	H5	3	K9665	\$22.04	L0665	\$29.27	L1665	\$41.86
3/4	10	-	H3	3	K9703	\$34.62	L0703	\$42.08	L1703	\$56.80
3/4	10	-	H5	3	K9705	\$34.62	L0705	\$42.08	L1705	\$56.80
3/4	-	16	H3	3	K9723	\$34.62	L0723	\$42.08	L1723	\$56.80
3/4	-	16	H5	3	K9725	\$34.62	L0725	\$42.08	L1725	\$56.80
7/8	9	-	H6	3	K9746	\$44.93	L0746	\$54.36	L1746	\$75.47
7/8	-	14	H4	3	K9764	\$44.93	L0764	\$54.36	L1764	\$75.47
7/8	-	14	H6	3	K9766	\$44.93	L0766	\$54.36	L1766	\$75.47
1	8	-	H6	3	K9786	\$61.28	L0786	\$72.45	L1786	\$102.80
1	-	12	H6	3	K9806	\$61.28	L0806	\$72.45	L1806	\$102.80

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

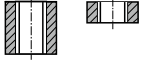
Indexable

Rotary Tool Holder

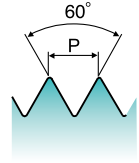
TAPS

METRIC SPIRAL POINT TAPS PLUG STYLE

Thread Depth / Hole Type 3.0×D



USCTI



Material groups: **GS** HSS-E M MF USCTI 302A 4P~5P Bright TiCN Hardslick

SIZE	Pitch	Limit	No. of Flute	EDP No.	Price	EDP No.	Price	EDP No.	Price
				Bright		TiCN		Hardslick	
M3	0.5	D3	2	L7203	\$7.86	L8203	\$12.26	L9203	\$13.81
M3.5	0.6	D4	2	L7224	\$6.51	L8224	\$10.91	L9224	\$12.49
M4	0.7	D4	2	L7244	\$6.51	L8244	\$10.91	L9244	\$12.49
M5	0.8	D4	2	L7284	\$6.51	L8284	\$10.91	L9284	\$12.49
M6	1.0	D5	3	L7315	\$7.21	L8315	\$11.60	L9315	\$14.09
M7	1.0	D5	3	L7345	\$8.12	L8345	\$14.19	L9345	\$18.57
M8	1.25	D5	3	L7365	\$8.12	L8365	\$15.28	L9365	\$19.30
M8	1.0	D5	3	L7375	\$8.12	L8375	\$15.28	L9375	\$19.30
M10	1.5	D6	3	L7426	\$8.60	L8426	\$16.72	L9426	\$20.39
M10	1.25	D5	3	L7435	\$8.60	L8435	\$16.72	L9435	\$20.39
M12	1.75	D6	3	L7506	\$12.85	L8506	\$23.18	L9506	\$25.93
M12	1.25	D5	3	L7525	\$12.85	L8525	\$23.18	L9525	\$25.93

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

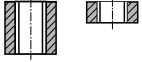
Indexable

Rotary Tool Holder

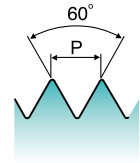
TAPS

SPIRAL POINT TAPS PLUG STYLE

Thread Depth / Hole Type 3.0×D



DIN Length-ANSI Shank



Material groups: **GS** HSS-E UNC UNF 4P~5P Bright TiN Hardslick

SIZE	Thread Per Inch		Limit	No. of Flute	EDP No.		Price	EDP No.		Price
	UNC	UNF			Bright	TiCN		Hardslick		
#2	56	-	H2	2	L3082	\$11.76	L4082	\$14.88	L5082	\$17.73
#4	40	-	H2	2	L3162	\$7.86	L4162	\$11.26	L5162	\$13.81
#5	40	-	H2	3	L3202	\$7.86	L4202	\$11.26	L5202	\$13.81
#6	32	-	H3	3	L3243	\$6.51	L4243	\$9.93	L5243	\$12.49
#8	32	-	H3	3	L3283	\$6.51	L4283	\$9.93	L5283	\$12.49
#10	24	-	H3	3	L3323	\$6.51	L4323	\$9.93	L5323	\$12.49
#10	-	32	H3	3	L3343	\$6.51	L4343	\$9.93	L5343	\$12.49
1/4	20	-	H3	3	L3403	\$7.21	L4403	\$10.65	L5403	\$14.09
1/4	20	-	H5	3	L3405	\$7.21	L4405	\$10.65	L5405	\$14.09
1/4	-	28	H3	3	L3423	\$7.21	L4423	\$10.65	L5423	\$14.09
5/16	18	-	H3	3	L3443	\$8.12	L4443	\$13.61	L5443	\$19.30
5/16	18	-	H5	3	L3445	\$8.12	L4445	\$13.61	L5445	\$19.30
5/16	-	24	H3	3	L3463	\$8.12	L4463	\$13.61	L5463	\$19.30
3/8	16	-	H3	3	L3483	\$9.15	L4483	\$15.38	L5483	\$21.75
3/8	16	-	H5	3	L3485	\$9.15	L4485	\$15.38	L5485	\$21.75
3/8	-	24	H3	3	L3503	\$9.15	L4503	\$15.38	L5503	\$21.75
7/16	14	-	H3	3	L3523	\$11.03	L4523	\$17.79	L5523	\$22.89
7/16	14	-	H5	3	L3525	\$11.03	L4525	\$17.79	L5525	\$22.89
7/16	-	20	H3	3	L3543	\$11.03	L4543	\$17.79	L5543	\$22.89
7/16	-	20	H5	3	L3545	\$11.03	L4545	\$17.79	L5545	\$22.89
1/2	13	-	H3	3	L3563	\$12.85	L4563	\$20.77	L5563	\$25.93
1/2	13	-	H5	3	L3565	\$12.85	L4565	\$20.77	L5565	\$25.93
1/2	-	20	H3	3	L3583	\$12.85	L4583	\$20.77	L5583	\$25.93
1/2	-	20	H5	3	L3585	\$12.85	L4585	\$20.77	L5585	\$25.93
9/16	12	-	H5	3	L3605	\$21.69	L4605	\$32.16	L5605	\$36.17
9/16	-	18	H5	3	L3625	\$21.69	L4625	\$32.16	L5625	\$36.17
5/8	11	-	H3	3	L3643	\$23.34	L4643	\$32.63	L5643	\$36.52
5/8	11	-	H5	3	L3645	\$23.34	L4645	\$32.63	L5645	\$36.52
3/4	10	-	H3	3	L3703	\$36.68	L4703	\$49.31	L5703	\$58.37
3/4	10	-	H5	3	L3705	\$36.68	L4705	\$49.31	L5705	\$58.37
3/4	-	16	H5	3	L3725	\$36.68	L4725	\$49.31	L5725	\$58.37
7/8	9	-	H6	3	L3746	\$47.21	L4746	\$64.05	L5746	\$77.53
7/8	-	14	H6	3	L3766	\$47.21	L4766	\$64.05	L5766	\$77.53
1	8	-	H6	3	L3786	\$64.37	L4786	\$85.40	L5786	\$107.69
1	-	12	H6	3	L3806	\$64.37	L4806	\$85.40	L5806	\$107.69

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

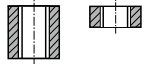
Indexable

Rotary Tool Holder

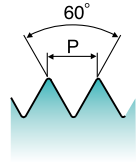
TAPS

SPIRAL POINT PLUG STYLE

Thread Depth / Hole Type 3.0×D



USCTI



Material groups: **GS** (Yellow), **HSS** (Green), **UNC UNF** (Blue), **USCTI 302** (Purple), **4P~5P** (Light Blue), **Bright** (White), **Steam Oxide** (Grey), **TiN** (Yellow)

SIZE	Thread Per Inch		Limit	No. of Flute	EDP No.		Price	EDP No.		Price
	UNC	UNF			Bright	Steam Oxide		TiN		
#0	-	80	H1	2	T7216021	T6216021	\$13.71	T8216021	\$16.18	
#0	-	80	H2	2	T7216022	T6216022	\$13.71	T8216022	\$16.18	
#0	-	80	H3	2	T7216023	T6216023	\$13.71	T8216023	\$16.18	
#1	64	-	H1	2	T7216041	T6216041	\$13.18	T8216041	\$15.68	
#1	64	-	H2	2	T7216042	T6216042	\$13.18	T8216042	\$15.68	
#1	-	72	H1	2	T7216061	T6216061	\$13.18	T8216061	\$15.68	
#1	-	72	H2	2	T7216062	T6216062	\$13.18	T8216062	\$15.68	
#2	56	-	H1	2	T7216081	T6216081	\$12.49	T8216081	\$15.28	
#2	56	-	H2	2	T7216082	T6216082	\$12.49	T8216082	\$15.28	
#2	56	-	H3	2	T7216083	T6216083	\$12.49	T8216083	\$15.28	
#2	56	-	H5	2	T7216085	T6216085	\$12.49	T8216085	\$15.28	
#2	-	64	H1	2	T7216101	T6216101	\$12.49	T8216101	\$15.28	
#2	-	64	H2	2	T7216102	T6216102	\$12.49	T8216102	\$15.28	
#3	48	-	H1	2	T7216121	T6216121	\$8.26	T8216121	\$11.74	
#3	48	-	H2	2	T7216122	T6216122	\$8.26	T8216122	\$11.74	
#3	48	-	H3	2	T7216123	T6216123	\$8.26	T8216123	\$11.74	
#3	48	-	H5	2	T7216125	T6216125	\$8.26	T8216125	\$11.74	
#3	-	56	H1	2	T7216141	T6216141	\$8.26	T8216141	\$11.74	
#3	-	56	H2	2	T7216142	T6216142	\$8.26	T8216142	\$11.74	
#4	40	-	H1	2	T7216161	T6216161	\$8.26	T8216161	\$11.74	
#4	40	-	H2	2	T7216162	T6216162	\$8.26	T8216162	\$11.74	
#4	40	-	H3	2	T7216163	T6216163	\$8.26	T8216163	\$11.74	
#4	40	-	H5	2	T7216165	T6216165	\$8.26	T8216165	\$11.74	
#4	40	-	H7	2	T7216167	T6216167	\$8.26	T8216167	\$11.74	
#4	-	48	H1	2	T7216181	T6216181	\$8.26	T8216181	\$11.74	
#4	-	48	H2	2	T7216182	T6216182	\$8.26	T8216182	\$11.74	
#5	40	-	H1	2	T7216201	T6216201	\$8.26	T8216201	\$11.74	
#5	40	-	H2	2	T7216202	T6216202	\$8.26	T8216202	\$11.74	
#5	40	-	H5	2	T7216205	T6216205	\$8.26	T8216205	\$11.74	
#5	-	44	H2	2	T7216222	T6216222	\$8.26	T8216222	\$11.74	
#6	32	-	H1	2	T7216241	T6216241	\$6.89	T8216241	\$10.60	
#6	32	-	H2	2	T7216242	T6216242	\$6.89	T8216242	\$10.60	
#6	32	-	H3	2	T7216243	T6216243	\$6.89	T8216243	\$10.60	
#6	32	-	H4	2	T7216244	T6216244	\$6.89	T8216244	\$10.60	
#6	32	-	H5	2	T7216245	T6216245	\$6.89	T8216245	\$10.60	
#6	32	-	H7	2	T7216247	T6216247	\$6.89	T8216247	\$10.60	
#6	32	-	H3	3	T7C16243	T6C16243	\$6.89	T8C16243	\$10.60	
#6	-	40	H1	2	T7216261	T6216261	\$6.89	T8216261	\$10.60	
#6	-	40	H2	2	T7216262	T6216262	\$6.89	T8216262	\$10.60	
#6	-	40	H5	2	T7216265	T6216265	\$6.89	T8216265	\$10.60	
#8	32	-	H1	2	T7216281	T6216281	\$6.89	T8216281	\$10.60	
#8	32	-	H2	2	T7216282	T6216282	\$6.89	T8216282	\$10.60	
#8	32	-	H3	2	T7216283	T6216283	\$6.89	T8216283	\$10.60	
#8	32	-	H4	2	T7216284	T6216284	\$6.89	T8216284	\$10.60	
#8	32	-	H5	2	T7216285	T6216285	\$6.89	T8216285	\$10.60	
#8	32	-	H7	2	T7216287	T6216287	\$6.89	T8216287	\$10.60	
#8	32	-	H3	3	T7C16283	T6C16283	\$6.89	T8C16283	\$10.60	
#8	-	36	H1	2	T7216301	T6216301	\$6.89	T8216301	\$10.60	
#8	-	36	H2	2	T7216302	T6216302	\$6.89	T8216302	\$10.60	
#10	24	-	H1	2	T7216321	T6216321	\$6.89	T8216321	\$10.60	
#10	24	-	H2	2	T7216322	T6216322	\$6.89	T8216322	\$10.60	
#10	24	-	H3	2	T7216323	T6216323	\$6.89	T8216323	\$10.60	
#10	24	-	H4	2	T7216324	T6216324	\$6.89	T8216324	\$10.60	
#10	24	-	H5	2	T7216325	T6216325	\$6.89	T8216325	\$10.60	
#10	24	-	H7	2	T7216327	T6216327	\$6.89	T8216327	\$10.60	
#10	24	-	H3	3	T7C16323	T6C16323	\$6.89	T8C16323	\$10.60	

▶ Refer to technical data on page 69~73.

TAPS

SIZE	Thread Per Inch		Limit	No. of Flute	EDP No.		Price	EDP No.	
	UNC	UNF			Bright	Steam Oxide		TIN	Price
#10	-	32	H1	2	T7216341	T6216341	\$6.89	T8216341	\$10.60
#10	-	32	H2	2	T7216342	T6216342	\$6.89	T8216342	\$10.60
#10	-	32	H3	2	T7216343	T6216343	\$6.89	T8216343	\$10.60
#10	-	32	H4	2	T7216344	T6216344	\$6.89	T8216344	\$10.60
#10	-	32	H5	2	T7216345	T6216345	\$6.89	T8216345	\$10.60
#10	-	32	H7	2	T7216347	T6216347	\$6.89	T8216347	\$10.60
#10	-	32	H3	3	T7C16343	T6C16343	\$6.89	T8C16343	\$10.60
#12	24	-	H1	2	T7216361	T6216361	\$7.21	T8216361	\$10.86
#12	24	-	H3	2	T7216363	T6216363	\$7.21	T8216363	\$10.86
#12	-	28	H3	2	T7216383	T6216383	\$7.21	T8216383	\$10.86
1/4	20	-	H1	2	T7216401	T6216401	\$7.21	T8216401	\$10.86
1/4	20	-	H2	2	T7216402	T6216402	\$7.21	T8216402	\$10.86
1/4	20	-	H3	2	T7216403	T6216403	\$7.21	T8216403	\$10.86
1/4	20	-	H5	2	T7216405	T6216405	\$7.21	T8216405	\$10.86
1/4	20	-	H3	3	T7C16403	T6C16403	\$7.21	T8C16403	\$10.86
1/4	20	-	H5	3	T7C16405	T6C16405	\$7.21	T8C16405	\$10.86
1/4	-	28	H1	2	T7216421	T6216421	\$7.21	T8216421	\$10.86
1/4	-	28	H2	2	T7216422	T6216422	\$7.21	T8216422	\$10.86
1/4	-	28	H3	2	T7216423	T6216423	\$7.21	T8216423	\$10.86
1/4	-	28	H4	2	T7216424	T6216424	\$7.21	T8216424	\$10.86
1/4	-	28	H2	3	T7C16422	T6C16422	\$7.21	T8C16422	\$10.86
1/4	-	28	H4	3	T7C16424	T6C16424	\$7.21	T8C16424	\$10.86
5/16	18	-	H1	2	T7216441	T6216441	\$7.75	T8216441	\$11.94
5/16	18	-	H2	2	T7216442	T6216442	\$7.75	T8216442	\$11.94
5/16	18	-	H3	2	T7216443	T6216443	\$7.75	T8216443	\$11.94
5/16	18	-	H5	2	T7216445	T6216445	\$7.75	T8216445	\$11.94
5/16	18	-	H3	3	T7C16443	T6C16443	\$7.75	T8C16443	\$11.94
5/16	18	-	H5	3	T7C16445	T6C16445	\$7.75	T8C16445	\$11.94
5/16	-	24	H1	2	T7216461	T6216461	\$7.75	T8216461	\$11.94
5/16	-	24	H2	2	T7216462	T6216462	\$7.75	T8216462	\$11.94
5/16	-	24	H3	2	T7216463	T6216463	\$7.75	T8216463	\$11.94
5/16	-	24	H4	2	T7216464	T6216464	\$7.75	T8216464	\$11.94
5/16	-	24	H2	3	T7C16462	T6C16462	\$7.75	T8C16462	\$11.94
5/16	-	24	H4	3	T7C16464	T6C16464	\$7.75	T8C16464	\$11.94
3/8	16	-	H1	3	T7216481	T6216481	\$8.80	T8216481	\$14.03
3/8	16	-	H2	3	T7216482	T6216482	\$8.80	T8216482	\$14.03
3/8	16	-	H3	3	T7216483	T6216483	\$8.80	T8216483	\$14.03
3/8	16	-	H5	3	T7216485	T6216485	\$8.80	T8216485	\$14.03
3/8	-	24	H1	3	T7216501	T6216501	\$8.80	T8216501	\$14.03
3/8	-	24	H2	3	T7216502	T6216502	\$8.80	T8216502	\$14.03
3/8	-	24	H3	3	T7216503	T6216503	\$8.80	T8216503	\$14.03
3/8	-	24	H4	3	T7216504	T6216504	\$8.80	T8216504	\$14.03
7/16	14	-	H2	3	T7216522	T6216522	\$13.27	T8216522	\$20.13
7/16	14	-	H3	3	T7216523	T6216523	\$13.27	T8216523	\$20.13
7/16	14	-	H5	3	T7216525	T6216525	\$13.27	T8216525	\$20.13
7/16	-	20	H2	3	T7216542	T6216542	\$13.27	T8216542	\$20.13
7/16	-	20	H3	3	T7216543	T6216543	\$13.27	T8216543	\$20.13
7/16	-	20	H5	3	T7216545	T6216545	\$13.27	T8216545	\$20.13
1/2	13	-	H1	3	T7216561	T6216561	\$15.86	T8216561	\$22.25
1/2	13	-	H2	3	T7216562	T6216562	\$15.86	T8216562	\$22.25
1/2	13	-	H3	3	T7216563	T6216563	\$15.86	T8216563	\$22.25
1/2	13	-	H5	3	T7216565	T6216565	\$15.86	T8216565	\$22.25
1/2	-	20	H1	3	T7216581	T6216581	\$15.86	T8216581	\$22.25
1/2	-	20	H2	3	T7216582	T6216582	\$15.86	T8216582	\$22.25
1/2	-	20	H3	3	T7216583	T6216583	\$15.86	T8216583	\$22.25
1/2	-	20	H5	3	T7216585	T6216585	\$15.86	T8216585	\$22.25
9/16	12	-	H3	3	T7216603	T6216603	\$23.04	T8216603	\$30.87
9/16	12	-	H5	3	T7216605	T6216605	\$23.04	T8216605	\$30.87
9/16	-	18	H3	3	T7216623	T6216623	\$23.04	T8216623	\$30.87
9/16	-	18	H5	3	T7216625	T6216625	\$23.04	T8216625	\$30.87
5/8	11	-	H3	3	T7216643	T6216643	\$31.58	T8216643	\$40.34
5/8	11	-	H5	3	T7216645	T6216645	\$31.58	T8216645	\$40.34
5/8	-	18	H3	3	T7216663	T6216663	\$31.58	T8216663	\$40.34
5/8	-	18	H5	3	T7216665	T6216665	\$31.58	T8216665	\$40.34
3/4	10	-	H3	3	T7216703	T6216703	\$42.32	T8216703	\$56.48
3/4	10	-	H5	3	T7216705	T6216705	\$42.32	T8216705	\$56.48
3/4	-	16	H3	3	T7216723	T6216723	\$42.32	T8216723	\$56.48
3/4	-	16	H5	3	T7216725	T6216725	\$42.32	T8216725	\$56.48

▶ Refer to technical data on page 69~73.

Holemaking

Threading

Milling

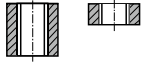
Indexable

Rotary Tool Holder

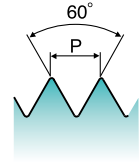
TAPS

SPIRAL POINT BOTTOMING STYLE

Thread Depth / Hole Type 3.0×D



USCTI



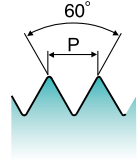
Material groups: **GS** HSS UNC UNF USCTI 302 1.5P~2P Bright Steam Oxide

SIZE	Thread Per Inch		Limit	No. of Flute	EDP No.		Price
	UNC	UNF			Bright	Steam Oxide	
#0	-	80	H1	2	T7256021	T6256021	\$17.87
#0	-	80	H2	2	T7256022	T6256022	\$17.87
#1	64	-	H2	2	T7256042	T6256042	\$17.20
#1	-	72	H1	2	T7256061	T6256061	\$17.20
#1	-	72	H2	2	T7256062	T6256062	\$17.20
#2	56	-	H1	2	T7256081	T6256081	\$16.30
#2	56	-	H2	2	T7256082	T6256082	\$16.30
#3	48	-	H2	2	T7256122	T6256122	\$10.75
#3	-	56	H2	2	T7256142	T6256142	\$10.75
#4	40	-	H2	2	T7256162	T6256162	\$10.75
#4	-	48	H2	2	T7256182	T6256182	\$10.75
#5	40	-	H2	2	T7256202	T6256202	\$10.75
#5	-	44	H2	2	T7256222	T6256222	\$10.75
#6	32	-	H2	2	T7256242	T6256242	\$8.98
#6	32	-	H3	2	T7256243	T6256243	\$8.98
#6	32	-	H7	2	T7256247	T6256247	\$8.98
#6	-	40	H2	2	T7256262	T6256262	\$8.98
#8	32	-	H2	2	T7256282	T6256282	\$8.98
#8	32	-	H3	2	T7256283	T6256283	\$8.98
#8	32	-	H7	2	T7256287	T6256287	\$8.98
#8	-	36	H2	2	T7256302	T6256302	\$8.98
#10	24	-	H2	2	T7256322	T6256322	\$8.98
#10	24	-	H3	2	T7256323	T6256323	\$8.98
#10	-	32	H1	2	T7256341	T6256341	\$8.98
#10	-	32	H2	2	T7256342	T6256342	\$8.98
#10	-	32	H3	2	T7256343	T6256343	\$8.98
#12	24	-	H3	2	T7256363	T6256363	\$9.39
#12	-	28	H3	2	T7256383	T6256383	\$9.39
1/4	20	-	H3	2	T7256403	T6256403	\$9.39
1/4	-	28	H2	2	T7256422	T6256422	\$9.39
1/4	-	28	H3	2	T7256423	T6256423	\$9.39
5/16	18	-	H3	2	T7256443	T6256443	\$10.12
5/16	-	24	H3	2	T7256463	T6256463	\$10.12
3/8	16	-	H3	3	T7256483	T6256483	\$11.48
3/8	-	24	H3	3	T7256503	T6256503	\$11.48
7/16	14	-	H3	3	T7256523	T6256523	\$17.31
7/16	-	20	H3	3	T7256543	T6256543	\$17.31
1/2	13	-	H3	3	T7256563	T6256563	\$20.69
1/2	-	20	H3	3	T7256583	T6256583	\$20.69
5/8	11	-	H3	3	T7256643	T6256643	\$41.17
5/8	-	18	H3	3	T7256663	T6256663	\$41.17
3/4	10	-	H3	3	T7256703	T6256703	\$55.18
3/4	-	16	H3	3	T7256723	T6256723	\$55.18

▶ Refer to technical data on page 69~73.

TAPS

METRIC SPIRAL POINT PLUG STYLE

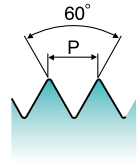


Material groups: **GS** HSS M MF USCTI 302 4P~5P Bright Steam Oxide TiN

SIZE	Pitch	Limit	No. of Flute	EDP No.		Price	EDP No.	
				Bright	Steam Oxide		TiN	Price
M1.6	0.35	D3	2	T7217093	T6217093	\$22.01	T8217093	\$25.37
M2	0.40	D3	2	T7217133	T6217133	\$22.01	T8217133	\$25.37
M2.5	0.45	D3	2	T7217173	T6217173	\$13.30	T8217173	\$16.67
M3	0.50	D3	2	T7217203	T6217203	\$11.26	T8217203	\$14.66
M3.5	0.60	D4	2	T7217224	T6217224	\$9.09	T8217224	\$12.50
M4	0.70	D4	2	T7217244	T6217244	\$9.09	T8217244	\$12.50
M4.5	0.75	D4	2	T7217264	T6217264	\$9.09	T8217264	\$13.21
M5	0.80	D4	2	T7217284	T6217284	\$9.32	T8217284	\$13.41
M6	1.00	D5	2	T7217315	T6217315	\$9.86	T8217315	\$14.24
M7	1.00	D5	2	T7217345	T6217345	\$10.75	T8217345	\$15.14
M8	1.25	D5	2	T7217365	T6217365	\$10.75	T8217365	\$15.14
M8	1.00	D5	3	T7217375	T6217375	\$10.75	T8217375	\$15.14
M10	1.50	D6	3	T7217426	T6217426	\$12.89	T8217426	\$19.51
M10	1.25	D5	3	T7217435	T6217435	\$12.89	T8217435	\$19.51
M12	1.75	D6	3	T7217506	T6217506	\$19.29	T8217506	\$30.57
M12	1.25	D5	3	T7217525	T6217525	\$19.29	T8217525	\$30.57
M14	2.00	D7	3	T7217547	T6217547	\$30.45	T8217547	\$44.96
M14	1.50	D6	3	T7217556	T6217556	\$30.45	T8217556	\$44.96
M16	2.00	D7	3	T7217607	T6217607	\$37.32	T8217607	\$54.60
M16	1.50	D6	3	T7217616	T6217616	\$37.32	T8217616	\$54.60
M18	2.50	D7	3	T7217657	T6217657	\$50.07	T8217657	\$71.34
M20	2.50	D7	3	T7217707	T6217707	\$61.86	T8217707	\$88.97

▶ Refer to technical data on page 69~73.

SPIRAL POINT TAP, PULLEY TAPS & 6" EXTENSION



Thread Depth / Hole Type 3.0xD



USCTI

Material groups: **GS** HSS UNC UNF USCTI 4P~5P Bright Steam Oxide TiN

SIZE	Thread Per Inch		Limit	Overall Length	No. of Flutes	EDP No.		Price	EDP No.	
	UNC	UNF				Bright	Steam Oxide		TiN	Price
#6	32	-	H3	6	2	T7236243	T6236243	\$24.14	T8236243	\$33.22
#8	32	-	H3	6	2	T7236283	T6236283	\$23.97	T8236283	\$33.22
#10	24	-	H3	6	2	T7236323	T6236323	\$23.97	T8236323	\$33.22
#10	-	32	H3	6	2	T7236343	T6236343	\$23.97	T8236343	\$33.22
1/4	20	-	H3	6	2	T7236403	T6236403	\$24.93	T8236403	\$34.16
1/4	-	28	H3	6	2	T7236423	T6236423	\$24.93	T8236423	\$34.16
5/16	18	-	H3	6	2	T7236443	T6236443	\$29.53	T8236443	\$39.28
5/16	18	-	H3	6	3	T7G36443	T6G36443	\$29.53	T8G36443	\$44.14
5/16	-	24	H3	6	2	T7236463	T6236463	\$29.53	T8236463	\$39.28
5/16	-	24	H3	6	3	T7G36463	T6G36463	\$29.53	T8G36463	\$44.14
3/8	16	-	H3	6	3	T7236483	T6236483	\$34.27	T8236483	\$45.96
3/8	-	24	H3	6	3	T7236503	T6236503	\$34.27	T8236503	\$45.96
7/16	14	-	H3	6	3	T7236523	T6236523	\$36.17	T8236523	\$49.92
7/16	-	20	H3	6	3	T7236543	T6236543	\$36.17	T8236543	\$49.92
1/2	13	-	H3	6	3	T7236563	T6236563	\$43.26	T8236563	\$57.18
1/2	-	20	H3	6	3	T7236583	T6236583	\$43.26	T8236583	\$57.18
5/8	11	-	H3	6	3	T7236643	T6236643	\$60.60	T8236643	\$77.08

▶ Refer to technical data on page 69~73.

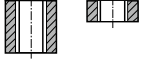
▶ 6" EXTENSION (#6~#10)

▶ Pulley Tap (1/4~5/8)

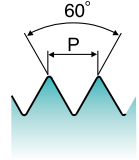
TAPS

SPIRAL POINT PLUG STYLE Oversize Tap

Thread Depth / Hole Type 3.0×D



USCTI

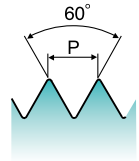


Material groups: **GS** HSS UNC UNF USCTI 302 4P~5P Bright Steam Oxide TiN +.005" oversize

SIZE	ThreadPerInch		No.ofFlute	EDPNo.		Price	EDPNo.		Price
	UNC	UNF		Bright	SteamOxide		TiN		
#6	32	-	2	T7226240	T6226240	\$8.25	T8226240	\$12.67	
#8	32	-	2	T7226280	T6226280	\$8.25	T8226280	\$12.67	
#10	24	-	2	T7226320	T6226320	\$8.25	T8226320	\$12.67	
#10	-	32	2	T7226340	T6226340	\$8.25	T8226340	\$12.67	
1/4	20	-	2	T7226400	T6226400	\$8.62	T8226400	\$12.97	
1/4	-	28	2	T7226420	T6226420	\$8.62	T8226420	\$12.97	
5/16	18	-	2	T7226440	T6226440	\$9.29	T8226440	\$14.31	
5/16	-	24	2	T7226460	T6226460	\$9.29	T8226460	\$14.31	
3/8	16	-	3	T7226480	T6226480	\$10.52	T8226480	\$16.75	
3/8	-	24	3	T7226500	T6226500	\$10.52	T8226500	\$16.75	
7/16	14	-	3	T7226520	T6226520	\$15.88	T8226520	\$24.09	
7/16	-	20	3	T7226540	T6226540	\$15.88	T8226540	\$24.09	
1/2	13	-	3	T7226560	T6226560	\$18.95	T8226560	\$26.58	
1/2	-	20	3	T7226580	T6226580	\$18.95	T8226580	\$26.58	
5/8	11	-	3	T7226640	T6226640	\$37.74	T8226640	\$48.20	
3/4	10	-	3	T7226700	T6226700	\$50.59	T8226700	\$67.55	

► Refer to technical data on page 69~73.

METRIC SPIRAL POINT PLUG STYLE Oversize Tap



Material groups: **GS** HSS M MF USCTI 302 4P~5P Bright Steam Oxide TiN +.127mm oversize

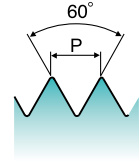
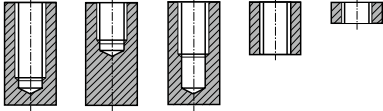
SIZE	Pitch	No. of Flute	EDP No.		EDP No.		EDP No.		Price
			Bright	Price	Steam Oxide	Price	TiN		
M4	0.7	2	T7B17240	\$10.00	T6B17240	\$8.63	T8B17240	\$13.41	
M5	0.8	2	T7B17280	\$10.30	T6B17280	\$8.17	T8B17280	\$14.36	
M6	1	2	T7B17310	\$10.80	T6B17310	\$8.58	T8B17310	\$15.18	
M8	1.25	2	T7B17360	\$11.82	T6B17360	\$10.13	T8B17360	\$16.21	
M8	1	2	T7B17370	\$11.82	T6B17370	\$10.13	T8B17370	\$16.21	
M10	1.5	3	T7B17420	\$14.21	T6B17420	\$13.67	T8B17420	\$20.97	
M10	1.25	3	T7B17430	\$14.21	T6B17430	\$13.67	T8B17430	\$20.97	
M12	1.75	3	T7B17500	\$21.52	T6B17500	\$21.53	T8B17500	\$32.85	
M16	2	3	T7B17600	\$41.02	T6B17600	\$41.04	T8B17600	\$58.97	

► Refer to technical data on page 69~73.

TAPS

HAND TAP TAPER, PLUG & BOTTOMING STYLE

Thread Depth / Hole Type **2.0×D**



USCTI

Material groups: **GS** HSS UNC UNF UNS USCTI 302 9P/5P/2P Bright Steam Oxide TiN

SIZE	Thread Per Inch			Limit	No. of Flute	EDP No. Bright			EDP No. Steam Oxide			Price	EDP No. TiN		Price
	UNC	UNF	UNS			Taper	Plug	Bottoming	Taper	Plug	Bottoming		Plug	Bottoming	
#0	-	80	-	H1	2	T7316026	T7316027	T7316028	T6316026	T6316027	T6316028	\$9.84	T8316027	T8316028	\$12.03
#0	-	80	-	H2	2	-	T7316027H2	T7316028H2	-	-	-	\$9.84	-	-	-
#1	64	-	-	H1	2	T7316046	T7316047	T7316048	T6316046	T6316047	T6316048	\$9.43	T8316047	T8316048	\$11.66
#1	64	-	-	H2	2	-	T7316047H2	T7316048H2	-	-	-	\$9.43	-	-	-
#1	-	72	-	H1	2	T7316066	T7316067	T7316068	T6316066	T6316067	T6316068	\$9.43	T8316067	T8316068	\$11.66
#1	-	72	-	H2	2	-	T7316067H2	T7316068H2	-	-	-	\$9.43	-	-	-
#2	56	-	-	H1	2	-	T7A16087H1	T7A16088H1	-	-	-	\$8.84	-	-	-
#2	56	-	-	H1	3	T7316086H1	T7316087H1	T7316088H1	-	-	-	\$8.84	-	-	-
#2	56	-	-	H2	2	-	T7A16087	T7A16088	-	-	-	\$8.84	-	-	-
#2	56	-	-	H2	3	T7316086	T7316087	T7316088	T6316086	T6316087	T6316088	\$8.84	T8316087	T8316088	\$11.04
#2	-	64	-	H2	3	T7316106	T7316107	T7316108	-	-	-	\$8.84	-	-	-
#3	48	-	-	H1	3	-	T7316127H1	-	-	-	-	-	-	-	-
#3	48	-	-	H2	2	-	T7A16127	T7A16128	-	-	-	\$5.67	-	-	-
#3	48	-	-	H2	3	T7316126	T7316127	T7316128	T6316126	T6316127	T6316128	\$5.67	-	-	-
#3	-	56	-	H2	3	T7316146	T7316147	T7316148	T6316146	T6316147	T6316148	\$5.67	-	-	-
#4	-	-	36	H2	3	T7316156	T7316157	T7316158	T6316156	T6316157	T6316158	\$5.67	-	-	-
#4	40	-	-	H1	2	-	T7A16167H1	T7A16168H1	-	-	-	\$5.67	-	-	-
#4	40	-	-	H1	3	T7316166H1	T7316167H1	T7316168H1	T6316166H1	T6316167H1	T6316168H1	\$5.67	-	-	-
#4	40	-	-	H2	2	-	T7A16167	T7A16168	-	-	-	\$5.67	-	-	-
#4	40	-	-	H2	3	T7316166	T7316167	T7316168	T6316166	T6316167	T6316168	\$5.67	T8316167	T8316168	\$7.90
#4	-	48	-	H1	3	-	T7316187H1	-	-	-	-	-	-	-	-
#4	-	48	-	H2	3	T7316186	T7316187	T7316188	-	-	-	\$5.67	-	-	-
#5	40	-	-	H1	3	-	T7316207H1	T7316208H1	-	-	-	\$5.67	-	-	-
#5	40	-	-	H2	2	-	T7A16207	T7A16208	-	-	-	\$5.67	-	-	-
#5	40	-	-	H2	3	T7316206	T7316207	T7316208	T6316206	T6316207	T6316208	\$5.67	T8316207	T8316208	\$7.90
#5	-	44	-	H2	3	T7316226	T7316227	T7316228	T6316226	T6316227	T6316228	\$5.67	-	-	-
#6	32	-	-	H1	2	-	T7A16247H1	T7A16248H1	-	-	-	\$4.63	-	-	-
#6	32	-	-	H1	3	T7316246H1	T7316247H1	T7316248H1	T6316246H1	T6316247H1	T6316248H1	\$4.63	-	-	-
#6	32	-	-	H2	2	-	T7A16247H2	T7A16248H2	-	-	-	\$4.63	-	-	-
#6	32	-	-	H2	3	T7316246H2	T7316247H2	T7316248H2	T6316246H2	T6316247H2	T6316248H2	\$4.63	-	-	-
#6	32	-	-	H3	2	-	T7A16247	T7A16248	-	-	-	\$4.63	-	-	-
#6	32	-	-	H3	3	T7316246	T7316247	T7316248	T6316246	T6316247	T6316248	\$4.63	T8316247	T8316248	\$6.85
#6	32	-	-	H7	3	-	T7B16247H7	T7B16248H7	-	-	-	\$5.07	-	-	-
#6	-	40	-	H1	3	-	T7B16267H1	-	-	-	-	-	-	-	-
#6	-	40	-	H2	2	-	T7A16267	T7A16268	-	-	-	\$4.63	-	-	-
#6	-	40	-	H2	3	T7316266	T7316267	T7316268	T6316266	T6316267	T6316268	\$4.63	T8316267	T8316268	\$6.85
#8	32	-	-	H1	2	-	T7A16287H1	-	-	-	-	-	-	-	-
#8	32	-	-	H1	4	T7316286H1	T7316287H1	T7316288H1	T6316286H1	T6316287H1	T6316288H1	\$4.63	-	-	-
#8	32	-	-	H2	2	-	T7A16287H2	T7A16288H2	-	-	-	\$4.63	-	-	-
#8	32	-	-	H2	3	-	T7B16287H2	T7B16288H2	-	-	-	\$4.63	-	-	-
#8	32	-	-	H2	4	T7316286H2	T7316287H2	T7316288H2	T6316286H2	T6316287H2	T6316288H2	\$4.63	-	-	-
#8	32	-	-	H3	2	-	T7A16287	T7A16288	-	-	-	\$4.63	-	-	-
#8	32	-	-	H3	3	-	T7B16287	T7B16288	-	-	-	\$4.63	-	-	-
#8	32	-	-	H3	4	T7316286	T7316287	T7316288	T6316286	T6316287	T6316288	\$4.63	T8316287	T8316288	\$6.85
#8	32	-	-	H7	3	-	T7B16287H7	T7B16288H7	-	-	-	\$5.07	-	-	-
#8	32	-	-	H7	4	-	T7316287H7	T7316288H7	-	-	-	\$5.07	-	-	-
#8	-	36	-	H2	4	T7316306	T7316307	T7316308	T6316306	T6316307	T6316308	\$4.63	T8316307	T8316308	\$6.85
#10	24	-	-	H1	4	T7316326H1	T7316327H1	T7316328H1	T6316326H1	T6316327H1	T6316328H1	\$4.68	-	-	-

▶ Refer to technical data on page 69~73.

▶ NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

TAPS

SIZE	Thread Per Inch			Limit	No. of Flute	EDP No.			EDP No.			Price	EDP No.		Price
	UNC	UNF	UNS			Bright			Steam Oxide				TiN		
						Taper	Plug	Bottoming	Taper	Plug	Bottoming		Plug	Bottoming	
#10	24	-	-	H2	2	-	T7A16327H2	T7A16328H2	-	-	-	\$4.68	-	-	-
#10	24	-	-	H2	3	-	T7B16327H2	-	-	-	-	\$4.68	-	-	-
#10	24	-	-	H2	4	T7316326H2	T7316327H2	T7316328H2	T6316326H2	T6316327H2	T6316328H2	\$4.68	-	-	-
#10	24	-	-	H3	2	-	T7A16327	T7A16328	-	-	-	\$4.68	-	-	-
#10	24	-	-	H3	3	-	T7B16327	T7B16328	-	-	-	\$4.68	-	-	-
#10	24	-	-	H3	4	T7316326	T7316327	T7316328	T6316326	T6316327	T6316328	\$4.68	T8316327	T8316328	\$7.11
#10	24	-	-	H7	3	-	T7B16327H7	T7B16328H7	-	-	-	\$5.17	-	-	-
#10	24	-	-	H7	4	-	T7316327H7	T7316328H7	-	-	-	\$4.68	-	-	-
#10	-	32	-	H1	2	-	T7A16347H1	T7A16348H1	-	-	-	\$4.68	-	-	-
#10	-	32	-	H1	4	T7316346H1	T7316347H1	T7316348H1	T6316346H1	T6316347H1	T6316348H1	\$4.68	-	-	-
#10	-	32	-	H2	2	-	T7A16347H2	T7A16348H2	-	-	-	\$4.68	-	-	-
#10	-	32	-	H2	3	-	T7B16347H2	T7B16348H2	-	-	-	\$4.68	-	-	-
#10	-	32	-	H2	4	T7316346H2	T7316347H2	T7316348H2	T6316346H2	T6316347H2	T6316348H2	\$4.68	-	-	-
#10	-	32	-	H3	2	-	T7A16347	T7A16348	-	-	-	\$4.68	-	-	-
#10	-	32	-	H3	3	-	T7B16347	T7B16348	-	-	-	\$4.68	-	-	-
#10	-	32	-	H3	4	T7316346	T7316347	T7316348	T6316346	T6316347	T6316348	\$4.68	T8316347	T8316348	\$7.11
#10	-	32	-	H7	3	-	T7B16347H7	T7B16348H7	-	-	-	\$5.17	-	-	-
#10	-	32	-	H7	4	-	T7316347H7	T7316348H7	-	-	-	\$4.68	-	-	-
#12	24	-	-	H3	4	T7316366	T7316367	T7316368	T6316366	T6316367	T6316368	\$5.49	T8316367	T8316368	\$7.95
#12	-	28	-	H1	4	-	T7316387H1	-	-	-	-	\$5.49	-	-	-
#12	-	28	-	H3	4	T7316386	T7316387	T7316388	T6316386	T6316387	T6316388	\$5.49	T8316387	T8316388	\$7.95
1/4	20	-	-	H1	3	-	T7B16407H1	-	-	-	-	\$5.07	-	-	-
1/4	20	-	-	H1	4	T7316406H1	T7316407H1	T7316408H1	-	-	-	\$5.07	-	-	-
1/4	20	-	-	H2	3	-	T7B16407H2	T7B16408H2	-	-	-	\$5.07	-	-	-
1/4	20	-	-	H2	4	T7316406H2	T7316407H2	T7316408H2	-	-	-	\$5.07	-	-	-
1/4	20	-	-	H3	2	-	T7A16407	T7A16408	-	-	-	\$5.07	-	-	-
1/4	20	-	-	H3	3	-	T7B16407	T7B16408	-	-	-	\$5.07	-	-	-
1/4	20	-	-	H3	4	T7316406	T7316407	T7316408	T6316406	T6316407	T6316408	\$5.07	T8316407	T8316408	\$7.51
1/4	20	-	-	H5	3	-	T7B16407H5	T7B16408H5	-	-	-	\$5.07	-	-	-
1/4	20	-	-	H5	4	-	T7316407H5	T7316408H5	-	-	-	\$5.07	-	-	-
1/4	-	28	-	H1	4	-	T7316427H1	T7316428H1	-	-	-	\$5.07	-	-	-
1/4	-	28	-	H2	4	-	T7316427H2	T7316428H2	-	-	-	\$5.07	-	-	-
1/4	-	28	-	H3	2	-	T7A16427	T7A16428	-	-	-	\$5.07	-	-	-
1/4	-	28	-	H3	3	-	T7B16427	T7B16428	-	-	-	\$5.07	-	-	-
1/4	-	28	-	H3	4	T7316426	T7316427	T7316428	T6316426	T6316427	T6316428	\$5.07	T8316427	T8316428	\$7.51
1/4	-	28	-	H4	4	-	T7316427H4	T7316428H4	-	-	-	\$5.07	-	-	-
5/16	18	-	-	H1	4	-	T7316447H1	T7316448H1	-	-	-	\$6.11	-	-	-
5/16	18	-	-	H2	4	T7316446H2	T7316447H2	T7316448H2	T6316446H2	T6316447H2	T6316448H2	\$6.11	-	-	-
5/16	18	-	-	H3	2	-	T7A16447	T7A16448	-	-	-	\$6.11	-	-	-
5/16	18	-	-	H3	3	-	T7B16447	T7B16448	-	-	-	\$6.11	-	-	-
5/16	18	-	-	H3	4	T7316446	T7316447	T7316448	T6316446	T6316447	T6316448	\$6.11	T8316447	T8316448	\$8.99
5/16	18	-	-	H5	3	-	T7B16447H5	T7B16448H5	-	-	-	\$6.11	-	-	-
5/16	18	-	-	H5	4	-	T7316447H5	T7316448H5	-	-	-	\$6.11	-	-	-
5/16	-	24	-	H1	4	-	T7316467H1	T7316468H1	-	-	-	\$6.11	-	-	-
5/16	-	24	-	H2	4	-	T7316467H2	T7316468H2	-	-	-	\$6.11	-	-	-
5/16	-	24	-	H3	3	-	T7B16467	T7B16468	-	-	-	\$6.11	-	-	-
5/16	-	24	-	H3	4	T7316466	T7316467	T7316468	T6316466	T6316467	T6316468	\$6.11	T8316467	T8316468	\$8.99
5/16	-	24	-	H4	4	-	T7316467H4	T7316468H4	-	-	-	\$6.11	-	-	-
3/8	16	-	-	H1	3	-	T7B16487H1	T7B16488H1	-	-	-	\$6.60	-	-	-
3/8	16	-	-	H1	4	-	T7316487H1	T7316488H1	-	-	-	\$6.60	-	-	-
3/8	16	-	-	H2	4	-	T7316487H2	T7316488H2	-	-	-	\$6.60	-	-	-
3/8	16	-	-	H3	3	-	T7B16487	T7B16488	-	-	-	\$6.60	-	-	-
3/8	16	-	-	H3	4	T7316486	T7316487	T7316488	T6316486	T6316487	T6316488	\$6.60	T8316487	T8316488	\$10.07
3/8	16	-	-	H5	3	-	T7B16487H5	T7B16488H5	-	-	-	\$6.60	-	-	-
3/8	16	-	-	H5	4	-	T7316487H5	T7316488H5	-	-	-	\$6.60	-	-	-
3/8	-	24	-	H1	4	-	T7316507H1	T7316508H1	-	-	-	\$6.60	-	-	-
3/8	-	24	-	H2	4	-	T7316507H2	T7316508H2	-	-	-	\$6.60	-	-	-
3/8	-	24	-	H3	3	-	T7B16507	T7B16508	-	-	-	\$6.60	-	-	-
3/8	-	24	-	H3	4	T7316506	T7316507	T7316508	T6316506	T6316507	T6316508	\$6.60	T8316507	T8316508	\$10.07
3/8	-	24	-	H4	4	-	T7316507H4	T7316508H4	-	-	-	\$6.60	-	-	-
7/16	14	-	-	H2	4	-	T7316527H2	-	-	-	-	\$11.43	-	-	-
7/16	14	-	-	H3	3	-	T7B16527	T7B16528	-	-	-	\$11.43	-	-	-
7/16	14	-	-	H3	4	T7316526	T7316527	T7316528	T6316526	T6316527	T6316528	\$11.43	T8316527	T8316528	\$15.59
7/16	14	-	-	H5	4	-	T7316527H5	T7316528H5	-	-	-	\$11.43	-	-	-

► Refer to technical data on page 69~73.

► NEXT PAGE

TAPS

SIZE	Thread Per Inch			Limit	No. of Flute	EDP No.			EDP No.			Price	EDP No.		Price
	UNC	UNF	UNS			Bright			Steam Oxide				TiN		
						Taper	Plug	Bottoming	Taper	Plug	Bottoming		Plug	Bottoming	
7/16	-	20	-	H2	4	-	T7316547H2	-	-	-	\$11.43	-	-	-	
7/16	-	20	-	H3	3	-	T7B16547	T7B16548	-	-	-	\$11.43	-	-	-
7/16	-	20	-	H3	4	T7316546	T7316547	T7316548	T6316546	T6316547	T6316548	\$11.43	T8316547	T8316548	\$15.59
7/16	-	20	-	H5	4	-	T7316547H5	T7316548H5	-	-	-	\$11.43	-	-	-
1/2	13	-	-	H1	4	-	T7316567H1	T7316568H1	-	-	-	\$13.14	-	-	-
1/2	13	-	-	H2	4	-	T7316567H2	T7316568H2	-	-	-	\$13.14	-	-	-
1/2	13	-	-	H3	3	-	T7B16567	T7B16568	-	-	-	\$13.14	-	-	-
1/2	13	-	-	H3	4	T7316566	T7316567	T7316568	T6316566	T6316567	T6316568	\$13.14	T8316567	T8316568	\$18.75
1/2	13	-	-	H5	4	-	T7316567H5	T7316568H5	-	-	-	\$13.14	-	-	-
1/2	-	20	-	H1	4	-	T7316587H1	T7316588H1	-	-	-	\$13.14	-	-	-
1/2	-	20	-	H3	3	-	T7B16587	T7B16588	-	-	-	\$13.14	-	-	-
1/2	-	20	-	H3	4	T7316586	T7316587	T7316588	T6316586	T6316587	T6316588	\$13.14	T8316587	T8316588	\$18.75
1/2	-	20	-	H5	4	-	T7316587H5	T7316588H5	-	-	-	\$13.14	-	-	-
9/16	12	-	-	H3	4	T7316606	T7316607	T7316608	T6316606	T6316607	T6316608	\$21.49	T8316607	T8316608	\$24.98
9/16	12	-	-	H5	4	-	T7316607H5	T7316608H5	-	-	-	\$21.49	-	-	-
9/16	-	18	-	H2	4	-	T7316627H2	-	-	-	-	\$21.49	-	-	-
9/16	-	18	-	H3	4	T7316626	T7316627	T7316628	T6316626	T6316627	T6316628	\$21.49	T8316627	T8316628	\$24.98
9/16	-	18	-	H5	4	-	T7316627H5	T7316628H5	-	-	-	\$21.49	-	-	-
5/8	11	-	-	H1	4	-	T7316647H1	-	-	-	-	\$25.82	-	-	-
5/8	11	-	-	H2	4	-	T7316647H2	T7316648H2	-	-	-	\$25.82	-	-	-
5/8	11	-	-	H3	4	T7316646	T7316647	T7316648	T6316646	T6316647	T6316648	\$25.82	T8316647	T8316648	\$32.45
5/8	11	-	-	H5	4	-	T7316647H5	T7316648H5	-	-	-	\$25.82	-	-	-
5/8	-	18	-	H1	4	-	T7316667H1	-	-	-	-	\$25.82	-	-	-
5/8	-	18	-	H2	4	-	T7316667H2	-	-	-	-	\$25.82	-	-	-
5/8	-	18	-	H3	4	T7316666	T7316667	T7316668	T6316666	T6316667	T6316668	\$25.82	T8316667	T8316668	\$32.45
5/8	-	18	-	H5	4	-	T7316667H5	T7316668H5	-	-	-	\$25.82	-	-	-
11/16	-	-	11	H3	4	T7316A06	T7316A07	T7316A08	T6316A06	T6316A07	T6316A08	\$32.67	-	-	-
11/16	-	-	16	H3	4	T7316A26	T7316A27	T7316A28	T6316A26	T6316A27	T6316A28	\$32.67	-	-	-
3/4	10	-	-	H1	4	-	T7316707H1	T7316708H1	-	-	-	\$34.24	-	-	-
3/4	10	-	-	H2	4	-	T7316707H2	-	-	-	-	\$34.24	-	-	-
3/4	10	-	-	H3	4	T7316706	T7316707	T7316708	T6316706	T6316707	T6316708	\$34.24	T8316707	T8316708	\$45.86
3/4	10	-	-	H5	4	-	T7316707H5	T7316708H5	-	-	-	\$34.24	-	-	-
3/4	-	16	-	H1	4	-	T7316727H1	-	-	-	-	\$34.24	-	-	-
3/4	-	16	-	H2	4	-	T7316727H2	-	-	-	-	\$34.24	-	-	-
3/4	-	16	-	H3	4	T7316726	T7316727	T7316728	T6316726	T6316727	T6316728	\$34.24	T8316727	T8316728	\$45.86
3/4	-	16	-	H5	4	-	T7316727H5	T7316728H5	-	-	-	\$34.24	-	-	-
7/8	9	-	-	H4	4	T7316746	T7316747	T7316748	T6316746	T6316747	T6316748	\$47.87	T8316747	T8316748	\$56.28
7/8	9	-	-	H6	4	-	T7316747H6	-	-	-	-	\$47.87	-	-	-
7/8	-	14	-	H2	4	-	T7316767H2	-	-	-	-	\$47.87	-	-	-
7/8	-	14	-	H4	4	T7316766	T7316767	T7316768	T6316766	T6316767	T6316768	\$47.87	T8316767	T8316768	\$56.28
7/8	-	14	-	H6	4	-	T7316767H6	-	-	-	-	\$47.87	-	-	-
1	8	-	-	H1	4	-	T7316787H1	T7316788H1	-	-	-	\$68.49	-	-	-
1	8	-	-	H2	4	-	T7316787H2	-	-	-	-	\$68.49	-	-	-
1	8	-	-	H4	4	T7316786	T7316787	T7316788	T6316786	T6316787	T6316788	\$68.49	T8316787	T8316788	\$85.46
1	8	-	-	H6	4	-	T7316787H6	-	-	-	-	\$68.49	-	-	-
1	-	12	-	H4	4	T7316806	T7316807	T7316808	T6316806	T6316807	T6316808	\$68.49	T8316807	T8316808	\$85.46
1	-	-	14	H2	4	-	T7316817H2	-	-	-	-	\$68.49	-	-	-
1	-	-	14	H4	4	T7316816	T7316817	T7316818	-	-	-	\$68.49	T8316817	T8316818	\$85.46
1-1/8	7	-	-	H4	4	T7316826	T7316827	T7316828	-	-	-	\$99.68	T8316827	T8316828	\$120.55
1-1/8	-	12	-	H4	4	T7316846	T7316847	T7316848	-	-	-	\$99.68	T8316847	T8316848	\$120.55
1-1/4	7	-	-	H4	4	T7316866	T7316867	T7316868	-	-	-	\$114.91	T8316867	T8316868	\$140.65
1-1/4	-	12	-	H4	6	T7316886	T7316887	T7316888	-	-	-	\$114.91	T8316887	T8316888	\$140.65
1-3/8	6	-	-	H4	4	T7316906	T7316907	T7316908	-	-	-	\$172.59	T8316907	T8316908	\$207.10
1-3/8	-	12	-	H4	6	T7316926	T7316927	T7316928	-	-	-	\$172.59	T8316927	T8316928	\$207.10
1-1/2	6	-	-	H4	4	T7316946	T7316947	T7316948	-	-	-	\$189.70	T8316947	T8316948	\$237.70
1-1/2	-	12	-	H4	6	T7316966	T7316967	T7316968	-	-	-	\$189.70	T8316967	T8316968	\$236.40

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

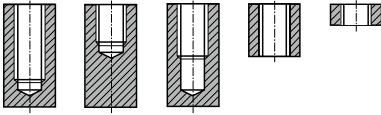
Indexable

Rotary Tool Holder

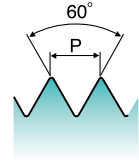
TAPS

METRIC HAND TAP TAPER, PLUG & BOTTOMING STYLE

Thread Depth / Hole Type 2.0×D



USCTI



Material groups: **GS** **HSS** **M MF** **USCTI 302** **9P/5P/2P** **Bright** **Steam Oxide** **TiN**

SIZE	Pitch	Limit	No. of Flute	EDP No.			Price	EDP No.			Price	EDP No.		Price
				Bright				Steam Oxide				TiN		
				Taper	Plug	Bottoming		Taper	Plug	Bottoming		Plug	Bottoming	
M1.6	0.35	D3	3	-	T7315097	-	\$21.17	-	-	-	-	-	-	-
M2	0.40	D3	3	-	T7315137	T7315138	\$19.29	-	T6315137	T6315138	\$15.43	T8315137	T8315138	\$17.56
M2.5	0.45	D3	3	-	T7315177	T7315178	\$13.94	-	T6315177	T6315178	\$9.22	T8315177	T8315178	\$11.54
M3	0.50	D3	3	T7315206	T7315207	T7315208	\$8.29	T6315206	T6315207	T6315208	\$7.79	T8315207	T8315208	\$10.13
M3.5	0.60	D4	3	-	T7315227	T7315228	\$6.36	-	-	-	-	-	-	-
M4	0.70	D4	4	T7315246	T7315247	T7315248	\$6.36	T6315246	T6315247	T6315248	\$6.30	T8315247	T8315248	\$8.62
M4.5	0.75	D4	4	-	T7315267	T7315268	\$6.36	-	T6315267	T6315268	\$6.43	T8315267	T8315268	\$9.10
M5	0.80	D4	4	T7315286	T7315287	T7315288	\$6.59	T6315286	T6315287	T6315288	\$6.43	T8315287	T8315288	\$9.25
M6	1.00	D5	4	T7315316	T7315317	T7315318	\$6.93	T6315316	T6315317	T6315318	\$6.80	T8315317	T8315318	\$9.86
M7	1.00	D5	4	-	T7315347	T7315348	\$8.45	-	T6315347	T6315348	\$7.42	T8315347	T8315348	\$10.49
M8	1.25	D5	4	T7315366	T7315367	T7315368	\$8.70	T6315366	T6315367	T6315368	\$7.42	T8315367	T8315368	\$10.49
M8	1.00	D5	4	-	T7315377	T7315378	\$8.70	-	T6315377	T6315378	\$7.42	T8315377	T8315378	\$10.49
M10	1.00	D5	4	-	T7315447	T7315448	\$9.99	-	-	-	-	-	-	-
M10	1.50	D6	4	T7315426	T7315427	T7315428	\$9.99	T6315426	T6315427	T6315428	\$9.97	T8315427	T8315428	\$13.48
M10	1.25	D5	4	T7315436	T7315437	T7315438	\$9.99	T6315436	T6315437	T6315438	\$9.97	T8315437	T8315438	\$13.48
M12	1.50	D6	4	-	T7315517	T7315518	\$19.37	-	-	-	-	-	-	-
M12	1.75	D6	4	T7315506	T7315507	T7315508	\$19.37	T6315506	T6315507	T6315508	\$16.46	T8315507	T8315508	\$21.84
M12	1.25	D5	4	T7315526	T7315527	T7315528	\$19.37	T6315526	T6315527	T6315528	\$16.46	T8315527	T8315528	\$21.84
M14	2.00	D7	4	T7315546	T7315547	T7315548	\$28.97	T6315546	T6315547	T6315548	\$24.53	T8315547	T8315548	\$31.06
M14	1.50	D6	4	-	T7315557	T7315558	\$28.97	-	-	-	-	-	-	-
M14	1.25	D5	4	-	T7315567	T7315568	\$28.97	-	-	-	-	-	-	-
M16	2.00	D7	4	T7315606	T7315607	T7315608	\$35.04	T6315606	T6315607	T6315608	\$30.00	T8315607	T8315608	\$37.74
M16	1.50	D6	4	T7315616	T7315617	T7315618	\$35.04	T6315616	T6315617	T6315618	\$30.00	T8315617	T8315618	\$37.74
M18	2.50	D7	4	-	T7315657	T7315658	\$41.65	-	-	-	-	-	-	-
M18	1.50	D6	4	T7315676	T7315677	T7315678	\$41.65	T6315676	T6315677	T6315678	\$40.34	T8315677	T8315678	\$49.20
M20	2.50	D7	4	T7315706	T7315707	T7315708	\$49.83	T6315706	T6315707	T6315708	\$49.81	T8315707	T8315708	\$61.51
M20	1.50	D6	4	T7315726	T7315727	T7315728	\$49.83	T6315726	T6315727	T6315728	\$49.81	T8315727	T8315728	\$61.51
M24	3.00	D8	4	T7315786	T7315787	T7315788	\$87.40	T6315786	T6315787	T6315788	\$76.37	T8315787	T8315788	\$91.84
M30	3.50	D9	4	T7315946	T7315947	T7315948	\$158.28	T6315946	T6315947	T6315948	\$158.17	-	-	-
M36	4.00	D9	4	-	T7315B37	T7315B38	\$247.45	-	-	-	-	-	-	-

► Refer to technical data on page 69~73.

Holemaking

Threading

Milling

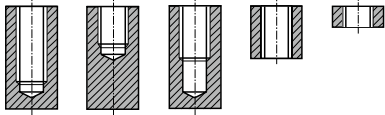
Indexable

Rotary Tool Holder

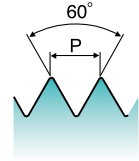
TAPS

HAND TAP Oversize Tap

Thread Depth / Hole Type 2.0×D



USCTI

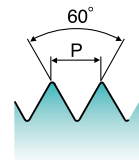


Material groups: **GS** HSS **UNC UNF** **USCTI 302** **5P/2P** **Bright** **+0.005" oversize**

SIZE	Thread Per Inch		No. of Flute	EDP No.		Price
	UNC	UNF		Bright		
				Plug	Bottoming	
#6	32	-	3	T7326247	-	\$5.07
#8	32	-	4	T7326287	-	\$5.07
#10	24	-	4	T7326327	-	\$5.17
#10	-	32	4	T7326347	-	\$5.17
1/4	20	-	4	T7326407	T7326408	\$5.60
1/4	-	28	4	T7326427	-	\$5.60
5/16	18	-	4	T7326447	T7326448	\$6.73
5/16	-	24	4	T7326467	-	\$6.73
3/8	16	-	4	T7326487	T7326488	\$7.26
3/8	-	24	4	T7326507	-	\$7.26
7/16	14	-	4	T7326527	-	\$12.13
1/2	13	-	4	T7326567	-	\$14.44
1/2	-	20	4	T7326587	-	\$14.44
5/8	11	-	4	T7326647	-	\$28.37
3/4	10	-	4	T7326707	-	\$37.67

► Refer to technical data on page 69~73.

METRIC HAND TAP Oversize Tap



Material groups: **GS** HSS **M MF** **USCTI 302** **5P/2P** **Bright** **+0.127mm oversize**

SIZE	Pitch	No. of Flute	EDP No.		Price
			Bright		
			Plug	Bottoming	
M4	0.70	4	T7B15247	T7B15248	\$6.93
M4.5	0.75	4	T7B15267	T7B15268	\$6.93
M5	0.80	4	T7B15287	T7B15288	\$7.05
M6	1.00	4	T7B15317	T7B15318	\$7.51
M7	1.00	4	T7B15347	T7B15348	\$8.18
M8	1.25	4	T7B15367	T7B15368	\$8.18
M8	1.00	4	T7B15377	T7B15378	\$8.18
M10	1.50	4	T7B15427	T7B15428	\$10.97
M10	1.25	4	T7B15437	T7B15438	\$10.97
M12	1.75	4	T7B15507	T7B15508	\$18.08
M12	1.25	4	T7B15527	T7B15528	\$18.08
M16	2.00	4	T7B15607	T7B15608	\$33.00
M20	2.50	4	T7B15707	T7B15708	\$54.77
M24	3.00	4	T7B15787	T7B15788	\$83.99

► Refer to technical data on page 69~73.

Material groups: Holemaking

Threading

Milling

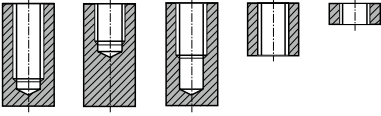
Indexable

Rotary Tool Holder

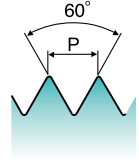
TAPS

LEFT HAND TAP

Thread Depth / Hole Type 2.0×D



USCTI



Material groups: **GS** **HSS** **UNC UNF** **USCTI 302** **5P/2P** **Bright**

SIZE	Thread Per Inch		Limit	No. of Flute	EDP No.		Price
	UNC	UNF			Bright		
					Plug	Bottoming	
#6	32	-	H3	3	T7336247	T7336248	\$5.58
#6	-	40	H2	3	T7336267	T7336268	\$5.58
#8	32	-	H3	4	T7336287	T7336288	\$5.58
#8	-	36	H2	4	T7336307	T7336308	\$5.58
#10	24	-	H3	4	T7336327	T7336328	\$5.58
#10	-	32	H3	4	T7336347	T7336348	\$5.58
1/4	20	-	H3	4	T7336407	T7336408	\$6.08
1/4	-	28	H3	4	T7336427	T7336428	\$6.08
5/16	18	-	H3	4	T7336447	T7336448	\$7.32
5/16	-	24	H3	4	T7336467	T7336468	\$7.32
3/8	16	-	H3	4	T7336487	T7336488	\$7.95
3/8	-	24	H3	4	T7336507	T7336508	\$7.95
7/16	14	-	H3	4	T7336527	T7336528	\$13.74
7/16	-	20	H3	4	T7336547	T7336548	\$13.74
1/2	13	-	H3	4	T7336567	T7336568	\$16.37
1/2	-	20	H3	4	T7336587	T7336588	\$16.37
9/16	12	-	H3	4	T7336607	T7336608	\$22.91
9/16	-	18	H3	4	T7336627	T7336628	\$22.91
5/8	11	-	H3	4	T7336647	T7336648	\$26.55
5/8	-	18	H3	4	T7336667	T7336668	\$26.55
3/4	10	-	H3	4	T7336707	T7336708	\$38.17
3/4	-	16	H3	4	T7336727	T7336728	\$38.17
7/8	9	-	H4	4	T7336747	T7336748	\$53.35
7/8	-	14	H4	4	T7336767	T7336768	\$53.35
1	8	-	H4	4	T7336787	T7336788	\$84.52
1	-	12	H4	4	T7336807	T7336808	\$84.52

▶ Refer to technical data on page 69~73.

Holemaking

Threading

Milling

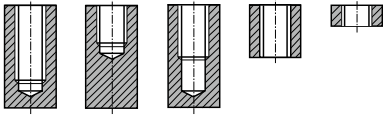
Indexable

Rotary Tool Holder

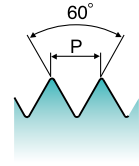
TAPS

METRIC LEFT HAND TAP

Thread Depth / Hole Type 2.0×D



USCTI



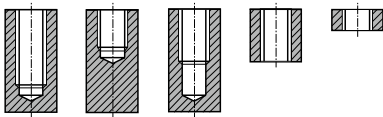
Material groups: **GS** HSS UNC UNF USCTI 302 5P/2P Bright

SIZE	Pitch	Limit	No. of Flute	EDP No.		Price
				Bright		
				Plug	Bottoming	
M3.5	0.6	D4	3	T7A15227	T7A15228	\$7.56
M4	0.7	D4	4	T7A15247	T7A15248	\$7.56
M4.5	0.75	D4	4	T7A15267	T7A15268	\$7.56
M5	0.8	D4	4	T7A15287	T7A15288	\$7.83
M6	1.0	D5	4	T7A15317	T7A15318	\$8.18
M7	1.0	D5	4	T7A15347	T7A15348	\$8.90
M8	1.25	D5	4	T7A15367	T7A15368	\$8.90
M8	1.0	D5	4	T7A15377	T7A15378	\$8.90
M10	1.5	D6	4	T7A15427	T7A15428	\$11.96
M10	1.25	D5	4	T7A15437	T7A15438	\$11.96
M12	1.75	D6	4	T7A15507	T7A15508	\$19.73
M12	1.25	D5	4	T7A15527	T7A15528	\$19.73
M14	2.0	D7	4	T7A15547	T7A15548	\$29.55
M14	1.5	D6	4	T7A15557	T7A15558	\$29.55
M16	2.0	D7	4	T7A15607	T7A15608	\$36.03
M16	1.5	D6	4	T7A15617	T7A15618	\$36.03
M18	2.5	D7	4	T7A15657	T7A15658	\$43.95
M18	1.5	D6	4	T7A15677	T7A15678	\$43.95
M20	2.5	D7	4	T7A15707	T7A15708	\$54.32
M20	1.5	D6	4	T7A15727	T7A15728	\$54.32
M22	2.5	D7	4	T7A15747	T7A15748	\$64.42
M22	1.5	D6	4	T7A15767	T7A15768	\$64.42
M24	3.0	D8	4	T7A15787	T7A15788	\$80.26
M24	2.0	D7	4	T7A15797	T7A15798	\$80.26

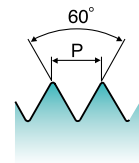
► Refer to technical data on page 69~73.

STRAIGHT FLUTE PULLEY TAPS, 6" LONG LENGTH PLUG STYLE

Thread Depth / Hole Type 2.0×D



ANSI Pulley Tap (ASME B94.9)



Material groups: **GS** HSS UNC UNF USCTI 4P~5P Bright Steam Oxide TIN

SIZE	UNC	Overall Length	Limit	No. of Flute	EDP No.		Price	EDP No.		Price
					Bright			TIN		
					Bright	Steam Oxide		TIN		
1/4	20	6	H3	4	T7616403	T6616403	\$25.36	T8616403	\$36.32	
5/16	18	6	H3	4	T7616443	T6616443	\$33.70	T8616443	\$45.26	
3/8	16	6	H3	4	T7616483	T6616483	\$38.65	T8616483	\$52.53	
7/16	14	6	H3	4	T7616523	T6616523	\$36.55	T8616523	\$59.15	
1/2	13	6	H3	4	T7616563	T6616563	\$43.23	T8616563	\$67.99	
5/8	11	6	H3	4	T7616643	T6616643	\$72.04	T8616643	\$91.63	

► Refer to technical data on page 69~73.

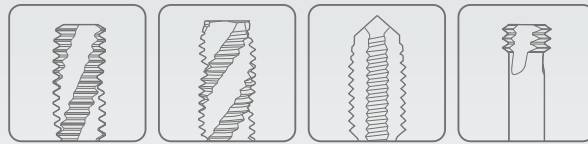
Holemaking

Threading

Milling

Indexable

Rotary Tool Holder



MILLING

YGBasix SOLID CARBIDE END MILLS



YGBasiX END MILLS




SELECTION GUIDE

SOLID CARBIDE END MILLS

- X-coated or Uncoated
- Multi-helix option for chatter-free machining
- 2, 3, and 4-flute design
- Square end, Corner Radius, and Ball Nose
- Stub length to Extra Long length
- Single and Double ended
- Inch and Metric sizes
- Drill/Mills to side mill and chamfer with same tool
- 60°, 90°, and 120° chamfer mills

⊙ : Excellent ○ : Good

Recommended cutting conditions : P.131-147

END SHAPE	SQUARE	CORNER RADIUS	BALL NOSE
FLUTE COUNT	4		
INCH/METRIX	INCH		
HELIX ANGLE	MULTIPLE HELIX		
SIZE MIN	1/8"	1/8"	1/8"
SIZE MAX	1"	1"	1"
PRDUCT PAGE	101	102	104
STYLE	SINGLE END		
			

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC			
P	1	Non-alloy steel	About 0.15% C Annealed	125		⊙	⊙	⊙
	2		About 0.45% C Annealed	190	13	⊙	⊙	⊙
	3		About 0.45% C Quenched & Tempered	250	25	⊙	⊙	⊙
	4		About 0.75% C Annealed	270	28	⊙	⊙	⊙
	5		About 0.75% C Quenched & Tempered	300	32	⊙	⊙	⊙
	6	Low alloy steel	Annealed	180	10	⊙	⊙	⊙
	7		Quenched & Tempered	275	29	⊙	⊙	⊙
	8		Quenched & Tempered	300	32	⊙	⊙	⊙
	9		Quenched & Tempered	350	38	⊙	⊙	⊙
	10		High alloyed steel, and tool steel	Annealed	200	15	⊙	⊙
	11	Quenched & Tempered		325	35	⊙	⊙	⊙
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	⊙	⊙	⊙
	13		Martensitic Quenched & Tempered	240	23	⊙	⊙	⊙
	14		Austenitic	180	10	⊙	⊙	⊙
K	15	Grey cast iron	Pearlitic / ferritic	180	10	⊙	⊙	⊙
	16		Pearlitic (Martensitic)	260	26	⊙	⊙	⊙
	17	Nodular cast iron	Ferritic	160	3	⊙	⊙	⊙
	18		Pearlitic	250	25	⊙	⊙	⊙
	19	Malleable cast iron	Ferritic	130		⊙	⊙	⊙
20	Pearlitic		230	21	⊙	⊙	⊙	
N	21	Aluminum-wrought alloy	Not Curable	60				
	22		Curable Hardened	100				
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75				
	24		≤ 12% Si, Curable Hardened	90				
	25		> 12% Si, Not Curable	130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110				
	27		CuZn, CuSnZn (Brass)	90				
	28		CuSn, lead-free copper and electrolytic copper	100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Ni or Co Based Cured	350	38			
	35		Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm				
	37		Alpha + Beta Alloys Hardened	1050 Rm				
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40	Chilled Cast Iron	Cast	400	42			
	41	Hardened Cast Iron	Hardened	550	55			

Holmaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS





SELECTION GUIDE

SOLID CARBIDE END MILLS

- X-coated or Uncoated
- Multi-helix option for chatter-free machining
- 2, 3, and 4-flute design
- Square end, Corner Radius, and Ball Nose
- Stub length to Extra Long length
- Single and Double ended
- Inch and Metric sizes
- Drill/Mills to side mill and chamfer with same tool
- 60°, 90°, and 120° chamfer mills

◎ : Excellent ○ : Good

Recommended cutting conditions : P.131-147

END SHAPE	BALL NOSE	DRILL MILL 60°- 90°	CHAMFER MILL 60°- 90°- 120°
FLUTE COUNT	4	2 / 4	2 / 4
INCH/METRIX	INCH	INCH	INCH
HELIX ANGLE	30°	30°	0°
SIZE MIN	1/64"	1/32"	1/8"
SIZE MAX	1"	3/4"	1/2"
PRDUCT PAGE	124	126	127
STYLE	SINGLE END	DOUBLE END	SINGLE END
			
			

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC				
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎
	7		Quenched & Tempered	275	29	◎	◎	◎	◎
	8		Quenched & Tempered	300	32	◎	◎	◎	◎
	9		Quenched & Tempered	350	38	◎	◎	◎	◎
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎
	11	Quenched & Tempered		325	35	◎	◎	◎	◎
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15				
	13		Martensitic Quenched & Tempered	240	23				
	14		Austenitic	180	10				
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○	○
	16		Pearlitic (Martensitic)	260	26	○	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○	○
	18		Pearlitic	250	25	○	○	○	○
	19	Malleable cast iron	Ferritic	130		○	○	○	○
20	Pearlitic		230	21	○	○	○	○	
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○	○
	22		Curable Hardened	100		○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○	○
	24		≤ 12% Si, Curable Hardened	90		○	○	○	○
	25		> 12% Si, Not Curable	130		○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110					
	27		CuZn, CuSnZn (Brass)	90					
	28		CuSn, lead-free copper and electrolytic copper	100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
	32		Cured	280	30				
	33		Annealed	250	25				
	34		Ni or Co Based Cured	350	38				
	35		Cast	320	34				
	36	Titanium Alloys	Pure Titanium	400 Rm					
	37		Alpha + Beta Alloys Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
	40		Chilled Cast Iron	Cast	400	42			
	41		Hardened Cast Iron	Hardened	550	55			

Holemaking

Threading

Milling

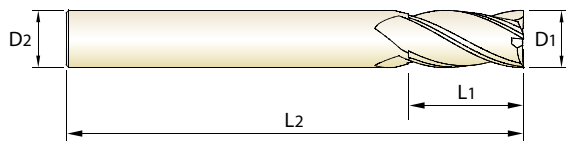
Indexable

Rotary Tool Holder

YGBasiX END MILLS

X-COATED VARIABLE INDEX, MULTIPLE HELIX SOLID CARBIDE END MILLS 4 FLUTE SQUARE CORNER

- ▶ Variable Index and Multiple helix for smooth, chatter-free machining in a wide range of materials
- ▶ Eccentric relief grind and our proprietary X-coating for long tool life



P. 131

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Shank
		D1	D2	L1	L2	
G9J48008N	\$8.66	1/8	1/8	1/4	1-1/2	Plain
G9J48901N	\$9.22		1/8	1/2	2	Plain
G9J48012N	\$11.28	3/16	3/16	3/8	2	Plain
G9J48902N	\$12.97		3/16	5/8	2-1/4	Plain
G9J48016N	\$15.59	1/4	1/4	3/8	2	Plain
G9J48903N	\$17.86		1/4	3/4	2-1/2	Plain
G9J48904N	\$21.94		1/4	1-1/4	3	Plain
G9J48020N	\$22.10		5/16	1/2	2	Plain
G9J48905N	\$23.68	5/16	5/16	13/16	2-1/2	Plain
G9J48906N	\$30.41		5/16	1-1/4	3	Plain
G9J49024N	\$28.10	3/8	3/8	1/2	2-1/4	Flat
G9J49901N	\$31.95		3/8	1	2-3/4	Flat
G9J49902N	\$37.61		3/8	1-1/2	3-1/4	Flat
G9J49028N	\$35.69	7/16	7/16	5/8	2-1/2	Flat
G9J49903N	\$37.30		7/16	1	3	Flat
G9J49032N	\$45.23	1/2	1/2	5/8	2-3/4	Flat
G9J49904N	\$54.47		1/2	1-1/4	3-1/4	Flat
G9J49905N	\$62.79		1/2	2	4	Flat
G9J49040N	\$73.22		5/8	3/4	3-1/4	Flat
G9J49906N	\$84.58	5/8	5/8	1-5/8	3-7/8	Flat
G9J49907N	\$108.68		5/8	2-1/4	4-1/2	Flat
G9J49048N	\$111.91	3/4	3/4	1	3-1/2	Flat
G9J49908N	\$123.08		3/4	1-5/8	4	Flat
G9J49909N	\$158.08		3/4	2-1/4	4-3/4	Flat
G9J49064N	\$180.78	1	1	1-1/2	4	Flat
G9J49910N	\$257.66		1	2	4-1/2	Flat
G9J49911N	\$358.14		1	3	5-1/2	Flat

Holemaking

Threading

Milling

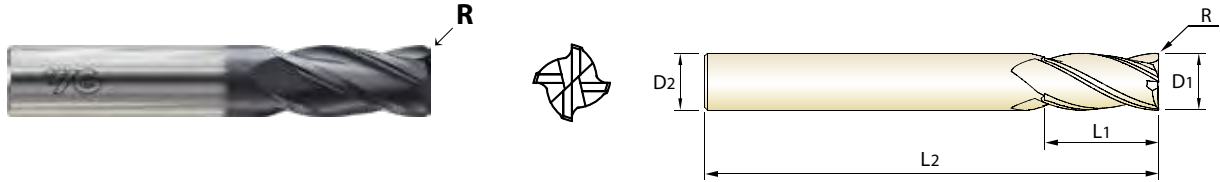
Indexable

Rotary Tool Holder

YGBasiX END MILLS

X-COATED VARIABLE INDEX, MULTIPLE HELIX SOLID CARBIDE END MILLS 4 FLUTE CORNER RADIUS

- ▶ Variable Index and Multiple helix for smooth, chatter-free machining in a wide range of materials
- ▶ Eccentric relief grind and our proprietary X-coating for long tool life
- ▶ Corner radius for increased edge strength



Unit : Inch

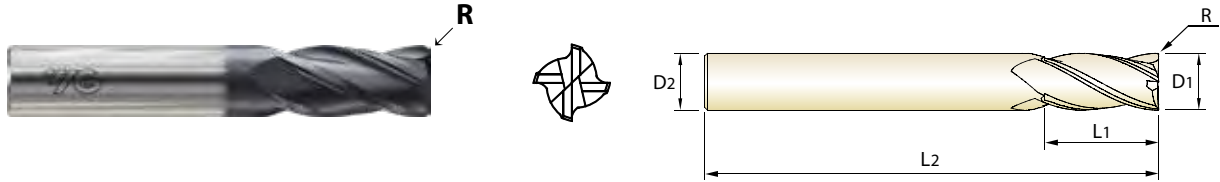
EDP No.	Price	Mill Diameter	Radius	Shank Diameter	Length of Cut	Overall Length	Shank
		D1	R	D2	L1	L2	
G9J52008N	\$9.53	1/8	R0.010	1/8	1/4	1-1/2	Plain
G9J52901N	\$10.15		R0.010	1/8	1/2	2	Plain
G9J52012N	\$12.41	3/16	R0.010	3/16	3/8	2	Plain
G9J52903N	\$12.41		R0.030	3/16	3/8	2	Plain
G9J52902N	\$14.27		R0.010	3/16	5/8	2-1/4	Plain
G9J52904N	\$14.27		R0.030	3/16	5/8	2-1/4	Plain
G9J52016N	\$17.15	1/4	R0.015	1/4	3/8	2	Plain
G9J52907N	\$17.15		R0.030	1/4	3/8	2	Plain
G9J52905N	\$17.15		R0.015	1/4	3/4	2-1/2	Plain
G9J52908N	\$19.65		R0.030	1/4	3/4	2-1/2	Plain
G9J52906N	\$24.14		R0.015	1/4	1-1/4	3	Plain
G9J52909N	\$24.14		R0.030	1/4	1-1/4	3	Plain
G9J52020N	\$24.31	5/16	R0.015	5/16	1/2	2	Plain
G9J52912N	\$24.31		R0.030	5/16	1/2	2	Plain
G9J52910N	\$26.05		R0.015	5/16	13/16	2-1/2	Plain
G9J52913N	\$26.05		R0.030	5/16	13/16	2-1/2	Plain
G9J52911N	\$33.45	3/8	R0.015	5/16	1-1/4	3	Plain
G9J52914N	\$33.45		R0.030	5/16	1-1/4	3	Plain
G9J53024N	\$30.91		R0.015	3/8	1/2	2-1/4	Flat
G9J53903N	\$30.91		R0.030	3/8	1/2	2-1/4	Flat
G9J53906N	\$30.91		R0.060	3/8	1/2	2-1/4	Flat
G9J53901N	\$35.15		R0.015	3/8	1	2-3/4	Flat
G9J53904N	\$35.15	7/16	R0.030	3/8	1	2-3/4	Flat
G9J53907N	\$35.15		R0.060	3/8	1	2-3/4	Flat
G9J53902N	\$41.38		R0.015	3/8	1-1/2	3-1/4	Flat
G9J53905N	\$41.38	1/2	R0.030	3/8	1-1/2	3-1/4	Flat
G9J53908N	\$41.38		R0.060	3/8	1-1/2	3-1/4	Flat
G9J53028N	\$39.26		R0.030	7/16	5/8	2-1/2	Flat
G9J53910N	\$39.26		R0.060	7/16	5/8	2-1/2	Flat
G9J53909N	\$41.04		R0.030	7/16	1	3	Flat
G9J53911N	\$41.04		R0.060	7/16	1	3	Flat
G9J53032N	\$49.76	1/2	R0.015	1/2	5/8	2-3/4	Flat
G9J53914N	\$49.76		R0.030	1/2	5/8	2-3/4	Flat
G9J53917N	\$49.76		R0.060	1/2	5/8	2-3/4	Flat
G9J53912N	\$59.92		R0.015	1/2	1-1/4	3-1/4	Flat
G9J53915N	\$59.92		R0.030	1/2	1-1/4	3-1/4	Flat
G9J53918N	\$59.92		R0.060	1/2	1-1/4	3-1/4	Flat
G9J53913N	\$69.07		R0.015	1/2	2	4	Flat
G9J53916N	\$69.07		R0.030	1/2	2	4	Flat
G9J53919N	\$69.07		R0.060	1/2	2	4	Flat

▶ NEXT PAGE

YGBasiX END MILLS

X-COATED VARIABLE INDEX, MULTIPLE HELIX SOLID CARBIDE END MILLS 4 FLUTE CORNER RADIUS

- ▶ Variable Index and Multiple helix for smooth, chatter-free machining in a wide range of materials
- ▶ Eccentric relief grind and our proprietary X-coating for long tool life
- ▶ Corner radius for increased edge strength



Unit : Inch

EDP No.	Price	Mill Diameter	Radius	Shank Diameter	Length of Cut	Overall Length	Shank
		D1	R	D2	L1	L2	
G9J53040N	\$80.54	5/8	R0.030	5/8	3/4	3-1/4	Flat
G9J53922N	\$80.54		R0.060	5/8	3/4	3-1/4	Flat
G9J53920N	\$93.04		R0.030	5/8	1-5/8	3-7/8	Flat
G9J53923N	\$93.04		R0.060	5/8	1-5/8	3-7/8	Flat
G9J53925N	\$93.04		R0.125	5/8	1-5/8	3-7/8	Flat
G9J53921N	\$119.55		R0.030	5/8	2-1/4	4-1/2	Flat
G9J53924N	\$119.55	3/4	R0.060	5/8	2-1/4	1-1/2	Flat
G9J53048N	\$123.11		R0.030	3/4	1	3-1/2	Flat
G9J53928N	\$123.11		R0.060	3/4	1	3-1/2	Flat
G9J53926N	\$135.39		R0.030	3/4	1-5/8	4	Flat
G9J53929N	\$135.39		R0.060	3/4	1-5/8	4	Flat
G9J53931N	\$133.69		R0.125	3/4	1-5/8	4	Flat
G9J53927N	\$173.88	1	R0.030	3/4	2-1/4	4-3/4	Flat
G9J53930N	\$173.88		R0.060	3/4	2-1/4	4-3/4	Flat
G9J53064N	\$198.86		R0.030	1	1-1/2	4	Flat
G9J53934N	\$198.86		R0.060	1	1-1/2	4	Flat
G9J53932N	\$283.43		R0.030	1	2	4-1/2	Flat
G9J53935N	\$283.43		R0.060	1	2	4-1/2	Flat
G9J53937N	\$274.96	1	R0.125	1	2	4-1/2	Flat
G9J53933N	\$393.96		R0.030	1	3	5-1/2	Flat
G9J53936N	\$393.96		R0.060	1	3	5-1/2	Flat

Holemaking

Threading

Milling

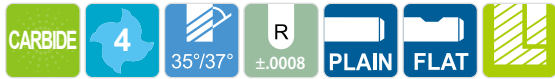
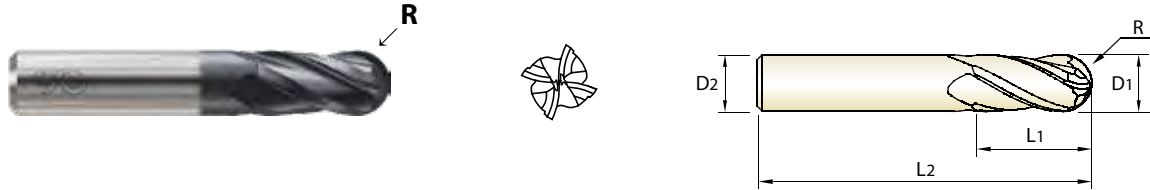
Indexable

Rotary Tool Holder

YGBasiX END MILLS

X-COATED VARIABLE INDEX, MULTIPLE HELIX SOLID CARBIDE END MILLS 4 FLUTE BALL NOSE

- ▶ Variable Index and Multiple helix for smooth, chatter-free machining in a wide range of materials
- ▶ Eccentric relief grind and our proprietary X-coating for long tool life



P.132

Unit : Inch

EDP No.	Price	Mill Diameter	Radius of Ball Nose	Shank Diameter	Length of Cut	Overall Length	Shank
		D1	R	D2	L1	L2	
G9J50008N	\$10.86	1/8	R1/16	1/8	1/2	2	Plain
G9J50012N	\$15.27	3/16	R3/32	3/16	5/8	2-1/4	Plain
G9J50016N	\$21.03	1/4	R1/8	1/4	3/4	2-1/2	Plain
G9J50901N	\$25.82			1/4	1-1/4	3	Plain
G9J50020N	\$27.86	5/16	R5/32	5/16	13/16	2-1/2	Plain
G9J50902N	\$35.79			5/16	1-1/4	3	Plain
G9J51024N	\$37.61	3/8	R3/16	3/8	1	2-3/4	Flat
G9J51901N	\$44.27			3/8	1-1/2	3-1/4	Flat
G9J51028N	\$43.91	7/16	R7/32	7/16	1	3	Flat
G9J51032N	\$64.11	1/2	R1/4	1/2	1-1/4	3-1/4	Flat
G9J51902N	\$73.90			1/2	2	4	Flat
G9J51040N	\$99.55	5/8	R5/16	5/8	1-5/8	3-7/8	Flat
G9J51903N	\$127.91			5/8	2-1/4	4-1/2	Flat
G9J51048N	\$144.86	3/4	R3/8	3/4	1-5/8	4	Flat
G9J51904N	\$186.06			3/4	2-1/4	4-3/4	Flat
G9J51064N	\$303.26	1	R1/2	1	2	4-1/2	Flat
G9J51905N	\$421.53			1	3	5-1/2	Flat

Holemaking

Threading

Milling

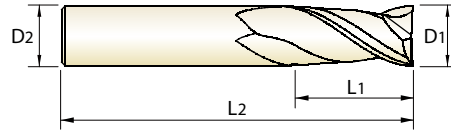
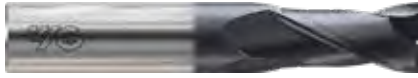
Indexable

Rotary Tool Holder

YGBasiX END MILLS

2-FLUTE, SQUARE, SINGLE ENDED

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9H85001N	\$14.23	E5H85001	\$10.32	1/64	1/8	3/64	1-1/2
G9H80002N	\$7.55	E5H80002	\$6.05	1/32	1/8	1/16	1-1/2
G9H85002N	\$8.05	E5H85002	\$5.83		1/8	5/64	1-1/2
G9H85901N	\$8.52	E5H85901	\$5.83	3/64	1/8	1/8	1-1/2
G9H80003N	\$7.58	E5H80003	\$6.05		1/8	3/32	1-1/2
G9H85003N	\$8.05	E5H85003	\$5.83	1/16	1/8	7/64	1-1/2
G9H85902N	\$8.21	E5H85902	\$5.95		1/8	1/8	1-1/2
G9H80004N	\$7.58	E5H80004	\$5.47	5/64	1/8	1/8	1-1/2
G9H85004N	\$7.67	E5H85004	\$5.47		1/8	3/16	1-1/2
G9H85903N	\$7.67	E5H85903	\$5.47	3/32	1/8	1/4	1-1/2
G9H80005N	\$7.58	E5H80005	\$5.47		1/8	1/4	1-1/2
G9H85005N	\$7.58	E5H85005	\$5.47	7/64	1/8	5/32	1-1/2
G9H85905N	\$7.58	E5H85905	\$5.47		1/8	3/16	1-1/2
G9H80006N	\$7.58	E5H80006	\$5.47	1/8	1/8	3/8	1-1/2
G9H85006N	\$7.58	E5H85006	\$5.47		1/8	1/4	1-1/2
G9H80007N	\$7.58	E5H80007	\$6.05	9/64	1/8	7/32	1-1/2
G9H85007N	\$7.58	E5H85007	\$5.47		1/8	3/8	1-1/2
G9H80008N	\$7.22	E5H80008	\$4.80	5/32	1/8	1/4	1-1/2
G9H85008N	\$7.22	E5H85008	\$5.07		1/8	1/2	1-1/2
G9H91008N	\$11.40	E5H91008	\$8.94	11/64	1/8	3/4	2-1/4
G9H93008N	\$16.13	E5H93008	\$13.34		1/8	1	3
G9H80009N	\$9.86	E5H80009	\$8.38	13/64	3/16	9/32	2
G9H85009N	\$9.99	E5H85009	\$8.09		3/16	1/2	2
G9H85906N	\$9.99	E5H85906	\$8.09	7/32	3/16	9/16	2
G9H80010N	\$9.76	E5H80010	\$8.09		3/16	5/16	2
G9H85010N	\$9.99	E5H85010	\$8.09	15/64	3/16	9/16	2
G9H91010N	\$16.88	E5H91010	\$14.67		3/16	3/4	2-1/2
G9H93010N	\$23.90	E5H93010	\$21.61	17/64	3/16	1-1/8	3
G9H80011N	\$9.62	E5H80011	\$8.12		3/16	5/16	2
G9H85011N	\$9.99	E5H85011	\$8.09	9/32	3/16	9/16	2
G9H85907N	\$9.99	E5H85907	\$8.09		3/16	5/8	2
G9H80012N	\$9.09	E5H80012	\$7.92	1/4	3/16	3/8	2
G9H85012N	\$9.99	E5H85012	\$7.92		3/16	5/8	2
G9H91012N	\$17.46	E5H91012	\$15.73	1/4	3/16	3/4	2-1/2
G9H93901N	\$23.38	E5H93901	\$18.06		3/16	1	4
G9H93012N	\$18.39	E5H93012	\$15.34	1/4	3/16	1-1/8	3
G9H80013N	\$13.16	E5H80013	\$11.66		1/4	3/8	2
G9H85013N	\$13.96	E5H85013	\$10.75	1/4	1/4	5/8	2-1/2
G9H80014N	\$13.08	E5H80014	\$10.75		1/4	7/16	2
G9H85014N	\$13.96	E5H85014	\$10.75	1/4	1/4	5/8	2-1/2
G9H80015N	\$13.75	E5H80015	\$12.25		1/4	7/16	2
G9H85015N	\$13.96	E5H85015	\$10.75	1/4	1/4	3/4	2-1/2
G9H80016N	\$13.08	E5H80016	\$10.33		1/4	1/2	2
G9H85016N	\$14.24	E5H85016	\$10.33	1/4	1/4	3/4	2-1/2
G9H91016N	\$20.24	E5H91016	\$16.66		1/4	1-1/8	3
G9H93016N	\$27.48	E5H93016	\$21.59	1/4	1/4	1-1/2	4
G9H93902N	\$39.96	E5H93902	\$27.64		1/4	1-1/2	6
G9H85017N	\$19.33	E5H85017	\$14.87	1/4	1/4	1-1/2	6
G9H80018N	\$18.26	E5H80018	\$15.06		1/4	1-1/2	6
G9H85018N	\$19.33	E5H85018	\$14.87	17/64	5/16	3/4	2-1/2
				9/32	5/16	1/2	2
					5/16	3/4	2-1/2

► NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

Unit : Inch

	EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	
	X-Coated		Uncoated		D1	D2	L1	L2	
Holemaking	G9H85019N	\$17.89	E5H85019	\$14.31	19/64	5/16	13/16	2-1/2	
	G9H80020N	\$16.63	E5H80020	\$13.63	5/16	5/16	1/2	2	
	G9H85020N	\$17.89	E5H85020	\$14.31		5/16	13/16	2-1/2	
	G9H91020N	\$27.14	E5H91020	\$20.08		5/16	1-1/8	3	
	G9H93903N	\$47.84	E5H93903	\$35.57		5/16	1-1/2	6	
	G9H93020N	\$34.29	E5H93020	\$26.60		5/16	1-5/8	4	
	G9H85021N	\$21.46	E5H85021	\$17.17		21/64	3/8	1	2-1/2
	G9H85022N	\$21.46	E5H85022	\$17.17		11/32	3/8	1	2-1/2
	G9H85023N	\$21.46	E5H85023	\$17.17		23/64	3/8	1	2-1/2
	G9H80024N	\$20.81	E5H80024	\$16.59		3/8	3/8	5/8	2
	G9H85024N	\$20.81	E5H85024	\$16.65			3/8	1	2-1/2
	G9H91024N	\$30.07	E5H91024	\$22.91			3/8	1-1/8	3
G9H93904N	\$61.57	E5H93904	\$43.09	3/8			1-1/2	6	
G9H93024N	\$43.48	E5H93024	\$32.00	3/8	1-3/4		4		
G9H85025N	\$31.60	E5H85025	\$25.27	25/64	7/16		1	2-3/4	
Threading	G9H85026N	\$31.60	E5H85026	\$25.27	13/32	7/16	1	2-3/4	
	G9H85027N	\$31.60	E5H85027	\$25.27	27/64	7/16	1	2-3/4	
	G9H80028N	\$29.87	E5H80028	\$25.38	7/16	7/16	5/8	2-1/2	
	G9H85028N	\$30.43	E5H85028	\$24.34		7/16	1	2-3/4	
	G9H91028N	\$47.26	E5H91028	\$37.34		7/16	2	4	
	G9H93028N	\$80.51	E5H93028	\$63.77		7/16	3	6	
	G9H85029N	\$36.96	E5H85029	\$28.88		29/64	1/2	1	3
	G9H85030N	\$36.96	E5H85030	\$28.88		15/32	1/2	1	3
	Milling	G9H85031N	\$36.96	E5H85031	\$28.88	31/64	1/2	1	3
		G9H80032N	\$34.98	E5H80032	\$28.05	1/2	1/2	5/8	2-1/2
		G9H85032N	\$36.12	E5H85032	\$28.23		1/2	1	3
		G9H85908N	\$36.12	E5H85908	\$28.23		1/2	1-1/4	3
G9H93905N		\$82.19	E5H93905	\$66.81	1/2		1-1/2	6	
G9H91032N		\$55.41	E5H91032	\$44.11	1/2		2	4	
G9H93032N		\$94.92	E5H93032	\$74.29	1/2		3	6	
Indexable		G9H85033N	\$68.45	E5H85033	\$56.11	33/64	9/16	1-1/4	3-1/2
		G9H85034N	\$68.45	E5H85034	\$56.11	17/32	9/16	1-1/4	3-1/2
		G9H85036N	\$56.62	E5H85036	\$46.41	9/16	9/16	1-1/4	3-1/2
		G9H80040N	\$63.65	E5H80040	\$51.32	5/8	5/8	3/4	3
		G9H85040N	\$64.56	E5H85040	\$52.92		5/8	1-1/4	3-1/2
	G9H91040N	\$101.75	E5H91040	\$89.61	5/8		2-1/4	5	
	G9H93040N	\$131.82	E5H93040	\$103.42	5/8		3	6	
	G9H85044N	\$92.86	E5H85044	\$77.39	11/16		3/4	1-1/2	4
	G9H80048N	\$93.51	E5H80048	\$78.43	3/4		3/4	1	3
	G9H85048N	\$94.71	E5H85048	\$78.92		3/4	1-1/2	4	
	G9H93906N	\$162.51	E5H93906	\$138.67		3/4	1-1/2	6	
	G9H91048N	\$136.10	E5H91048	\$116.33		3/4	2-1/4	5	
G9H93048N	\$167.79	E5H93048	\$143.72	3/4		3	6		
G9H93907N	\$202.87	E5H93907	\$179.33	3/4		4	7		
Rotary Tool Holder	G9H85056N	\$149.85	E5H85056	\$126.99	7/8	7/8	1-1/2	4	
	G9H85064N	\$155.40	E5H85064	\$131.68	1	1	1-1/2	4	
	G9H93064N	\$315.90	E5H93064	\$256.84		1	1-1/2	6	
	G9H91064N	\$208.75	E5H91064	\$183.14		1	2-1/4	5	
	G9H93908N	\$322.95	E5H93908	\$262.56		1	3	6	
	G9H93909N	\$409.59	E5H93909	\$332.99		1	4	7	

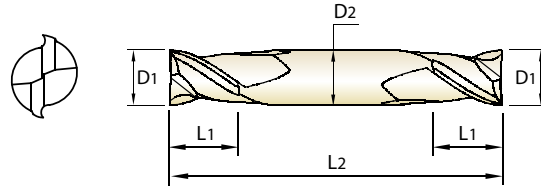
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0012	+0/-0.0005

*Only Coated Tools in this series are recommended for stainless steel machining

YGBasiX END MILLS

2-FLUTE, SQUARE, DOUBLE ENDED

- ▶ Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials
- ▶ Same construction features as single end mill in a more economical version



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Shank
X-Coated		Uncoated		D1	D2	L1	L2	
G9H81002N	\$12.56	E5H81002	\$9.79	1/32	1/8	1/16	1-1/2	Plain
G9H81003N	\$12.56	E5H81003	\$9.79	3/64	1/8	3/32	1-1/2	Plain
G9H81004N	\$12.56	E5H81004	\$9.79	1/16	1/8	1/8	1-1/2	Plain
G9H81005N	\$12.56	E5H81005	\$9.79	5/64	1/8	1/8	1-1/2	Plain
G9H81006N	\$12.56	E5H81006	\$9.79	3/32	1/8	3/16	1-1/2	Plain
G9H81007N	\$12.56	E5H81007	\$9.79	7/64	1/8	3/16	1-1/2	Plain
G9H81008N	\$11.08	E5H81008	\$9.24	1/8	1/8	1/4	1-1/2	Plain
G9H87008N	\$27.92	E5H87008	\$23.15		3/8	3/8	3	Flat
G9H81009N	\$16.64	E5H81009	\$14.19	9/64	3/16	5/16	2	Plain
G9H81010N	\$16.64	E5H81010	\$14.19	5/32	3/16	5/16	2	Plain
G9H87010N	\$29.31	E5H87010	\$24.64		3/8	7/16	3	Flat
G9H81011N	\$16.64	E5H81011	\$14.19	11/64	3/16	5/16	2	Plain
G9H81012N	\$14.79	E5H81012	\$12.19	3/16	3/16	3/8	2	Plain
G9H87012N	\$30.62	E5H87012	\$26.04		3/8	1/2	3	Flat
G9H81013N	\$20.83	E5H81013	\$18.09	13/64	1/4	1/2	2-1/2	Plain
G9H81014N	\$20.83	E5H81014	\$18.09	7/32	1/4	1/2	2-1/2	Plain
G9H87014N	\$35.21	E5H87014	\$30.90		3/8	9/16	3-1/2	Flat
G9H81015N	\$20.83	E5H81015	\$18.09	15/64	1/4	1/2	2-1/2	Plain
G9H81016N	\$19.40	E5H81016	\$17.00	1/4	1/4	1/2	2-1/2	Plain
G9H87016N	\$35.37	E5H87016	\$31.06		3/8	5/8	3-1/2	Flat
G9H81017N	\$30.90	E5H81017	\$27.36	17/64	5/16	1/2	2-1/2	Plain
G9H81018N	\$30.90	E5H81018	\$27.36	9/32	5/16	1/2	2-1/2	Plain
G9H87018N	\$42.87	E5H87018	\$39.01		3/8	11/16	3-1/2	Flat
G9H81019N	\$30.90	E5H81019	\$27.36	19/64	5/16	1/2	2-1/2	Plain
G9H81020N	\$30.90	E5H81020	\$27.36	5/16	5/16	1/2	2-1/2	Plain
G9H87020N	\$45.78	E5H87020	\$42.09		3/8	3/4	3-1/2	Flat
G9H81022N	\$29.70	E5H81022	\$25.90	11/32	3/8	9/16	2-1/2	Plain
G9H87022N	\$49.53	E5H87022	\$46.08		3/8	3/4	3-1/2	Flat
G9H81024N	\$29.58	E5H81024	\$25.90	3/8	3/8	9/16	2-1/2	Plain
G9H87024N	\$49.53	E5H87024	\$46.08		3/8	3/4	3-1/2	Flat
G9H81028N	\$34.34	E5H81028	\$28.26	7/16	7/16	9/16	2-3/4	Plain
G9H87028N	\$77.93	E5H87028	\$75.48		1/2	7/8	4	Flat
G9H81032N	\$46.62	E5H81032	\$41.62	1/2	1/2	5/8	3	Plain
G9H87032N	\$78.23	E5H87032	\$75.80		1/2	1	4	Flat

Mill Dia. Tolerance (inch)	
D1=D2	+0/-0.002
D1≠D2	+0/-0.0012

*Only Coated Tools in this series are recommended for stainless steel machining

Holemaking

Threading

Milling

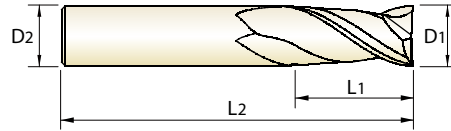
Indexable

Rotary Tool Holder

YGBasiX END MILLS

2-FLUTE, SQUARE, SINGLE ENDED – METRIC

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9H86010N	\$8.13	E5H86010	\$5.83	1.0	3	4	39
G9H86015N	\$8.13	E5H86015	\$5.83	1.5	3	5	39
G9H86020N	\$8.13	E5H86020	\$5.83	2.0	3	8	39
G9H86025N	\$8.13	E5H86025	\$5.83	2.5	3	10	39
G9H86030N	\$8.13	E5H86030	\$5.83	3.0	3	12	39
G9H86035N	\$10.65	E5H86035	\$8.09	3.5	4	12	51
G9H86040N	\$10.65	E5H86040	\$8.09	4.0	4	14	51
G9H86045N	\$9.94	E5H86045	\$8.09	4.5	5	16	51
G9H86050N	\$9.94	E5H86050	\$8.09	5.0	5	16	51
G9H86060N	\$14.84	E5H86060	\$10.75	6.0	6	19	63
G9H86070N	\$20.35	E5H86070	\$14.31	7.0	8	19	63
G9H86080N	\$20.35	E5H86080	\$14.31	8.0	8	20	63
G9H86090N	\$23.65	E5H86090	\$17.17	9.0	10	22	63
G9H86100N	\$23.65	E5H86100	\$17.17	10.0	10	22	76
G9H86110N	\$37.96	E5H86110	\$28.88	11.0	12	25	76
G9H86120N	\$37.96	E5H86120	\$28.88	12.0	12	25	76
G9H86140N	\$58.31	E5H86140	\$49.90	14.0	14	32	90
G9H86160N	\$66.62	E5H86160	\$56.11	16.0	16	32	102
G9H86180N	\$98.58	E5H86180	\$78.92	18.0	18	38	102
G9H86200N	\$98.58	E5H86200	\$78.92	20.0	20	38	102
G9H86250N	\$157.55	E5H86250	\$131.68	25.0	25	38	102

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
+0/-0.03	h6

*Uncoated Tools in this series are not recommended for slotting in stainless steel.

Holemaking

Threading

Milling

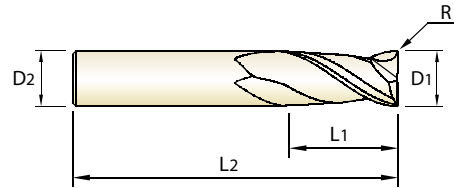
Indexable

Rotary Tool Holder

YGBasiX END MILLS

2-FLUTE, CORNER RADIUS, SINGLE ENDED

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



P.133

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Corner Radius	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	R	D2	L1	L2
G9H96008N	\$8.85	E5H96008	\$6.20	1/8	0.010	1/8	1/2	1-1/2
G9H96901N	\$8.85	E5H96901	\$6.20		0.015	1/8	1/2	1-1/2
G9H96902N	\$8.85	E5H96902	\$6.20		0.020	1/8	1/2	1-1/2
G9H96903N	\$8.85	E5H96903	\$6.20		0.030	1/8	1/2	1-1/2
G9H96012N	\$11.64	E5H96012	\$9.24	3/16	0.010	3/16	5/8	2
G9H96904N	\$11.64	E5H96904	\$9.24		0.015	3/16	5/8	2
G9H96905N	\$11.64	E5H96905	\$9.24		0.020	3/16	5/8	2
G9H96906N	\$11.64	E5H96906	\$9.24		0.025	3/16	5/8	2
G9H96907N	\$11.64	E5H96907	\$9.24		0.045	3/16	5/8	2
G9H96908N	\$11.64	E5H96908	\$9.24		0.060	3/16	5/8	2
G9H96016N	\$14.76	E5H96016	\$12.57	1/4	0.015	1/4	3/4	2-1/2
G9H96909N	\$14.76	E5H96909	\$12.57		0.020	1/4	3/4	2-1/2
G9H96910N	\$14.76	E5H96910	\$12.57		0.025	1/4	3/4	2-1/2
G9H96911N	\$14.76	E5H96911	\$12.57		0.030	1/4	3/4	2-1/2
G9H96912N	\$14.76	E5H96912	\$12.57		0.045	1/4	3/4	2-1/2
G9H96913N	\$14.76	E5H96913	\$12.57		0.060	1/4	3/4	2-1/2
G9H96914N	\$14.76	E5H96914	\$12.57	5/16	0.015	5/16	13/16	2-1/2
G9H96020N	\$22.05	E5H96020	\$17.57		0.020	5/16	13/16	2-1/2
G9H96915N	\$22.05	E5H96915	\$17.57		0.025	5/16	13/16	2-1/2
G9H96916N	\$22.05	E5H96916	\$12.57		0.030	5/16	13/16	2-1/2
G9H96917N	\$22.05	E5H96917	\$17.57		0.045	5/16	13/16	2-1/2
G9H96918N	\$22.05	E5H96918	\$17.57		0.060	5/16	13/16	2-1/2
G9H96919N	\$22.05	E5H96919	\$17.57	3/8	0.090	5/16	13/16	2-1/2
G9H96920N	\$22.05	E5H96920	\$17.57		0.015	3/8	1	2-1/2
G9H96024N	\$25.95	E5H96024	\$21.61		0.020	3/8	1	2-1/2
G9H96921N	\$25.95	E5H96921	\$21.61		0.025	3/8	1	2-1/2
G9H96922N	\$25.95	E5H96922	\$21.61		0.030	3/8	1	2-1/2
G9H96923N	\$25.95	E5H96923	\$21.61		0.045	3/8	1	2-1/2
G9H96924N	\$25.95	E5H96924	\$21.61	7/16	0.060	3/8	1	2-1/2
G9H96925N	\$25.95	E5H96925	\$21.61		0.090	3/8	1	2-1/2
G9H96926N	\$25.95	E5H96926	\$21.61		0.015	7/16	1	2-3/4
G9H96028N	\$35.08	E5H96028	\$29.78		0.020	7/16	1	2-3/4
G9H96927N	\$35.08	E5H96927	\$29.78		0.025	7/16	1	2-3/4
G9H96928N	\$35.08	E5H96928	\$29.78		0.030	7/16	1	2-3/4
G9H96929N	\$35.08	E5H96929	\$29.78	7/16	0.045	7/16	1	2-3/4
G9H96930N	\$35.08	E5H96930	\$29.78		0.060	7/16	1	2-3/4
G9H96931N	\$35.08	E5H96931	\$29.78		0.090	7/16	1	2-3/4
G9H96932N	\$35.08	E5H96932	\$29.78					

► NEXT PAGE

Holemaking

Threading

Milling

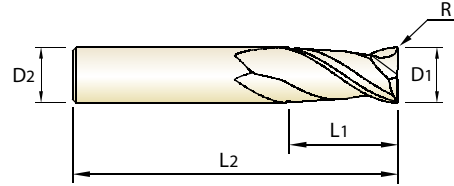
Indexable

Rotary Tool Holder

YGBasiX END MILLS

2-FLUTE, CORNER RADIUS, SINGLE ENDED

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Corner Radius	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	R	D2	L1	L2
G9H96032N	\$40.32	E5H96032	\$38.36	1/2	0.015	1/2	1	3
G9H96933N	\$40.32	E5H96933	\$38.36		0.020	1/2	1	3
G9H96934N	\$40.32	E5H96934	\$38.36		0.025	1/2	1	3
G9H96935N	\$40.32	E5H96935	\$38.36		0.030	1/2	1	3
G9H96936N	\$40.32	E5H96936	\$38.36		0.045	1/2	1	3
G9H96937N	\$40.32	E5H96937	\$38.36		0.060	1/2	1	3
G9H96938N	\$40.32	E5H96938	\$38.36		0.090	1/2	1	3
G9H96939N	\$40.32	E5H96939	\$38.36		0.125	1/2	1	3
G9H96040N	\$71.52	E5H96040	\$59.20		5/8	0.015	5/8	1-1/4
G9H96940N	\$71.52	E5H96940	\$59.20	0.020		5/8	1-1/4	3-1/2
G9H96941N	\$71.52	E5H96941	\$59.20	0.025		5/8	1-1/4	3-1/2
G9H96942N	\$71.52	E5H96942	\$59.20	0.030		5/8	1-1/4	3-1/2
G9H96943N	\$71.52	E5H96943	\$59.20	R.045		5/8	1-1/4	3-1/2
G9H96944N	\$71.52	E5H96944	\$59.20	R.060		5/8	1-1/4	3-1/2
G9H96945N	\$71.52	E5H96945	\$59.20	R.090		5/8	1-1/4	3-1/2
G9H96946N	\$71.52	E5H96946	\$59.20	R.125		5/8	1-1/4	3-1/2
G9H96947N	\$71.52	E5H96947	\$59.20	R.250		5/8	1-1/4	3-1/2
G9H96048N	\$100.64	E5H96048	\$88.79	3/4	R.015	3/4	1-1/2	4
G9H96948N	\$100.64	E5H96948	\$88.79		R.020	3/4	1-1/2	4
G9H96949N	\$100.64	E5H96949	\$88.79		R.025	3/4	1-1/2	4
G9H96950N	\$100.64	E5H96950	\$88.79		R.030	3/4	1-1/2	4
G9H96951N	\$100.64	E5H96951	\$88.79		R.045	3/4	1-1/2	4
G9H96952N	\$100.64	E5H96952	\$88.79		R.060	3/4	1-1/2	4
G9H96953N	\$100.64	E5H96953	\$88.79		R.090	3/4	1-1/2	4
G9H96954N	\$100.64	E5H96954	\$88.79		R.125	3/4	1-1/2	4
G9H96955N	\$100.64	E5H96955	\$88.79		R.190	3/4	1-1/2	4
G9H96956N	\$100.64	E5H96956	\$88.79	R.250	3/4	1-1/2	4	

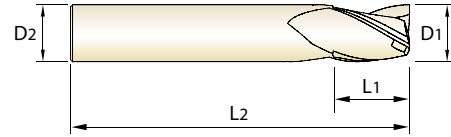
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0012	+0/-0.0005

*Only Coated Tools in this series are recommended for stainless steel machining

YGBasiX END MILLS

3-FLUTE, SQUARE, SINGLE ENDED

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I10002N	\$8.05	E5I10002	\$6.11	1/32	1/8	1/8	1-1/2
G9I10003N	\$8.05	E5I10003	\$5.83	3/64	1/8	1/8	1-1/2
G9I10004N	\$7.67	E5I10004	\$5.83	1/16	1/8	1/4	1-1/2
G9I10005N	\$7.58	E5I10005	\$5.47	5/64	1/8	1/4	1-1/2
G9I10006N	\$7.67	E5I10006	\$5.47	3/32	1/8	3/8	1-1/2
G9I10007N	\$7.58	E5I10007	\$5.47	7/64	1/8	3/8	1-1/2
G9I10008N	\$7.22	E5I10008	\$5.07	1/8	1/8	1/2	1-1/2
G9I10010N	\$9.99	E5I10010	\$8.09	5/32	3/16	9/16	2
G9I10011N	\$9.99	E5I10011	\$8.09	11/64	3/16	5/16	2
G9I10012N	\$9.71	E5I10012	\$7.92	3/16	3/16	5/8	2
G9I10013N	\$13.96	E5I10013	\$10.75	13/64	1/4	5/8	2-1/2
G9I10014N	\$13.96	E5I10014	\$10.75	7/32	1/4	5/8	2-1/2
G9I10015N	\$13.96	E5I10015	\$10.75	15/64	1/4	3/4	2-1/2
G9I10016N	\$14.24	E5I10016	\$10.33	1/4	1/4	3/4	2-1/2
G9I10017N	\$19.33	E5I10017	\$14.87	17/64	5/16	3/4	2-1/2
G9I10018N	\$19.33	E5I10018	\$14.87	9/32	5/16	3/4	2-1/2
G9I10019N	\$17.89	E5I10019	\$14.31	19/64	5/16	13/16	2-1/2
G9I10020N	\$21.46	E5I10020	\$14.31	5/16	5/16	13/16	2-1/2
G9I10021N	\$21.46	E5I10021	\$17.17	21/64	3/8	1	2-1/2
G9I10022N	\$21.46	E5I10022	\$17.17	11/32	3/8	1	2-1/2
G9I10023N	\$20.81	E5I10023	\$16.65	23/64	3/8	1	2-1/2
G9I10024N	\$20.81	E5I10024	\$16.65	3/8	3/8	7/8	2-1/2
G9I10901N	\$23.84	E5I10901	\$20.77	3/8	3/8	1	2-1/2
G9I10025N	\$31.60	E5I10025	\$25.27	25/64	7/16	1	2-3/4
G9I10026N	\$31.60	E5I10026	\$25.27	13/32	7/16	1	2-3/4
G9I10028N	\$30.43	E5I10028	\$24.34	7/16	7/16	1	2-3/4
G9I10032N	\$36.12	E5I10032	\$28.23	1/2	1/2	1	3
G9I10036N	\$56.62	E5I10036	\$46.41	9/16	9/16	1-1/4	3-1/2
G9I10040N	\$64.56	E5I10040	\$52.92	5/8	5/8	1-1/4	3-1/2
G9I10044N	\$92.86	E5I10044	\$77.39	11/16	3/4	1-1/2	4
G9I10048N	\$94.71	E5I10048	\$78.92	3/4	3/4	1-1/2	4
G9I10056N	\$149.85	E5I10056	\$126.99	7/8	7/8	1-1/2	4
G9I10064N	\$155.40	E5I10064	\$131.68	1	1	1-1/2	4

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0012	+0/-0.0005

Holemaking

Threading

Milling

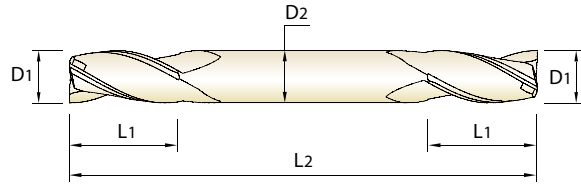
Indexable

Rotary Tool Holder

YGBasiX END MILLS

3-FLUTE, SQUARE, DOUBLE ENDED

- ▶ Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials
- ▶ Same construction features as single end mill in a more economical version



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
				D1	D2	L1	L2
X-Coated		Uncoated					
G9H82002N	\$12.56	E5H82002	\$9.79	1/32	1/8	1/16	1-1/2
G9H82003N	\$12.56	E5H82003	\$9.79	3/64	1/8	3/32	1-1/2
G9H82004N	\$12.56	E5H82004	\$9.79	1/16	1/8	1/8	1-1/2
G9H82006N	\$12.56	E5H82006	\$9.79	3/32	1/8	3/16	1-1/2
G9H82008N	\$11.03	E5H82008	\$9.79	1/8	1/8	1/4	1-1/2
G9H82010N	\$15.82	E5H82010	\$12.70	5/32	3/16	5/16	2
G9H82012N	\$15.08	E5H82012	\$12.71	3/16	3/16	3/8	2
G9H82014N	\$20.70	E5H82014	\$17.00	7/32	1/4	1/2	2-1/2
G9H82016N	\$19.40	E5H82016	\$17.00	1/4	1/4	1/2	2-1/2
G9H82020N	\$30.90	E5H82020	\$27.36	5/16	5/16	1/2	2-1/2
G9H82024N	\$29.58	E5H82024	\$25.90	3/8	3/8	9/16	2-1/2
G9H82028N	\$36.42	E5H82028	\$29.98	7/16	7/16	9/16	2-3/4
G9H82032N	\$46.62	E5H82032	\$41.62	1/2	1/2	5/8	3

Mill Dia. Tolerance (inch)	
D1=D2	+0/-0.002
D1≠D2	+0/-0.0012

Holemaking

Threading

Milling

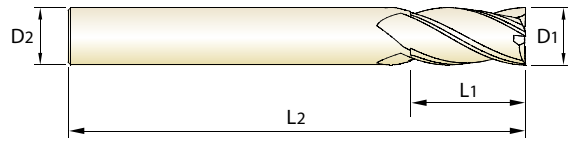
Indexable

Rotary Tool Holder

YGBasiX END MILLS

4-FLUTE, SQUARE, SINGLE ENDED

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



P.136-137

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9H83001N	\$7.58	E5H83001	\$5.47	1/64	1/8	0.046	1-1/2
G9H88001N	\$14.23	E5H88001	\$5.83		1/8	3/64	1-1/2
G9H83002N	\$7.58	E5H83002	\$5.47	1/32	1/8	1/16	1-1/2
G9H88002N	\$8.05	E5H88002	\$5.83		1/8	5/64	1-1/2
G9H88901N	\$8.05	E5H88901	\$5.83	3/64	1/8	1/8	1-1/2
G9H83003N	\$7.58	E5H83003	\$5.47		1/8	3/32	1-1/2
G9H88003N	\$8.05	E5H88003	\$5.83	1/16	1/8	1/8	1-1/2
G9H83004N	\$7.58	E5H83004	\$5.47		1/8	1/8	1-1/2
G9H88004N	\$7.67	E5H88004	\$5.47	5/64	1/8	3/16	1-1/2
G9H88902N	\$7.67	E5H88902	\$5.47		1/8	1/4	1-1/2
G9H83005N	\$7.58	E5H83005	\$5.47	3/32	1/8	5/32	1-1/2
G9H88005N	\$7.58	E5H88005	\$5.47		1/8	3/16	1-1/2
G9H88903N	\$7.58	E5H88903	\$5.47	7/64	1/8	1/4	1-1/2
G9H83006N	\$7.58	E5H83006	\$5.47		1/8	3/16	1-1/2
G9H88006N	\$7.58	E5H88006	\$5.47	1/8	1/8	3/8	1-1/2
G9H83007N	\$7.58	E5H83007	\$5.47		1/8	3/16	1-1/2
G9H88007N	\$7.58	E5H88007	\$5.47	9/64	1/8	7/32	1-1/2
G9H83008N	\$7.22	E5H83008	\$4.80		1/8	3/8	1-1/2
G9H88008N	\$7.22	E5H88008	\$5.07	5/32	1/8	1/2	1-1/2
G9H92008N	\$11.40	E5H92008	\$8.94		1/8	3/4	2-1/4
G9H94008N	\$16.13	E5H94008	\$13.34	11/64	1/8	1	3
G9H83009N	\$9.99	E5H83009	\$8.09		3/16	9/32	2
G9H88009N	\$9.99	E5H88009	\$8.09	3/16	3/16	1/2	2
G9H88904N	\$9.99	E5H88904	\$8.09		3/16	9/16	2
G9H83010N	\$9.76	E5H83010	\$8.09	5/32	3/16	5/16	2
G9H88010N	\$9.99	E5H88010	\$8.09		3/16	9/16	2
G9H92010N	\$16.88	E5H92010	\$14.67	3/16	3/16	3/4	2-1/2
G9H94010N	\$23.90	E5H94010	\$21.61		3/16	1-1/8	3
G9H83011N	\$9.93	E5H83011	\$8.09	3/16	3/16	5/16	2
G9H88011N	\$9.99	E5H88011	\$8.09		3/16	9/16	2
G9H88905N	\$9.99	E5H88905	\$8.09	3/16	3/16	5/8	2
G9H83012N	\$9.09	E5H83012	\$7.92		3/16	3/8	2
G9H88012N	\$9.71	E5H88012	\$7.92	3/16	3/16	5/8	2
G9H92012N	\$15.73	E5H92012	\$14.19		3/16	3/4	2-1/2
G9H94901N	\$23.38	E5H94901	\$18.06	3/16	3/16	1	4
G9H94012N	\$17.83	E5H94012	\$15.34		3/16	1-1/8	3
G9H83013N	\$13.96	E5H83013	\$10.75	13/64	1/4	3/8	2
G9H88013N	\$13.96	E5H88013	\$10.75		1/4	5/8	2-1/2
G9H83014N	\$13.08	E5H83014	\$10.75	7/32	1/4	7/16	2
G9H88014N	\$13.96	E5H88014	\$10.75		1/4	5/8	2-1/2
G9H83015N	\$13.96	E5H83015	\$10.75	15/64	1/4	7/16	2
G9H88015N	\$13.96	E5H88015	\$10.75		1/4	3/4	2-1/2

► NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

Unit : Inch

	X-Coated		Uncoated		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	EDP No.	Price	EDP No.	Price	D1	D2	L1	L2
Holermaking	G9H83016N	\$13.08	E5H83016	\$10.33	1/4	1/4	1/2	2
	G9H88016N	\$14.24	E5H88016	\$10.33		1/4	3/4	2-1/2
	G9H94016N	\$26.67	E5H94016	\$21.59		1/4	1	4
	G9H92016N	\$20.24	E5H92016	\$16.66		1/4	1-1/8	3
	G9H94902N	\$27.48	E5H94902	\$21.59		1/4	1-1/2	4
	G9H94903N	\$40.11	E5H94903	\$27.64		1/4	1-1/2	6
	G9H88017N	\$19.33	E5H88017	\$14.87	17/64	5/16	3/4	2-1/2
	G9H83018N	\$16.63	E5H83018	\$14.87	9/32	5/16	1/2	2
	G9H88018N	\$19.33	E5H88018	\$14.87		5/16	3/4	2-1/2
	G9H88019N	\$17.89	E5H88019	\$14.31	19/64	5/16	13/16	2-1/2
Threading	G9H83020N	\$16.63	E5H83020	\$13.63	5/16	5/16	1/2	2
	G9H88020N	\$17.89	E5H88020	\$14.31		5/16	13/16	2-1/2
	G9H92020N	\$27.14	E5H92020	\$20.08		5/16	1-1/8	3
	G9H94904N	\$47.84	E5H94904	\$35.57		5/16	1-1/2	6
	G9H94020N	\$34.29	E5H94020	\$26.60		5/16	1-5/8	4
	G9H88021N	\$21.46	E5H88021	\$17.17		21/64	3/8	1
	G9H88022N	\$21.46	E5H88022	\$17.17	11/32	3/8	1	2-1/2
	G9H88023N	\$21.46	E5H88023	\$17.17	23/64	3/8	1	2-1/2
	G9H83024N	\$20.81	E5H83024	\$16.59	3/8	3/8	5/8	2
	G9H88024N	\$20.81	E5H88024	\$16.65		3/8	1	2-1/2
G9H94024N	\$42.73	E5H94024	\$32.00	3/8		1	4	
G9H92024N	\$30.07	E5H92024	\$22.91	3/8		1-1/8	3	
G9H94906N	\$61.57	E5H94906	\$43.09	3/8		1-1/2	6	
G9H94905N	\$43.48	E5H94905	\$32.00	3/8		1-3/4	4	
Milling	G9H88025N	\$31.60	E5H88025	\$25.27	25/64	7/16	1	2-3/4
	G9H88026N	\$31.60	E5H88026	\$25.27	13/32	7/16	1	2-3/4
	G9H88027N	\$31.60	E5H88027	\$25.27	27/64	7/16	1	2-3/4
	G9H83028N	\$28.64	E5H83028	\$24.34	7/16	7/16	5/8	2-1/2
	G9H88028N	\$30.43	E5H88028	\$24.34		7/16	1	2-3/4
	G9H92028N	\$47.26	E5H92028	\$37.34		7/16	2	4
	G9H94028N	\$80.51	E5H94028	\$63.77		7/16	3	6
	G9H88029N	\$36.96	E5H88029	\$28.88	29/64	1/2	1	3
	G9H88030N	\$36.96	E5H88030	\$28.88	15/32	1/2	1	3
	G9H88031N	\$36.96	E5H88031	\$28.88	31/64	1/2	1	3
G9H83032N	\$34.98	E5H83032	\$28.05	1/2	1/2	5/8	2-1/2	
G9H88032N	\$36.12	E5H88032	\$28.23		1/2	1	3	
G9H92032N	\$53.73	E5H92032	\$42.95		1/2	1	4	
G9H88906N	\$36.12	E5H88906	\$28.23		1/2	1-1/4	3	
G9H92901N	\$54.58	E5H92901	\$43.48		1/2	1-1/2	4	
G9H94032N	\$82.19	E5H94032	\$66.81		1/2	1-1/2	6	
G9H92902N	\$55.41	E5H92902	\$44.11		1/2	2	4	
G9H94907N	\$94.92	E5H94907	\$74.29		1/2	3	6	
G9H94908N	\$117.71	E5H94908	\$98.80		1/2	4	7	
G9H94909N	\$150.43	E5H94909	\$125.60		1/2	5	8	
Indexable	G9H88033N	\$68.45	E5H88033	\$56.11	33/64	9/16	1-1/4	3-1/2
	G9H88034N	\$68.45	E5H88034	\$56.11	17/32	9/16	1-1/4	3-1/2
	G9H88036N	\$56.62	E5H88036	\$46.41	9/16	9/16	1-1/4	3-1/2
	G9H88038N	\$68.45	E5H88038	\$56.11	19/32	5/8	1-1/4	3-1/2
	G9H83040N	\$63.65	E5H83040	\$52.17	5/8	5/8	3/4	3
	G9H88040N	\$64.56	E5H88040	\$52.92		5/8	1-1/4	3-1/2
	G9H94040N	\$128.44	E5H94040	\$100.42		5/8	1-1/2	6
	G9H92040N	\$101.75	E5H92040	\$89.61		5/8	2-1/4	5
	G9H94910N	\$131.82	E5H94910	\$103.42		5/8	3	6
	G9H94911N	\$169.01	E5H94911	\$137.35		5/8	4	7
Rotary Tool Holder	G9H94912N	\$190.75	E5H94912	\$162.41	5/8	5	8	
	G9H94913N	\$241.89	E5H94913	\$201.66	5/8	6	9	

▶ NEXT PAGE

YGBasiX END MILLS

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9H88041N	\$102.21	E5H88041	\$85.17	41/64	3/4	1-1/2	4
G9H88042N	\$102.21	E5H88042	\$85.17	21/32	3/4	1-1/2	4
G9H88044N	\$92.86	E5H88044	\$77.39	11/16	3/4	1-1/2	4
G9H88047N	\$102.21	E5H88047	\$85.17	47/64	3/4	1-1/2	4
G9H83048N	\$93.51	E5H83048	\$78.43	3/4	3/4	1	3
G9H88048N	\$92.86	E5H88048	\$77.39		3/4	1	4
G9H88907N	\$94.71	E5H88907	\$78.92		3/4	1-1/2	4
G9H94048N	\$162.50	E5H94048	\$138.67		3/4	1-1/2	6
G9H92048N	\$136.10	E5H92048	\$116.33		3/4	2-1/4	5
G9H94914N	\$167.78	E5H94914	\$143.72		3/4	3	6
G9H94915N	\$202.87	E5H94915	\$179.33		3/4	4	7
G9H94916N	\$240.30	E5H94916	\$197.15		3/4	5	8
G9H94917N	\$259.64	E5H94917	\$215.65		3/4	6	9
G9H94918N	\$402.26	E5H94918	\$355.23		3/4	8	12
G9H88052N	\$149.85	E5H88052	\$126.99	13/16	7/8	1-1/2	4
G9H88056N	\$149.85	E5H88056	\$126.99	7/8	7/8	1-1/2	4
G9H88060N	\$155.40	E5H88060	\$131.68	15/16	1/1	1-1/2	4
G9H83064N	\$150.67	E5H83064	\$126.69	1	1	1	3
G9H88064N	\$151.70	E5H88064	\$128.56		1	1	4
G9H88908N	\$155.40	E5H88908	\$131.68		1	1-1/2	4
G9H94064N	\$315.90	E5H94064	\$256.84		1	1-1/2	6
G9H92064N	\$208.75	E5H92064	\$183.14		1	2-1/4	5
G9H94919N	\$322.95	E5H94919	\$262.56		1	3	6
G9H94920N	\$377.86	E5H94920	\$377.85		1	4	7
G9H94921N	\$468.08	E5H94921	\$435.58		1	5	8
G9H94922N	\$538.84	E5H94922	\$467.79		1	6	9
G9H94923N	\$585.91	E5H94923	\$502.33		1	7	10
G9H94924N	\$702.78	E5H94924	\$598.14	1	8	12	
G9H88080N	\$399.54	E5H88080	\$313.66	1-1/4	1-1/4	2	4-1/2

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0012	+0/-0.0005

*Uncoated Tools in this series are not recommended for slotting in stainless steel.

Holemaking

Threading

Milling

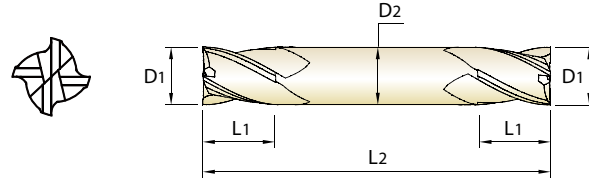
Indexable

Rotary Tool Holder

YGBasiX END MILLS

4-FLUTE, SQUARE, DOUBLE ENDED

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials
- Same construction features as single end mill in a more economical version



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Shank
X-Coated		Uncoated		D1	D2	L1	L2	
G9H84002N	\$12.56	E5H84002	\$9.79	1/32	1/8	1/16	1-1/2	Plain
G9H84003N	\$12.56	E5H84003	\$9.79	3/64	1/8	3/32	1-1/2	Plain
G9H84004N	\$12.56	E5H84004	\$9.79	1/16	1/8	1/8	1-1/2	Plain
G9H84005N	\$12.56	E5H84005	\$9.79	5/64	1/8	1/8	1-1/2	Plain
G9H84006N	\$12.56	E5H84006	\$9.79	3/32	1/8	3/16	1-1/2	Plain
G9H84007N	\$12.56	E5H84007	\$9.79	7/64	1/8	3/16	1-1/2	Plain
G9H84008N	\$11.08	E5H84008	\$9.24		1/8	1/4	1-1/2	Plain
G9H90008N	\$27.92	E5H90008	\$23.15	1/8	3/8	3/8	3	Flat
G9H90901N	\$27.92	E5H90901	\$23.15		3/8	3/8	3-1/16	Flat
G9H84009N	\$16.64	E5H84009	\$14.19	9/64	3/16	5/16	2	Plain
G9H84010N	\$16.64	E5H84010	\$14.19		3/16	5/16	2	Plain
G9H90010N	\$29.31	E5H90010	\$24.64	5/32	3/8	7/16	3	Flat
G9H90902N	\$29.31	E5H90902	\$24.64		3/8	7/16	3-1/8	Flat
G9H84011N	\$16.64	E5H84011	\$14.19	11/64	3/16	5/16	2	Plain
G9H84012N	\$14.79	E5H84012	\$12.19		3/16	3/8	2	Plain
G9H90012N	\$30.62	E5H90012	\$26.04	3/16	3/8	1/2	3	Flat
G9H90903N	\$30.62	E5H90903	\$26.04		3/8	1/2	3-1/4	Flat
G9H84013N	\$20.83	E5H84013	\$18.09	13/64	1/4	1/2	2-1/2	Plain
G9H84014N	\$20.83	E5H84014	\$18.09		1/4	1/2	2-1/2	Plain
G9H90014N	\$35.21	E5H90014	\$30.90	7/32	3/8	9/16	3-3/8	Flat
G9H90904N	\$35.21	E5H90904	\$30.90		3/8	9/16	3-1/2	Flat
G9H84015N	\$20.83	E5H84015	\$18.09	15/64	1/4	1/2	2-1/2	Plain
G9H84016N	\$19.40	E5H84016	\$17.00		1/4	1/2	2-1/2	Plain
G9H90016N	\$35.37	E5H90016	\$31.06	1/4	3/8	5/8	3-3/8	Flat
G9H90905N	\$35.37	E5H90905	\$31.06		3/8	5/8	3-1/2	Flat
G9H84017N	\$27.72	E5H84017	\$22.57	17/64	5/16	1/2	2-1/2	Plain
G9H84018N	\$27.72	E5H84018	\$22.57		5/16	1/2	2-1/2	Plain
G9H90018N	\$42.87	E5H90018	\$39.01	9/32	3/8	11/16	3-3/8	Flat
G9H90906N	\$42.87	E5H90906	\$39.01		3/8	11/16	3-1/2	Flat
G9H84019N	\$28.56	E5H84019	\$23.43	19/64	5/16	1/2	2-1/2	Plain
G9H84020N	\$30.90	E5H84020	\$27.36		5/16	1/2	2-1/2	Plain
G9H90020N	\$45.78	E5H90020	\$42.09	5/16	3/8	3/4	3-1/2	Flat
G9H84021N	\$29.70	E5H84021	\$26.01	21/64	3/8	1/2	2-1/2	Plain
G9H84022N	\$29.58	E5H84022	\$25.90		3/8	9/16	2-1/2	Plain
G9H90022N	\$49.53	E5H90022	\$46.08	11/32	3/8	3/4	3-1/2	Flat
G9H84024N	\$29.58	E5H84024	\$25.90		3/8	9/16	2-1/2	Plain
G9H90024N	\$49.53	E5H90024	\$46.08	3/8	3/8	3/4	3-1/2	Flat
G9H84028N	\$38.12	E5H84028	\$34.22		7/16	9/16	2-3/4	Plain
G9H90028N	\$77.93	E5H90028	\$75.48	7/16	1/2	7/8	4	Flat
G9H84032N	\$46.62	E5H84032	\$41.62		1/2	5/8	3	Plain
G9H90032N	\$78.23	E5H90032	\$75.80	1/2	1/2	1	4	Flat

Mill Dia.
Tolerance (inch)

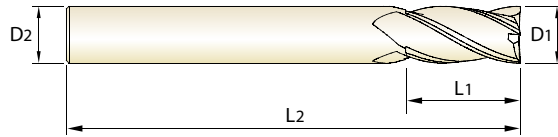
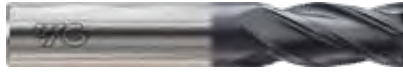
D1=D2	+0/-0.002
D1≠D2	+0/-0.012

*Only Coated Tools in this series are recommended for stainless steel machining

YGBasiX END MILLS

4-FLUTE, SQUARE, SINGLE ENDED – METRIC

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



Unit : mm

EDP No.	Price	EDP No.	Price	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2
X-Coated		Uncoated					
G9H89902N	\$8.13	E5H89902	\$5.47	1	3	3	1-1/2
G9H89010N	\$8.13	E5H89010	\$5.83		3	4	1-1/2
G9H89901N	\$8.13	E5H89901	\$5.47		3	4	39
G9H89015N	\$8.13	E5H89015	\$5.83	1.5	3	5	39
G9H89020N	\$8.13	E5H89020	\$5.83	2	3	8	39
G9H89025N	\$8.13	E5H89025	\$5.83	2.5	3	9.5	39
G9H89030N	\$8.13	E5H89030	\$5.83	3	3	12	1-1/2
G9H89903N	\$8.13	E5H89903	\$5.47		3	12	39
G9H89035N	\$10.65	E5H89035	\$8.09	3.5	4	12	51
G9H89040N	\$10.65	E5H89040	\$8.09	4	4	14	51
G9H95040N	\$18.11	E5H95040	\$15.23		4	25	76
G9H89045N	\$9.94	E5H89045	\$8.09	4.5	5	16	51
G9H89050N	\$9.94	E5H89050	\$8.09	5	5	16	51
G9H95050N	\$18.11	E5H95050	\$15.23		5	25	76
G9H89060N	\$14.84	E5H89060	\$10.75	6	6	19	63
G9H95060N	\$25.98	E5H95060	\$22.65		6	40	100
G9H89070N	\$20.35	E5H89070	\$14.31	7	8	19	63
G9H95070N	\$34.56	E5H95070	\$26.60		8	40	100
G9H89080N	\$20.35	E5H89080	\$14.31	8	8	20	63
G9H95080N	\$34.56	E5H95080	\$26.60		8	44	100
G9H89090N	\$23.65	E5H89090	\$17.17	9	10	22	63
G9H95090N	\$39.99	E5H95090	\$32.00		10	50	100
G9H89100N	\$23.65	E5H89100	\$17.17	10	10	22	76
G9H95100N	\$39.99	E5H95100	\$32.00		10	50	100
G9H89110N	\$37.96	E5H89110	\$28.88	11	12	25	76
G9H95110N	\$82.75	E5H95110	\$74.29		12	76	152
G9H89120N	\$37.96	E5H89120	\$28.88	12	12	25	76
G9H95120N	\$82.75	E5H95120	\$74.29		12	76	152
G9H89140N	\$58.31	E5H89140	\$49.90	14	14	32	90
G9H95140N	\$116.12	E5H95140	\$95.18		14	76	152
G9H89160N	\$66.62	E5H89160	\$56.11	16	16	32	102
G9H95160N	\$132.68	E5H95160	\$103.42		16	76	152
G9H89180N	\$98.58	E5H89180	\$78.92	18	18	38	102
G9H89200N	\$98.58	E5H89200	\$78.92	20	20	38	102
G9H95200N	\$167.32	E5H95200	\$143.72		20	76	152
G9H89250N	\$157.55	E5H89250	\$131.68	25	25	38	102

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
+0/-0.03	h6

*Uncoated Tools in this series are not recommended for slotting in stainless steel.

Holemaking

Threading

Milling

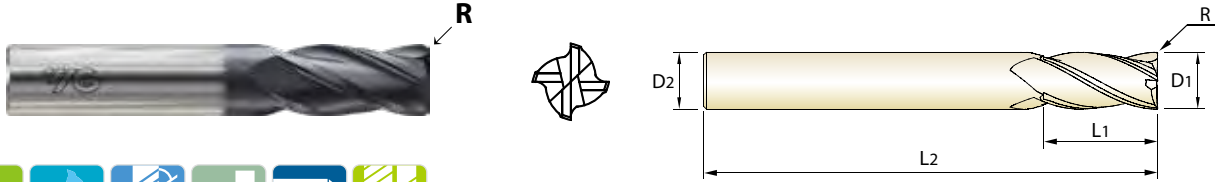
Indexable

Rotary Tool Holder

YGBasiX END MILLS

4-FLUTE, CORNER RADIUS, SINGLE ENDED

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



Unit : Inch

EDP No. X-Coated	Price	EDP No. Uncoated	Price	Mill Diameter	Corner Radius	Shank Diameter	Length of Cut	Overall Length	
				D1		D2	L1	L2	
G9H97008N	\$8.86	E5H97008	\$6.20	1/8	0.005	1/8	1/2	1-1/2	
G9H97901N	\$8.86	E5H97901	\$6.20		0.010	1/8	1/2	1-1/2	
G9H97902N	\$8.86	E5H97902	\$6.20		0.015	1/8	1/2	1-1/2	
G9H97903N	\$8.86	E5H97903	\$6.20		0.020	1/8	1/2	1-1/2	
G9H97904N	\$8.86	E5H97904	\$6.20		0.030	1/8	1/2	1-1/2	
G9H97012N	\$11.64	E5H97012	\$9.24	3/16	0.010	3/16	5/8	2	
G9H97905N	\$11.64	E5H97905	\$9.24		0.015	3/16	5/8	2	
G9H97906N	\$11.64	E5H97906	\$9.24		0.020	3/16	5/8	2	
G9H97907N	\$11.64	E5H97907	\$9.24		0.030	3/16	5/8	2	
G9H97908N	\$11.64	E5H97908	\$9.24		0.045	3/16	5/8	2	
G9H97909N	\$11.64	E5H97909	\$9.24	1/4	0.050	3/16	5/8	2	
G9H97910N	\$11.64	E5H97910	\$9.24		0.060	3/16	5/8	2	
G9H97016N	\$14.76	E5H97016	\$12.57		1/4	0.005	1/4	3/4	2-1/2
G9H97911N	\$14.76	E5H97911	\$12.57			0.010	1/4	3/4	2-1/2
G9H97912N	\$14.76	E5H97912	\$12.57			0.015	1/4	3/4	2-1/2
G9H97913N	\$14.76	E5H97913	\$12.57	0.020		1/4	3/4	2-1/2	
G9H97914N	\$14.76	E5H97914	\$12.57	0.025		1/4	3/4	2-1/2	
G9H97915N	\$14.76	E5H97915	\$12.57	5/16	0.030	1/4	3/4	2-1/2	
G9H97916N	\$14.76	E5H97916	\$12.57		0.045	1/4	3/4	2-1/2	
G9H97917N	\$14.76	E5H97917	\$12.57		0.060	1/4	3/4	2-1/2	
G9H97918N	\$14.76	E5H97918	\$12.57		0.090	1/4	3/4	2-1/2	
G9H97020N	\$22.06	E5H97020	\$17.57		5/16	0.015	5/16	13/16	2-1/2
G9H97919N	\$22.06	E5H97919	\$17.57	0.020		5/16	13/16	2-1/2	
G9H97920N	\$22.06	E5H97920	\$17.57	0.025		5/16	13/16	2-1/2	
G9H97921N	\$22.06	E5H97921	\$17.57	0.030		5/16	13/16	2-1/2	
G9H97922N	\$22.06	E5H97922	\$17.57	0.045		5/16	13/16	2-1/2	
G9H97923N	\$22.06	E5H97923	\$17.57	3/8	0.060	5/16	13/16	2-1/2	
G9H97924N	\$22.06	E5H97924	\$17.57		0.090	5/16	13/16	2-1/2	
G9H97925N	\$22.06	E5H97925	\$17.57		0.125	5/16	13/16	2-1/2	
G9H97024N	\$25.95	E5H97024	\$21.61		3/8	0.015	3/8	1	2-1/2
G9H97926N	\$25.95	E5H97926	\$21.61			0.020	3/8	1	2-1/2
G9H97927N	\$25.95	E5H97927	\$21.61	0.025		3/8	1	2-1/2	
G9H97928N	\$25.95	E5H97928	\$21.61	0.030		3/8	1	2-1/2	
G9H97929N	\$25.95	E5H97929	\$21.61	0.045		3/8	1	2-1/2	
G9H97930N	\$25.95	E5H97930	\$21.61	7/16	0.060	3/8	1	2-1/2	
G9H97931N	\$25.95	E5H97931	\$21.61		0.090	3/8	1	2-1/2	
G9H97932N	\$25.95	E5H97932	\$21.61		0.125	3/8	1	2-1/2	
G9H97028N	\$35.08	E5H97028	\$29.78		7/16	0.015	7/16	1	2-3/4
G9H97933N	\$35.08	E5H97933	\$29.78			0.020	7/16	1	2-3/4
G9H97934N	\$35.08	E5H97934	\$29.78	0.025		7/16	1	2-3/4	
G9H97935N	\$35.08	E5H97935	\$29.78	0.030		7/16	1	2-3/4	
G9H97936N	\$35.08	E5H97936	\$29.78	0.045		7/16	1	2-3/4	
G9H97937N	\$35.08	E5H97937	\$29.78	7/16	0.060	7/16	1	2-3/4	
G9H97938N	\$35.08	E5H97938	\$29.78		0.090	7/16	1	2-3/4	
G9H97939N	\$35.08	E5H97939	\$29.78		0.125	7/16	1	2-3/4	

► NEXT PAGE

Holmeking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Corner Radius	Shank Diameter	Length of Cut	Overall Length	
X-Coated		Uncoated		D1		D2	L1	L2	
G9H97032N	\$40.32	E5H97032	\$38.36	1/2	0.015	1/2	1	3	
G9H97940N	\$40.32	E5H97940	\$38.36		0.020	1/2	1	3	
G9H97941N	\$40.32	E5H97941	\$38.36		0.025	1/2	1	3	
G9H97942N	\$40.32	E5H97942	\$38.36		0.030	1/2	1	3	
G9H97943N	\$40.32	E5H97943	\$38.36		0.045	1/2	1	3	
G9H97944N	\$40.32	E5H97944	\$38.36		0.060	1/2	1	3	
G9H97945N	\$40.32	E5H97945	\$38.36		0.090	1/2	1	3	
G9H97946N	\$40.32	E5H97946	\$38.36		0.125	1/2	1	3	
G9H97040N	\$71.53	E5H97040	\$59.20		5/8	0.015	5/8	1-1/4	3-1/2
G9H97947N	\$71.53	E5H97947	\$59.20			0.020	5/8	1-1/4	3-1/2
G9H97948N	\$71.53	E5H97948	\$59.20	0.025		5/8	1-1/4	3-1/2	
G9H97949N	\$71.53	E5H97949	\$59.20	0.030		5/8	1-1/4	3-1/2	
G9H97950N	\$71.53	E5H97950	\$59.20	0.045		5/8	1-1/4	3-1/2	
G9H97951N	\$71.53	E5H97951	\$59.20	0.060		5/8	1-1/4	3-1/2	
G9H97952N	\$71.53	E5H97952	\$59.20	0.090		5/8	1-1/4	3-1/2	
G9H97953N	\$71.53	E5H97953	\$59.20	0.125		5/8	1-1/4	3-1/2	
G9H97048N	\$100.64	E5H97048	\$88.79	3/4		0.015	3/4	1-1/2	4
G9H97954N	\$100.64	E5H97954	\$88.79			0.020	3/4	1-1/2	4
G9H97955N	\$100.64	E5H97955	\$88.79		0.025	3/4	1-1/2	4	
G9H97956N	\$100.64	E5H97956	\$88.79		0.030	3/4	1-1/2	4	
G9H97957N	\$100.64	E5H97957	\$88.79		0.045	3/4	1-1/2	4	
G9H97958N	\$100.64	E5H97958	\$88.79		0.060	3/4	1-1/2	4	
G9H97959N	\$100.64	E5H97959	\$88.79		0.090	3/4	1-1/2	4	
G9H97960N	\$100.64	E5H97960	\$88.79		0.125	3/4	1-1/2	4	
G9H97961N	\$100.64	E5H97961	\$88.79		0.190	3/4	1-1/2	4	
G9H97962N	\$100.64	E5H97962	\$88.79		0.250	3/4	1-1/2	4	
G9H97064N	\$161.13	E5H97064	\$144.30	1	0.015	1	1-1/2	4	
G9H97963N	\$161.13	E5H97963	\$144.30		0.020	1	1-1/2	4	
G9H97964N	\$161.13	E5H97964	\$144.30		0.025	1	1-1/2	4	
G9H97965N	\$161.13	E5H97965	\$144.30		0.030	1	1-1/2	4	
G9H97966N	\$161.13	E5H97966	\$144.30		0.045	1	1-1/2	4	
G9H97967N	\$161.13	E5H97967	\$144.30		0.060	1	1-1/2	4	
G9H97968N	\$161.13	E5H97968	\$144.30		0.090	1	1-1/2	4	
G9H97969N	\$161.13	E5H97969	\$144.30		0.125	1	1-1/2	4	
G9H97970N	\$161.13	E5H97970	\$144.30		0.190	1	1-1/2	4	
G9H97971N	\$161.13	E5H97971	\$144.30		0.250	1	1-1/2	4	

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0012	+0/-0.0005

*Only Coated Tools in this series are recommended for stainless steel machining

Holemaking

Threading

Milling

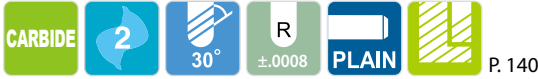
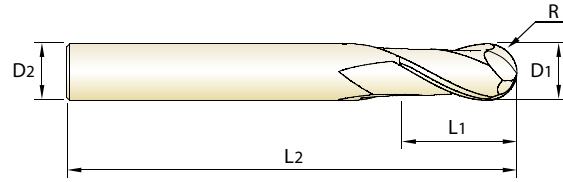
Indexable

Rotary Tool Holder

YGBasiX END MILLS

2-FLUTE, BALL END, SINGLE ENDED

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball Nose	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	R	D2	L1	L2
G9I02001N	\$16.34	E5I02001	\$12.95	1/64	R0.0078	1/8	3/64	1-1/2
G9I02002N	\$16.34	E5I02002	\$8.29	1/32	R1/64	1/8	1/8	1-1/2
G9I02003N	\$10.25	E5I02003	\$8.64	3/64	R0.0234	1/8	1/8	1-1/2
G9I02004N	\$9.44	E5I02004	\$7.74	1/16	R1/32	1/8	1/8	1-1/2
G9I02901N	\$9.41	E5I02901	\$7.80			1/8	1/4	1-1/2
G9I02005N	\$9.44	E5I02005	\$7.74	5/64	R0.0391	1/8	1/4	1-1/2
G9I02006N	\$9.44	E5I02006	\$7.74	3/32	R3/64	1/8	3/8	1-1/2
G9I02007N	\$9.44	E5I02007	\$7.74	7/64	R0.0547	1/8	3/8	1-1/2
G9I02008N	\$9.05	E5I02008	\$6.30	1/8	R1/16	1/8	1/2	1-1/2
G9I07008N	\$15.67	E5I07008	\$13.25			1/8	3/4	2-1/4
G9I02009N	\$12.48	E5I02009	\$9.50	9/64	R0.0703	3/16	9/16	2
G9I02010N	\$12.48	E5I02010	\$9.50	5/32	R5/64	3/16	9/16	2
G9I07010N	\$17.43	E5I07010	\$15.24			3/16	3/4	2-1/2
G9I02011N	\$12.48	E5I02011	\$9.50	11/64	R0.0859	3/16	9/16	2
G9I02012N	\$11.86	E5I02012	\$9.34	3/16	R3/32	3/16	5/8	2
G9I07012N	\$20.56	E5I07012	\$18.34			3/16	3/4	2-1/2
G9I02013N	\$16.00	E5I02013	\$14.89	13/64	R0.1016	1/4	5/8	2-1/2
G9I02014N	\$16.00	E5I02014	\$14.31	7/32	R7/64	1/4	5/8	2-1/2
G9I02015N	\$16.00	E5I02015	\$14.89	15/64	R0.1172	1/4	3/4	2-1/2
G9I02016N	\$14.97	E5I02016	\$12.87	1/4	R1/8	1/4	3/4	2-1/2
G9I07016N	\$19.75	E5I07016	\$16.49			1/4	3/4	2-1/2
G9I07901N	\$28.12	E5I07901	\$23.43			1/4	1-1/8	3
G9I02017N	\$22.90	E5I02017	\$20.26	17/64	R0.1328	5/16	3/4	2-1/2
G9I02018N	\$22.90	E5I02018	\$20.26	9/32	R9/64	5/16	3/4	2-1/2
G9I02019N	\$22.90	E5I02019	\$20.26	19/64	R0.1484	5/16	13/16	2-1/2
G9I02020N	\$22.90	E5I02020	\$17.70	5/16	R5/32	5/16	13/16	2-1/2
G9I07020N	\$37.09	E5I07020	\$28.79			5/16	1-1/8	3
G9I02021N	\$27.98	E5I02021	\$24.23	21/64	R0.1641	3/8	1	2-1/2
G9I02022N	\$27.98	E5I02022	\$24.88	11/32	R11/64	3/8	1	2-1/2
G9I02023N	\$28.22	E5I02023	\$24.23	23/64	R0.1797	3/8	1	2-1/2
G9I02024N	\$26.64	E5I02024	\$24.05	3/8	R3/16	3/8	1	2-1/2
G9I07024N	\$29.68	E5I07024	\$24.77			3/8	1	2-1/2
G9I07902N	\$37.15	E5I07902	\$34.50			3/8	1-1/8	3
G9I02025N	\$36.72	E5I02025	\$31.38	25/64	R0.1953	7/16	1	2-3/4
G9I02026N	\$36.72	E5I02026	\$31.38	13/32	R13/64	7/16	1	2-3/4
G9I02027N	\$36.72	E5I02027	\$31.38	27/64	R0.2109	7/16	1	2-3/4
G9I02028N	\$36.72	E5I02028	\$30.63	7/16	R7/32	7/16	1	2-3/4
G9I07028N	\$65.71	E5I07028	\$54.27			7/16	2	4
G9I02029N	\$43.04	E5I02029	\$39.87	29/64	R0.2266	1/2	1	3
G9I02030N	\$43.04	E5I02030	\$39.87	15/32	R15/64	1/2	1	3
G9I02031N	\$43.04	E5I02031	\$39.87	31/64	R0.2422	1/2	1	3
G9I02032N	\$41.13	E5I02032	\$38.97	1/2	R1/4	1/2	1	3
G9I07032N	\$63.19	E5I07032	\$61.15			1/2	2	4
G9I02036N	\$64.18	E5I02036	\$55.46	9/16	R9/32	9/16	1-1/4	3-1/2

► NEXT PAGE

YGBasiX END MILLS

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball Nose	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	R	D2	L1	L2
G9I02040N	\$72.89	E5I02040	\$60.59	5/8	R5/16	5/8	1-1/4	3-1/2
G9I07040N	\$126.19	E5I07040	\$113.08			5/8	2-1/4	5
G9I02044N	\$102.40	E5I02044	\$90.16	11/16	R11/32	3/4	1-1/2	4
G9I02048N	\$102.40	E5I02048	\$90.16			3/4	1-1/2	4
G9I07048N	\$183.21	E5I07048	\$156.40	3/4	R3/8	3/4	2-1/4	5
G9I02056N	\$156.86	E5I02056	\$140.72			7/8	1-1/2	4
G9I02064N	\$162.98	E5I02064	\$147.07	1	R1/2	1	1-1/2	4
G9I07064N	\$285.14	E5I07064	\$242.20			1	2-1/4	5

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0012	+0/-0.0005

Holemaking

Threading

Milling

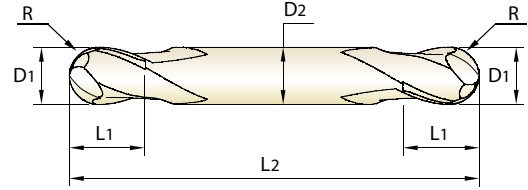
Indexable

Rotary Tool Holder

YGBasiX END MILLS

2-FLUTE, BALL END, DOUBLE ENDED

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials
- Same construction features as single end mill in a more economical version



Unit : Inch

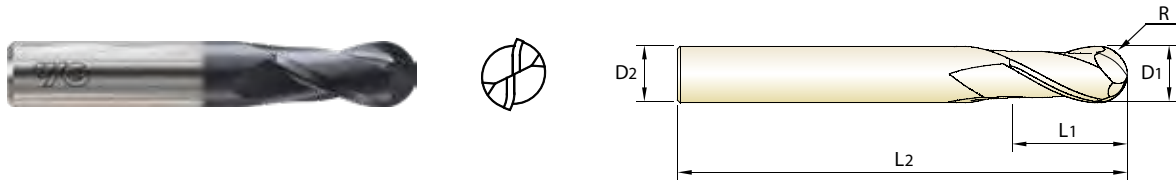
EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball	Shank Diameter	Length of Cut	Overall Length	Shank
X-Coated		Uncoated		D1	R	D2	L1	L2	
G9H98002N	\$16.82	E5H98002	\$14.20	1/32	R1/64	1/8	1/16	1-1/2	Plain
G9H98003N	\$17.91	E5H98003	\$14.20	3/64	R0.0234	1/8	3/32	1-1/2	Plain
G9H98004N	\$17.15	E5H98004	\$14.07	1/16	R1/32	1/8	1/8	1-1/2	Plain
G9H98005N	\$17.15	E5H98005	\$14.07	5/64	R0.0391	1/8	1/8	1-1/2	Plain
G9H98006N	\$17.15	E5H98006	\$14.07	3/32	R3/64	1/8	3/16	1-1/2	Plain
G9H98007N	\$17.15	E5H98007	\$14.07	7/64	R0.0547	1/8	3/16	1-1/2	Plain
G9H98008N	\$16.23	E5H98008	\$13.13			1/8	1/4	1-1/2	Plain
G9I04008N	\$39.11	E5I04008	\$32.97	1/8	R1/16	3/8	3/8	3	Flat
G9H98009N	\$21.37	E5H98009	\$18.31	9/64	R0.0703	3/16	5/16	2	Plain
G9H98010N	\$21.37	E5H98010	\$18.31			3/16	5/16	2	Plain
G9I04010N	\$41.07	E5I04010	\$34.94	5/32	R5/64	3/8	7/16	3	Flat
G9H98011N	\$21.37	E5H98011	\$18.31	11/64	R0.0859	3/16	5/16	2	Plain
G9H98012N	\$22.44	E5H98012	\$19.39			3/16	3/8	2	Plain
G9I04012N	\$42.92	E5I04012	\$36.79	3/16	R3/32	3/8	1/2	3	Flat
G9H98013N	\$29.64	E5H98013	\$26.41	13/64	R0.1016	1/4	1/2	2-1/2	Plain
G9H98014N	\$29.63	E5H98014	\$26.41			1/4	1/2	2-1/2	Plain
G9I04014N	\$49.34	E5I04014	\$43.21	7/32	R7/64	3/8	9/16	3-1/2	Flat
G9H98015N	\$29.64	E5H98015	\$26.41	15/64	R0.1172	1/4	1/2	2-1/2	Plain
G9H98016N	\$28.52	E5H98016	\$26.34			1/4	1/2	2-1/2	Plain
G9I04016N	\$49.55	E5I04016	\$43.42	1/4	R1/8	3/8	5/8	3-1/2	Flat
G9H98018N	\$33.65	E5H98018	\$28.04			5/16	1/2	2-1/2	Plain
G9I04018N	\$60.04	E5I04018	\$53.91	9/32	R9/64	3/8	11/16	3-1/2	Flat
G9H98020N	\$33.65	E5H98020	\$28.04			5/16	1/2	2-1/2	Plain
G9I04020N	\$64.11	E5I04020	\$57.98	5/16	R5/32	3/8	3/4	3-1/2	Flat
G9H98022N	\$44.95	E5H98022	\$38.83			3/8	9/16	2-1/2	Plain
G9I04022N	\$69.37	E5I04022	\$63.25	11/32	R11/64	3/8	3/4	3-1/2	Flat
G9H98024N	\$44.95	E5H98024	\$38.83			3/8	9/16	2-1/2	Plain
G9I04024N	\$69.37	E5I04024	\$63.25	3/8	R3/16	3/8	3/4	3-1/2	Flat
G9H98028N	\$52.23	E5H98028	\$45.61			7/16	9/16	2-3/4	Plain
G9I04028N	\$109.00	E5I04028	\$102.19	7/16	R7/32	1/2	7/8	4	Flat
G9H98032N	\$68.16	E5H98032	\$61.34			1/2	5/8	3	Plain
G9I04032N	\$109.47	E5I04032	\$102.64	1/2	R1/4	1/2	1	4	Flat

Mill Dia. Tolerance (inch)	
D1=D2	+0/-0.002
D1≠D2	+0/-0.012

YGBasiX END MILLS

2-FLUTE, BALL END, SINGLE ENDED – METRIC

- Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



CARBIDE
2
30°
R
±0.02
PLAIN
P. 141

Unit : mm

EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	R	D2	L1	L2
G9I03010N	\$9.41	E5I03010	\$7.80	1.0	R0.50	3	4	39
G9I03901N	\$9.41	E5I03901	\$7.80	1.0	R0.50	3	6	39
G9I03015N	\$9.41	E5I03015	\$7.80	1.5	R0.75	3	5	39
G9I03020N	\$9.41	E5I03020	\$7.80	2.0	R1.00	3	8	39
G9I03025N	\$9.41	E5I03025	\$7.80	2.5	R1.25	3	10	39
G9I03030N	\$9.41	E5I03030	\$7.80	3.0	R1.50	3	12	39
G9I03035N	\$11.74	E5I03035	\$10.12	3.5	R1.75	4	12	51
G9I03040N	\$11.74	E5I03040	\$10.12	4.0	R2.00	4	14	51
G9I03045N	\$11.74	E5I03045	\$10.12	4.5	R2.25	5	16	51
G9I03050N	\$11.74	E5I03050	\$10.12	5.0	R2.50	5	16	51
G9I03060N	\$16.36	E5I03060	\$14.74	6.0	R3.00	6	19	63
G9I03070N	\$23.67	E5I03070	\$20.88	7.0	R3.50	8	19	63
G9I03080N	\$23.67	E5I03080	\$20.88	8.0	R4.00	8	20	63
G9I03090N	\$30.03	E5I03090	\$26.96	9.0	R4.50	10	22	63
G9I03100N	\$30.03	E5I03100	\$26.96	10.0	R5.00	10	22	76
G9I03110N	\$44.67	E5I03110	\$41.26	11.0	R5.50	12	25	76
G9I03120N	\$44.67	E5I03120	\$41.26	12.0	R6.00	12	25	76
G9I03140N	\$64.80	E5I03140	\$60.87	14.0	R7.00	14	32	90
G9I03160N	\$74.05	E5I03160	\$69.93	16.0	R8.00	16	32	102
G9I03180N	\$108.61	E5I03180	\$103.65	18.0	R9.00	18	38	102
G9I03200N	\$108.61	E5I03200	\$100.95	20.0	R10.00	20	38	102
G9I03250N	\$171.36	E5I03250	\$162.34	25.0	R12.50	25	38	102

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
+0/-0.03	h6

Holemaking

Threading

Milling

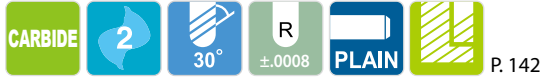
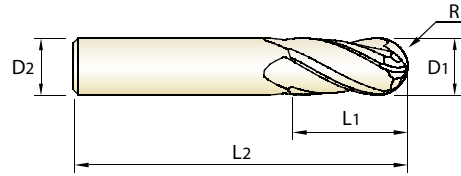
Indexable

Rotary Tool Holder

YGBasiX END MILLS

4-FLUTE, BALL END, SINGLE ENDED

► Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball Nose	Shank Diameter	Length of Cut	Overall Length
				D1	R	D2	L1	L2
X-Coated				Uncoated				
G9I05001N	\$16.34	E5I05001	\$12.95	1/64	R0.0078	1/8	3/64	1-1/2
G9H99002N	\$9.83	E5H99002	\$8.22	1/32	R1/64	1/8	1/16	1-1/2
G9I05002N	\$10.25	E5I05002	\$8.29			1/8	3/32	1-1/2
G9I05901N	\$10.25	E5I05901	\$8.29	3/64	R0.0234	1/8	1/8	1-1/2
G9H99003N	\$9.83	E5H99003	\$8.22			1/8	3/32	1-1/2
G9I05003N	\$10.25	E5I05003	\$8.64	1/16	R1/32	1/8	1/8	1-1/2
G9H99004N	\$9.41	E5H99004	\$7.80			1/8	1/4	1-1/2
G9I05004N	\$9.44	E5I05004	\$7.74	5/64	R0.0391	1/8	1/8	1-1/2
G9H99005N	\$9.42	E5H99005	\$7.80			1/8	1/8	1-1/2
G9H99901N	\$9.41	E5H99901	\$7.80	3/32	R3/64	1/8	5/32	1-1/2
G9I05005N	\$9.44	E5I05005	\$7.74			1/8	1/4	1-1/2
G9H99006N	\$9.41	E5H99006	\$7.80	7/64	R0.0547	1/8	3/16	1-1/2
G9I05006N	\$9.44	E5I05006	\$7.74			1/8	3/8	1-1/2
G9H99007N	\$9.41	E5H99007	\$7.80	1/8	R1/16	1/8	3/16	1-1/2
G9H99902N	\$9.41	E5H99902	\$7.80			1/8	1/2	1-1/2
G9I05007N	\$9.44	E5I05007	\$7.74	9/64	R0.0703	1/8	1	3
G9H99008N	\$8.91	E5H99008	\$7.30			1/8	3/4	2-1/4
G9I05008N	\$9.05	E5I05008	\$6.30	5/32	R5/64	1/8	1	3
G9I08008N	\$15.67	E5I08008	\$13.25			1/8	3/4	2-1/2
G9I09008N	\$15.90	E5I09008	\$12.89	11/64	R0.0859	1/8	1	3
G9H99009N	\$11.74	E5H99009	\$10.12			3/16	9/32	2
G9H99903N	\$11.74	E5H99903	\$10.12	3/16	R3/32	3/16	5/16	2
G9I05009N	\$12.48	E5I05009	\$9.50			3/16	9/16	2
G9H99010N	\$11.74	E5H99010	\$10.12	13/64	R0.1016	3/16	5/16	2
G9I05010N	\$12.48	E5I05010	\$9.50			3/16	9/16	2
G9I08010N	\$17.43	E5I08010	\$15.24	7/32	R7/64	3/16	3/4	2-1/2
G9I09010N	\$21.27	E5I09010	\$19.42			3/16	1-1/8	3
G9H99011N	\$11.74	E5H99011	\$10.12	15/64	R0.1172	3/16	5/16	2
G9I05011N	\$12.48	E5I05011	\$9.50			3/16	9/16	2
G9I05902N	\$11.86	E5I05902	\$9.50	1/4	R1/8	3/16	5/8	2
G9H99012N	\$11.74	E5H99012	\$10.12			3/16	3/8	2
G9I05012N	\$11.86	E5I05012	\$9.34	7/32	R7/64	3/16	5/8	2
G9I08012N	\$20.56	E5I08012	\$18.34			3/16	3/4	2-1/2
G9I09012N	\$19.09	E5I09012	\$17.57	1/4	R0.1016	3/16	1-1/8	3
G9H99013N	\$16.36	E5H99013	\$14.74			1/4	3/8	2
G9H99904N	\$16.36	E5H99904	\$14.74	1/4	R0.1016	1/4	1/2	2-1/2
G9I05013N	\$16.00	E5I05013	\$14.89			1/4	5/8	2-1/2
G9H99014N	\$16.36	E5H99014	\$14.74	1/4	R7/64	1/4	7/16	2
G9H99906N	\$16.36	E5H99906	\$14.74			1/4	1/2	2-1/2
G9I05014N	\$16.00	E5I05014	\$14.31	1/4	R0.1172	1/4	5/8	2-1/2
G9H99015N	\$16.36	E5H99015	\$14.74			1/4	7/16	2
G9H99905N	\$16.36	E5H99905	\$14.74	1/4	R1/8	1/4	1/2	2-1/2
G9I05015N	\$16.00	E5I05015	\$14.89			1/4	3/4	2-1/2
G9H99016N	\$16.36	E5H99016	\$14.74	1/4	R1/8	1/4	1/2	2
G9H99907N	\$16.36	E5H99907	\$14.74			1/4	1/2	2-1/2
G9I05016N	\$14.97	E5I05016	\$12.87	1/4	R1/8	1/4	3/4	2-1/2
G9I09016N	\$29.46	E5I09016	\$27.66			1/4	1	4
G9I08016N	\$28.12	E5I08016	\$23.43	1/4	R1/8	1/4	1-1/8	3
G9I09901N	\$30.07	E5I09901	\$26.99			1/4	1-1/2	4
G9I09902N	\$45.63	E5I09902	\$32.68	1/4	R1/8	1/4	1-1/2	6

► NEXT PAGE

Holmaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball Nose	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	R	D2	L1	L2
G9H99017N	\$23.67	E5H99017	\$20.63	17/64	R0.1328	5/16	1/2	2-1/2
G9I05017N	\$22.90	E5I05017	\$20.26			5/16	3/4	2-1/2
G9H99018N	\$23.67	E5H99018	\$20.63	9/32	R9/64	5/16	1/2	2
G9I05018N	\$22.90	E5I05018	\$20.26			5/16	3/4	2-1/2
G9H99019N	\$23.67	E5H99019	\$20.63	19/64	R0.1484	5/16	1/2	2-1/2
G9I05019N	\$22.90	E5I05019	\$20.26			5/16	13/16	2-1/2
G9H99020N	\$23.67	E5H99020	\$20.88	5/16	R5/32	5/16	1/2	2
G9H99908N	\$23.67	E5H99908	\$20.63			5/16	1/2	2-1/2
G9I05020N	\$22.90	E5I05020	\$17.70			5/16	13/16	2-1/2
G9I08020N	\$37.09	E5I08020	\$28.79			5/16	1-1/8	3
G9I09903N	\$59.60	E5I09903	\$46.91			5/16	1-1/2	6
G9I09020N	\$42.18	E5I09020	\$33.01			5/16	1-5/8	4
G9I05021N	\$27.98	E5I05021	\$24.23	21/64	R0.1641	3/8	1	2-1/2
G9H99022N	\$30.03	E5H99022	\$27.03	11/32	R11/64	3/8	9/16	2-1/2
G9I05022N	\$27.98	E5I05022	\$24.23			3/8	7/8	2-1/2
G9I05903N	\$27.98	E5I05903	\$24.88			3/8	1	2-1/2
G9I05023N	\$28.22	E5I05023	\$24.23	23/64	R0.1797	3/8	1	2-1/2
G9H99909N	\$30.03	E5H99909	\$27.03	3/8	R3/16	3/8	9/16	2-1/2
G9H99024N	\$30.03	E5H99024	\$27.03			3/8	5/8	2
G9I05024N	\$26.64	E5I05024	\$24.05			3/8	1	2-1/2
G9I08024N	\$37.15	E5I08024	\$34.50			3/8	1-1/8	3
G9I09904N	\$70.74	E5I09904	\$63.74			3/8	1-1/2	6
G9I09024N	\$59.67	E5I09024	\$54.20			3/8	1-3/4	4
G9I05025N	\$36.72	E5I05025	\$31.38	25/64	R0.1953	7/16	1	2-3/4
G9I05026N	\$36.72	E5I05026	\$31.38	13/32	R13/64	7/16	1	2-3/4
G9I05027N	\$36.72	E5I05027	\$31.38	27/64	R0.2109	7/16	1	2-3/4
G9H99910N	\$37.44	E5H99910	\$34.15	7/16	R7/32	7/16	9/16	2-3/4
G9H99028N	\$37.44	E5H99028	\$34.15			7/16	5/8	2-1/2
G9I05028N	\$36.72	E5I05028	\$30.63			7/16	1	2-3/4
G9I08028N	\$65.71	E5I08028	\$54.27			7/16	2	4
G9I09028N	\$95.66	E5I09028	\$78.15			7/16	3	6
G9I05029N	\$43.04	E5I05029	\$39.87			29/64	R0.2266	1/2
G9I05030N	\$43.04	E5I05030	\$39.87	15/32	R15/64	1/2	1	3
G9I05031N	\$43.04	E5I05031	\$39.87	31/64	R0.2422	1/2	1	3
G9H99032N	\$44.67	E5H99032	\$41.35	1/2	R1/4	1/2	5/8	2-1/2
G9H99911N	\$44.67	E5H99911	\$41.35			1/2	5/8	3
G9I05032N	\$41.13	E5I05032	\$38.97			1/2	1	3
G9I08032N	\$64.51	E5I08032	\$53.19			1/2	1-1/2	4
G9I09032N	\$102.25	E5I09032	\$84.12			1/2	1-1/2	6
G9I08901N	\$63.19	E5I08901	\$61.15			1/2	2	4
G9I09905N	\$107.64	E5I09905	\$88.54	9/16	R9/32	1/2	3	6
G9I05036N	\$64.18	E5I05036	\$55.46			9/16	1-1/4	3-1/2
G9H99040N	\$74.05	E5H99040	\$70.07	5/8	R5/16	5/8	3/4	3
G9I05040N	\$72.89	E5I05040	\$60.59			5/8	1-1/4	3-1/2
G9I09040N	\$141.83	E5I09040	\$130.75			5/8	1-1/2	6
G9I08040N	\$126.19	E5I08040	\$113.08			5/8	2-1/4	5
G9I09906N	\$148.91	E5I09906	\$137.33			5/8	3	6
G9I05044N	\$102.40	E5I05044	\$90.16			11/16	R11/32	3/4
G9H99048N	\$108.61	E5H99048	\$101.94	3/4	R3/8	3/4	1	3
G9I05048N	\$102.40	E5I05048	\$90.16			3/4	1-1/2	4
G9I09048N	\$196.44	E5I09048	\$176.41			3/4	1-1/2	6
G9I08048N	\$183.21	E5I08048	\$156.40			3/4	2-1/4	5
G9I09907N	\$205.98	E5I09907	\$183.45			3/4	3	6
G9I05056N	\$156.86	E5I05056	\$140.72			7/8	R7/16	7/8
G9I05064N	\$162.98	E5I05064	\$147.07	1	R1/2	1	1-1/2	4
G9I09908N	\$349.63	E5I09908	\$315.65			1	1-1/2	6
G9I08064N	\$285.14	E5I08064	\$242.20			1	2-1/4	5
G9I09064N	\$355.19	E5I09064	\$321.68			1	3	6

Holemaking

Threading

Milling

Indexable

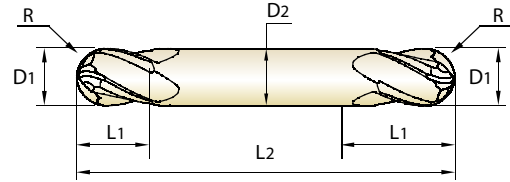
Rotary Tool Holder

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.012	+0/-0.005

YGBasiX END MILLS

4-FLUTE, BALL END, DOUBLE ENDED

- ▶ Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials
- ▶ Same construction features as single end mill in a more economical version



P. 142

Unit : Inch

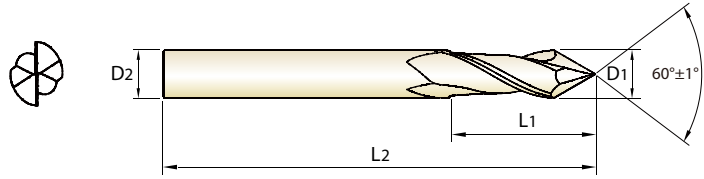
EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball	Shank Diameter	Length of Cut	Overall Length	Shank
X-Coated		Uncoated		D1	R	D2	L1	L2	
G9I01002N	\$21.60	E5I01002	\$18.36	1/32	R1/64	1/8	1/16	1-1/2	Plain
G9I01003N	\$21.59	E5I01003	\$18.37	3/64	R0.0234	1/8	3/32	1-1/2	Plain
G9I01004N	\$20.67	E5I01004	\$17.45	1/16	R1/32	1/8	1/8	1-1/2	Plain
G9I01005N	\$20.67	E5I01005	\$17.45			1/8	1/8	1-1/2	Plain
G9I01901N	\$20.67	E5I01901	\$18.70	5/64	R0.0391	1/8	5/32	1-1/2	Plain
G9I01006N	\$20.67	E5I01006	\$17.45	3/32	R3/64	1/8	3/16	1-1/2	Plain
G9I01007N	\$20.67	E5I01007	\$17.45			1/8	3/16	1-1/2	Plain
G9I01902N	\$20.67	E5I01902	\$17.45	7/64	R0.0547	1/8	7/32	1-1/2	Plain
G9I01008N	\$20.67	E5I01008	\$17.45	1/8	R1/16	1/8	1/4	1-1/2	Plain
G9I06008N	\$48.02	E5I06008	\$41.89			3/8	3/8	3	Flat
G9I01903N	\$25.77	E5I01903	\$22.55	9/64	R0.0703	3/16	9/32	2	Plain
G9I01009N	\$25.77	E5I01009	\$22.54			3/16	5/16	2	Plain
G9I01010N	\$25.77	E5I01010	\$22.55	5/32	R5/64	3/16	5/16	2	Plain
G9I06010N	\$50.40	E5I06010	\$44.26			3/8	7/16	3	Flat
G9I01011N	\$25.77	E5I01011	\$22.54	11/64	R0.0859	3/16	5/16	2	Plain
G9I01012N	\$24.55	E5I01012	\$21.32	3/16	R3/32	3/16	3/8	2	Plain
G9I06012N	\$52.64	E5I06012	\$46.51			3/8	1/2	3	Flat
G9I01013N	\$33.20	E5I01013	\$29.97	13/64	R0.1016	1/4	3/8	2	Plain
G9I01904N	\$33.20	E5I01904	\$29.97			1/4	1/2	2-1/2	Plain
G9I01014N	\$33.20	E5I01014	\$29.97			1/4	7/16	2	Plain
G9I01905N	\$33.20	E5I01905	\$29.97	7/32	R7/64	1/4	1/2	2-1/2	Plain
G9I06014N	\$60.54	E5I06014	\$54.42			3/8	9/16	3-1/2	Flat
G9I01015N	\$33.20	E5I01015	\$29.97	15/64	R0.1172	1/4	7/16	2	Plain
G9I01906N	\$33.20	E5I01906	\$29.97			1/4	1/2	2-1/2	Plain
G9I01016N	\$33.20	E5I01016	\$29.97			1/4	1/2	2	Plain
G9I01907N	\$33.32	E5I01907	\$30.10	1/4	R1/8	1/4	1/2	2-1/2	Plain
G9I06016N	\$60.81	E5I06016	\$54.68			3/8	5/8	3-1/2	Flat
G9I01017N	\$39.33	E5I01017	\$33.72	17/64	R0.1328	5/16	1/2	2-1/2	Plain
G9I01018N	\$39.33	E5I01018	\$33.72			5/16	1/2	2	Plain
G9I01908N	\$39.33	E5I01908	\$33.73	9/32	R9/64	5/16	1/2	2-1/2	Plain
G9I06018N	\$73.71	E5I06018	\$67.58			3/8	11/16	3-1/2	Flat
G9I01019N	\$39.33	E5I01019	\$33.72	19/64	R0.1484	5/16	1/2	2-1/2	Plain
G9I01020N	\$42.25	E5I01020	\$34.08			5/16	1/2	2	Plain
G9I01909N	\$39.33	E5I01909	\$33.73	5/16	R5/32	5/16	1/2	2-1/2	Plain
G9I06020N	\$78.71	E5I06020	\$72.57			3/8	3/4	3-1/2	Flat
G9I01022N	\$54.58	E5I01022	\$47.83	11/32	R11/64	3/8	9/16	2-1/2	Plain
G9I06022N	\$85.15	E5I06022	\$79.02			3/8	3/4	3-1/2	Flat
G9I01910N	\$55.18	E5I01910	\$49.05	3/8	R3/16	3/8	9/16	2-1/2	Plain
G9I06024N	\$85.15	E5I06024	\$79.02			3/8	3/4	3-1/2	Flat
G9I01028N	\$63.40	E5I01028	\$56.84	7/16	R7/32	7/16	9/16	2-3/4	Plain
G9I01911N	\$63.40	E5I01911	\$56.84			7/16	5/8	2-1/2	Plain
G9I06028N	\$133.96	E5I06028	\$127.14			1/2	7/8	4	Flat
G9I01032N	\$99.45	E5I01032	\$85.00			1/2	5/8	2-1/2	Plain
G9I01912N	\$95.90	E5I01912	\$89.09	1/2	R1/4	1/2	5/8	3	Plain
G9I06032N	\$134.49	E5I06032	\$127.67			1/2	1	4	Flat
G9I01040N	\$147.21	E5I01040	\$139.57	5/8	R5/16	5/8	3/4	3	Plain
G9I01048N	\$206.70	E5I01048	\$194.40	3/4	R3/8	3/4	1	3	Plain

Mill Dia. Tolerance (inch)

D1=D2	+0/- .002
D1≠D2	+0/- .0012

YGBasiX END MILLS

2-FLUTE 60° DRILL MILL



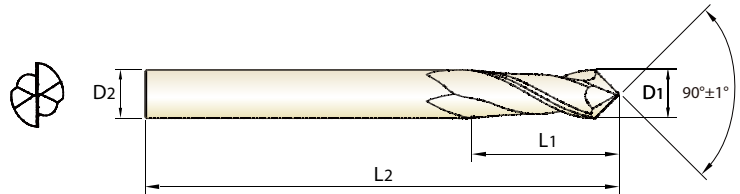
CARBIDE
2
30°
PLAIN
P. 143

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I31008N	\$12.21	E5I31008	\$9.41	1/8	1/8	1/2	1-1/2
G9I31012N	\$14.91	E5I31012	\$11.92	3/16	3/16	5/8	2
G9I31016N	\$18.81	E5I31016	\$15.54	1/4	1/4	3/4	2-1/2
G9I31020N	\$25.98	E5I31020	\$20.75	5/16	5/16	13/16	2-1/2
G9I31024N	\$29.81	E5I31024	\$23.99	3/8	3/8	1	2-1/2
G9I31028N	\$37.97	E5I31028	\$31.29	7/16	7/16	1	2-3/4
G9I31032N	\$50.77	E5I31032	\$43.05	1/2	1/2	1	3
G9I31040N	\$82.73	E5I31040	\$71.88	5/8	5/8	1-1/4	3-1/2
G9I31048N	\$132.74	E5I31048	\$114.06	3/4	3/4	1-1/2	4

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0020	+0/-0.0005

2-FLUTE 90° DRILL MILL



CARBIDE
2
30°
PLAIN
P. 143

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I33008N	\$12.21	E5I33008	\$9.41	1/8	1/8	1/2	1-1/2
G9I33012N	\$14.91	E5I33012	\$11.92	3/16	3/16	5/8	2
G9I33016N	\$18.81	E5I33016	\$15.54	1/4	1/4	3/4	2-1/2
G9I33020N	\$25.98	E5I33020	\$20.75	5/16	5/16	13/16	2-1/2
G9I33024N	\$29.81	E5I33024	\$23.99	3/8	3/8	1	2-1/2
G9I33028N	\$37.97	E5I33028	\$31.29	7/16	7/16	1	2-3/4
G9I33032N	\$50.77	E5I33032	\$43.05	1/2	1/2	1	3
G9I33040N	\$82.73	E5I33040	\$71.88	5/8	5/8	1-1/4	3-1/2
G9I33048N	\$132.74	E5I33048	\$114.06	3/4	3/4	1-1/2	4

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0020	+0/-0.0005

Holemaking

Threading

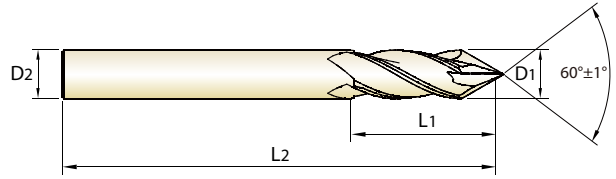
Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

4-FLUTE 60° DRILL MILL

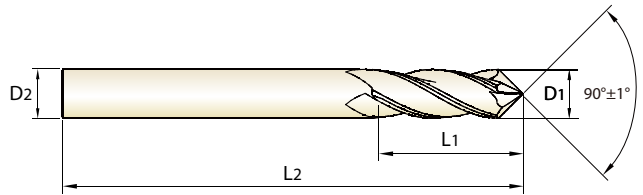


Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I32008N	\$12.21	E5I32008	\$9.41	1/8	1/8	1/2	1-1/2
G9I32012N	\$14.91	E5I32012	\$11.92	3/16	3/16	5/8	2
G9I32016N	\$18.81	E5I32016	\$15.54	1/4	1/4	3/4	2-1/2
G9I32020N	\$25.98	E5I32020	\$20.75	5/16	5/16	13/16	2-1/2
G9I32024N	\$29.81	E5I32024	\$23.99	3/8	3/8	1	2-1/2
G9I32028N	\$37.97	E5I32028	\$31.29	7/16	7/16	1	2-3/4
G9I32032N	\$50.77	E5I32032	\$43.05	1/2	1/2	1	3
G9I32040N	\$82.73	E5I32040	\$71.88	5/8	5/8	1-1/4	3-1/2
G9I32048N	\$132.74	E5I32048	\$114.06	3/4	3/4	1-1/2	4

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0020	+0/-0.0005

4-FLUTE 90° DRILL MILL



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I34008N	\$12.21	E5I34008	\$9.41	1/8	1/8	1/2	1-1/2
G9I34012N	\$14.91	E5I34012	\$11.92	3/16	3/16	5/8	2
G9I34016N	\$18.81	E5I34016	\$15.54	1/4	1/4	3/4	2-1/2
G9I34020N	\$25.98	E5I34020	\$20.75	5/16	5/16	13/16	2-1/2
G9I34024N	\$29.81	E5I34024	\$23.99	3/8	3/8	1	2-1/2
G9I34028N	\$37.97	E5I34028	\$31.29	7/16	7/16	1	2-3/4
G9I34032N	\$50.77	E5I34032	\$43.05	1/2	1/2	1	3
G9I34040N	\$82.73	E5I34040	\$71.88	5/8	5/8	1-1/4	3-1/2
G9I34048N	\$132.74	E5I34048	\$114.06	3/4	3/4	1-1/2	4

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
+0/-0.0020	+0/-0.0005

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

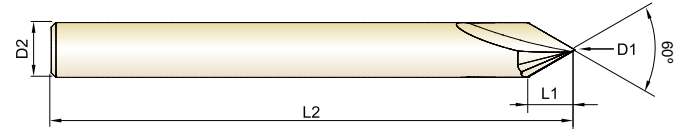
YGBasiX END MILLS

► Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



P. 144-147

2-FLUTE 60° CHAMFER MILL

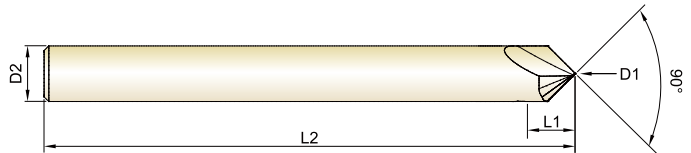


60°

Unit : Inch

EDP No.	Price	EDP No.	Price	Point Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I52008N	\$12.45	E5I52008	\$10.02	0	1/8	.108"	1-1/2
G9I52016N	\$18.98	E5I52016	\$16.26	0	1/4	.217"	2-1/2
G9I52024N	\$29.65	E5I52024	\$24.76	0	3/8	.325"	2-1/2
G9I52032N	\$50.46	E5I52032	\$44.23	0	1/2	.433"	3"

2-FLUTE 90° CHAMFER MILL

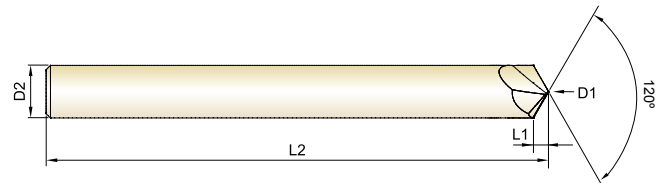


90°

Unit : Inch

EDP No.	Price	EDP No.	Price	Point Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I53008N	\$12.45	E5I53008	\$10.02	0	1/8	.063"	1-1/2
G9I53016N	\$18.98	E5I53016	\$16.26	0	1/4	.125"	2-1/2
G9I53024N	\$29.65	E5I53024	\$24.76	0	3/8	.188"	2-1/2
G9I53032N	\$50.46	E5I53032	\$44.23	0	1/2	.250"	3"

2-FLUTE 120° CHAMFER MILL



120°

Unit : Inch

EDP No.	Price	EDP No.	Price	Point Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I54008N	\$12.45	E5I54008	\$10.02	0	1/8	.036"	1-1/2
G9I54016N	\$18.98	E5I54016	\$16.26	0	1/4	.072"	2-1/2
G9I54024N	\$29.65	E5I54024	\$24.76	0	3/8	.108"	2-1/2
G9I54032N	\$50.46	E5I54032	\$44.23	0	1/2	.144"	3"

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

► Suitable for machining alloy steels, cast iron, stainless steel, brass, copper alloys, aluminum, and other non-ferrous materials



P.144-147

Holemaking

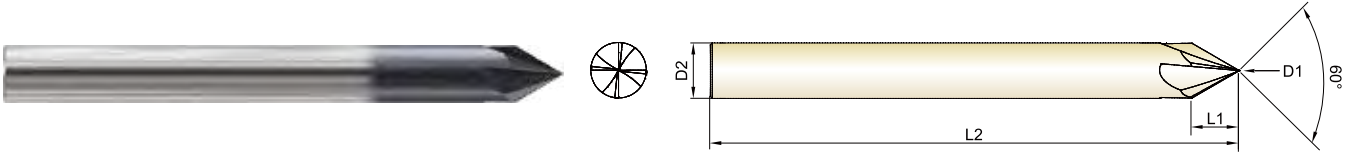
Threading

Milling

Indexable

Rotary Tool Holder

4-FLUTE 60° CHAMFER MILL

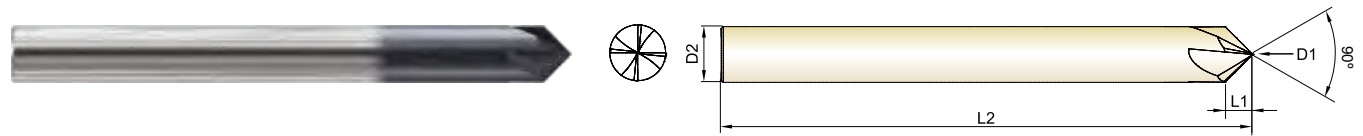


60°

Unit : Inch

EDP No.	Price	EDP No.	Price	Point Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I55008N	\$12.45	E5I55008	\$10.02	0	1/8	.108"	1-1/2
G9I55016N	\$18.98	E5I55016	\$16.26	0	1/4	.217"	2-1/2
G9I55024N	\$29.65	E5I55024	\$24.76	0	3/8	.325"	2-1/2
G9I55032N	\$50.46	E5I55032	\$44.23	0	1/2	.433"	3"

4-FLUTE 90° CHAMFER MILL

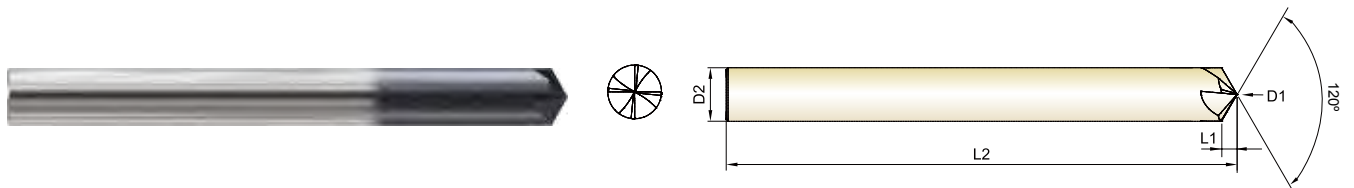


90°

Unit : Inch

EDP No.	Price	EDP No.	Price	Point Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I56008N	\$12.45	E5I56008	\$10.02	0	1/8	.063"	1-1/2
G9I56016N	\$18.98	E5I56016	\$16.26	0	1/4	.125"	2-1/2
G9I56024N	\$29.65	E5I56024	\$24.76	0	3/8	.188"	2-1/2
G9I56032N	\$50.52	E5I56032	\$44.23	0	1/2	.250"	3"

4-FLUTE 120° CHAMFER MILL



120°

Unit : Inch

EDP No.	Price	EDP No.	Price	Point Diameter	Shank Diameter	Length of Cut	Overall Length
X-Coated		Uncoated		D1	D2	L1	L2
G9I57016N	\$18.98	E5I57016	\$16.26	0	1/4	.072"	2-1/2
G9I57024N	\$29.65	E5I57024	\$24.76	0	3/8	.108"	2-1/2
G9I57032N	\$50.46	E5I57032	\$46.31	0	1/2	.144"	3"

YGBasiX END MILLS

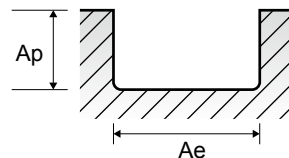
RECOMMENDED CUTTING CONDITIONS

4-FLUTE, MULTIHHELIX / SLOTTING & SIDE MILLING / INCH

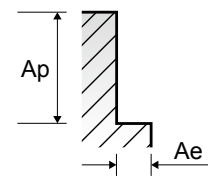
ISO	VDI 3323	Material Description	Slotting		Side Cutting		Parameter	Diameter (Ø)											
			Ae	Ap	Ae	Ap		1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1		
P	1-2	Non-alloy steel	1.0D	0.8D	0.3D	1.5D	SFM	380	380	380	380	380	380	380	380	380	380	380	380
							IPT	.0002	.0005	.0007	.0013	.0018	.0020	.0022	.0025	.0029	.0033		
							RPM	11600	7740	5800	4640	3870	3320	2900	2320	1930	1450		
	3-4		1.0D	0.8D	0.3D	1.5D	SFM	380	380	380	380	380	380	380	380	380	380	380	
							IPT	.0002	.0004	.0006	.0011	.0015	.0017	.0019	.0021	.0025	.0028		
							RPM	11600	7740	5800	4640	3870	3320	2900	2320	1930	1450		
	5		1.0D	0.8D	0.3D	1.5D	SFM	260	260	260	260	260	260	260	260	260	260	260	
							IPT	.0002	.0004	.0006	.0011	.0015	.0017	.0019	.0021	.0025	.0028		
							RPM	7940	5290	3970	3180	2650	2270	1980	1590	1320	990		
	6	1.0D	0.8D	0.3D	1.5D	SFM	380	380	380	380	380	380	380	380	380	380	380		
						IPT	.0002	.0005	.0007	.0013	.0018	.0020	.0022	.0025	.0029	.0033			
RPM						11600	7740	5800	4640	3870	3320	2900	2320	1930	1450				
7	1.0D	0.8D	0.3D	1.5D	SFM	380	380	380	380	380	380	380	380	380	380	380			
					IPT	.0002	.0004	.0006	.0011	.0015	.0017	.0019	.0021	.0025	.0028				
					RPM	11600	7740	5800	4640	3870	3320	2900	2320	1930	1450				
8-9	1.0D	0.8D	0.3D	1.5D	SFM	260	260	260	260	260	260	260	260	260	260	260			
					IPT	.0002	.0004	.0006	.0011	.0015	.0017	.0019	.0021	.0025	.0028				
					RPM	7940	5290	3970	3180	2650	2270	1980	1590	1320	990				
10	1.0D	0.8D	0.3D	1.5D	SFM	160	160	160	160	160	160	160	160	160	160	160			
					IPT	.0001	.0003	.0005	.0007	.0011	.0012	.0013	.0015	.0018	.0021				
					RPM	4890	3260	2440	1950	1630	1400	1220	980	810	610				
11.1	1.0D	0.8D	0.3D	1.5D	SFM	160	160	160	160	160	160	160	160	160	160	160			
					IPT	.0001	.0003	.0005	.0007	.0011	.0012	.0013	.0015	.0018	.0021				
					RPM	4890	3260	2440	1950	1630	1400	1220	980	810	610				
M	12-13	Stainless steel	1.0D	0.8D	0.3D	1.5D	SFM	380	380	380	380	380	380	380	380	380	380		
							IPT	.0002	.0004	.0007	.0011	.0015	.0018	.0021	.0024	.0027	.0030		
							RPM	11600	7740	5800	4640	3870	3320	2900	2320	1930	1450		
	14.1		1.0D	0.8D	0.3D	1.5D	SFM	260	260	260	260	260	260	260	260	260	260		
							IPT	.0002	.0004	.0006	.0010	.0014	.0017	.0019	.0021	.0025	.0028		
							RPM	7940	5290	3970	3180	2650	2270	1980	1590	1320	990		
	14.2		1.0D	0.8D	0.3D	1.5D	SFM	220	220	220	220	220	220	220	220	220	220		
							IPT	.0001	.0003	.0005	.0007	.0011	.0012	.0013	.0015	.0018	.0021		
							RPM	6720	4480	3360	2690	2240	1920	1680	1340	1120	840		
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.8D	0.3D	1.5D	SFM	280	280	280	280	280	280	280	280	280	280		
							IPT	.0002	.0005	.0008	.0013	.0017	.0020	.0023	.0026	.0029	.0032		
							RPM	8550	5700	4270	3420	2850	2440	2140	1710	1420	1070		
							IPM	7	11	14	18	19	20	20	18	16	14		

(Values based on recommended Ae and Ap)

SFM = ft./min. IPM = in./min.
 IPT = in/tooth Ap = factor of dia. (Axial Depth of Cut)
 RPM = rev./min. Ae = factor of dia. (Radial Stepover)



Slotting



Side Cutting

Holemaking
 Threading
 Milling
 Indexable
 Rotary Tool Holder

YGBasiX END MILLS

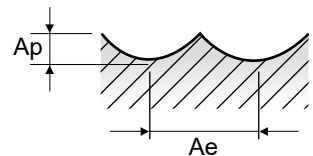
RECOMMENDED CUTTING CONDITIONS

4-FLUTE, MULTIHELIX, BALL NOSE / SURFACING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)											
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1		
P	1-2	Non-alloy steel	0.7D	0.3D	SFM	380	380	380	380	380	380	380	380	380	380	380	
					IPT	.0002	.0005	.0008	.0014	.0020	.0022	.0024	.0027	.0032	.0036		
					RPM	16250	10830	8120	6500	5420	4640	4060	3250	2710	2030		
	3-4		SFM	380	380	380	380	380	380	380	380	380	380	380	380	380	
			IPT	.0002	.0004	.0007	.0012	.0016	.0019	.0021	.0023	.0027	.0031				
			RPM	16250	10830	8120	6500	5420	4640	4060	3250	2710	2030				
	5		SFM	260	260	260	260	260	260	260	260	260	260	260	260		
			IPT	.0002	.0004	.0007	.0012	.0016	.0019	.0021	.0023	.0027	.0031				
			RPM	11120	7410	5560	4450	3710	3180	2780	2220	1850	1390				
	6		SFM	380	380	380	380	380	380	380	380	380	380	380	380		
			IPT	.0002	.0005	.0008	.0014	.0020	.0022	.0024	.0027	.0032	.0036				
RPM		16250	10830	8120	6500	5420	4640	4060	3250	2710	2030						
7	SFM	380	380	380	380	380	380	380	380	380	380	380	380				
	IPT	.0002	.0004	.0007	.0012	.0016	.0019	.0021	.0023	.0027	.0031						
	RPM	16250	10830	8120	6500	5420	4640	4060	3250	2710	2030						
8-9	SFM	260	260	260	260	260	260	260	260	260	260	260	260				
	IPT	.0002	.0004	.0007	.0012	.0016	.0019	.0021	.0023	.0027	.0031						
	RPM	11120	7410	5560	4450	3710	3180	2780	2220	1850	1390						
10	SFM	160	160	160	160	160	160	160	160	160	160	160	160				
	IPT	.0001	.0003	.0005	.0008	.0012	.0013	.0014	.0016	.0020	.0023						
	RPM	6840	4560	3420	2740	2280	1950	1710	1370	1140	860						
11.1	SFM	160	160	160	160	160	160	160	160	160	160	160	160				
	IPT	.0001	.0003	.0005	.0008	.0012	.0013	.0014	.0016	.0020	.0023						
	RPM	6840	4560	3420	2740	2280	1950	1710	1370	1140	860						
M	12-13	Stainless steel	0.7D	0.3D	SFM	380	380	380	380	380	380	380	380	380	380		
					IPT	.0002	.0004	.0008	.0012	.0016	.0020	.0023	.0026	.0029	.0033		
					RPM	16250	10830	8120	6500	5420	4640	4060	3250	2710	2030		
	14.1		SFM	260	260	260	260	260	260	260	260	260	260	260			
			IPT	.0002	.0004	.0007	.0011	.0015	.0019	.0021	.0023	.0027	.0031				
			RPM	11120	7410	5560	4450	3710	3180	2780	2220	1850	1390				
	14.2		SFM	220	220	220	220	220	220	220	220	220	220	220			
			IPT	.0001	.0003	.0005	.0008	.0012	.0013	.0014	.0016	.0020	.0023				
			RPM	9410	6270	4700	3760	3140	2690	2350	1880	1570	1180				
	K		15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	1.3D	SFM	280	280	280	280	280	280	280	280	280	280
							IPT	.0002	.0005	.0009	.0014	.0019	.0022	.0025	.0028	.0032	.0035
							RPM	11970	7980	5990	4790	3990	3420	2990	2390	2000	1500
IPM		10					16	22	27	30	30	30	27	26	21		

(Values based on recommended Ae and Ap)

SFM = ft./min. IPM = in./min.
 IPT = in/tooth Ap = factor of dia. (Axial Depth of Cut)
 RPM = rev./min. Ae = factor of dia. (Radial Stepover)



YGBasiX END MILLS

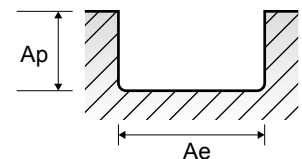
RECOMMENDED CUTTING CONDITIONS

2-FLUTE, SQUARE & CORNER RADIUS / SLOTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)										
						1/8	5/32	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1
P	1-2	Non-alloy steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0005	.0006	.0008	.0009	.0012	.0015	.0017	.0018	.0025	.0029	.0037
					RPM	5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650
	IPM		5	5	5	5	5	5	5	5	5	5	5			
	3-4		1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	145	145	145	145	145	145	145	145	145	145	145
					IPT	.0005	.0006	.0008	.0009	.0013	.0016	.0017	.0019	.0024	.0029	.0039
		RPM			4430	3540	2950	2220	1770	1480	1270	1110	890	740	550	
	5	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	
				IPT	.0004	.0006	.0007	.0008	.0011	.0014	.0015	.0017	.0027	.0032	.0041	
				RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460	
	6	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170	
				IPT	.0005	.0006	.0008	.0009	.0012	.0015	.0017	.0018	.0025	.0029	.0037	
RPM				5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650		
7	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	145	145	145	145	145	145	145	145	145	145	145		
			IPT	.0005	.0006	.0008	.0009	.0013	.0016	.0017	.0019	.0024	.0029	.0039		
			RPM	4430	3540	2950	2220	1770	1480	1270	1110	890	740	550		
8-9	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0004	.0006	.0007	.0008	.0011	.0014	.0015	.0017	.0027	.0032	.0041		
			RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460		
10	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170		
			IPT	.0005	.0006	.0008	.0009	.0012	.0015	.0017	.0018	.0025	.0029	.0037		
			RPM	5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650		
11.1	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0004	.0006	.0007	.0008	.0011	.0014	.0015	.0017	.0027	.0032	.0041		
			RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460		
M	14.1	Stainless steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	120	120	120	120	120	120	120	120	120	120	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	195	195	195	195	195	195	195	195	195	195	195
					IPT	.0006	.0008	.0011	.0015	.0022	.0027	.0032	.0037	.0051	.0061	.0080
					RPM	5960	4770	3970	2980	2380	1990	1700	1490	1190	990	740
					IPM	8	8	8	9	11	11	11	11	12	12	12
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	1.0D	1.0D	SFM	490	490	490	490	490	490	490	490	490	490	
					IPT	.0005	.0008	.0009	.0011	.0015	.0019	.0021	.0023	.0030	.0036	.0048
					RPM	14970	11980	9980	7490	5990	4990	4280	3740	2990	2500	1870
	26-29.1	Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials	1.0D	1.0D	SFM	370	370	370	370	370	370	370	370	370	370	370
					IPT	.0006	.0007	.0009	.0012	.0015	.0020	.0021	.0023	.0030	.0036	.0047
					RPM	11310	9050	7540	5650	4520	3770	3230	2830	2260	1880	1410
					IPM	12	12	13	13	14	15	14	13	14	14	13

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

Reduce cutting speed ~35% for uncoated tools



Slotting

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

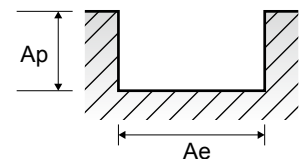
RECOMMENDED CUTTING CONDITIONS

2-FLUTE, SQUARE / SLOTTING / METRIC

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)											
						3	4	5	6	8	10	12	16	18	20	25	
Holmaking	1-2	Non-alloy steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0004	.0006	.0008	.0008	.0012	.0016	.0017	.0026	.0028	.0030	.0036	
					RPM	5500	4120	3300	2750	2060	1650	1370	1030	920	820	660	
Threading	3-4	Non-alloy steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	145	145	145	145	145	145	145	145	145	145	145	145
					IPT	.0004	.0006	.0008	.0009	.0013	.0016	.0018	.0025	.0028	.0031	.0038	
					RPM	4690	3520	2810	2340	1760	1410	1170	880	780	700	560	
Milling	5	Low alloy steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	120
					IPT	.0004	.0006	.0008	.0008	.0011	.0015	.0016	.0027	.0030	.0033	.0041	
					RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470	
Indexable	6	High alloyed steel, and tool steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0004	.0006	.0008	.0008	.0012	.0016	.0017	.0026	.0028	.0030	.0036	
					RPM	5500	4120	3300	2750	2060	1650	1370	1030	920	820	660	
Rotary Tool Holder	7	High alloyed steel, and tool steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	145	145	145	145	145	145	145	145	145	145	145	145
					IPT	.0004	.0006	.0008	.0009	.0013	.0016	.0018	.0025	.0028	.0031	.0038	
					RPM	4690	3520	2810	2340	1760	1410	1170	880	780	700	560	
Rotary Tool Holder	8-9	High alloyed steel, and tool steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	120
					IPT	.0004	.0006	.0008	.0008	.0011	.0015	.0016	.0027	.0030	.0033	.0041	
					RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470	
Rotary Tool Holder	10	High alloyed steel, and tool steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0004	.0006	.0008	.0008	.0012	.0016	.0017	.0026	.0028	.0030	.0036	
					RPM	5500	4120	3300	2750	2060	1650	1370	1030	920	820	660	
Rotary Tool Holder	11.1	High alloyed steel, and tool steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	120
					IPT	.0004	.0006	.0008	.0008	.0011	.0015	.0016	.0027	.0030	.0033	.0041	
					RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470	
Rotary Tool Holder	14.1	Stainless steel	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	120
					IPT	.0004	.0006	.0008	.0008	.0011	.0015	.0016	.0027	.0030	.0033	.0041	
					RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470	
Rotary Tool Holder	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	upto Ø1/2 : 0.5D over Ø1/2 : 0.3D	SFM	195	195	195	195	195	195	195	195	195	195	195	195
					IPT	.0006	.0009	.0011	.0014	.0022	.0029	.0035	.0052	.0058	.0064	.0079	
					RPM	6310	4730	3780	3150	2360	1890	1580	1180	1050	950	760	
Rotary Tool Holder	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	1.0D	1.0D	SFM	490	490	490	490	490	490	490	490	490	490	490	490
					IPT	.0005	.0008	.0009	.0011	.0015	.0020	.0022	.0030	.0034	.0038	.0047	
					RPM	15850	11890	9510	7920	5940	4750	3960	2970	2640	2380	1900	
Rotary Tool Holder	26-29.1	Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials	1.0D	1.0D	SFM	370	370	370	370	370	370	370	370	370	370	370	370
					IPT	.0005	.0007	.0009	.0011	.0015	.0020	.0022	.0030	.0034	.0038	.0047	
					RPM	11970	8970	7180	5980	4490	3590	2990	2240	1990	1790	1440	

SFM = ft./min.
IPT = in./tooth
RPM = rev./min.
IPM = in./min.

Reduce cutting speed ~35% for uncoated tools



Slotting

YGBasiX END MILLS

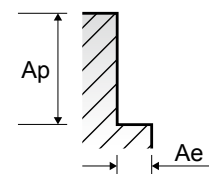
RECOMMENDED CUTTING CONDITIONS

3-FLUTE, SQUARE / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)										
						1/8	5/32	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1
P	1-2	Non-alloy steel	0.1D	1.5D	SFM	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0006	.0009	.0011	.0013	.0017	.0022	.0024	.0026	.0038	.0044	.0056
					RPM	5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650
	IPM		10	11	11	10	11	11	11	10	12	11	11			
	3-4		0.1D	1.5D	SFM	145	145	145	145	145	145	145	145	145	145	145
					IPT	.0007	.0009	.0011	.0014	.0018	.0023	.0025	.0027	.0038	.0045	.0060
		RPM			4430	3540	2950	2220	1770	1480	1270	1110	890	740	550	
	5	0.1D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120	
				IPT	.0006	.0008	.0010	.0012	.0016	.0020	.0022	.0024	.0040	.0046	.0060	
				RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460	
	6	0.1D	1.5D	SFM	170	170	170	170	170	170	170	170	170	170	170	
				IPT	.0006	.0009	.0011	.0013	.0017	.0022	.0024	.0026	.0038	.0044	.0056	
RPM				5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650		
7	0.1D	1.5D	SFM	145	145	145	145	145	145	145	145	145	145	145		
			IPT	.0007	.0009	.0011	.0014	.0018	.0023	.0025	.0027	.0038	.0045	.0060		
			RPM	4430	3540	2950	2220	1770	1480	1270	1110	890	740	550		
8-9	0.1D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0006	.0008	.0010	.0012	.0016	.0020	.0022	.0024	.0040	.0046	.0060		
			RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460		
10	0.1D	1.5D	SFM	170	170	170	170	170	170	170	170	170	170	170		
			IPT	.0006	.0009	.0011	.0013	.0017	.0022	.0024	.0026	.0038	.0044	.0056		
			RPM	5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650		
11.1	0.1D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0006	.0008	.0010	.0012	.0016	.0020	.0022	.0024	.0040	.0046	.0060		
			RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460		
M	14.1	Stainless steel	0.1D	1.5D	SFM	160	160	160	160	160	160	160	160	160	160	
					IPT	.0003	.0004	.0006	.0007	.0009	.0012	.0013	.0014	.0020	.0025	.0035
					RPM	4890	3910	3260	2440	1960	1630	1400	1220	980	810	610
					IPM	5	5	5	5	5	6	5	5	6	6	6
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	SFM	195	195	195	195	195	195	195	195	195	195	
					IPT	.0009	.0012	.0016	.0023	.0033	.0041	.0048	.0056	.0078	.0081	.0088
					RPM	5960	4770	3970	2980	2380	1990	1700	1490	1190	990	740
					IPM	17	17	19	21	23	24	25	25	28	24	20
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	0.1D	1.5D	SFM	490	490	490	490	490	490	490	490	490	490	
					IPT	.0008	.0011	.0013	.0017	.0022	.0027	.0031	.0034	.0044	.0053	.0071
					RPM	14970	11980	9980	7490	5990	4990	4280	3740	2990	2500	1870
	26-29.1	Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials	0.1D	1.5D	SFM	370	370	370	370	370	370	370	370	370	370	
					IPT	.0008	.0010	.0013	.0017	.0022	.0029	.0031	.0034	.0044	.0053	.0069
					RPM	11310	9050	7540	5650	4520	3770	3230	2830	2260	1880	1410
					IPM	28	28	30	29	30	32	30	29	30	30	29

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

Reduce cutting speed ~35% for uncoated tools



Side Cutting

Holemaking
Threading
Milling
Indexable
Rotary Tool Holder

YGBasiX END MILLS

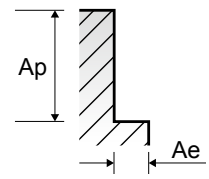
RECOMMENDED CUTTING CONDITIONS

4-FLUTE, SQUARE & CORNER RADIUS / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)										
						1/8	5/32	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1
P	1-2	Non-alloy steel	0.1D	1.5D	SFM	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0006	.0009	.0011	.0013	.0017	.0022	.0024	.0026	.0038	.0044	.0056
					RPM	5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650
	3-4		0.1D	1.5D	SFM	145	145	145	145	145	145	145	145	145	145	145
					IPT	.0007	.0009	.0011	.0014	.0018	.0023	.0025	.0027	.0038	.0045	.0060
					RPM	4430	3540	2950	2220	1770	1480	1270	1110	890	740	550
	5		0.1D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120
					IPT	.0006	.0008	.0010	.0012	.0016	.0020	.0022	.0024	.0040	.0046	.0060
					RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460
	6		0.1D	1.5D	SFM	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0006	.0009	.0011	.0013	.0017	.0022	.0024	.0026	.0038	.0044	.0056
					RPM	5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650
7	0.1D	1.5D	SFM	145	145	145	145	145	145	145	145	145	145	145		
			IPT	.0007	.0009	.0011	.0014	.0018	.0023	.0025	.0027	.0038	.0045	.0060		
			RPM	4430	3540	2950	2220	1770	1480	1270	1110	890	740	550		
8-9	0.1D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0006	.0008	.0010	.0012	.0016	.0020	.0022	.0024	.0040	.0046	.0060		
			RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460		
10	0.1D	1.5D	SFM	170	170	170	170	170	170	170	170	170	170	170		
			IPT	.0006	.0009	.0011	.0013	.0017	.0022	.0024	.0026	.0038	.0044	.0056		
			RPM	5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650		
11.1	0.1D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0006	.0008	.0010	.0012	.0016	.0020	.0022	.0024	.0040	.0046	.0060		
			RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460		
M	14.1	Stainless steel	0.1D	1.5D	SFM	160	160	160	160	160	160	160	160	160	160	
					IPT	.0003	.0004	.0006	.0007	.0009	.0012	.0013	.0014	.0020	.0025	.0035
					RPM	4890	3910	3260	2440	1960	1630	1400	1220	980	810	610
					IPM	7	7	7	7	7	8	7	7	8	8	9
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	SFM	195	195	195	195	195	195	195	195	195	195	
					IPT	.0009	.0012	.0016	.0023	.0033	.0041	.0048	.0056	.0078	.0081	.0088
					RPM	5960	4770	3970	2980	2380	1990	1700	1490	1190	990	740
					IPM	22	23	25	27	31	32	33	33	37	32	26
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	0.1D	1.5D	SFM	490	490	490	490	490	490	490	490	490	490	
					IPT	.0008	.0011	.0013	.0017	.0022	.0027	.0031	.0034	.0044	.0053	.0071
					RPM	14970	11980	9980	7490	5990	4990	4280	3740	2990	2500	1870
					IPM	45	51	51	50	53	55	52	51	53	53	53
	26-29.1	Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials	0.1D	1.5D	SFM	370	370	370	370	370	370	370	370	370	370	
					IPT	.0008	.0010	.0013	.0017	.0022	.0029	.0031	.0034	.0044	.0053	.0069
					RPM	11310	9050	7540	5650	4520	3770	3230	2830	2260	1880	1410
					IPM	38	38	40	38	40	43	40	38	40	40	39

SFM = ft./min.
IPT = in./tooth
RPM = rev./min.
IPM = in./min.

Reduce cutting speed ~35% for uncoated tools



Side Cutting

YGBasiX END MILLS

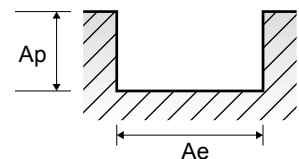
RECOMMENDED CUTTING CONDITIONS

4-FLUTE, SQUARE & CORNER RADIUS / SLOTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)										
						1/8	5/32	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1
P	1-2	Non-alloy steel	1.0D	0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0005	.0006	.0008	.0009	.0012	.0015	.0017	.0018	.0025	.0029	.0037
					RPM	5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650
	IPM		9	10	10	9	10	11	10	9	11	10	10			
	3-4		1.0D	0.3D	SFM	145	145	145	145	145	145	145	145	145	145	145
					IPT	.0005	.0006	.0008	.0009	.0013	.0016	.0017	.0019	.0024	.0029	.0039
		RPM			4430	3540	2950	2220	1770	1480	1270	1110	890	740	550	
	5	1.0D	0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	
				IPT	.0004	.0006	.0007	.0008	.0011	.0014	.0015	.0017	.0027	.0032	.0041	
				RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460	
	6	1.0D	0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170	
IPT				.0005	.0006	.0008	.0009	.0012	.0015	.0017	.0018	.0025	.0029	.0037		
RPM				5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650		
7	1.0D	0.3D	SFM	145	145	145	145	145	145	145	145	145	145	145		
			IPT	.0005	.0006	.0008	.0009	.0013	.0016	.0017	.0019	.0024	.0029	.0039		
			RPM	4430	3540	2950	2220	1770	1480	1270	1110	890	740	550		
8-9	1.0D	0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0004	.0006	.0007	.0008	.0011	.0014	.0015	.0017	.0027	.0032	.0041		
			RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460		
10	1.0D	0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170		
			IPT	.0005	.0006	.0008	.0009	.0012	.0015	.0017	.0018	.0025	.0029	.0037		
			RPM	5190	4160	3460	2600	2080	1730	1480	1300	1040	870	650		
11.1	1.0D	0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0004	.0006	.0007	.0008	.0011	.0014	.0015	.0017	.0027	.0032	.0041		
			RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460		
M	14.1	Stainless steel	1.0D	0.3D	SFM	120	120	120	120	120	120	120	120	120	120	
					IPT	.0004	.0006	.0007	.0008	.0011	.0014	.0015	.0017	.0027	.0032	.0041
					RPM	3670	2930	2440	1830	1470	1220	1050	920	730	610	460
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.3D	SFM	195	195	195	195	195	195	195	195	195	195	
					IPT	.0006	.0008	.0011	.0015	.0022	.0027	.0032	.0037	.0051	.0061	.0080
					RPM	5960	4770	3970	2980	2380	1990	1700	1490	1190	990	740
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	1.0D	0.5D	SFM	490	490	490	490	490	490	490	490	490	490	
					IPT	.0005	.0008	.0009	.0011	.0015	.0019	.0021	.0023	.0030	.0036	.0048
					RPM	14970	11980	9980	7490	5990	4990	4280	3740	2990	2500	1870
26-29.1	Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials	1.0D	0.5D	SFM	370	370	370	370	370	370	370	370	370	370	370	
				IPT	.0006	.0007	.0009	.0012	.0015	.0020	.0021	.0023	.0030	.0036	.0047	
				RPM	11310	9050	7540	5650	4520	3770	3230	2830	2260	1880	1410	
					IPM	25	25	27	26	27	29	28	26	27	27	27

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

Reduce cutting speed ~35% for uncoated tools



Slotting

Holemaking
Threading
Milling
Indexable
Rotary Tool Holder

YGBasiX END MILLS

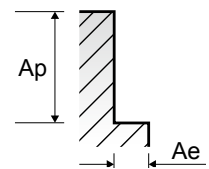
RECOMMENDED CUTTING CONDITIONS

4-FLUTE, SQUARE / SIDE CUTTING / METRIC

	ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)											
							3	4	5	6	8	10	12	16	18	20	25	
Holmaking	P	1-2	Non-alloy steel	0.1D	1.5D	SFM	170	170	170	170	170	170	170	170	170	170	170	170
						IPT	.0006	.0009	.0011	.0012	.0017	.0023	.0024	.0039	.0042	.0046	.0055	
						RPM	5500	4120	3300	2750	2060	1650	1370	1030	920	820	660	
Threading	P	3-4	Non-alloy steel	0.1D	1.5D	SFM	145	145	145	145	145	145	145	145	145	145	145	145
						IPT	.0006	.0009	.0012	.0013	.0018	.0024	.0026	.0038	.0043	.0047	.0059	
						RPM	4690	3520	2810	2340	1760	1410	1170	880	780	700	560	
Milling	P	5	Low alloy steel	0.1D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120	
						IPT	.0006	.0008	.0011	.0011	.0016	.0022	.0023	.0040	.0044	.0048	.0059	
						RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470	
Milling	P	6	Low alloy steel	0.1D	1.5D	SFM	170	170	170	170	170	170	170	170	170	170	170	
						IPT	.0006	.0009	.0011	.0012	.0017	.0023	.0024	.0039	.0042	.0046	.0055	
						RPM	5500	4120	3300	2750	2060	1650	1370	1030	920	820	660	
Milling	P	7	Low alloy steel	0.1D	1.5D	SFM	145	145	145	145	145	145	145	145	145	145	145	
						IPT	.0006	.0009	.0012	.0013	.0018	.0024	.0026	.0038	.0043	.0047	.0059	
						RPM	4690	3520	2810	2340	1760	1410	1170	880	780	700	560	
Milling	P	8-9	High alloyed steel, and tool steel	0.1D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120	
						IPT	.0006	.0008	.0011	.0011	.0016	.0022	.0023	.0040	.0044	.0048	.0059	
						RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470	
Milling	P	10	High alloyed steel, and tool steel	0.1D	1.5D	SFM	170	170	170	170	170	170	170	170	170	170	170	
						IPT	.0006	.0009	.0011	.0012	.0017	.0023	.0024	.0039	.0042	.0046	.0055	
						RPM	5500	4120	3300	2750	2060	1650	1370	1030	920	820	660	
Milling	P	11.1	High alloyed steel, and tool steel	0.1D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120	
						IPT	.0006	.0008	.0011	.0011	.0016	.0022	.0023	.0040	.0044	.0048	.0059	
						RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470	
Indexable	M	14.1	Stainless steel	0.1D	1.5D	SFM	160	160	160	160	160	160	160	160	160	160	160	
						IPT	.0003	.0005	.0006	.0006	.0009	.0012	.0013	.0020	.0024	.0027	.0034	
						RPM	5170	3880	3100	2590	1940	1550	1290	970	860	780	620	
						IPM	7	7	7	7	7	8	7	8	8	8	9	
Indexable	K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	SFM	195	195	195	195	195	195	195	195	195	195	195	
						IPT	.0009	.0012	.0016	.0022	.0033	.0043	.0053	.0079	.0077	.0081	.0087	
						RPM	6310	4730	3780	3150	2360	1890	1580	1180	1050	950	760	
						IPM	22	23	25	27	31	32	33	37	32	30	26	
Rotary Tool Holder	N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	0.1D	1.5D	SFM	490	490	490	490	490	490	490	490	490	490	490	
						IPT	.0007	.0011	.0013	.0016	.0022	.0029	.0032	.0045	.0050	.0056	.0070	
						RPM	15850	11890	9510	7920	5940	4750	3960	2970	2640	2380	1900	
						IPM	45	51	51	50	53	55	51	53	53	53	53	
Rotary Tool Holder	N	26-29.1	Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials	0.1D	1.5D	SFM	370	370	370	370	370	370	370	370	370	370	370	
						IPT	.0008	.0011	.0014	.0016	.0022	.0030	.0032	.0045	.0050	.0055	.0068	
						RPM	11970	8970	7180	5980	4490	3590	2990	2240	1990	1790	1440	
						IPM	38	38	40	38	40	43	38	40	40	40	39	

SFM = ft./min.
IPT = in./tooth
RPM = rev./min.
IPM = in./min.

Reduce cutting speed ~35% for uncoated tools



Side Cutting

YGBasiX END MILLS

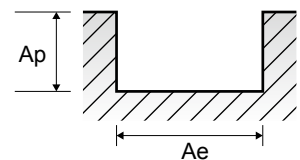
RECOMMENDED CUTTING CONDITIONS

4-FLUTE, SQUARE / SLOTTING / METRIC

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)											
						3	4	5	6	8	10	12	16	18	20	25	
P	1-2	Non-alloy steel	1.0D	0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0004	.0006	.0008	.0008	.0012	.0016	.0017	.0026	.0028	.0030	.0036	
					RPM	5500	4120	3300	2750	2060	1650	1370	1030	920	820	660	
	3-4		1.0D	0.3D	SFM	145	145	145	145	145	145	145	145	145	145	145	145
					IPT	.0004	.0006	.0008	.0009	.0013	.0016	.0018	.0025	.0028	.0031	.0038	
					RPM	4690	3520	2810	2340	1760	1410	1170	880	780	700	560	
	5		1.0D	0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	120
					IPT	.0004	.0006	.0008	.0008	.0011	.0015	.0016	.0027	.0030	.0033	.0041	
					RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470	
	6		1.0D	0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170	170
					IPT	.0004	.0006	.0008	.0008	.0012	.0016	.0017	.0026	.0028	.0030	.0036	
RPM		5500			4120	3300	2750	2060	1650	1370	1030	920	820	660			
7	1.0D	0.3D	SFM	145	145	145	145	145	145	145	145	145	145	145	145		
			IPT	.0004	.0006	.0008	.0009	.0013	.0016	.0018	.0025	.0028	.0031	.0038			
			RPM	4690	3520	2810	2340	1760	1410	1170	880	780	700	560			
8-9	1.0D	0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0004	.0006	.0008	.0008	.0011	.0015	.0016	.0027	.0030	.0033	.0041			
			RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470			
10	1.0D	0.3D	SFM	170	170	170	170	170	170	170	170	170	170	170	170		
			IPT	.0004	.0006	.0008	.0008	.0012	.0016	.0017	.0026	.0028	.0030	.0036			
			RPM	5500	4120	3300	2750	2060	1650	1370	1030	920	820	660			
11.1	1.0D	0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	120		
			IPT	.0004	.0006	.0008	.0008	.0011	.0015	.0016	.0027	.0030	.0033	.0041			
			RPM	3880	2910	2330	1940	1460	1160	970	730	650	580	470			
M	14.1	Stainless steel	1.0D	0.3D	SFM	120	120	120	120	120	120	120	120	120	120	120	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.3D	SFM	195	195	195	195	195	195	195	195	195	195	195	195
					IPT	.0006	.0009	.0011	.0014	.0022	.0029	.0035	.0052	.0058	.0064	.0079	
					RPM	6310	4730	3780	3150	2360	1890	1580	1180	1050	950	760	
					IPM	15	16	17	18	21	22	22	24	24	24	24	
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	1.0D	0.5D	SFM	490	490	490	490	490	490	490	490	490	490	490	
					IPT	.0005	.0008	.0009	.0011	.0015	.0020	.0022	.0030	.0034	.0038	.0047	
	26-29.1	Copper and Copper Alloys (Bronze / Brass) Non Metallic Materials	1.0D	0.5D	SFM	370	370	370	370	370	370	370	370	370	370	370	
					IPT	.0005	.0007	.0009	.0011	.0015	.0020	.0022	.0030	.0034	.0038	.0047	
					RPM	11970	8970	7180	5980	4490	3590	2990	2240	1990	1790	1440	
					IPM	25	25	27	26	27	29	26	27	27	27	27	

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

Reduce cutting speed ~35% for uncoated tools



Slotting

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

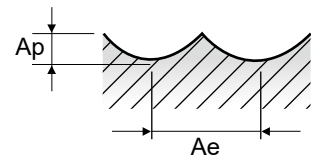
RECOMMENDED CUTTING CONDITIONS

2-FLUTE, BALL NOSE / SURFACING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)										
						1/8	5/32	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1
P	1-4	Non-alloy steel	0.7D	0.3D	SFM	160	160	160	160	160	160	160	160	160	160	160
					IPT	.0005	.0007	.0009	.0010	.0013	.0016	.0017	.0018	.0023	.0028	.0036
					RPM	4890	3910	3260	2440	1960	1630	1400	1220	980	810	610
					IPM	5	5	6	5	5	5	5	4	4	5	4
	5		SFM	130	130	130	130	130	130	130	130	130	130	130	130	
			IPT	.0003	.0004	.0005	.0006	.0008	.0010	.0010	.0011	.0015	.0018	.0022		
			RPM	3970	3180	2650	1990	1590	1320	1140	990	790	660	500		
			IPM	2	2	3	2	2	3	2	2	2	2	2		
	6-7		SFM	160	160	160	160	160	160	160	160	160	160	160	160	
			IPT	.0005	.0007	.0009	.0010	.0013	.0016	.0017	.0018	.0023	.0028	.0036		
RPM		4890	3910	3260	2440	1960	1630	1400	1220	980	810	610				
IPM		5	5	6	5	5	5	5	4	4	5	4				
8-9	SFM	130	130	130	130	130	130	130	130	130	130	130	130			
	IPT	.0003	.0004	.0005	.0006	.0008	.0010	.0010	.0011	.0015	.0018	.0022				
	RPM	3970	3180	2650	1990	1590	1320	1140	990	790	660	500				
	IPM	2	2	3	2	2	3	2	2	2	2	2				
10	SFM	160	160	160	160	160	160	160	160	160	160	160	160			
	IPT	.0005	.0007	.0009	.0010	.0013	.0016	.0017	.0018	.0023	.0028	.0036				
	RPM	4890	3910	3260	2440	1960	1630	1400	1220	980	810	610				
	IPM	5	5	6	5	5	5	5	4	4	5	4				
11.1	SFM	130	130	130	130	130	130	130	130	130	130	130	130			
	IPT	.0003	.0004	.0005	.0006	.0008	.0010	.0010	.0011	.0015	.0018	.0022				
	RPM	3970	3180	2650	1990	1590	1320	1140	990	790	660	500				
	IPM	2	2	3	2	2	3	2	2	2	2	2				
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	SFM	220	220	220	220	220	220	220	220	220	220	
					IPT	.0006	.0010	.0014	.0019	.0032	.0053	.0050	.0047	.0062	.0073	.0066
					RPM	6720	5380	4480	3360	2690	2240	1920	1680	1340	1120	840
					IPM	8	11	13	13	17	24	19	16	17	16	11
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	0.7D	0.3D	SFM	660	660	660	660	660	660	660	660	660	660	
					IPT	.0003	.0005	.0007	.0008	.0012	.0016	.0019	.0022	.0025	.0030	.0039
					RPM	20170	16130	13450	10080	8070	6720	5760	5040	4030	3360	2520
					IPM	14	15	19	16	19	21	21	22	20	20	19

SFM = ft./min.
 IPT = In./tooth
 RPM = rev./min.
 IPM = In./min.

Reduce cutting speed ~35% for uncoated tools



YGBasiX END MILLS

RECOMMENDED CUTTING CONDITIONS

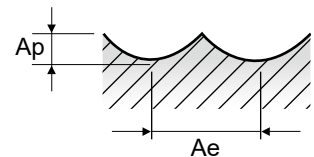
2-FLUTE, BALL NOSE / SURFACING / METRIC

Unit : mm

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						3	4	5	6	8	10	12	16	18	20	25		
P	1-4	Non-alloy steel	0.7D	0.3D	SFM	160	160	160	160	160	160	160	160	160	160	160		
					IPT	.0005	.0007	.0009	.0010	.0014	.0017	.0017	.0023	.0027	.0029	.0035		
					RPM	5170	3880	3100	2590	1940	1550	1290	970	860	780	620		
					IPM	5	5	6	5	5	5	4	4	5	5	4		
	5		Low alloy steel	0.7D	0.3D	SFM	130	130	130	130	130	130	130	130	130	130	130	
						IPT	.0003	.0004	.0005	.0005	.0008	.0010	.0010	.0015	.0018	.0018	.0021	
						RPM	4200	3150	2520	2100	1580	1260	1050	790	700	630	500	
						IPM	2	2	3	2	2	3	2	2	2	2	2	
	6-7	High alloyed steel, and tool steel		0.7D	0.3D	SFM	160	160	160	160	160	160	160	160	160	160	160	
						IPT	.0005	.0007	.0009	.0010	.0014	.0017	.0017	.0023	.0027	.0029	.0035	
						RPM	5170	3880	3100	2590	1940	1550	1290	970	860	780	620	
						IPM	5	5	6	5	5	5	4	4	5	5	4	
	8-9		Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	SFM	130	130	130	130	130	130	130	130	130	130	130	
						IPT	.0003	.0004	.0005	.0005	.0008	.0010	.0010	.0015	.0018	.0018	.0021	
						RPM	4200	3150	2520	2100	1580	1260	1050	790	700	630	500	
						IPM	2	2	3	2	2	3	2	2	2	2	2	
	10	Aluminum-wrought alloy Aluminum-cast, alloyed		0.7D	0.3D	SFM	160	160	160	160	160	160	160	160	160	160	160	
						IPT	.0005	.0007	.0009	.0010	.0014	.0017	.0017	.0023	.0027	.0029	.0035	
RPM						5170	3880	3100	2590	1940	1550	1290	970	860	780	620		
IPM						5	5	6	5	5	5	4	4	5	5	4		
11.1	Aluminum-wrought alloy Aluminum-cast, alloyed		0.7D	0.3D	SFM	130	130	130	130	130	130	130	130	130	130	130		
					IPT	.0003	.0004	.0005	.0005	.0008	.0010	.0010	.0015	.0018	.0018	.0021		
					RPM	4200	3150	2520	2100	1580	1260	1050	790	700	630	500		
					IPM	2	2	3	2	2	3	2	2	2	2	2		
K		15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	SFM	220	220	220	220	220	220	220	220	220	220	220	
						IPT	.0006	.0010	.0015	.0018	.0033	.0056	.0044	.0063	.0077	.0069	.0065	
						RPM	7110	5340	4270	3560	2670	2130	1780	1330	1190	1070	850	
						IPM	8	11	13	13	17	24	16	17	18	15	11	
N	21-25			Aluminum-wrought alloy Aluminum-cast, alloyed	0.7D	0.3D	SFM	660	660	660	660	660	660	660	660	660	660	660
							IPT	.0003	.0005	.0007	.0008	.0012	.0016	.0020	.0025	.0029	.0031	.0038
							RPM	21340	16010	12810	10670	8000	6400	5340	4000	3560	3200	2560
							IPM	14	15	19	16	19	21	22	20	21	20	19

SFM = ft./min.
 IPT = In./tooth
 RPM = rev./min.
 IPM = In./min.

Reduce cutting speed ~35% for uncoated tools



Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

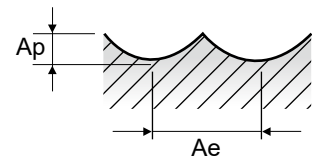
RECOMMENDED CUTTING CONDITIONS

4-FLUTE, BALL NOSE / SURFACING / INCH

	ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)											
							1/8	5/32	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	
Holmaking	P	1-4	Non-alloy steel	0.7D	0.3D	SFM	160	160	160	160	160	160	160	160	160	160	160	
						IPT	.0004	.0005	.0007	.0008	.0010	.0012	.0013	.0014	.0018	.0022	.0028	
						RPM	4890	3910	3260	2440	1960	1630	1400	1220	980	810	610	
						IPM	8	8	9	8	8	8	7	7	7	7	7	
	Threading	P	5	Non-alloy steel	0.7D	0.3D	SFM	130	130	130	130	130	130	130	130	130	130	130
							IPT	.0002	.0003	.0004	.0004	.0006	.0007	.0008	.0009	.0012	.0014	.0017
							RPM	3970	3180	2650	1990	1590	1320	1140	990	790	660	500
							IPM	3	4	4	3	4	4	4	3	4	4	3
Milling	P	6-7	Low alloy steel	0.7D	0.3D	SFM	160	160	160	160	160	160	160	160	160	160	160	
						IPT	.0004	.0005	.0007	.0008	.0010	.0012	.0013	.0014	.0018	.0022	.0028	
						RPM	4890	3910	3260	2440	1960	1630	1400	1220	980	810	610	
						IPM	8	8	9	8	8	8	7	7	7	7	7	
	Indexable	P	8-9	Low alloy steel	0.7D	0.3D	SFM	130	130	130	130	130	130	130	130	130	130	130
							IPT	.0002	.0003	.0004	.0004	.0006	.0007	.0008	.0009	.0012	.0014	.0017
							RPM	3970	3180	2650	1990	1590	1320	1140	990	790	660	500
							IPM	3	4	4	3	4	4	4	3	4	4	3
Indexable	P	10	High alloyed steel, and tool steel	0.7D	0.3D	SFM	160	160	160	160	160	160	160	160	160	160	160	
						IPT	.0004	.0005	.0007	.0008	.0010	.0012	.0013	.0014	.0018	.0022	.0028	
						RPM	4890	3910	3260	2440	1960	1630	1400	1220	980	810	610	
						IPM	8	8	9	8	8	8	7	7	7	7	7	
Indexable	P	11.1	High alloyed steel, and tool steel	0.7D	0.3D	SFM	130	130	130	130	130	130	130	130	130	130	130	
						IPT	.0002	.0003	.0004	.0004	.0006	.0007	.0008	.0009	.0012	.0014	.0017	
						RPM	3970	3180	2650	1990	1590	1320	1140	990	790	660	500	
						IPM	3	4	4	3	4	4	4	3	4	4	3	
Rotary Tool Holder	K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	SFM	220	220	220	220	220	220	220	220	220	220	220	
						IPT	.0004	.0007	.0011	.0014	.0024	.0029	.0032	.0034	.0047	.0055	.0048	
						RPM	6720	5380	4480	3360	2690	2240	1920	1680	1340	1120	840	
						IPM	12	16	19	19	26	26	24	23	25	25	16	
Rotary Tool Holder	N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	0.7D	0.3D	SFM	660	660	660	660	660	660	660	660	660	660	660	
						IPT	.0003	.0004	.0005	.0006	.0009	.0012	.0014	.0016	.0019	.0023	.0029	
						RPM	20170	16130	13450	10080	8070	6720	5760	5040	4030	3360	2520	
						IPM	21	22	28	25	29	32	32	33	30	31	29	

SFM = ft./min.
 IPT = In./tooth
 RPM = rev./min.
 IPM = In./min.

Reduce cutting speed ~35% for uncoated tools



YGBasiX END MILLS

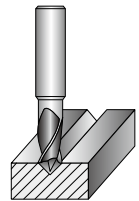
RECOMMENDED CUTTING CONDITIONS

2-FLUTE, DRILL MILL / V-GROOVING / INCH

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)									
				1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	
P	1-2	Non-alloy steel	SFM	255	255	255	255	255	255	255	255	255	255
			IPT	.0004	.0006	.0008	.0011	.0013	.0014	.0015	.0018	.0023	
			RPM	7720	5150	3860	3090	2570	2210	1930	1540	1290	
	IPM		6	6	6	7	7	6	6	6	6		
	3-4		SFM	185	185	185	185	185	185	185	185	185	185
			IPT	.0003	.0005	.0006	.0009	.0011	.0013	.0016	.0018	.0023	
			RPM	5610	3740	2810	2250	1870	1600	1400	1120	940	
	IPM		3	4	3	4	4	4	4	4	4		
	5		SFM	160	160	160	160	160	160	160	160	160	160
			IPT	.0003	.0005	.0007	.0011	.0012	.0013	.0014	.0018	.0023	
			RPM	4910	3280	2460	1970	1640	1400	1230	980	820	
	IPM		3	3	3	4	4	4	3	4	4		
	6		SFM	255	255	255	255	255	255	255	255	255	255
			IPT	.0004	.0006	.0008	.0011	.0013	.0014	.0015	.0018	.0023	
RPM		7720	5150	3860	3090	2570	2210	1930	1540	1290			
IPM	6	6	6	7	7	6	6	6	6				
7	SFM	185	185	185	185	185	185	185	185	185	185		
	IPT	.0003	.0005	.0006	.0009	.0011	.0013	.0016	.0018	.0023			
	RPM	5610	3740	2810	2250	1870	1600	1400	1120	940			
IPM	3	4	3	4	4	4	4	4	4				
8-9	SFM	160	160	160	160	160	160	160	160	160	160		
	IPT	.0003	.0005	.0007	.0011	.0012	.0013	.0014	.0018	.0023			
	RPM	4910	3280	2460	1970	1640	1400	1230	980	820			
IPM	3	3	3	4	4	4	3	4	4				
10	SFM	255	255	255	255	255	255	255	255	255	255		
	IPT	.0004	.0006	.0008	.0011	.0013	.0014	.0015	.0018	.0023			
	RPM	7720	5150	3860	3090	2570	2210	1930	1540	1290			
IPM	6	6	6	7	7	6	6	6	6				
11.1	SFM	160	160	160	160	160	160	160	160	160	160		
	IPT	.0003	.0005	.0007	.0011	.0012	.0013	.0014	.0018	.0023			
	RPM	4910	3280	2460	1970	1640	1400	1230	980	820			
IPM	3	3	3	4	4	4	3	4	4				
M	14.1	Stainless steel	SFM	140	140	140	140	140	140	140	140	140	
			IPT	.0003	.0005	.0006	.0007	.0008	.0011	.0015	.0015	.0022	
			RPM	4210	2810	2110	1680	1400	1200	1050	840	700	
			IPM	3	3	2	2	2	3	3	3	3	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	SFM	185	185	185	185	185	185	185	185	185	
			IPT	.0003	.0005	.0006	.0009	.0011	.0013	.0016	.0018	.0023	
			RPM	5610	3740	2810	2250	1870	1600	1400	1120	940	
			IPM	3	4	3	4	4	4	4	4	4	
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	SFM	690	690	690	690	690	690	690	690	690	
			IPT	.0006	.0010	.0013	.0018	.0021	.0022	.0023	.0032	.0041	
			RPM	21060	14040	10530	8420	7020	6020	5260	4210	3510	
			IPM	26	28	27	30	29	26	24	27	29	

SFM = ft./min.
IPT = in./tooth
RPM = rev./min.
IPM = in./min.

Reduce cutting speed ~35% for uncoated tools



Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

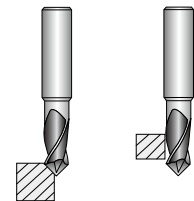
RECOMMENDED CUTTING CONDITIONS

2-FLUTE, DRILL MILL / CHAMFERING & SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)									
				1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	
P	1-2	Non-alloy steel	SFM	250	250	250	250	250	250	250	250	250	250
			IPT	.0005	.0008	.0010	.0015	.0017	.0018	.0019	.0024	.0030	
			RPM	7700	5130	3850	3080	2570	2200	1930	1540	1280	
	3-4		SFM	185	185	185	185	185	185	185	185	185	185
			IPT	.0004	.0006	.0008	.0012	.0014	.0017	.0021	.0023	.0029	
			RPM	5600	3740	2800	2240	1870	1600	1400	1120	930	
	5		SFM	160	160	160	160	160	160	160	160	160	160
			IPT	.0004	.0006	.0009	.0014	.0015	.0016	.0018	.0023	.0030	
			RPM	4920	3280	2460	1970	1640	1410	1230	980	820	
	6		SFM	250	250	250	250	250	250	250	250	250	250
			IPT	.0005	.0008	.0010	.0015	.0017	.0018	.0019	.0024	.0030	
			RPM	7700	5130	3850	3080	2570	2200	1930	1540	1280	
7	SFM	185	185	185	185	185	185	185	185	185	185		
	IPT	.0004	.0006	.0008	.0012	.0014	.0017	.0021	.0023	.0029			
	RPM	5600	3740	2800	2240	1870	1600	1400	1120	930			
8-9	SFM	160	160	160	160	160	160	160	160	160	160		
	IPT	.0004	.0006	.0009	.0014	.0015	.0016	.0018	.0023	.0030			
	RPM	4920	3280	2460	1970	1640	1410	1230	980	820			
10	SFM	250	250	250	250	250	250	250	250	250	250		
	IPT	.0005	.0008	.0010	.0015	.0017	.0018	.0019	.0024	.0030			
	RPM	7700	5130	3850	3080	2570	2200	1930	1540	1280			
11.1	SFM	160	160	160	160	160	160	160	160	160	160		
	IPT	.0004	.0006	.0009	.0014	.0015	.0016	.0018	.0023	.0030			
	RPM	4920	3280	2460	1970	1640	1410	1230	980	820			
M	14.1	Stainless steel	SFM	135	135	135	135	135	135	135	135	135	
			IPT	.0004	.0006	.0007	.0009	.0010	.0015	.0019	.0019	.0029	
			RPM	4190	2800	2100	1680	1400	1200	1050	840	700	
			IPM	4	3	3	3	3	3	4	3	4	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	SFM	185	185	185	185	185	185	185	185	185	
			IPT	.0004	.0006	.0008	.0012	.0014	.0017	.0021	.0023	.0029	
			RPM	5600	3740	2800	2240	1870	1600	1400	1120	930	
			IPM	4	5	4	5	5	5	6	5	5	
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	SFM	690	690	690	690	690	690	690	690	690	
			IPT	.0008	.0013	.0017	.0023	.0027	.0028	.0030	.0042	.0053	
			RPM	21050	14030	10520	8420	7020	6010	5260	4210	3510	
			IPM	34	36	35	39	37	34	32	35	37	

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

Reduce cutting speed ~35% for uncoated tools



YGBasiX END MILLS

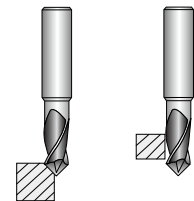
RECOMMENDED CUTTING CONDITIONS

4-FLUTE, DRILL MILL / CHAMFERING & SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)									
				1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	
P	1-2	Non-alloy steel	SFM	250	250	250	250	250	250	250	250	250	250
			IPT	.0010	.0016	.0021	.0029	.0033	.0036	.0038	.0048	.0061	
			RPM	7700	5130	3850	3080	2570	2200	1930	1540	1280	
			IPM	16	17	16	18	17	16	15	15	16	
	3-4		SFM	185	185	185	185	185	185	185	185	185	185
			IPT	.0008	.0012	.0015	.0023	.0028	.0034	.0041	.0046	.0059	
			RPM	5600	3740	2800	2240	1870	1600	1400	1120	930	
			IPM	9	9	9	10	10	11	11	10	11	
	5		SFM	160	160	160	160	160	160	160	160	160	160
			IPT	.0008	.0012	.0017	.0028	.0030	.0033	.0036	.0047	.0060	
			RPM	4920	3280	2460	1970	1640	1410	1230	980	820	
			IPM	8	8	8	11	10	9	9	9	10	
6	SFM	250	250	250	250	250	250	250	250	250	250		
	IPT	.0010	.0016	.0021	.0029	.0033	.0036	.0038	.0048	.0061			
	RPM	7700	5130	3850	3080	2570	2200	1930	1540	1280			
	IPM	16	17	16	18	17	16	15	15	16			
7	SFM	185	185	185	185	185	185	185	185	185	185		
	IPT	.0008	.0012	.0015	.0023	.0028	.0034	.0041	.0046	.0059			
	RPM	5600	3740	2800	2240	1870	1600	1400	1120	930			
	IPM	9	9	9	10	10	11	11	10	11			
8-9	SFM	160	160	160	160	160	160	160	160	160	160		
	IPT	.0008	.0012	.0017	.0028	.0030	.0033	.0036	.0047	.0060			
	RPM	4920	3280	2460	1970	1640	1410	1230	980	820			
	IPM	8	8	8	11	10	9	9	9	10			
10	SFM	250	250	250	250	250	250	250	250	250	250		
	IPT	.0010	.0016	.0021	.0029	.0033	.0036	.0038	.0048	.0061			
	RPM	7700	5130	3850	3080	2570	2200	1930	1540	1280			
	IPM	16	17	16	18	17	16	15	15	16			
11.1	SFM	160	160	160	160	160	160	160	160	160	160		
	IPT	.0008	.0012	.0017	.0028	.0030	.0033	.0036	.0047	.0060			
	RPM	4920	3280	2460	1970	1640	1410	1230	980	820			
	IPM	8	8	8	11	10	9	9	9	10			
M	14.1	Stainless steel	SFM	135	135	135	135	135	135	135	135	135	
			IPT	.0009	.0012	.0015	.0019	.0021	.0029	.0038	.0039	.0058	
			RPM	4190	2800	2100	1680	1400	1200	1050	840	700	
			IPM	7	7	6	6	6	7	8	7	8	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	SFM	185	185	185	185	185	185	185	185	185	
			IPT	.0008	.0012	.0015	.0023	.0028	.0034	.0041	.0046	.0059	
			RPM	5600	3740	2800	2240	1870	1600	1400	1120	930	
			IPM	9	9	9	10	10	11	11	10	11	
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	SFM	690	690	690	690	690	690	690	690	690	
			IPT	.0016	.0026	.0033	.0046	.0053	.0057	.0061	.0084	.0106	
			RPM	21050	14030	10520	8420	7020	6010	5260	4210	3510	
			IPM	68	73	70	77	75	68	64	71	75	

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

Reduce cutting speed ~35% for uncoated tools



Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

YGBasiX END MILLS

RECOMMENDED CUTTING CONDITIONS

2-FLUTE, CHAMFER MILL / CHAMFERING / INCH

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)			
				1/8	1/4	3/8	1/2
P	1-2	Non-alloy steel	SFM	250	250	250	250
			IPT	.0005	.0010	.0017	.0019
			RPM	7700	3850	2570	1930
			IPM	8	8	9	7
	3-4		SFM	185	185	185	185
			IPT	.0004	.0008	.0014	.0021
			RPM	5600	2800	1870	1400
			IPM	4	4	5	6
	5		SFM	160	160	160	160
			IPT	.0004	.0009	.0015	.0018
			RPM	4920	2460	1640	1230
			IPM	4	4	5	4
6	SFM	250	250	250	250		
	IPT	.0005	.0010	.0017	.0019		
	RPM	7700	3850	2570	1930		
	IPM	8	8	9	7		
7	SFM	185	185	185	185		
	IPT	.0004	.0008	.0014	.0021		
	RPM	5600	2800	1870	1400		
	IPM	4	4	5	6		
8-9	SFM	160	160	160	160		
	IPT	.0004	.0009	.0015	.0018		
	RPM	4920	2460	1640	1230		
	IPM	4	4	5	4		
10	SFM	250	250	250	250		
	IPT	.0005	.0010	.0017	.0019		
	RPM	7700	3850	2570	1930		
	IPM	8	8	9	7		
11.1	SFM	160	160	160	160		
	IPT	.0004	.0009	.0015	.0018		
	RPM	4920	2460	1640	1230		
	IPM	4	4	5	4		
M	14.1	Stainless steel	SFM	135	135	135	135
			IPT	.0004	.0007	.0010	.0019
			RPM	4190	2100	1400	1050
			IPM	4	3	3	4
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	SFM	185	185	185	185
			IPT	.0004	.0008	.0014	.0021
			RPM	5600	2800	1870	1400
			IPM	4	4	5	6
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	SFM	690	690	690	690
			IPT	.0008	.0017	.0027	.0030
			RPM	21050	10520	7020	5260
			IPM	34	35	37	32

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

Reduce cutting speed ~35% for uncoated tools

YGBasiX END MILLS

RECOMMENDED CUTTING CONDITIONS

4-FLUTE, CHAMFER MILL / CHAMFERING / INCH

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)				
				1/8	1/4	3/8	1/2	
P	1-2	Non-alloy steel	SFM	250	250	250	250	
			IPT	.0010	.0021	.0033	.0038	
			RPM	7700	3850	2570	1930	
			IPM	16	16	17	15	
	3-4		SFM	185	185	185	185	
			IPT	.0008	.0015	.0028	.0041	
			RPM	5600	2800	1870	1400	
			IPM	9	9	10	11	
	5		SFM	160	160	160	160	
			IPT	.0008	.0017	.0030	.0036	
			RPM	4920	2460	1640	1230	
			IPM	8	8	10	9	
6	Low alloy steel	SFM	250	250	250	250		
		IPT	.0010	.0021	.0033	.0038		
		RPM	7700	3850	2570	1930		
		IPM	16	16	17	15		
7		SFM	185	185	185	185		
		IPT	.0008	.0015	.0028	.0041		
		RPM	5600	2800	1870	1400		
		IPM	9	9	10	11		
8-9		SFM	160	160	160	160		
		IPT	.0008	.0017	.0030	.0036		
		RPM	4920	2460	1640	1230		
		IPM	8	8	10	9		
10	High alloyed steel, and tool steel	SFM	250	250	250	250		
		IPT	.0010	.0021	.0033	.0038		
		RPM	7700	3850	2570	1930		
		IPM	16	16	17	15		
11.1		SFM	160	160	160	160		
		IPT	.0008	.0017	.0030	.0036		
		RPM	4920	2460	1640	1230		
		IPM	8	8	10	9		
M		14.1	Stainless steel	SFM	135	135	135	135
				IPT	.0009	.0015	.0021	.0038
				RPM	4190	2100	1400	1050
				IPM	7	6	6	8
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	SFM	185	185	185	185	
			IPT	.0008	.0015	.0028	.0041	
			RPM	5600	2800	1870	1400	
			IPM	9	9	10	11	
N	21-25	Aluminum-wrought alloy Aluminum-cast, alloyed	SFM	690	690	690	690	
			IPT	.0016	.0033	.0053	.0061	
			RPM	21050	10520	7020	5260	
			IPM	68	70	75	64	

SFM = ft./min.
IPT = In./tooth
RPM = rev./min.
IPM = In./min.

Reduce cutting speed ~35% for uncoated tools

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

HSS & HSSCo8 END MILLS



COBALT & HSS END MILLS









SELECTION GUIDE

COBALT & HSS END MILLS

- HSS for improved toughness
- HSSCo8 (cobalt) for improved tool life
- Uncoated
- Inch and Metric sizes
- 2 through 8-Flute Finishing
- Roughing (Fine and Coarse pitch)
- Up to 2" diameter (45mm)

◎ : Excellent ○ : Good

Recommended cutting conditions: P. 185-200

STYLE	SQUARE							
	2		4					
FLUTE			CENTER CUTTING		NON-CENTER CUTTING		CENTER CUTTING	
FACE GEOMETRY								
INCH/METRIC	INCH	METRIC	INCH				METRIC	
HELIX ANGLE	30°		30°		30°		30°	
SIZE MIN	1/8"	1/8"	2mm	1/8"	1/8"	1/8"	1/8"	2mm
SIZE MAX	2"	1"	45mm	1-1/2"	1"	1"	1"	45mm
PRODUCT PAGE	152	154	155	156	158	159	161	162
SINGLE/DOUBLE	SINGLE END	DOUBLE END	SINGLE END	SINGLE END	DOUBLE END	SINGLE END	DOUBLE END	SINGLE END
								

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC								
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎	◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	○	○	○	○	○
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎	◎	◎	◎
	7			Quenched & Tempered	275	29	◎	◎	◎	◎	◎	◎	◎
	8			Quenched & Tempered	300	32	○	○	○	○	○	○	○
	9			Quenched & Tempered	350	38	○	○	○	○	○	○	○
	10		High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎	◎	◎
	11			Quenched & Tempered	325	35	○	○	○	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15							
	13		Martensitic	Quenched & Tempered	240	23							
	14	Austenitic		180	10								
K	15	Grey cast iron	Pearlitic / ferritic		180	10							
	16		Pearlitic (Martensitic)		260	26							
	17	Nodular cast iron	Ferritic		160	3							
	18		Pearlitic		250	25							
	19	Malleable cast iron	Ferritic		130								
20	Pearlitic			230	21								
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	○	○	○	○	○
	22		Curable	Hardened	100		○	○	○	○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	○	○	○	○	○
	24		≤ 12% Si, Curable	Hardened	90		○	○	○	○	○	○	○
	25		> 12% Si, Not Curable		130		○	○	○	○	○	○	○
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		○	○	○	○	○	○
	27	Non Metallic Materials	CuZn, CuSnZn (Brass)		90		○	○	○	○	○	○	○
	28		CuSn, lead-free copper and electrolytic copper		100		○	○	○	○	○	○	○
	29		Duroplastic, Fiber Reinforced Plastic										
	30	Rubber, Wood, etc.											
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15							
	32			Cured	280	30							
	33			Annealed	250	25							
	34			Ni or Co Based	Cured	350	38						
	35			Cast	320	34							
	36	Titanium Alloys	Pure Titanium		400 Rm								
	37		Alpha + Beta Alloys	Hardened	1050 Rm								
H	38	Hardened steel		Hardened	550	55							
	39			Hardened	630	60							
	40	Chilled Cast Iron		Cast	400	42							
	41	Hardened Cast Iron		Hardened	550	55							

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

SELECTION GUIDE

COBALT & HSS END MILLS

- HSS for improved toughness
- HSSCo8 (cobalt) for improved tool life
- Uncoated
- Inch and Metric sizes
- 2 through 8-Flute Finishing
- Roughing (Fine and Coarse pitch)
- Up to 2" diameter (45mm)

STYLE	SQUARE		BALL NOSE			
	6/8		2		4	
FLUTE	CENTER CUTTING	NON-CENTER CUTTING				
FACE GEOMETRY	INCH		INCH			
INCH/METRIC	30°		30°		30°	
HELIX ANGLE	1/2"	5/8"	1/8"	1/8"	1/8"	1/8"
SIZE MIN	2"	2"	2"	1"	2"	1"
SIZE MAX	163	164	165	166	167	168
PRODUCT PAGE	SINGLE END	SINGLE END	SINGLE END	DOUBLE END	SINGLE END	DOUBLE END
SINGLE/DOUBLE						

◎ : Excellent ○ : Good

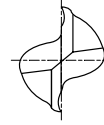
Recommended cutting conditions: P. 185-200

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC							
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	○	○	○	○
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎	◎	◎
	7			Quenched & Tempered	275	29	◎	◎	◎	◎	◎	◎
	8			Quenched & Tempered	300	32	○	○	○	○	○	○
	9			Quenched & Tempered	350	38	○	○	○	○	○	○
	10		High alloy steel, and tool steel		Annealed	200	15	◎	◎	◎	◎	◎
	11			Quenched & Tempered	325	35	○	○	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15						
	13		Martensitic	Quenched & Tempered	240	23						
	14		Austenitic		180	10						
K	15	Grey cast iron	Pearlitic / ferritic		180	10						
	16		Pearlitic (Martensitic)		260	26						
	17	Nodular cast iron	Ferritic		160	3						
	18		Pearlitic		250	25						
	19	Malleable cast iron	Ferritic		130							
20	Pearlitic		230	21								
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	○	○	○	○
	22		Curable Hardened		100		○	○	○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	○	○	○	○
	24		≤ 12% Si, Curable Hardened		90		○	○	○	○	○	○
	25		> 12% Si, Not Curable		130		○	○	○	○	○	○
	26		Cutting Alloys, PB>1%		110		○	○	○	○	○	○
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)		90		○	○	○	○	○	○
	28		CuSn, lead-free copper and electrolytic copper		100		○	○	○	○	○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic									
	30		Rubber, Wood, etc.									
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15						
	32			Cured	280	30						
	33		Ni or Co Based	Annealed	250	25						
	34			Cured	350	38						
	35			Cast	320	34						
	36	Titanium Alloys	Pure Titanium		400 Rm							
37	Alpha + Beta Alloys		Hardened	1050 Rm								
H	38	Hardened steel	Hardened		550	55						
	39		Hardened		630	60						
	40	Chilled Cast Iron	Cast		400	42						
	41	Hardened Cast Iron	Hardened		550	55						

COBALT & HSS END MILLS

2-FLUTE, SQUARE, SINGLE ENDED

► These end mills are furnished as regular with right-hand cut and right-hand helical flutes. All shanks have Weldon Flat for set screw holder. These are designed for slotting, drilling, pocketing, and general-purpose operations.



P. 185

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	
8% COBALT (M42)		HSS (M2)							
01289	\$12.52	01039	\$8.74	1/8	3/8	3/8	-	2-5/16	
03289	\$16.62	03039	\$12.12		3/8	3/8	-	2-3/8	
01291	\$12.52	01041	\$8.74	5/32	3/8	7/16	-	2-5/16	
01293	\$12.52	01043	\$8.74	3/16	3/8	7/16	-	2-5/16	
03293	\$16.62	03043	\$12.12		3/8	1/2	1-1/8	2-11/16	
01295	\$12.52	01045	\$8.74	7/32	3/8	1/2	-	2-5/16	
01297	\$12.52	01047	\$8.74	1/4	3/8	1/2	-	2-5/16	
03297	\$16.62	03047	\$12.12		3/8	5/8	1-1/2	3-1/16	
02297	\$18.29	02047	\$14.83		3/8	1-1/4	-	3-1/8	
01299	\$12.52	01049	\$8.74	9/32	3/8	9/16	-	2-5/16	
01301	\$12.52	01051	\$8.74	5/16	3/8	9/16	-	2-5/16	
03301	\$16.62	03051	\$12.12		3/8	3/4	1-3/4	3-5/16	
02301	\$18.29	02051	\$14.83		3/8	1-3/8	-	3-1/8	
01303	\$12.52	01053	\$8.74	11/32	3/8	9/16	-	2-5/16	
01305	\$12.52	01055	\$8.74	3/8	3/8	9/16	-	2-5/16	
03305	\$16.62	03055	\$12.12		3/8	3/4	1-3/4	3-5/16	
02305	\$18.29	02055	\$14.83		3/8	1-1/2	-	3-1/4	
01308	\$19.84	01058	\$15.23	13/32	3/8	13/16	-	2-1/2	
01312	\$17.97	01062	\$13.55	7/16	3/8	13/16	-	2-1/2	
01316	\$19.84	01066	\$15.23	15/32	3/8	13/16	-	2-1/2	
01320	\$19.84	01070	\$15.23	1/2	3/8	13/16	-	2-1/2	
01321	\$17.97	01071	\$13.55		1/2	1	-	3	
03321	\$23.34	03071	\$18.63		1/2	1	2-7/32	4	
02321	\$25.75	02071	\$20.85		1/2	2	-	4	
01328	\$28.48	01078	\$20.52	9/16	1/2	1-1/8	-	3-1/8	
01336	\$28.48	01086	\$20.52	5/8	1/2	1-1/8	-	3-1/8	
01337	\$28.48	01087	\$20.52		5/8	1-5/16	-	3-7/16	
03337	\$38.67	03087	\$24.74		5/8	1-3/8	2-23/32	4-5/8	
02337	\$37.29	02087	\$30.97		5/8	2	-	4-1/8	
01348	\$31.70	01098	\$24.07	11/16	5/8	1-5/16	-	3-7/16	
01357	\$31.70	01107	\$24.07	3/4	1/2	1-5/16	-	3-5/16	
01358	\$31.70	01108	\$24.07		5/8	1-5/16	-	3-7/16	
01359	\$31.70	01109	\$24.07		3/4	3/4	1-5/16	-	3-7/16
03359	\$51.04	03109	\$42.49		3/4	3/4	1-5/8	3-11/32	5-3/8
02359	\$44.19	02109	\$36.68		3/4	3/4	2-1/4	-	4-1/2
01373	\$40.65	01123	\$28.88	13/16	5/8	1-1/2	-	3-5/8	
01391	\$40.65	01141	\$28.88	7/8	3/4	1-1/2	-	3-3/4	
01394	\$40.65	01144	\$28.88		7/8	1-1/2	-	3-3/4	
03394	\$64.63	03144	\$53.79		7/8	2	4	6	
02394	\$50.99	02144	\$42.33		7/8	2-1/2	-	4-3/4	
01409	\$50.55	01159	\$35.65	15/16	7/8	1-1/2	-	3-3/4	

► NEXT PAGE

COBALT & HSS END MILLS

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length
8% COBALT (M42)		HSS (M2)						
01420	\$51.40	01170	\$35.65	1	5/8	1-1/2	-	3-5/8
01422	\$51.40	01172	\$35.65		3/4	1-1/2	-	3-3/4
01426	\$51.40	01176	\$35.65		1	1-5/8	-	4-1/8
03426	\$86.77	03176	\$67.63		1	2-1/2	4-31/32	7-1/4
02426	\$71.20	02176	\$59.12		1	3	-	5-1/2
01435	\$73.45	01185	\$53.47	1-1/8	1	1-5/8	-	4-1/8
02435	\$88.18	02185	\$73.19		1	3	-	5-1/2
01445	\$80.66	01195	\$59.34	1-1/4	1-1/4	1-5/8	-	4-1/8
02443	\$96.61	02193	\$80.19		1	3	-	5-1/2
02445	\$96.61	02195	\$80.19		1-1/4	3	-	5-1/2
03445	\$112.17	03195	\$92.20		1-1/4	3	4-31/32	7-1/4
01451	\$95.93	01201	\$69.48	1-3/8	1	1-5/8	-	4-1/8
01453	\$100.64	01203	\$72.96		1-1/4	1-5/8	-	4-1/8
01459	\$112.17	01209	\$81.00	1-1/2	1	1-5/8	-	4-1/8
01461	\$116.01	01211	\$85.04		1-1/4	1-5/8	-	4-1/8
02461	\$132.39	02211	\$109.87		1-1/4	3	-	5-1/2
01469	\$145.97	01219	\$110.55	1-3/4	1-1/4	1-5/8	-	4-1/8
* 02469	\$168.25	* 02219	\$137.37		1-1/4	3	-	5-1/2
01477	\$173.82	01227	\$138.21	2	1-1/4	1-5/8	-	4-1/8
* 01480	\$208.56	* 01230	\$165.84		2	2	-	5-3/4
02477	\$200.91	02227	\$164.02		1-1/4	3	-	5-1/2
02482	\$241.09	02232	\$196.81		2	3	-	6-3/4

* Combination Shank

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

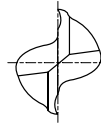
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

2-FLUTE, SQUARE, DOUBLE ENDED

► These end mills are furnished as regular with right-hand cut and right-hand helical flutes. All shanks have Weldon Flat for set screw holder. These are designed for slotting, drilling, pocketing, and general-purpose operations.



P. 185

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)		HSS (M2)					
11289	\$17.72	11039	\$12.18	1/8	3/8	3/8	3-1/16
11290	\$18.60	11040	\$12.80	9/64	3/8	7/16	3-1/8
11291	\$17.72	11041	\$12.18	5/32	3/8	7/16	3-1/8
11292	\$18.60	11042	\$12.80	11/64	3/8	7/16	3-1/8
11293	\$17.72	11043	\$12.18	3/16	3/8	7/16	3-1/8
11294	\$18.60	11044	\$12.80	13/64	3/8	1/2	3-1/8
11295	\$17.72	11045	\$12.18	7/32	3/8	1/2	3-1/8
11296	\$18.60	11046	\$12.80	15/64	3/8	1/2	3-1/8
11297	\$17.72	11047	\$12.18	1/4	3/8	1/2	3-1/8
11298	\$18.60	11048	\$12.80	17/64	3/8	9/16	3-1/8
11299	\$17.72	11049	\$12.18	9/32	3/8	9/16	3-1/8
11300	\$18.60	11050	\$12.80	19/64	3/8	9/16	3-1/8
11301	\$17.72	11051	\$12.18	5/16	3/8	9/16	3-1/8
11302	\$18.60	11052	\$12.80	21/64	3/8	9/16	3-1/8
11303	\$17.72	11053	\$12.18	11/32	3/8	9/16	3-1/8
11304	\$18.60	11054	\$12.80	23/64	3/8	9/16	3-1/8
11305	\$17.72	11055	\$12.18	3/8	3/8	9/16	3-1/8
11307	\$29.02	11057	\$20.58	25/64	1/2	13/16	3-3/4
11309	\$27.64	11059	\$19.59	13/32	1/2	13/16	3-3/4
11311	\$29.02	11061	\$20.58	27/64	1/2	13/16	3-3/4
11313	\$27.64	11063	\$19.59	7/16	1/2	13/16	3-3/4
11315	\$29.02	11065	\$20.58	29/64	1/2	13/16	3-3/4
11317	\$27.64	11067	\$19.59	15/32	1/2	13/16	3-3/4
11319	\$29.02	11069	\$20.58	31/64	1/2	13/16	3-3/4
11321	\$27.64	11071	\$19.59	1/2	1/2	13/16	3-3/4
11326	\$46.14	11076	\$33.86	17/32	5/8	1-1/8	4-1/2
11330	\$46.14	11080	\$33.86	9/16	5/8	1-1/8	4-1/2
11334	\$46.14	11084	\$33.86	19/32	5/8	1-1/8	4-1/2
11337	\$46.14	11087	\$32.63	5/8	5/8	1-1/8	4-1/2
11344	\$56.64	11094	\$42.71	21/32	3/4	1-5/16	5
11350	\$54.38	11100	\$41.03	11/16	3/4	1-5/16	5
11354	\$56.64	11104	\$42.71	23/32	3/4	1-5/16	5
11359	\$54.38	11109	\$41.03	3/4	3/4	1-5/16	5
11368	\$71.00	11118	\$53.54	25/32	7/8	1-9/16	5-1/2
11377	\$68.40	11127	\$51.56	13/16	7/8	1-9/16	5-1/2
11384	\$71.00	11134	\$53.54	27/32	7/8	1-9/16	5-1/2
11394	\$68.40	11144	\$51.56	7/8	7/8	1-9/16	5-1/2
11402	\$87.02	11152	\$66.43	29/32	1	1-5/8	5/7/8
11410	\$85.63	11160	\$65.37	15/16	1	1-5/8	5/7/8
11417	\$87.02	11167	\$66.43	31/32	1	1-5/8	5/7/8
11426	\$85.63	11176	\$65.37	1	1	1-5/8	5/7/8

Mill Dia.
Tolerance (inch)

0~+.0010

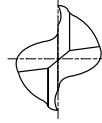
†0~+.0015

†When shank is equal to cutting diameter.

COBALT & HSS END MILLS

2-FLUTE, SQUARE, SINGLE ENDED – METRIC

► These end mills are furnished as regular with right-hand cut and right-hand helical flutes. All shanks have Weldon Flat for set screw holder. These are designed for slotting, drilling, pocketing, and general-purpose operations.



P. 186

Unit : mm

EDP No.	Price	EDP No.	Price	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
				Metric	Inch			
8% COBALT (M42)		HSS (M2)						
15252	\$16.05	15002	\$13.35	2.0	0.0787	3/8	5/16	2-5/16
15253	\$16.05	15003	\$13.35	2.5	0.0984	3/8	5/16	2-5/16
15254	\$16.05	15004	\$13.35	3.0	0.1181	3/8	5/16	2-5/16
15255	\$16.05	15005	\$13.35	3.5	0.1378	3/8	7/16	2-5/16
15256	\$16.05	15006	\$13.35	4.0	0.1575	3/8	7/16	2-5/16
15257	\$16.05	15007	\$13.35	4.5	0.1772	3/8	1/2	2-5/16
15258	\$16.05	15008	\$13.35	5.0	0.1969	3/8	1/2	2-5/16
15259	\$16.05	15009	\$13.35	5.5	0.2165	3/8	1/2	2-5/16
15260	\$16.05	15010	\$13.35	6.0	0.2362	3/8	1/2	2-5/16
15261	\$16.05	15011	\$13.35	7.0	0.2756	3/8	9/16	2-5/16
15262	\$16.05	15012	\$13.35	8.0	0.3150	3/8	9/16	2-5/16
15263	\$16.05	15013	\$13.35	9.0	0.3543	3/8	9/16	2-5/16
15264	\$16.05	15014	\$13.35	10.0	0.3937	3/8	13/16	2-1/2
15265	\$24.47	15015	\$20.00	11.0	0.4331	3/8	13/16	2-1/2
15266	\$24.47	15016	\$20.00	12.0	0.4724	3/8	13/16	2-1/2
15267	\$28.46	15017	\$22.66	12.5	0.4921	1/2	1-1/8	3-1/8
15268	\$28.46	15018	\$22.66	13.0	0.5118	1/2	1-1/8	3-1/8
15270	\$28.46	15020	\$22.66	14.0	0.5512	1/2	1-1/8	3-1/8
15276	\$34.89	15026	\$26.74	16.0	0.6299	5/8	1-5/16	3-7/16
15280	\$40.75	15030	\$31.17	18.0	0.7087	5/8	1-5/16	3-7/16
15282	\$45.39	15032	\$34.77	20.0	0.7874	5/8	1-1/2	3-3/4
15284	\$52.36	15034	\$40.06	22.0	0.8661	3/4	1-1/2	3-3/4
15288	\$67.52	15038	\$51.68	24.0	0.9449	3/4	2	4-1/2
15290	\$67.52	15040	\$51.68	25.0	0.9843	1	2	4-1/2
15296	\$117.91	15046	\$90.22	32.0	1.2598	1	2	4-1/2
15298	\$146.69	15048	\$117.80	36.0	1.4173	1	2	4-1/2
15300	\$201.25	15050	\$153.89	40.0	1.5748	1-1/4	2	4-1/2
15302	\$224.14	15052	\$171.53	45.0	1.7717	1-1/4	2	4-1/2

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

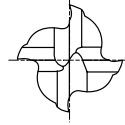
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

4-FLUTE, SQUARE, SINGLE ENDED, CENTER CUTTING

► Center cutting allows these end mills to drill into the part for the beginning of a slot. Recommended for pocketing, tracer milling, cam milling, die sinking, and slotting.



P. 187

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)		HSS (M2)					
07289	\$14.31	07039	\$9.64	1/8	3/8	3/8	2-5/16
07291	\$14.31	07041	\$9.64	5/32	3/8	7/16	2-3/8
07293	\$14.31	07043	\$9.64	3/16	3/8	1/2	2-3/8
07295	\$14.31	07045	\$9.64	7/32	3/8	9/16	2-7/16
07297	\$14.31	07047	\$9.64		3/8	5/8	2-7/16
08297	\$18.65	08047	\$13.17	1/4	3/8	1-1/4	3-1/16
09297	\$22.17	09047	\$17.98		3/8	1-3/4	3-9/16
07299	\$14.31	07049	\$9.64	9/32	3/8	11/16	2-1/2
07301	\$14.31	07051	\$9.64		3/8	3/4	2-1/2
08301	\$18.65	08051	\$13.17	5/16	3/8	1-3/8	3-1/8
09301	\$24.22	09051	\$19.22		3/8	2	3-3/4
07303	\$14.31	07053	\$9.64	11/32	3/8	3/4	2-1/2
07305	\$14.31	07055	\$9.64		3/8	3/4	2-1/2
08305	\$18.65	08055	\$13.17	3/8	3/8	1-1/2	3-1/4
09305	\$25.61	09055	\$20.75		3/8	2-1/2	4-1/4
07308	\$21.43	07058	\$14.79	13/32	3/8	1	2-11/16
07312	\$21.43	07062	\$14.79	7/16	3/8	1	2-11/16
07316	\$21.43	07066	\$14.79	15/32	3/8	1	2-11/16
07320	\$21.43	07070	\$14.79		3/8	1	2-11/16
07321	\$21.43	07071	\$14.79		1/2	1-1/4	3-1/4
08321	\$27.93	08071	\$21.07	1/2	1/2	2	4
09321	\$33.12	09071	\$26.85		1/2	3	5
07336	\$32.86	07086	\$22.51		1/2	1-3/8	3-3/8
07337	\$32.86	07087	\$22.51		5/8	1-5/8	3-3/4
08337	\$43.43	08087	\$33.40		5/8	2-1/2	4-5/8
09337	\$52.41	09087	\$43.51		5/8	4	6-1/8
07348	\$36.47	07098	\$27.98	11/16	5/8	1-5/8	3-3/4
07357	\$38.83	07107	\$28.27		1/2	1-5/8	3-5/8
07358	\$38.83	07108	\$28.27		5/8	1-5/8	3-3/4
07359	\$38.83	07109	\$28.27	3/4	3/4	1-5/8	3-7/8
08359	\$54.42	08109	\$44.60		3/4	3	5-1/4
09359	\$63.70	09109	\$52.88		3/4	4	6-1/4
07391	\$48.78	07141	\$35.42		3/4	1-7/8	4-1/8
07394	\$48.78	07144	\$35.42		7/8	1-7/8	4-1/8
08394	\$66.63	08144	\$56.47	7/8	7/8	3-1/2	5-3/4
09394	\$79.18	09144	\$65.73		7/8	5	7-1/4

► NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)		HSS (M2)					
07420	\$58.85	07170	\$43.83	1	5/8	1-7/8	4
07422	\$58.85	07172	\$43.83		3/4	1-7/8	4-1/8
07426	\$58.85	07176	\$43.83		1	2	4-1/2
07901	\$91.08	-	-		1	3	5-1/2
08426	\$95.18	08176	\$75.86		1	4	6-1/2
09426	\$106.73	09176	\$88.61		1	6	8-1/2
07435	\$80.58	07185	\$65.31	1-1/8	1	2	4-1/2
07445	\$94.28	07195	\$74.29	1-1/4	1-1/4	2	4-1/2
07902	\$130.46	-	-		1-1/4	3	5-1/2
08445	\$126.10	08195	\$96.91		1-1/4	4	6-1/2
09445	\$146.32	09195	\$119.46	1-1/4	6	8-1/2	
07461	\$127.06	07211	\$107.09	1-1/2	1-1/4	2	4-1/2
07903	\$161.41	-	-		1-1/4	3	5-1/2
08461	\$175.87	08211	\$137.81		1-1/4	4	6-1/2

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

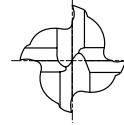
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

4-FLUTE, SQUARE, DOUBLE ENDED, CENTER CUTTING

► Center cutting allows these end mills to drill into the part for the beginning of a slot. Recommended for pocketing, tracer milling, cam milling, die sinking, and slotting.



P. 187

Unit : inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)		HSS (M2)					
13289	\$19.90	13039	\$13.31	1/8	3/8	3/8	3-1/16
13290	\$20.92	13040	\$13.94	9/64	3/8	7/16	3-1/8
13291	\$19.90	13041	\$13.31	5/32	3/8	7/16	3-1/8
13292	\$20.92	13042	\$13.94	11/64	3/8	1/2	3-1/4
13293	\$19.90	13043	\$13.31	3/16	3/8	1/2	3-1/4
13294	\$20.92	13044	\$13.94	13/64	3/8	9/16	3-1/4
13295	\$19.90	13045	\$13.31	7/32	3/8	9/16	3-1/4
13296	\$20.92	13046	\$13.94	15/64	3/8	5/8	3-3/8
13297	\$19.90	13047	\$13.31	1/4	3/8	5/8	3-3/8
13298	\$20.92	13048	\$13.94	17/64	3/8	11/16	3-3/8
13299	\$19.90	13049	\$13.31	9/32	3/8	11/16	3-3/8
13300	\$20.92	13050	\$13.94	19/64	3/8	3/4	3-1/2
13301	\$19.90	13051	\$13.31	5/16	3/8	3/4	3-1/2
13302	\$20.92	13052	\$13.94	21/64	3/8	3/4	3-1/2
13303	\$19.90	13053	\$13.31	11/32	3/8	3/4	3-1/2
13304	\$20.92	13054	\$13.94	23/64	3/8	3/4	3-1/2
13305	\$19.90	13055	\$13.31	3/8	3/8	3/4	3-1/2
13307	\$30.51	13057	\$21.55	25/64	1/2	1	4-1/8
13309	\$29.03	13059	\$20.55	13/32	1/2	1	4-1/8
13311	\$30.51	13061	\$21.55	27/64	1/2	1	4-1/8
13313	\$29.03	13063	\$20.55	7/16	1/2	1	4-1/8
13315	\$30.51	13065	\$21.55	29/64	1/2	1	4-1/8
13317	\$29.03	13067	\$20.55	15/32	1/2	1	4-1/8
13319	\$30.51	13069	\$21.55	31/64	1/2	1	4-1/8
13321	\$29.03	13071	\$20.55	1/2	1/2	1	4-1/8
13330	\$45.92	13080	\$35.77	9/16	5/8	1-3/8	5
13337	\$45.92	13087	\$35.77	5/8	5/8	1-3/8	5
13350	\$57.44	13100	\$45.18	11/16	3/4	1-5/8	5-5/8
13359	\$57.44	13109	\$45.18	3/4	3/4	1-5/8	5-5/8
13377	\$76.87	13127	\$56.70	13/16	7/8	1-7/8	6-1/8
13394	\$76.87	13144	\$56.70	7/8	7/8	1-7/8	6-1/8
13426	\$95.08	13176	\$69.84	1	1	1-7/8	6-3/8

Mill Dia. Tolerance (inch)	
0~+.0010	†0~-.0020

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

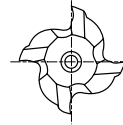
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

4-FLUTE, SQUARE, SINGLE ENDED, NON-CENTER CUTTING

► Non-center cutting for easier regrinding. Ideally suited for side milling.



P. 187

Unit : Inch

EDP No. 8% COBALT (M42)	Price	EDP No. HSS (M2)	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
04289	\$12.52	04039	\$8.74	1/8	3/8	3/8	2-5/16
04290	\$13.13	04040	\$9.16	9/64	3/8	7/16	2-3/8
04291	\$12.52	04041	\$8.74	5/32	3/8	7/16	2-3/8
04292	\$13.13	04042	\$9.16	11/64	3/8	1/2	2-3/8
04293	\$12.52	04043	\$8.74	3/16	3/8	1/2	2-3/8
04294	\$13.13	04044	\$9.16	13/64	3/8	9/16	2-7/16
04295	\$12.52	04045	\$8.74	7/32	3/8	9/16	2-7/16
04296	\$13.13	04046	\$9.16	15/64	3/8	5/8	2-7/16
04297	\$12.52	04047	\$8.74		3/8	5/8	2-7/16
05297	\$16.62	05047	\$12.12	1/4	3/8	1-1/4	3-1/16
06297	\$20.20	06047	\$16.38		3/8	1-3/4	3-9/16
04298	\$13.13	04048	\$9.16	17/64	3/8	11/16	2-1/2
04299	\$12.52	04049	\$8.74	9/32	3/8	11/16	2-1/2
04300	\$13.13	04050	\$9.16	19/64	3/8	3/4	2-1/2
04301	\$12.52	04051	\$8.74		3/8	3/4	2-1/2
05301	\$16.62	05051	\$12.12	5/16	3/8	1-3/8	3-1/8
06301	\$21.95	06051	\$17.82		3/8	2	3-3/4
04302	\$13.13	04052	\$9.16	21/64	3/8	3/4	2-1/2
04303	\$12.52	04053	\$8.74	11/32	3/8	3/4	2-1/2
04304	\$13.13	04054	\$9.16	23/64	3/8	3/4	2-1/2
04305	\$12.52	04055	\$8.74		3/8	3/4	2-1/2
05305	\$16.62	05055	\$12.12	3/8	3/8	1-1/2	3-1/4
06305	\$22.86	06055	\$18.53		3/8	2-1/2	4-1/4
04306	\$20.86	04056	\$16.00	25/64	3/8	1	2-11/16
04308	\$19.84	04058	\$15.23	13/32	3/8	1	2-11/16
04310	\$20.86	04060	\$16.00	27/64	3/8	1	2-11/16
04312	\$17.97	04062	\$13.55	7/16	3/8	1	2-11/16
05313	\$23.41	05063	\$18.63		1/2	1-3/4	3-3/4
04315	\$20.86	04065	\$16.00	29/64	1/2	1-1/4	3-1/4
04317	\$19.84	04067	\$15.23	15/32	1/2	1-1/4	3-1/4
04319	\$20.86	04069	\$16.00	31/64	1/2	1-1/4	3-1/4
04320	\$19.84	04070	\$15.23		3/8	1	2-11/16
04321	\$19.71	04071	\$13.55	1/2	1/2	1-1/4	3-1/4
05321	\$23.41	05071	\$18.63		1/2	2	4
06321	\$29.22	06071	\$23.70		1/2	3	5
04324	\$29.33	04074	\$21.32	17/32	1/2	1-3/8	3-3/8
04328	\$28.42	04078	\$20.52	9/16	1/2	1-3/8	3-3/8
04332	\$29.33	04082	\$21.67	19/32	1/2	1-3/8	3-3/8
04336	\$29.33	04086	\$21.67		1/2	1-3/8	3-3/8
04337	\$31.36	04087	\$20.86		5/8	1-5/8	3-3/4
05337	\$38.75	05087	\$24.74	5/8	5/8	2-1/2	4-5/8
06337	\$45.28	06087	\$35.37		5/8	4	6-1/8
04340	\$31.62	04090	\$24.49	21/32	1/2	1-5/8	3-5/8
04348	\$31.62	04098	\$24.49	11/16	5/8	1-5/8	3-3/4
04352	\$31.62	04102	\$24.49	23/32	1/2	1-5/8	3-5/8

► NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)		HSS (M2)					
04357	\$31.62	04107	\$24.49	3/4	1/2	1-5/8	3-5/8
04358	\$31.62	04108	\$24.49		5/8	1-5/8	3-3/4
04359	\$31.62	04109	\$24.49		3/4	1-5/8	3-7/8
05359	\$51.16	05109	\$42.49		3/4	3	5-1/4
06359	\$56.31	06109	\$46.75		3/4	4	6-1/4
04364	\$40.54	04114	\$29.39	25/32	5/8	1-7/8	4
04375	\$40.54	04125	\$29.39	13/16	3/4	1-7/8	4-1/8
04380	\$40.54	04130	\$29.39	27/32	5/8	1-7/8	4
04391	\$40.65	04141	\$29.39	7/8	3/4	1-7/8	4-1/8
04394	\$40.65	04144	\$29.39		7/8	1-7/8	4-1/8
05394	\$64.78	05144	\$53.79		7/8	3-1/2	5-3/4
06394	\$71.26	06144	\$59.16		7/8	5	7-1/4
04399	\$50.55	04149	\$36.24	29/32	3/4	1-7/8	4-1/8
04407	\$50.55	04157	\$36.24	15/16	3/4	1-7/8	4-1/8
04414	\$50.55	04164	\$36.24	31/32	3/4	1-7/8	4-1/8
04420	\$50.55	04170	\$36.24	1	5/8	1-7/8	4
04422	\$50.55	04172	\$36.24		3/4	1-7/8	4-1/8
04426	\$50.55	04176	\$36.24		1	2	4-1/2
05426	\$86.97	05176	\$72.22		1	4	6-1/2
06426	\$97.32	06176	\$79.44		1	6	8-1/2

Mill Dia. Tolerance (inch)	
0~+.0010	⊗ 0~+.0015

⊗ When shank is equal to cutting diameter.

Holemaking

Threading

Milling

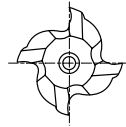
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

4-FLUTE, SQUARE, DOUBLE ENDED, NON-CENTER CUTTING

► Non-center cutting for easier regrinding. Ideally suited for side milling.



P. 187

Unit : Inch

EDP No. 8% COBALT (M42)	Price	EDP No. HSS (M2)	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
12289	\$17.77	12039	\$12.18	1/8	3/8	3/8	3-1/16
12290	\$18.65	12040	\$12.80	9/64	3/8	7/16	3-1/8
12291	\$17.77	12041	\$12.18	5/32	3/8	7/16	3-1/8
12292	\$18.65	12042	\$12.80	11/64	3/8	1/2	3-1/4
12293	\$17.77	12043	\$12.18	3/16	3/8	1/2	3-1/4
12294	\$18.65	12044	\$12.80	13/64	3/8	9/16	3-1/4
12295	\$17.77	12045	\$12.18	7/32	3/8	9/16	3-1/4
12296	\$18.65	12046	\$12.80	15/64	3/8	5/8	3-3/8
12297	\$17.77	12047	\$12.18	1/4	3/8	5/8	3-3/8
12298	\$18.65	12048	\$12.80	17/64	3/8	11/16	3-3/8
12299	\$17.77	12049	\$12.18	9/32	3/8	11/16	3-3/8
12300	\$18.65	12050	\$13.95	19/64	3/8	3/4	3-1/2
12301	\$17.77	12051	\$12.18	5/16	3/8	3/4	3-1/2
12302	\$18.65	12052	\$12.80	21/64	3/8	3/4	3-1/2
12303	\$17.77	12053	\$12.18	11/32	3/8	3/4	3-1/2
12304	\$18.65	12054	\$12.80	23/64	3/8	3/4	3-1/2
12305	\$17.77	12055	\$12.18	3/8	3/8	3/4	3-1/2
12307	\$29.08	12057	\$20.58	25/64	1/2	1	4-1/8
12309	\$27.70	12059	\$19.59	13/32	1/2	1	4-1/8
12311	\$29.08	12061	\$20.58	27/64	1/2	1	4-1/8
12313	\$27.70	12063	\$19.59	7/16	1/2	1	4-1/8
12315	\$29.08	12065	\$20.58	29/64	1/2	1	4-1/8
12317	\$27.70	12067	\$19.59	15/32	1/2	1	4-1/8
12319	\$29.08	12069	\$20.58	31/64	1/2	1	4-1/8
12321	\$27.70	12071	\$19.59	1/2	1/2	1	4-1/8
12330	\$46.24	12080	\$33.86	9/16	5/8	1-3/8	5
12337	\$43.30	12087	\$32.63	5/8	5/8	1-3/8	5
12350	\$54.51	12100	\$41.03	11/16	3/4	1-5/8	5-5/8
12359	\$54.51	12109	\$41.03	3/4	3/4	1-5/8	5-5/8
12377	\$68.58	12127	\$51.56	13/16	7/8	1-7/8	6-1/8
12394	\$66.10	12144	\$51.56	7/8	7/8	1-7/8	6-1/8
12410	\$85.82	12160	\$65.37	15/16	1	1-7/8	6-3/8
12426	\$85.82	12176	\$65.37	1	1	1-7/8	6-3/8

Mill Dia. Tolerance (inch)	
0~+.0010	⊖ 0~-.0020

⊖⊖ When shank is equal to cutting diameter.

Holemaking

Threading

Milling

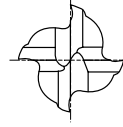
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

4-FLUTE, SQUARE, SINGLE ENDED, CENTER CUTTING – METRIC

► Center cutting allows these end mills to drill into the part for the beginning of a slot. Recommended for pocketing, tracer milling, cam milling, die sinking, and slotting.



P. 188

Unit : mm

EDP No.	Price	EDP No.	Price	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
				Metric	Inch			
8% COBALT (M42)		HSS (M2)						
16252	\$16.05	16002	\$13.35	2.0	0.0787	3/8	3/8	2-5/16
16253	\$16.05	16003	\$13.35	2.5	0.0984	3/8	3/8	2-5/16
16254	\$16.05	16004	\$13.35	3.0	0.1181	3/8	3/8	2-5/16
16255	\$16.05	16005	\$13.35	3.5	0.1378	3/8	1/2	2-3/8
16256	\$16.05	16006	\$13.35	4.0	0.1575	3/8	1/2	2-3/8
16257	\$16.05	16007	\$13.35	4.5	0.1772	3/8	9/16	2-1/2
16258	\$16.05	16008	\$13.35	5.0	0.1969	3/8	9/16	2-1/2
16259	\$16.05	16009	\$13.35	5.5	0.2165	3/8	5/8	2-1/2
16260	\$16.05	16010	\$13.35	6.0	0.2362	3/8	5/8	2-1/2
16261	\$16.05	16011	\$13.35	7.0	0.2756	3/8	11/16	2-1/2
16262	\$16.05	16012	\$13.35	8.0	0.3150	3/8	3/4	2-1/2
16263	\$16.05	16013	\$13.35	9.0	0.3543	3/8	3/4	2-1/2
16264	\$16.05	16014	\$13.35	10.0	0.3937	3/8	1	2-11/16
16265	\$24.47	16015	\$20.00	11.0	0.4331	3/8	1	2-11/16
16266	\$24.47	16016	\$20.00	12.0	0.4724	3/8	1	2-11/16
16267	\$28.46	16017	\$22.66	12.5	0.4921	1/2	1-1/4	3-1/4
16268	\$28.46	16018	\$22.66	13.0	0.5118	1/2	1-1/4	3-1/4
16270	\$28.46	16020	\$22.66	14.0	0.5512	1/2	1-3/8	3-3/8
16276	\$34.89	16026	\$27.19	16.0	0.6299	5/8	1-5/8	3-3/4
16280	\$40.75	16030	\$31.70	18.0	0.7087	5/8	1-5/8	3-3/4
16282	\$45.39	16032	\$35.36	20.0	0.7874	5/8	1-7/8	4-1/8
16284	\$52.36	16034	\$40.78	22.0	0.8661	3/4	1-7/8	4-1/8
16288	\$67.52	16038	\$52.56	24.0	0.9449	3/4	2	4-1/2
16290	\$67.52	16040	\$52.56	25.0	0.9843	1	2	4-1/2
16296	\$117.91	16046	\$91.75	32.0	1.2598	1	2	4-1/2
16298	\$146.69	16048	\$119.78	36.0	1.4173	1	2	4-1/2
16300	\$201.25	16050	\$156.52	40.0	1.5748	1-1/4	2	4-1/2
16302	\$224.14	16052	\$174.44	45.0	1.7717	1-1/4	2	4-1/2

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

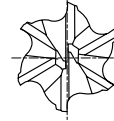
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

6-FLUTE, SQUARE, SINGLE ENDED, CENTER CUTTING

► Center cutting allows these end mills to ramp into the part for the beginning of a cut.
Recommended for pocketing, tracer milling, cam milling, die sinking, and dynamic milling.



P. 189

Unit : Inch

EDP No. 8% COBALT (M42)	Price	EDP No. HSS (M2)	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
07322	\$21.48	07072	\$14.79	1/2	1/2	1-1/4	3-1/4
08322	\$27.93	08072	\$21.07		1/2	2	4
09322	\$33.12	09072	\$26.85		1/2	3	5
07338	\$32.86	07088	\$22.15	5/8	5/8	1-5/8	3-3/4
08338	\$42.70	08088	\$33.40		5/8	2-1/2	4-5/8
09338	\$52.41	09088	\$43.51		5/8	4	6-1/8
07349	\$36.47	07099	\$27.52	11/16	5/8	1-5/8	3-3/4
07360	\$38.83	07110	\$27.82	3/4	3/4	1-5/8	3-7/8
08360	\$53.50	08110	\$44.60		3/4	3	5-1/4
09360	\$63.70	09110	\$52.88		3/4	4	6-1/4
07395	\$48.78	07145	\$34.83	7/8	7/8	1-7/8	4-1/8
08395	\$65.51	08145	\$56.47		7/8	3-1/2	5-3/4
09395	\$79.18	09145	\$65.73		7/8	5	7-1/4
07427	\$58.85	07177	\$43.10	1	1	2	4-1/2
07094	\$91.08	-	-		1	3	5-1/2
08427	\$93.59	08177	\$75.86		1	4	6-1/2
09427	\$106.73	09177	\$88.61	1-1/8	1	6	8-1/2
07436	\$79.24	07186	\$65.31		1	2	4-1/2
07446	\$92.72	07196	\$74.29		1-1/4	1-1/4	2
07095	\$130.46	-	-	1-1/4	1-1/4	3	5-1/2
08446	\$124.00	08196	\$98.56		1-1/4	4	6-1/2
09446	\$143.88	09196	\$119.46		1-1/4	6	8-1/2
07448	\$129.65	-	-	1-5/16	3/4	2	4-1/4
07462	\$124.66	07212	\$107.09	1-1/2	1-1/4	2	4-1/2
07096	\$161.41	-	-		1-1/4	3	5-1/2
08462	\$172.94	08212	\$140.15		1-1/4	4	6-1/2
09462	\$249.01	09212	\$206.72	1-3/4	1-1/4	8	10-1/2
07097	\$182.13	-	-		1-1/4	3	5-1/2
07478	\$196.55	07228	\$165.96		1-1/4	2	4-1/2
* 07481	\$253.38	* 07231	\$201.33	2	2	2	5-3/4
** 99098	\$223.17	-	-		1-1/4	3	5-1/2
08478	\$252.70	08228	\$213.38		1-1/4	4	6-1/2
* 08485	\$275.04	* 08235	\$232.26		2	4	7-3/4
* 08487	\$333.42	* 08237	\$281.53		2	5	8-3/4
* 08489	\$376.07	* 08239	\$317.65		2	6	9-3/4
* 09491	\$445.12	* 09241	\$369.55		2	8	11-3/4

* Combination Shank
** 8-Flute

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

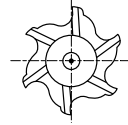
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

6-FLUTE, SQUARE, SINGLE ENDED, NON-CENTER CUTTING

► Non-center cutting for easier regrinding. Ideally suited for side milling.



P. 189

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)		HSS (M2)					
04338	\$29.90	04088	\$21.53	5/8	5/8	1-5/8	3-3/4
04360	\$33.28	04110	\$25.26	3/4	3/4	1-5/8	3-7/8
04376	\$42.68	04126	\$30.26	13/16	3/4	1-7/8	4-1/8
04390	\$42.68	04140	\$30.35	7/8	5/8	1-7/8	4
04395	\$42.68	04145	\$30.33		7/8	1-7/8	4-1/8
04405	\$53.09	04155	\$37.41	15/16	5/8	1-7/8	4
04421	\$53.09	04171	\$37.41	1	5/8	1-7/8	4
04427	\$53.09	04177	\$37.41		1	2	4-1/2
04432	\$72.22	04182	\$54.39	1-1/8	3/4	2	4-1/4
04436	\$72.22	04186	\$54.39		1	2	4-1/2
05436	\$99.40	05186	\$79.00	1-1/4	1	4	6-1/2
04440	\$79.31	04190	\$60.35		3/4	2	4-1/4
04444	\$79.31	04194	\$60.35	1-1/4	1	2	4-1/2
04446	\$79.31	04196	\$60.35		1-1/4	2	4-1/2
05444	\$112.17	05194	\$93.77	1-1/4	1	4	6-1/2
05446	\$112.17	05196	\$93.77		1-1/4	4	6-1/2
06446	\$130.59	06196	\$110.27	1-3/8	1-1/4	6	8-1/2
04452	\$94.35	04202	\$70.66		1	2	4-1/2
04458	\$110.29	04208	\$82.38	1-1/2	3/4	2	4-1/4
04460	\$110.29	04210	\$82.38		1	2	4-1/2
04462	\$114.07	04212	\$86.50	1-1/2	1-1/4	2	4-1/2
05460	\$149.01	05210	\$115.45		1	4	6-1/2
05462	\$149.01	05212	\$115.45	1-3/4	1-1/4	4	6-1/2
06462	\$222.57	06212	\$187.93		1-1/4	8	10-1/2
04468	\$143.54	04218	\$112.42	1-3/4	3/4	2	4-1/2
04470	\$143.54	04220	\$112.42		1-1/4	2	4-1/2
05470	\$194.09	05220	\$150.39	2	1-1/4	4	6-1/2
**04476	\$164.68	**04226	\$140.55		3/4	2	4-1/2
04478	\$170.92	04228	\$140.55	2	1-1/4	2	4-1/2
*04481	\$205.09	*04231	\$168.66		2	2	5-3/4
05478	\$225.95	05228	\$177.31	2	1-1/4	4	6-1/2
*05485	\$245.59	*05235	\$215.18		2	4	7-3/4
*06491	\$414.78	*06241	\$349.17	2	8	11-3/4	

* Combination Shank

** 8-Flute

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.

Holmaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

2-FLUTE, BALL NOSE, SINGLE ENDED

► The 2-flute ball end mills are designed for milling of radius bottom slots, fillets, and special contours. The end teeth are cut to center allowing these end mills to drill into material at the beginning of a slotting cut. The 2-flute design provides good chip removal ability in slotting.



P. 190

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball Nose R	Shank Diameter	Length of Cut	Length Below Shank	Overall Length
8% COBALT (M42)		HSS (M2)							
41289	\$16.83	41039	\$13.62	1/8	R1/16	3/8	3/8	-	2-5/16
42289	\$23.41	42039	\$18.97			3/8	3/8	-	2-3/8
41293	\$16.83	41043	\$13.62	3/16	R3/32	3/8	1/2	-	2-3/8
42293	\$23.41	42043	\$18.97			3/8	1/2	1-1/8	2-11/16
41297	\$16.83	41047	\$13.62	1/4	R1/8	3/8	5/8	-	2-7/16
42297	\$23.41	42047	\$18.97			3/8	5/8	1-1/2	3-1/16
41301	\$18.33	41051	\$14.87	5/16	R5/32	3/8	3/4	-	2-1/2
42301	\$29.27	42051	\$23.72			3/8	3/4	1-3/4	3-5/16
41305	\$18.33	41055	\$14.87	3/8	R3/16	3/8	3/4	-	2-1/2
42305	\$29.27	42055	\$23.72			3/8	3/4	1-3/4	3-5/16
41313	\$27.31	41063	\$22.18	7/16	R7/32	1/2	1	-	3
42313	\$38.55	42063	\$33.21			1/2	1	1-7/8	3-11/16
41321	\$27.36	41071	\$22.18	1/2	R1/4	1/2	1	-	3
42321	\$38.55	42071	\$33.21			1/2	1	2-1/4	4
41328	\$40.12	41078	\$33.29	9/16	R9/32	1/2	1-1/8	-	3-1/8
41336	\$40.12	41086	\$33.29			1/2	1-1/8	-	3-1/8
41337	\$40.12	41087	\$33.21	5/8	R5/16	5/8	1-3/8	-	3-1/2
42337	\$52.68	42087	\$43.72			5/8	1-3/8	2-3/4	4-5/8
41357	\$52.88	41107	\$43.91	3/4	R3/8	1/2	1-5/16	-	3-5/16
41359	\$52.88	41109	\$43.80			3/4	1-5/8	-	3-7/8
42359	\$67.17	42109	\$55.75			3/4	1-5/8	3-3/8	5-3/8
41391	\$73.05	41141	\$60.68	7/8	R7/16	3/4	2	-	4-1/4
41394	\$73.05	41144	\$60.68			7/8	2	-	4-1/4
41422	\$84.58	41172	\$70.21	1	R1/2	3/4	2-1/4	-	4-1/2
41426	\$84.58	41176	\$70.21			1	2-1/4	-	4-3/4
42426	\$105.23	42176	\$87.40			1	2-1/2	5	7-1/4
41431	\$90.17	41181	\$74.85	1-1/8	R9/16	3/4	1-5/8	-	3-7/8
41435	\$95.74	41185	\$79.49			1	2-1/4	-	4-3/4
41439	\$104.90	41189	\$94.68	1-1/4	R5/8	3/4	1-5/8	-	3-7/8
41445	\$114.06	41195	\$94.68			1-1/4	2-1/2	-	5
41449	\$124.96	41199	\$104.48	1-3/8	R11/16	3/4	1-5/8	-	4-1/8
41453	\$130.33	41203	\$108.18			1-1/4	2-1/2	-	5
41457	\$140.66	41207	\$116.78	1-1/2	R3/4	3/4	1-5/8	-	4-1/8
41461	\$143.04	41211	\$116.78			1-1/4	2-1/2	-	5
41478	\$212.08	41227	\$176.06	2	R1	1-1/4	2-1/2	-	5

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

2-FLUTE, BALL NOSE, DOUBLE ENDED

► The 2-flute ball end mills are designed for milling of radius bottom slots, fillets, and special contours. The end teeth are cut to center allowing these end mills to drill into material at the beginning of a slotting cut. The 2-flute design provides good chip removal ability in slotting.



P. 190

Unit : inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball Nose R	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)		HSS (M2)						
45289	\$28.81	45039	\$23.43	1/8	R1/16	3/8	3/8	3-1/16
45293	\$28.81	45043	\$23.43	3/16	R3/32	3/8	7/16	3-1/8
45297	\$28.81	45047	\$23.43	1/4	R1/8	3/8	1/2	3-1/8
45301	\$28.81	45051	\$23.43	5/16	R5/32	3/8	9/16	3-1/8
45305	\$28.81	45055	\$23.43	3/8	R3/16	3/8	9/16	3-1/8
45313	\$42.28	45063	\$34.37	7/16	R7/32	1/2	13/16	3-3/4
45321	\$42.28	45071	\$34.37	1/2	R1/4	1/2	13/16	3-3/4
45337	\$65.93	45087	\$54.89	5/8	R5/16	5/8	1-1/8	4-1/2
45359	\$79.50	45109	\$66.17	3/4	R3/8	3/4	1-5/16	5
45426	\$116.43	45176	\$96.91	1	R1/2	1	1-5/8	5-7/8

Mill Dia. Tolerance (inch)	
0~+.0010	†0~-.0020

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

4-FLUTE, BALL NOSE, SINGLE ENDED

- ▶ The 4-flute ball end mills are designed for milling of radius bottom slots, fillets, and special contours.
The end teeth are cut to center allowing these end mills to drill into material at the beginning of a slotting cut.



Unit : Inch

EDP No.	Price	Mill Diameter	Radius of Ball Nose R	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)						
43289	\$21.83	1/8	R1/4	3/8	3/8	2-5/16
43293	\$21.83	3/16	R3/32	3/8	1/2	2-3/8
43297	\$21.83	1/4	R1/8	3/8	5/8	2-7/16
44297	\$28.13			3/8	1-1/4	3-1/16
43301	\$21.83	5/16	R5/32	3/8	3/4	2-1/2
44301	\$28.13			3/8	1-3/8	3-1/8
43305	\$21.83	3/8	R3/16	3/8	3/4	2-1/2
44305	\$28.13			3/8	1-1/2	3-1/4
43312	\$30.07	7/16	R7/32	3/8	1	2-11/16
43321	\$30.07	1/2	R1/4	1/2	1-1/4	3-1/4
44321	\$34.89			1/2	2	4
43337	\$48.34	5/8	R5/16	5/8	1-5/8	3-3/4
44337	\$57.32			5/8	2-1/2	4-5/8
43350	\$61.44	11/16	R11/32	5/8	1-5/8	3-3/4
43359	\$61.44	3/4	R3/8	3/4	1-5/8	3-7/8
44359	\$74.03			3/4	3	5-1/4
43394	\$76.40	7/8	R7/16	7/8	1-7/8	4-1/8
44394	\$86.12			7/8	3-1/2	5-3/4
43426	\$90.54	1	R1/2	1	2	4-1/2
44426	\$107.95			1	4	6-1/2
43435	\$119.26	1-1/8	R9/16	1	2	4-1/2
43445	\$148.81	1-1/4	R5/8	1-1/4	2	4-1/2
43461	\$167.27	1-1/2	R3/4	1-1/4	2	4-1/2
43477	\$253.17	2	R1	1-1/4	2	4-1/2

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

4-FLUTE, BALL NOSE, DOUBLE ENDED

- ▶ The 4-flute ball end mills are designed for milling of radius bottom slots, fillets, and special contours. The end teeth are cut to center allowing these end mills to drill into material at the beginning of a slotting cut.



Unit : Inch

EDP No.	Price	Mill Diameter	Radius of Ball Nose R	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)						
46289	\$41.45	1/8	R1/16	3/8	3/8	3-1/16
46293	\$41.45	3/16	R3/32	3/8	1/2	3-1/4
46297	\$41.45	1/4	R1/8	3/8	5/8	3-3/8
46301	\$43.60	5/16	R5/32	3/8	3/4	3-1/2
46305	\$45.25	3/8	R3/16	3/8	3/4	3-1/2
46313	\$61.96	7/16	R7/32	1/2	1	4-1/8
46321	\$61.96	1/2	R1/4	1/2	1	4-1/8
46337	\$88.98	5/8	R5/16	5/8	1-3/8	5
46359	\$107.22	3/4	R3/8	3/4	1-5/8	5-5/8
46426	\$150.98	1	R1/2	1	1-7/8	6-3/8

Mill Dia. Tolerance (inch)	
0~+.0010	+0~- .0020

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

2-FLUTE, SQUARE, DOUBLE ENDED, MINIATURE

▶ Miniature end mills have 3/16" shank without flats. Designed with positive rake angle geometry and high helix angle to insure free cutting action. Suitable for finishing of precision components such as watch, camera, electronic apparatus molds, etc.



HSS Co8
HSS
2
~03/32
07/64~
39°
30°
PLAIN
P. 192

Unit : Inch

EDP No. 8% COBALT (M42)	Price	EDP No. HSS (M2)	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
49252	\$13.63	49002	\$12.56	1/32	3/16	3/64	2
50252	\$13.63	50002	\$12.77		3/16	3/32	2-1/4
49254	\$13.02	49004	\$11.99	3/64	3/16	1/16	2
50254	\$13.02	50004	\$12.20		3/16	9/64	2-1/4
49256	\$12.37	49006	\$11.41	1/16	3/16	3/32	2
50256	\$12.37	50006	\$11.60		3/16	3/16	2-1/4
51256	\$13.32	51006	\$12.28		3/16	7/32	2-1/2
49258	\$12.37	49008	\$11.41	5/64	3/16	1/8	2
50258	\$12.37	50008	\$11.60		3/16	15/64	2-1/4
51258	\$13.32	51008	\$12.28		3/16	1/4	2-1/2
49260	\$12.37	49010	\$11.41	3/32	3/16	9/64	2
50260	\$12.37	50010	\$11.60		3/16	9/32	2-1/4
51260	\$13.32	51010	\$12.28		3/16	9/32	2-5/8
49262	\$12.37	49012	\$11.41	7/64	3/16	5/32	2
50262	\$12.37	50012	\$11.60		3/16	21/64	2-1/4
51262	\$13.32	51012	\$12.28		3/16	9/32	2-5/8
49264	\$12.37	49014	\$11.41	1/8	3/16	3/16	2
50264	\$12.37	50014	\$11.60		3/16	3/8	2-1/4
51264	\$14.19	51014	\$13.07		3/16	3/4	3-1/8
49266	\$12.37	49016	\$11.41	9/64	3/16	7/32	2
50266	\$12.37	50016	\$11.60		3/16	13/32	2-1/4
51266	\$14.19	51016	\$13.07		3/16	3/4	3-1/8
49268	\$12.37	49018	\$11.41	5/32	3/16	15/64	2
50268	\$12.37	50018	\$11.60		3/16	7/16	2-1/4
51268	\$14.19	51018	\$13.07		3/16	7/8	3-1/4
49270	\$12.37	49020	\$11.41	11/64	3/16	1/4	2
50270	\$12.37	50020	\$11.60		3/16	1/2	2-1/4
51270	\$14.19	51020	\$13.07		3/16	7/8	3-1/4
49272	\$12.37	49022	\$11.41	3/16	3/16	9/32	2
50272	\$12.37	50022	\$11.60		3/16	1/2	2-1/4
51272	\$14.19	51022	\$13.07		3/16	1	3-3/8

Mill Dia. Tolerance (inch)	
0~+.0010	†0~-.0020

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

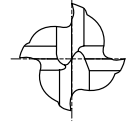
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

4-FLUTE, SQUARE, DOUBLE ENDED, MINIATURE

► Miniature end mills have 3/16" shank without flats. Designed with positive rake angle geometry and high helix angle to insure free cutting action. Suitable for finishing of precision components such as watch, camera, electronic apparatus molds, etc.



HSS Co8
HSS
2
~03/32 39°
07/64~ 30°
PLAIN
P. 192

Unit : Inch

EDP No. 8% COBALT (M42)	Price	EDP No. HSS (M2)	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
52256	\$12.37	52006	\$11.41	1/16	3/16	3/32	2
53256	\$12.37	53006	\$11.41		3/16	3/16	2-1/4
54256	\$13.32	54006	\$12.28		3/16	7/32	2-1/2
52258	\$12.37	52008	\$11.41	5/64	3/16	1/8	2
53258	\$12.37	53008	\$11.41		3/16	15/64	2-1/4
54258	\$13.32	54008	\$12.28		3/16	1/4	2-1/2
52260	\$12.37	52010	\$11.41	3/32	3/16	9/64	2
53260	\$12.37	53010	\$11.41		3/16	9/32	2-1/4
54260	\$13.32	54010	\$12.28		3/16	9/32	2-5/8
52262	\$12.37	52012	\$11.41	7/64	3/16	5/32	2
53262	\$12.37	53012	\$11.41		3/16	21/64	2-1/4
54262	\$13.32	54012	\$12.28		3/16	9/32	2-5/8
52264	\$12.37	52014	\$11.41	1/8	3/16	3/16	2
53264	\$12.37	53014	\$11.41		3/16	3/8	2-1/4
54264	\$14.19	54014	\$13.07		3/16	3/4	3-1/8
52266	\$12.37	52016	\$11.41	9/64	3/16	7/32	2
53266	\$12.37	53016	\$11.41		3/16	13/32	2-1/4
54266	\$14.19	54016	\$13.07		3/16	3/4	3-1/8
52268	\$12.37	52018	\$11.41	5/32	3/16	15/64	2
53268	\$12.37	53018	\$11.41		3/16	7/16	2-1/4
54268	\$14.19	54018	\$13.07		3/16	7/8	3-1/4
52270	\$12.37	52020	\$11.41	11/64	3/16	1/4	2
53270	\$12.37	53020	\$11.41		3/16	1/2	2-1/4
54270	\$14.19	54020	\$13.07		3/16	7/8	3-1/4
52272	\$12.37	52022	\$11.41	3/16	3/16	9/32	2
53272	\$12.37	53022	\$11.41		3/16	1/2	2-1/4
54272	\$14.19	54022	\$13.07		3/16	1	3-3/8

Mill Dia. Tolerance (inch)	
0~+.0010	†0~- .0020

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

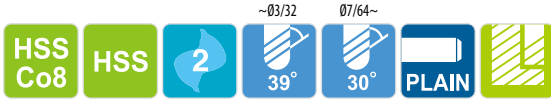
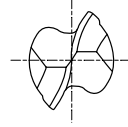
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

2-FLUTE, BALL NOSE, DOUBLE ENDED, MINIATURE

► Miniature end mills have 3/16" shank without flats. Designed with positive rake angle geometry and high helix angle to insure free cutting action. Suitable for finishing of precision components such as watch, camera, electronic apparatus molds, etc.



P. 192

Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Radius of Ball Nose R	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)		HSS (M2)						
56252	\$26.39	56002	\$24.49	1/32	R1/64	3/16	3/32	2-1/4
56254	\$25.00	56004	\$26.00	3/64	R3/128	3/16	9/64	2-1/4
55256	\$23.39	55006	\$21.67			3/16	3/32	2
56256	\$23.78	56006	\$22.06	1/16	R1/32	3/16	3/16	2-1/4
57256	\$25.18	57006	\$23.21			3/16	7/32	2-1/2
56258	\$24.95	56008	\$23.16	5/64	R5/128	3/16	15/64	2-1/4
55260	\$23.39	55010	\$21.67			3/16	9/64	2
56260	\$23.78	56010	\$22.06	3/32	R3/64	3/16	9/32	2-1/4
57260	\$25.18	57010	\$23.21			3/16	9/32	2-5/8
56262	\$24.95	56012	\$23.16	7/64	R7/128	3/16	21/64	2-1/4
55264	\$20.47	55014	\$19.33			3/16	3/16	2
56264	\$20.80	56014	\$19.66	1/8	R1/16	3/16	3/8	2-1/4
57264	\$23.52	57014	\$21.97			3/16	3/4	3-1/8
56266	\$24.95	56016	\$23.16	9/64	R9/128	3/16	13/32	2-1/4
55268	\$20.47	55018	\$19.33			3/16	15/64	2
56268	\$20.80	56018	\$19.66	5/32	R5/64	3/16	7/16	2-1/4
57268	\$23.52	57018	\$21.97			3/16	7/8	3-1/4
56270	\$24.95	56020	\$23.16	11/64	R11/128	3/16	1/2	2-1/4
55272	\$20.47	55022	\$19.33			3/16	9/32	2
56272	\$20.80	56022	\$19.66	3/16	R3/32	3/16	1/2	2-1/4
57272	\$23.52	57022	\$21.97			3/16	1	3-3/8

Mill Dia. Tolerance (inch)	
0~+.0010	*0~-.0020

*When shank is equal to cutting diameter.

Holemaking

Threading

Milling

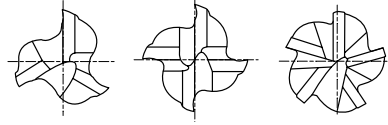
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

FINE PITCH, CENTER CUTTING ROUGHER

► These general purpose roughers are designed for high production metal removal in a wide range of work piece materials. It is suitable for a broad spectrum of materials including those with high tensile strengths. In many cases, the milled surfaces are of acceptable quality.

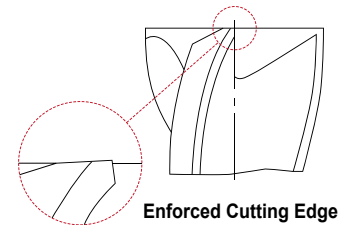


P. 193

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
8% COBALT (M42)						
72297	\$27.47	1/4	3/8	1/4	2-1/16	3
75297	\$27.47		3/8	1/4	2-1/16	4
76297	\$24.75	5/16	3/8	5/8	2-7/16	3
76301	\$24.75		3/8	3/4	2-1/2	3
72305	\$27.47	3/8	3/8	3/8	2-5/32	3
75305	\$27.47		3/8	3/8	2-5/32	4
76305	\$24.75	7/16	3/8	3/4	2-1/2	4
75313	\$37.74		1/2	1/2	2-1/2	4
76312	\$34.04	1/2	3/8	1	2-11/16	4
72321	\$37.74		1/2	1/2	2-1/2	3
75321	\$37.74	9/16	1/2	1/2	2-1/2	4
76321	\$34.04		1/2	1-1/4	3-1/4	4
76328	\$42.05	5/8	1/2	1-3/8	3-3/8	4
72337	\$46.71		5/8	5/8	2-3/4	3
75337	\$46.71	3/4	5/8	5/8	2-3/4	4
76337	\$42.05		5/8	1-5/8	3-3/4	4
72359	\$58.05	7/8	3/4	3/4	2-7/8	3
75359	\$58.05		3/4	3/4	2-7/8	4
76359	\$52.31	1	3/4	1-5/8	3-7/8	4
72391	\$74.67		3/4	7/8	3-1/8	3
75391	\$74.67	1	3/4	7/8	3-1/8	5
76391	\$67.26		3/4	1-7/8	4-1/8	5
76394	\$67.26	1	7/8	1-7/8	4-1/8	5
72422	\$84.04		3/4	1	3-1/4	3
72426	\$84.04	1	1	1	3-1/2	3
75426	\$84.04		1	1	3-1/2	5
76422	\$75.63	1	3/4	2	4-1/4	5
76426	\$75.63		1	2	4-1/2	5

Mill Dia. Tolerance (inch)	
≤ 1"	0~+.0030
> 1"	0~+.0060



Holemaking

Threading

Milling

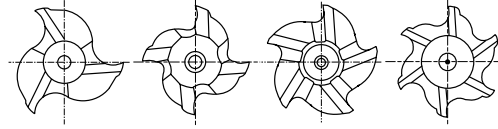
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

FINE PITCH, NON-CENTER CUTTING ROUGHER

► These general purpose roughers are designed for high production metal removal in a wide range of work piece materials. It is suitable for a broad spectrum of materials including those with high tensile strengths. In many cases, the milled surfaces are of acceptable quality.

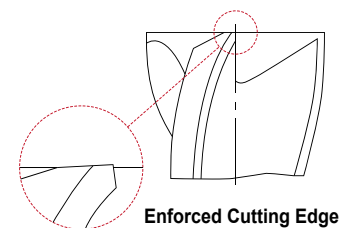


P. 193

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
8% COBALT (M42)						
70297	\$22.91	1/4	3/8	5/8	2-7/16	3
70301	\$22.91	5/16	3/8	3/4	2-1/2	3
70305	\$22.91	3/8	3/8	3/4	2-1/2	4
70312	\$31.47	7/16	3/8	1	2-11/16	4
70321	\$31.47	1/2	1/2	1-1/4	3-1/4	4
71321	\$41.04		1/2	2	4	4
70328	\$38.91	9/16	1/2	1-3/8	3-3/8	4
70337	\$38.91	5/8	5/8	1-5/8	3-3/4	4
71337	\$56.18		5/8	2-1/2	4-5/8	4
70358	\$48.40	3/4	5/8	1-5/8	3-3/4	4
70359	\$48.40		3/4	1-5/8	3-7/8	4
71358	\$60.52		5/8	3	5-1/4	4
71359	\$60.52		3/4	3	5-1/4	4
70391	\$62.23	7/8	3/4	1-7/8	4-1/8	5
70394	\$62.23		7/8	1-7/8	4-1/8	5
71394	\$73.50		7/8	3-1/2	5-3/4	5
70422	\$70.04	1	3/4	2	4-1/4	5
70426	\$70.04		1	2	4-1/2	5
71426	\$94.27		1	4	6-1/2	5
70431	\$92.44	1-1/8	3/4	2	4-1/4	6
70435	\$92.44		1	2	4-1/2	6
70439	\$106.99	1-1/4	3/4	2	4-1/4	6
70445	\$106.99		1-1/4	2	4-1/2	6
71445	\$144.38		1-1/4	4	6-1/2	6
70449	\$128.41	1-3/8	3/4	2	4-1/4	6
70457	\$143.34	1-1/2	3/4	2	4-1/4	6
70461	\$143.34		1-1/4	2	4-1/2	6
71457	\$171.37		3/4	4	6-1/4	6
71461	\$171.37	1-3/4	1-1/4	4	6-1/2	6
70469	\$162.05		1-1/4	2	4-1/2	6
71469	\$217.81	2	1-1/4	4	6-1/2	6
70475	\$189.79		3/4	2	4-1/4	6
70477	\$189.79		1-1/4	2	4-1/2	6
71477	\$264.53	1-1/4	4	6-1/2	6	6

Mill Dia. Tolerance (inch)	
≤ 1"	0~+.0030
> 1"	0~+.0060



Holemaking

Threading

Milling

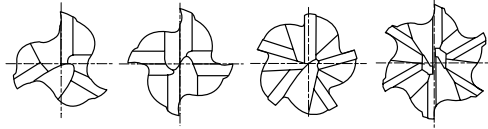
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

COARSE PITCH, CENTER CUTTING ROUGHER

► These general purpose roughers are designed for high production metal removal in a wide range of work piece materials. Recommended for cutting steel grades and many non-ferrous materials.

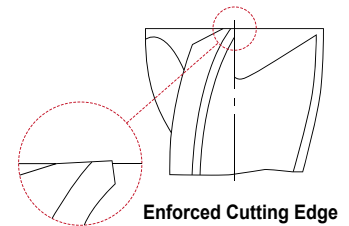


P. 193

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
8% COBALT (M42)						
63297	\$24.97	1/4	3/8	1/4	2-1/16	3
63305	\$24.97	3/8	3/8	3/8	2-5/32	3
63321	\$34.33	1/2	1/2	1/2	2-1/2	3
64321	\$32.00		1/2	1-1/4	3-1/4	4
65321	\$41.04		1/2	2	4	4
63337	\$42.49	5/8	5/8	5/8	2-3/4	3
64337	\$39.58		5/8	1-5/8	3-3/4	4
65337	\$56.18		5/8	2-1/2	4-5/8	4
63359	\$52.80	3/4	3/4	3/4	2-7/8	3
64359	\$49.22		3/4	1-5/8	3-7/8	4
65359	\$60.52		3/4	3	5-1/4	4
63426	\$76.38	1	1	1	3-1/2	3
64426	\$70.04		1	2	4-1/2	5
65426	\$98.29		1	4	6-1/2	5
64445	\$106.99	1-1/4	1-1/4	2	4-1/2	6
65445	\$144.38		1-1/4	4	6-1/2	6
64461	\$143.34	1-1/2	1-1/4	2	4-1/2	6
65461	\$181.58		1-1/4	4	6-1/2	6

Mill Dia. Tolerance (inch)	
≤ 1"	0~+.0030
> 1"	0~+.0060



Enforced Cutting Edge

Holmaking

Threading

Milling

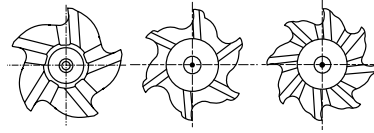
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

COARSE PITCH, NON-CENTER CUTTING ROUGHER

► These general purpose roughers are designed for high production metal removal in a wide range of work piece materials. Recommended for cutting steel grades and many non-ferrous materials. Non-center cutting for easier resharpening.



P. 193

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
8% COBALT (M42)						
60297	\$20.80	1/4	3/8	5/8	2-7/16	3
60301	\$20.80	5/16	3/8	3/4	2-1/2	3
60305	\$20.80	3/8	3/8	3/4	2-1/2	4
60312	\$29.02	7/16	3/8	1	2-11/16	4
60321	\$29.02	1/2	1/2	1-1/4	3-1/4	4
62321	\$37.32		1/2	2	4	4
60328	\$35.40	9/16	1/2	1-3/8	3-3/8	4
60337	\$35.40	5/8	5/8	1-5/8	3-3/4	4
62337	\$51.08		5/8	2-1/2	4-5/8	4
60348	\$43.98	11/16	5/8	1-5/8	3-3/4	4
60358	\$43.98	3/4	5/8	1-5/8	3-3/4	4
60359	\$43.98		3/4	1-5/8	3-3/4	4
62358	\$55.00		5/8	3	5-1/8	4
62359	\$55.00		3/4	3	5-1/4	4
60375	\$56.59	13/16	3/4	1-7/8	4-1/8	4
60391	\$56.59	7/8	3/4	1-7/8	4-1/8	5
60394	\$56.59		7/8	1-7/8	4-1/8	5
62391	\$66.81		3/4	3-1/2	5-3/4	5
60409	\$63.65	15/16	7/8	1-7/8	4-1/8	5
60422	\$63.65	1	3/4	2	4-1/4	5
60426	\$63.65		1	2	4-1/2	5
61426	\$78.60		1	3	5-1/2	5
62422	\$85.69		3/4	4	6-1/4	5
62426	\$91.35		1	4	6-1/2	5
60431	\$84.04	1-1/8	3/4	2	4-1/4	6
60435	\$84.04		1	2	4-1/2	6
60439	\$97.28	1-1/4	3/4	2	4-1/4	6
60445	\$97.28		1-1/4	2	4-1/2	6
61445	\$117.85		1-1/4	3	5-1/2	6
62439	\$131.23		3/4	4	6-1/4	6
62445	\$131.23		1-1/4	4	6-1/2	6
60449	\$116.73	1-3/8	3/4	2	4-1/4	6
60457	\$130.29	1-1/2	3/4	2	4-1/4	6
60461	\$130.29		1-1/4	2	4-1/2	6
61461	\$135.95		1-1/4	3	5-1/2	6
62457	\$155.80		3/4	4	6-1/4	6
62461	\$155.80		1-1/4	4	6-1/2	6

► NEXT PAGE

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

COARSE PITCH, NON-CENTER CUTTING ROUGHER

► These general purpose roughers are designed for high production metal removal in a wide range of work piece materials. Recommended for cutting steel grades and many non-ferrous materials. Non-center cutting for easier resharpening.



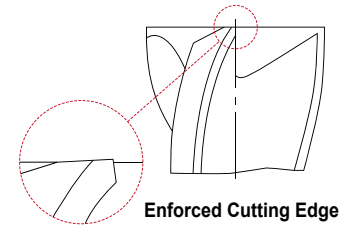
P. 193

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
8% COBALT (M42)						
60467	\$161.37	1-3/4	3/4	2	4-1/4	6
60469	\$161.37		1-1/4	2	4-1/2	6
62469	\$203.78		1-1/4	4	6-1/2	6
60475	\$188.95	2	3/4	2	4-1/4	6
60477	\$188.95		1-1/4	2	4-1/2	6
* 60480	\$281.37		2	2	5-3/4	8
* 60482	\$302.16		2	3	6-3/4	8
62477	\$241.07		1-1/4	4	6-1/2	6
* 60484	\$333.34		2	4	7-3/4	8
* 61488	\$372.03		2	6	9-3/4	8
* 62490	\$508.98		2	8	11-3/4	8

* Combination Shank

Mill Dia. Tolerance (inch)	
≤ 1"	0~+.0030
> 1"	0~+.0060



Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

COARSE PITCH, BALL NOSE ROUGHER

► These general purpose roughers are designed for high production metal removal in a wide range of work piece materials. Recommended for cutting steel grades and many non-ferrous materials.



P. 194

Unit : Inch

EDP No.	Price	Mill Diameter	Radius of Ball Nose R	Shank Diameter	Length of Cut	Overall Length	No. of Flutes
8% COBALT (M42)							
68297	\$37.47	1/4	R1/8	3/8	5/8	2-7/16	3
68301	\$37.47	5/16	R5/32	3/8	3/4	2-1/2	3
68305	\$37.47	3/8	R3/16	3/8	3/4	2-1/2	4
68321	\$51.49	1/2	R1/4	1/2	1-1/4	3-1/4	4
69321	\$67.17			1/2	2-1/2	4-1/2	4
68337	\$63.66	5/8	R5/16	5/8	1-5/8	3-3/4	4
69337	\$91.94			5/8	2-1/2	4-5/8	4
68359	\$79.22	3/4	R3/8	3/4	1-3/4	4	4
69359	\$99.16			3/4	3	5-1/4	4
68422	\$114.58	1	R1/2	3/4	2	4-1/2	5
68426	\$114.58			1	2	4-1/2	5
69426	\$154.21			1	4	6-1/2	5
68439	\$175.01	1-1/4	R5/8	3/4	2	4-1/2	6
68445	\$175.01			1-1/4	2	4-1/2	6
69445	\$236.27			1-1/4	4	6-1/2	6
68457	\$234.57	1-1/2	R3/4	3/4	2	4-1/2	6
68461	\$234.57			1-1/4	2	4-1/2	6
69461	\$280.43			1-1/4	4	6-1/2	6

Mill Dia. Tolerance (inch)	
≤ 1"	0~+.0030
> 1"	0~+.0060

Holemaking

Threading

Milling

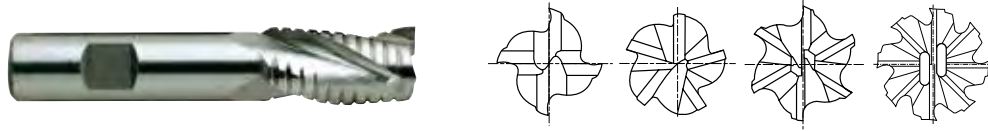
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

TRUNCATED ROUGHER

► These general purpose roughers are designed for high production metal removal in a wide range of work piece materials. Recommended for cutting steel grades and many non-ferrous materials. Truncated profile offers smoother finish, often acceptable as finish cut.



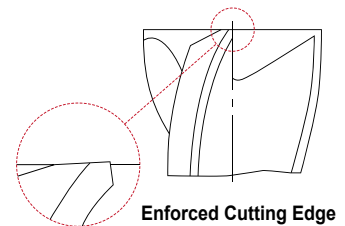
P. 195

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flutes
8% COBALT (M42)						
73297	\$23.30	1/4	3/8	5/8	2-7/16	4
73301	\$23.30	5/16	3/8	3/4	2-1/2	4
73305	\$23.30	3/8	3/8	3/4	2-1/2	4
73312	\$31.47	7/16	3/8	1	2-11/16	4
73321	\$31.47	1/2	1/2	1-1/4	3-1/4	4
73328	\$38.91	9/16	1/2	1-3/8	3-3/8	4
73337	\$38.91	5/8	5/8	1-5/8	3-3/4	4
73348	\$48.40	11/16	5/8	1-5/8	3-3/4	4
73358	\$48.40	3/4	5/8	1-5/8	3-3/4	4
73359	\$48.40		3/4	1-5/8	3-3/4	4
73391	\$62.23	7/8	3/4	1-7/8	4-1/8	5
73394	\$62.23		7/8	1-7/8	4-1/8	5
73422	\$70.04	1	3/4	2	4-1/4	5
73426	\$70.04		1	2	4-1/2	5
73431	\$92.44	1-1/8	3/4	2	4-1/4	6
73435	\$92.44		1	2	4-1/2	6
73439	\$106.99	1-1/4	3/4	2	4-1/4	6
73445	\$106.99		1-1/4	2	4-1/2	6
73457	\$143.34	1-1/2	3/4	2	4-1/4	6
73461	\$143.34		1-1/4	2	4-1/2	6
73467	\$162.05	1-3/4	3/4	2	4-1/4	6
73469	\$162.05		1-1/4	2	4-1/2	6
73475	\$189.79	2	3/4	2	4-1/4	6
73477	\$189.79		1-1/4	2	4-1/2	6
* 73480	\$309.54		2	2	5-3/4	8
* 73482	\$332.39		2	3	6-3/4	8
* 73484	\$366.64		2	4	7-3/4	8

* Combination Shank

Mill Dia. Tolerance (inch)
+ .0025
+ .0005



Enforced Cutting Edge

Holmaking

Threading

Milling

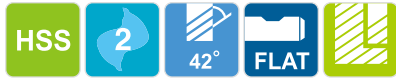
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

2-FLUTE, 42° HELIX, ALUMINUM SPECIFIC

► High Helix 2-flute, designed specifically for aluminum and non-ferrous materials. Special rake angle and fine finish on primary clearance angles and flute faces insuring free cutting action with material sticking, fine finish, and longer tool life. Made of M2 HSS, good for cutting aluminum.



P. 196

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
HSS (M2)					
17047	\$12.47	1/4	3/8	5/8	2-7/16
18047	\$15.39		3/8	1-1/4	3-1/16
19047	\$16.60		3/8	1-3/4	3-9/16
17051	\$12.47	5/16	3/8	3/4	2-1/2
18051	\$15.39		3/8	1-3/8	3-1/8
19051	\$16.60		3/8	2	3-3/4
17055	\$12.47	3/8	3/8	3/4	2-1/2
18055	\$15.39		3/8	1-1/2	3-1/4
19055	\$16.60		3/8	2-1/2	4-1/4
17062	\$18.06	7/16	3/8	1	2-11/16
18063	\$23.90		1/2	1-3/4	3-3/4
17071	\$18.06		1/2	1-1/4	3-1/4
18071	\$23.90	1/2	1/2	2	4
19071	\$28.14		1/2	3	5
17087	\$29.06		5/8	5/8	1-5/8
18087	\$37.77	5/8		2-1/2	4-5/8
19087	\$49.13	5/8		4	6-1/8
17109	\$37.83	3/4	3/4	1-5/8	3-7/8
18109	\$50.08		3/4	3	5-1/4
19109	\$63.92		3/4	4	6-1/4
17141	\$45.66	7/8	3/4	1-7/8	4-1/8
17144	\$45.66		7/8	1-7/8	4-1/8
17172	\$57.18		3/4	1-7/8	4-1/8
17176	\$57.18	1	1	2	4-1/2
99089	\$69.66		1	3	5-1/2
18176	\$81.44		1	4	6-1/2
19176	\$95.06	1-1/4	1	6	8-1/2
17195	\$84.39		1-1/4	2	4-1/2
99090	\$109.43		1-1/4	3	5-1/2
18195	\$112.50	1-1/2	1-1/4	4	6-1/2
19195	\$142.63		1-1/4	6	8-1/2
17211	\$121.29		1-1/4	2	4-1/2
99091	\$134.67	1-3/4	1-1/4	3	5-1/2
18211	\$160.49		1-1/4	4	6-1/2
19211	\$205.04		1-1/4	8	10-1/2
17219	\$160.09	2	1-1/4	2	4-1/2
99092	\$173.72		1-1/4	3	5-1/2
17227	\$187.93		1-1/4	2	4-1/2
99093	\$217.59	2	1-1/4	3	5-1/2
18227	\$248.93		1-1/4	4	6-1/2

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.

Holemaking

Threading

Milling

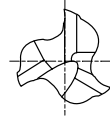
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

3-FLUTE, 37° HELIX, ALUMINUM SPECIFIC ROUGHER

► 3-flute design allows for chip capacity within the flutes. 37° helix better suited for aluminum and non-ferrous materials.

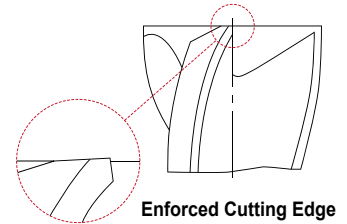


P. 196

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
HSS (M2)					
66297	\$29.16	1/4	3/8	5/8	2-7/16
66301	\$29.16	5/16	3/8	3/4	2-1/2
66305	\$29.16	3/8	3/8	3/4	2-1/2
66321	\$40.07	1/2	1/2	1-1/4	3-1/4
67321	\$52.24		1/2	2	4
66337	\$49.53	5/8	5/8	1-5/8	3-3/4
67337	\$71.51		5/8	2-1/2	4-5/8
66359	\$61.59	3/4	3/4	1-5/8	3-7/8
67359	\$77.02		3/4	3	5-1/4
66391	\$79.22	7/8	3/4	1-7/8	4-1/8
66426	\$92.76	1	1	2	4-1/2
66901	\$109.53		1	3	5-1/2
67426	\$119.94		1	4	6-1/2
66445	\$139.82	1-1/4	1-1/4	2	4-1/2
66902	\$155.56		1-1/4	3	5-1/2
67445	\$183.77		1-1/4	4	6-1/2
66461	\$182.43	1-1/2	1-1/4	2	4-1/2
67461	\$218.11		1-1/4	4	6-1/2

Mill Dia. Tolerance (inch)	
≤ 1"	0~+.0030
> 1"	0~+.0060



Holemaking

Threading

Milling

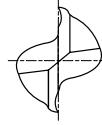
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

2-FLUTE, 15° HELIX, KEYWAY CUTTER

► Keyway cutting end mills have the same design as general purpose 2-flute end mills except held to a tolerance of $+0.0000 -0.0015$ ". These close tolerance end mills are recommended for cutting keyways which must be held close to nominal size.



Unit : Inch

EDP No.	Price	EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)		HSS (M2)					
14289	\$13.52	14039	\$9.47	1/8	3/8	3/8	2-5/16
14293	\$13.52	14043	\$9.47	3/16	3/8	7/16	2-5/16
14297	\$13.52	14047	\$9.47	1/4	3/8	1/2	2-5/16
14301	\$13.50	14051	\$9.47	5/16	3/8	9/16	2-5/16
14305	\$13.52	14055	\$9.47	3/8	3/8	9/16	2-5/16
14312	\$19.43	14062	\$14.63	7/16	3/8	13/16	2-1/2
14321	\$19.43	14071	\$14.63	1/2	1/2	1	3
14337	\$30.75	14087	\$22.15	5/8	5/8	1-5/16	3-7/16
14359	\$34.21	14109	\$28.14	3/4	3/4	1-5/16	3-9/16
14394	\$43.91	14144	\$32.46	7/8	7/8	1-1/2	3-3/4
14426	\$54.57	14176	\$41.83	1	1	1-5/8	4-1/8

Mill Dia. Tolerance (inch)
0~-0.0015

Holemaking

Threading

Milling

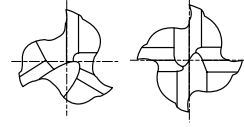
Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

60° HIGH HELIX

- ▶ 60° Helix angle provides smooth cutting action and reduced radial load on the tool.
- Suitable for machining difficult to cut materials.



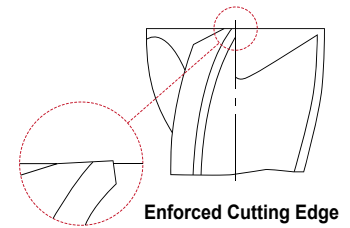
P. 197

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flutes
8% COBALT (M42)						
20297	\$20.76	1/4	3/8	5/8	2-7/16	3
20301	\$20.76	5/16	3/8	3/4	2-1/2	3
20305	\$20.76	3/8	3/8	3/4	2-1/2	3
20312	\$27.06	7/16	3/8	1	2-11/16	3
20321	\$30.22	1/2	1/2	1-1/4	3-1/4	3
20337	\$43.70	5/8	5/8	1-5/8	3-3/4	3
20359	\$57.88	3/4	3/4	1-5/8	3-7/8	3
20394	\$73.99	7/8	7/8	1-7/8	4-1/8	4
20426	\$88.34	1	1	2	4-1/2	4
20445	\$133.17	1-1/4	1-1/4	2	4-1/2	4
20461	\$173.09	1-1/2	1-1/4	2	4-1/2	4
20477	\$274.04	2	1-1/4	2	4-1/2	4

Mill Dia. Tolerance (inch)	
0~+.0010	†0~+.0015

†When shank is equal to cutting diameter.



Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

4-FLUTE, CORNER ROUNDING

► These general purpose corner rounding end mills are designed for machining fillets on work pieces.



P. 198

Unit : Inch

EDP No.	Price	EDP No.	Price	Radius	Pilot Diameter	Outside Diameter	Shank Diameter	Overall Length
8% COBALT (M42)		HSS (M2)						
29251	\$29.94	29001	\$28.46	1/16	1/4	7/16	3/8	2-1/2
29252	\$32.18	29002	\$30.26	3/32	1/4	1/2	3/8	2-1/2
29253	\$39.34	29003	\$37.30	1/8	1/4	5/8	1/2	3
29254	\$43.44	29004	\$40.80	5/32	5/16	3/4	1/2	3
29255	\$49.61	29005	\$46.27	3/16	3/8	7/8	1/2	3
29256	\$49.61	29006	\$46.27	3/16	3/8	7/8	3/4	3-1/8
29257	\$52.27	29007	\$48.62	7/32	5/16	7/8	1/2	3-1/4
29258	\$56.07	29008	\$51.54	1/4	3/8	1	1/2	3
29259	\$55.00	29009	\$51.54	9/32	3/8	1	5/8	3
29260	\$56.07	29010	\$51.54	1/4	3/8	1	3/4	3-1/4
29261	\$70.30	29011	\$63.18	5/16	3/8	1-1/8	1/2	3-1/4
29262	\$70.30	29012	\$63.18	5/16	3/8	1-1/8	5/8	3-1/2
29263	\$70.30	29013	\$63.18	5/16	3/8	1-1/8	3/4	3-1/2
29264	\$70.30	29014	\$63.18	5/16	3/8	1-1/8	7/8	3-1/2
29265	\$79.98	29015	\$71.86	3/8	3/8	1-1/4	1/2	3-1/2
29266	\$79.98	29016	\$71.86	3/8	3/8	1-1/4	3/4	3-3/4
29267	\$79.98	29017	\$71.86	3/8	3/8	1-1/4	7/8	3-3/4
29268	\$84.26	29018	\$79.17	7/16	3/8	1-3/8	3/4	3-3/4
29269	\$84.26	29019	\$79.17	7/16	3/8	1-3/8	1	4
29270	\$95.46	29020	\$84.28	1/2	3/8	1-1/2	3/4	3-7/8
29271	\$95.46	29021	\$84.28	1/2	3/8	1-1/2	1	4-1/8
29272	\$160.66	29022	\$105.92	5/8	5/16	1-5/8	3/4	4
29273	\$160.66	29023	\$105.92	5/8	5/16	1-5/8	1	4
29274	\$160.66	29024	\$105.92	5/8	9/16	1-15/16	3/4	4
29275	\$160.66	29025	\$105.92	5/8	9/16	1-15/16	1	4-1/4
29276	\$190.86	29026	\$115.63	3/4	5/16	1-7/8	3/4	4
29277	\$190.86	29027	\$115.63	3/4	5/16	1-7/8	1	4
29278	\$190.86	29028	\$115.63	3/4	5/8	2-1/4	3/4	4-1/8
29279	\$190.86	29029	\$115.63	3/4	5/8	2-1/4	1	4-5/16
29280	\$251.81	29030	\$152.54	7/8	5/8	2-1/2	3/4	4-1/2
29281	\$308.74	29031	\$187.04	1	5/8	2-5/8	3/4	4-1/2
29282	\$308.74	29032	\$187.04	1	5/8	2-3/4	1	4-3/4

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

3-FLUTE, THROW AWAY

► Well balanced 3-flute design to minimize deflection and chatter. High accuracy cutting diameter is guaranteed under strict tolerance control. 50% higher table feed than 2-flute design.



P. 199

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)					
22257	\$8.14	1/16	1/4	3/32	31/32
23257	\$9.11		1/4	5/32	1-3/32
22261	\$8.14	3/32	1/4	5/32	1-1/64
23261	\$9.11		1/4	1/4	1-1/4
22265	\$8.14	1/8	1/4	3/16	1-3/32
23265	\$9.11		1/4	5/16	1-11/32
22269	\$8.14	5/32	1/4	1/4	1-9/32
23269	\$9.11		1/4	3/8	1-17/32
22273	\$8.14	3/16	1/4	9/32	1-11/32
23273	\$9.11		1/4	7/16	1-21/32
22277	\$8.14	7/32	1/4	5/16	1-13/32
23277	\$9.11		1/4	1/2	1-3/4
22281	\$8.14	1/4	1/4	3/8	1-13/32
23281	\$9.11		1/4	5/8	1-3/4

Mill Dia.
Tolerance (inch)

- .0005
- .0013

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

2-FLUTE, SQUARE END / SLOTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						1/8	1/4	3/8	1/2	5/8	3/4	7/8	1	1-1/8	1-3/8	1-1/2	1-3/4	2
P	1	Non-alloy steel	1.0D	0.5D	SFM	115	120	110	120	115	125	115	120	120	110	120	130	130
					IPT	.0003	.0010	.0018	.0024	.0031	.0032	.0040	.0039	.0039	.0039	.0039	.0043	.0040
					RPM	3500	1800	1100	900	700	630	500	450	400	310	310	280	250
					IPM	2	4	4	4	4	4	4	4	3	2	2	2	2
	2		1.0D	0.5D	SFM	105	105	90	105	90	100	105	105	105	90	100	100	100
					IPT	.0003	.0010	.0019	.0025	.0031	.0035	.0039	.0039	.0040	.0040	.0040	.0045	.0047
					RPM	3200	1600	900	800	560	500	450	400	350	250	250	220	190
					IPM	2	3	4	4	4	4	4	3	3	2	2	2	2
	3-4		1.0D	0.5D	SFM	80	80	80	80	75	80	80	80	80	70	80	80	60
					IPT	.0003	.0010	.0019	.0025	.0031	.0035	.0040	.0039	.0039	.0040	.0040	.0044	.0045
					RPM	2500	1200	800	630	450	400	350	310	280	200	200	180	110
					IPM	2	2	3	3	3	3	3	2	2	2	2	2	1
5	1.0D	0.5D	SFM	50	50	45	50	45	50	50	45	45	45	45	50	40		
			IPT	.0003	.0010	.0020	.0025	.0032	.0036	.0041	.0039	.0038	.0042	.0042	.0045	.0050		
			RPM	1600	800	450	400	280	250	220	180	160	120	120	110	80		
			IPM	1	2	2	2	2	2	2	1	1	1	1	1	1		
6	1.0D	0.5D	SFM	105	105	90	105	90	100	105	105	105	90	100	100	100		
			IPT	.0003	.0010	.0019	.0025	.0031	.0035	.0039	.0039	.0040	.0040	.0040	.0045	.0047		
			RPM	3200	1600	900	800	560	500	450	400	350	250	250	220	190		
			IPM	2	3	4	4	4	4	4	3	3	2	2	2	2		
7	1.0D	0.5D	SFM	80	80	80	80	75	80	80	80	80	70	80	80	60		
			IPT	.0003	.0010	.0019	.0025	.0031	.0035	.0040	.0039	.0039	.0040	.0040	.0044	.0045		
			RPM	2500	1200	800	630	450	400	350	310	280	200	200	180	110		
			IPM	2	2	3	3	3	3	3	2	2	2	2	2	1		
8-9	1.0D	0.5D	SFM	50	50	45	50	45	50	50	45	45	45	45	50	40		
			IPT	.0003	.0010	.0020	.0025	.0032	.0036	.0041	.0039	.0038	.0042	.0042	.0045	.0050		
			RPM	1600	800	450	400	280	250	220	180	160	120	120	110	80		
			IPM	1	2	2	2	2	2	2	1	1	1	1	1	1		
10	1.0D	0.5D	SFM	105	105	90	105	90	100	105	105	105	90	100	100	100		
			IPT	.0003	.0010	.0019	.0025	.0031	.0035	.0039	.0039	.0040	.0040	.0040	.0045	.0047		
			RPM	3200	1600	900	800	560	500	450	400	350	250	250	220	190		
			IPM	2	3	4	4	4	4	4	3	3	2	2	2	2		
11.1	1.0D	0.5D	SFM	50	50	45	50	45	50	50	45	45	45	45	50	40		
			IPT	.0003	.0010	.0020	.0025	.0032	.0036	.0041	.0039	.0038	.0042	.0042	.0045	.0050		
			RPM	1600	800	450	400	280	250	220	180	160	120	120	110	80		
			IPM	1	2	2	2	2	2	2	1	1	1	1	1	1		
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	SFM	360	365	305	325	325	355	320	315	325	325	355	365	330
					IPT	.0004	.0011	.0025	.0030	.0035	.0038	.0042	.0046	.0048	.0048	.0048	.0049	.0050
					RPM	11000	5600	3100	2500	2000	1800	1400	1200	1100	900	900	800	630
					IPM	10	12	16	15	14	14	12	11	11	9	9	8	6
23-25	Aluminum-cast, alloyed	1.0D	0.5D	SFM	360	365	305	325	325	355	320	315	325	325	355	365	330	
				IPT	.0004	.0011	.0025	.0030	.0035	.0038	.0042	.0046	.0048	.0048	.0048	.0049	.0050	
				RPM	11000	5600	3100	2500	2000	1800	1400	1200	1100	900	900	800	630	
				IPM	10	12	16	15	14	14	12	11	11	9	9	8	6	

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

4-FLUTE, SQUARE END / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)											
						1/8	1/4	3/8	1/2	5/8	3/4	13/16	15/16	1	1-1/2	1-3/4	2
P	1	Non-alloy steel	0.1D	1.5D	SFM	115	120	110	120	115	125	105	125	120	120	130	145
					IPT	.0003	.0010	.0018	.0025	.0032	.0032	.0040	.0040	.0039	.0040	.0045	.0045
					RPM	3500	1800	1100	900	700	630	500	500	450	310	280	280
					IPM	4	7	8	9	9	8	8	8	7	5	5	5
	2		0.1D	1.5D	SFM	105	105	90	105	90	100	95	110	105	100	100	100
					IPT	.0002	.0009	.0017	.0022	.0027	.0030	.0033	.0033	.0038	.0040	.0045	.0053
					RPM	3200	1600	900	800	560	500	450	450	400	250	220	190
					IPM	3	6	6	7	6	6	6	6	6	4	4	4
	3-4		0.1D	1.5D	SFM	80	80	80	80	75	80	75	85	80	80	70	60
					IPT	.0002	.0008	.0016	.0020	.0022	.0025	.0029	.0029	.0032	.0025	.0033	.0045
					RPM	2500	1200	800	630	450	400	350	350	310	200	150	110
IPM		2			4	5	5	4	4	4	4	4	2	2	2		
5	0.1D	1.5D	SFM	50	50	45	50	45	50	45	55	45	45	50	40		
			IPT	.0002	.0006	.0017	.0019	.0027	.0030	.0034	.0034	.0028	.0021	.0023	.0031		
			RPM	1600	800	450	400	280	250	220	220	180	120	110	80		
			IPM	1	2	3	3	3	3	3	3	2	1	1	1		
6	0.1D	1.5D	SFM	105	105	90	105	90	100	95	110	105	100	100	100		
			IPT	.0002	.0009	.0017	.0022	.0027	.0030	.0033	.0033	.0038	.0040	.0045	.0053		
			RPM	3200	1600	900	800	560	500	450	450	400	250	220	190		
			IPM	3	6	6	7	6	6	6	6	6	4	4	4		
7	0.1D	1.5D	SFM	80	80	80	80	75	80	75	85	80	80	70	60		
			IPT	.0002	.0008	.0016	.0020	.0022	.0025	.0029	.0029	.0032	.0025	.0033	.0045		
			RPM	2500	1200	800	630	450	400	350	350	310	200	150	110		
			IPM	2	4	5	5	4	4	4	4	4	2	2	2		
8-9	0.1D	1.5D	SFM	50	50	45	50	45	50	45	55	45	45	50	40		
			IPT	.0002	.0006	.0017	.0019	.0027	.0030	.0034	.0034	.0028	.0021	.0023	.0031		
			RPM	1600	800	450	400	280	250	220	220	180	120	110	80		
			IPM	1	2	3	3	3	3	3	3	2	1	1	1		
10	0.1D	1.5D	SFM	105	105	90	105	90	100	95	110	105	100	100	100		
			IPT	.0002	.0009	.0017	.0022	.0027	.0030	.0033	.0033	.0038	.0040	.0045	.0053		
			RPM	3200	1600	900	800	560	500	450	450	400	250	220	190		
			IPM	3	6	6	7	6	6	6	6	6	4	4	4		
11.1	0.1D	1.5D	SFM	50	50	45	50	45	50	45	55	45	45	50	40		
			IPT	.0002	.0006	.0017	.0019	.0027	.0030	.0034	.0034	.0028	.0021	.0023	.0031		
			RPM	1600	800	450	400	280	250	220	220	180	120	110	80		
			IPM	1	2	3	3	3	3	3	3	2	1	1	1		
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	SFM	360	365	305	325	325	355	300	345	315	355	365	330
					IPT	.0003	.0008	.0019	.0022	.0026	.0029	.0032	.0032	.0035	.0036	.0038	.0048
23-25	Aluminum-cast, alloyed	0.1D	1.5D	SFM	360	365	305	325	325	355	300	345	315	355	365	330	
				IPT	.0003	.0008	.0019	.0022	.0026	.0029	.0032	.0032	.0035	.0036	.0038	.0048	
					RPM	11000	5600	3100	2500	2000	1800	1400	1400	1200	900	800	630
					IPM	15	19	24	22	21	21	18	18	17	13	12	12
					SFM	360	365	305	325	325	355	300	345	315	355	365	330
					IPT	.0003	.0008	.0019	.0022	.0026	.0029	.0032	.0032	.0035	.0036	.0038	.0048
					RPM	11000	5600	3100	2500	2000	1800	1400	1400	1200	900	800	630
					IPM	15	19	24	22	21	21	18	18	17	13	12	12

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

Holemaking
 Threading
 Milling
 Indexable
 Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

6 & 8-FLUTE, SQUARE END / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						1/8	1/4	3/8	1/2	5/8	3/4	13/16	15/16	1	1-1/2	1-3/4	2 (6 & 8 FL)	
P	1	Non-alloy steel	0.1D	1.5D	SFM	115	120	110	120	115	125	105	125	120	120	130	145	
					IPT	.0002	.0006	.0012	.0017	.0021	.0021	.0027	.0027	.0026	.0027	.0030	.0030 / .0022	
					RPM	3500	1800	1100	900	700	630	500	500	450	310	280	280	
					IPM	4	7	8	9	9	8	8	8	7	5	5	5	
	2		0.1D	1.5D	SFM	105	105	90	105	90	100	95	110	105	100	100	100	100
					IPT	.0002	.0006	.0011	.0015	.0018	.0020	.0022	.0022	.0025	.0027	.0030	.0035 / .0026	
					RPM	3200	1600	900	800	560	500	450	450	400	250	220	190	
					IPM	3	6	6	7	6	6	6	6	6	4	4	4	
	3-4		0.1D	1.5D	SFM	80	80	80	80	75	80	75	85	80	80	70	60	
					IPT	.0001	.0006	.0010	.0013	.0015	.0017	.0019	.0019	.0022	.0017	.0022	.0030 / .0023	
					RPM	2500	1200	800	630	450	400	350	350	310	200	150	110	
IPM		2			4	5	5	4	4	4	4	4	2	2	2			
5	0.1D	1.5D	SFM	50	50	45	50	45	50	45	55	45	45	50	40			
			IPT	.0001	.0004	.0011	.0013	.0018	.0020	.0023	.0023	.0019	.0014	.0015	.0021 / .0016			
			RPM	1600	800	450	400	280	250	220	220	180	120	110	80			
			IPM	1	2	3	3	3	3	3	3	2	1	1	1			
6	0.1D	1.5D	SFM	105	105	90	105	90	100	95	110	105	100	100	100			
			IPT	.0002	.0006	.0011	.0015	.0018	.0020	.0022	.0022	.0025	.0027	.0030	.0035 / .0026			
			RPM	3200	1600	900	800	560	500	450	450	400	250	220	190			
			IPM	3	6	6	7	6	6	6	6	6	4	4	4			
7	0.1D	1.5D	SFM	80	80	80	80	75	80	75	85	80	80	70	60			
			IPT	.0001	.0006	.0010	.0013	.0015	.0017	.0019	.0019	.0022	.0017	.0022	.0030 / .0023			
			RPM	2500	1200	800	630	450	400	350	350	310	200	150	110			
			IPM	2	4	5	5	4	4	4	4	4	2	2	2			
8-9	0.1D	1.5D	SFM	50	50	45	50	45	50	45	55	45	45	50	40			
			IPT	.0001	.0004	.0011	.0013	.0018	.0020	.0023	.0023	.0019	.0014	.0015	.0021 / .0016			
			RPM	1600	800	450	400	280	250	220	220	180	120	110	80			
			IPM	1	2	3	3	3	3	3	3	2	1	1	1			
10	0.1D	1.5D	SFM	105	105	90	105	90	100	95	110	105	100	100	100			
			IPT	.0002	.0006	.0011	.0015	.0018	.0020	.0022	.0022	.0025	.0027	.0030	.0035 / .0026			
			RPM	3200	1600	900	800	560	500	450	450	400	250	220	190			
			IPM	3	6	6	7	6	6	6	6	6	4	4	4			
11.1	0.1D	1.5D	SFM	50	50	45	50	45	50	45	55	45	45	50	40			
			IPT	.0001	.0004	.0011	.0013	.0018	.0020	.0023	.0023	.0019	.0014	.0015	.0021 / .0016			
			RPM	1600	800	450	400	280	250	220	220	180	120	110	80			
			IPM	1	2	3	3	3	3	3	3	2	1	1	1			
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	SFM	360	365	305	325	325	355	300	345	315	355	365	330	
					IPT	.0002	.0006	.0013	.0015	.0018	.0019	.0021	.0021	.0024	.0024	.0025	.0032 / .0024	
RPM					11000	5600	3100	2500	2000	1800	1400	1400	1200	900	800	630		
IPM					15	19	24	22	21	21	18	18	17	13	12	12		
23-25	Aluminum-cast, alloyed	0.1D	1.5D	SFM	360	365	305	325	325	355	300	345	315	355	365	330		
				IPT	.0002	.0006	.0013	.0015	.0018	.0019	.0021	.0021	.0024	.0024	.0025	.0032 / .0024		
				RPM	11000	5600	3100	2500	2000	1800	1400	1400	1200	900	800	630		
				IPM	15	19	24	22	21	21	18	18	17	13	12	12		

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

2-FLUTE, BALL NOSE / SURFACING / INCH

	ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)								
							1/8	5/32	1/4	5/6	3/8	1/2	5/8	3/4	1
Holmaking	1		Non-alloy steel	0.7D	0.3D	SFM	145	130	145	350	130	130	130	120	130
						IPT	4500	3200	2200	1600	1300	1000	800	600	500
						RPM	.0004	.0007	.0012	.0020	.0027	.0034	.0038	.0046	.0051
	2		Non-alloy steel	0.7D	0.3D	SFM	110	100	110	260	100	105	100	100	105
						IPT	.0004	.0006	.0010	.0017	.0024	.0026	.0033	.0034	.0035
						RPM	3400	2400	1700	1200	1000	800	600	500	400
	3-4		Non-alloy steel	0.7D	0.3D	SFM	65	55	65	155	55	60	55	60	60
						IPT	.0003	.0005	.0009	.0014	.0021	.0024	.0031	.0033	.0036
						RPM	2000	1400	1000	700	560	450	350	300	220
	5		Non-alloy steel	0.7D	0.3D	SFM	45	40	45	110	40	40	40	40	40
						IPT	.0003	.0005	.0007	.0012	.0018	.0022	.0028	.0035	.0038
						RPM	1400	1000	700	500	400	320	250	200	160
	6		Low alloy steel	0.7D	0.3D	SFM	110	100	110	260	100	105	100	100	105
						IPT	.0004	.0006	.0010	.0017	.0024	.0026	.0033	.0034	.0035
						RPM	3400	2400	1700	1200	1000	800	600	500	400
	7		Low alloy steel	0.7D	0.3D	SFM	65	55	65	155	55	60	55	60	60
						IPT	.0003	.0005	.0009	.0014	.0021	.0024	.0031	.0033	.0036
						RPM	2000	1400	1000	700	560	450	350	300	220
	8-9		Low alloy steel	0.7D	0.3D	SFM	45	40	45	110	40	40	40	40	40
						IPT	.0003	.0005	.0007	.0012	.0018	.0022	.0028	.0035	.0038
						RPM	1400	1000	700	500	400	320	250	200	160
	10		High alloyed steel, and tool steel	0.7D	0.3D	SFM	110	100	110	260	100	105	100	100	105
						IPT	.0004	.0006	.0010	.0017	.0024	.0026	.0033	.0034	.0035
						RPM	3400	2400	1700	1200	1000	800	600	500	400
	11.1		High alloyed steel, and tool steel	0.7D	0.3D	SFM	45	40	45	110	40	40	40	40	40
						IPT	.0003	.0005	.0007	.0012	.0018	.0022	.0028	.0035	.0038
						RPM	1400	1000	700	500	400	320	250	200	160
	21-22		Aluminum-wrought alloy	0.7D	0.3D	SFM	360	325	365	875	315	325	325	315	340
						IPT	.0004	.0006	.0010	.0017	.0022	.0027	.0030	.0034	.0038
						RPM	11000	8000	5600	4000	3200	2500	2000	1600	1300
	23-25		Aluminum-cast, alloyed	0.7D	0.3D	SFM	360	325	365	875	315	325	325	315	340
						IPT	.0004	.0006	.0010	.0017	.0022	.0027	.0030	.0034	.0038
						RPM	11000	8000	5600	4000	3200	2500	2000	1600	1300
						IPM	9	10	11	14	14	13	12	11	10

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

4-FLUTE, BALL NOSE / SURFACING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						1/8	5/32	1/4	5/6	3/8	1/2	5/8	3/4	1	
P	1	Non-alloy steel	0.7D	0.3D	SFM	145	130	145	350	130	130	130	120	130	
					IPT	4500	3200	2200	1600	1300	1000	800	600	500	
					RPM	.0004	.0007	.0012	.0020	.0027	.0034	.0038	.0046	.0051	
					IPM	4	5	5	6	7	7	6	6	5	
	2		0.7D	0.3D	SFM	110	100	110	260	100	105	100	100	100	105
					IPT	.0004	.0006	.0010	.0017	.0024	.0026	.0033	.0034	.0035	
					RPM	3400	2400	1700	1200	1000	800	600	500	400	
					IPM	3	3	4	4	5	4	4	3	3	
	3-4		0.7D	0.3D	SFM	65	55	65	155	55	60	55	60	60	
					IPT	.0003	.0005	.0009	.0014	.0021	.0024	.0031	.0033	.0036	
					RPM	2000	1400	1000	700	560	450	350	300	220	
IPM		1			1	2	2	2	2	2	2	2			
5	0.7D	0.3D	SFM	45	40	45	110	40	40	40	40	40			
			IPT	.0003	.0005	.0007	.0012	.0018	.0022	.0028	.0035	.0038			
			RPM	1400	1000	700	500	400	320	250	200	160			
			IPM	1	1	1	1	1	1	1	1	1			
6	0.7D	0.3D	SFM	110	100	110	260	100	105	100	100	100	105		
			IPT	.0004	.0006	.0010	.0017	.0024	.0026	.0033	.0034	.0035			
			RPM	3400	2400	1700	1200	1000	800	600	500	400			
			IPM	3	3	4	4	5	4	4	3	3			
7	0.7D	0.3D	SFM	65	55	65	155	55	60	55	60	60			
			IPT	.0003	.0005	.0009	.0014	.0021	.0024	.0031	.0033	.0036			
			RPM	2000	1400	1000	700	560	450	350	300	220			
			IPM	1	1	2	2	2	2	2	2	2			
8-9	0.7D	0.3D	SFM	45	40	45	110	40	40	40	40	40			
			IPT	.0003	.0005	.0007	.0012	.0018	.0022	.0028	.0035	.0038			
			RPM	1400	1000	700	500	400	320	250	200	160			
			IPM	1	1	1	1	1	1	1	1	1			
10	0.7D	0.3D	SFM	110	100	110	260	100	105	100	100	100	105		
			IPT	.0004	.0006	.0010	.0017	.0024	.0026	.0033	.0034	.0035			
			RPM	3400	2400	1700	1200	1000	800	600	500	400			
			IPM	3	3	4	4	5	4	4	3	3			
11.1	0.7D	0.3D	SFM	45	40	45	110	40	40	40	40	40			
			IPT	.0003	.0005	.0007	.0012	.0018	.0022	.0028	.0035	.0038			
			RPM	1400	1000	700	500	400	320	250	200	160			
			IPM	1	1	1	1	1	1	1	1	1			
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	SFM	360	325	365	875	315	325	325	315	340	
					IPT	.0004	.0006	.0010	.0017	.0022	.0027	.0030	.0034	.0038	
RPM		11000			8000	5600	4000	3200	2500	2000	1600	1300			
IPM		9			10	11	14	14	13	12	11	10			
23-25	Aluminum-cast, alloyed	0.7D	0.3D	SFM	360	325	365	875	315	325	325	315	340		
				IPT	.0004	.0006	.0010	.0017	.0022	.0027	.0030	.0034	.0038		
				RPM	11000	8000	5600	4000	3200	2500	2000	1600	1300		
				IPM	9	10	11	14	14	13	12	11	10		

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

Holemaking
 Threading
 Milling
 Indexable
 Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

2 & 4-FLUTE, MINIATURE / SLOTting & SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)											
				1/64	1/32	3/64	1/16	5/64	3/32	7/64	1/8	9/64	5/32	11/64	3/16
P	1-5	Non-alloy steel Low alloy steel	SFM	45	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55
			RPM	11000 up	5500~5600	3670~4400	2750~3300	2200~2640	1840~2200	1570~1890	1380~1650	1220~1470	1100~1320	1000~1200	920~1100
			IPM	0.5	0.6	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.2	1.4
	6-9	Low alloy steel	SFM	45	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55
			RPM	11000 up	5500~5600	3670~4400	2750~3300	2200~2640	1840~2200	1570~1890	1380~1650	1220~1470	1100~1320	1000~1200	920~1100
			IPM	0.5	0.6	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.2	1.4
	10-11	High alloyed steel, and tool steel	SFM	25~35	25~35	25~35	25~35	25~35	25~30	25~35	25~35	25~35	25~35	25~35	25~35
			RPM	6600~8800	3300~4400	2200~2940	1650~2260	1320~1760	1100~1290	850~1260	830~1100	740~980	560~880	600~800	550~740
			IPM	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.9	1.0
M	12-14	Stainless steel	SFM	25~35	25~35	25~35	25~35	25~35	25~30	25~35	25~35	25~35	25~35	25~35	
			RPM	6600~8800	3300~4400	2200~2940	1650~2260	1320~1760	1100~1290	850~1260	830~1100	740~980	560~880	600~800	550~740
			IPM	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.9	1.0
N	21-22	Aluminum- wrought alloy	SFM	45	90	135	180	175	180	160	180	180~360	180~360	180~360	180~360
			RPM	11000 up	11000 up	11000 up	11000 up	8500 up	7330 up	5625 up	5500 up	4890~9780	4400~8800	3000~8000	3690~7340
			IPM	1.5	2.5	2.6	4.2	4.2	4.2	4.3	4.5	4.5	4.5	4.6	4.7
	23-25	Aluminum-cast, alloyed	SFM	45	90	135	180	175	180	160	180	180~360	180~360	180~360	180~360
			RPM	11000 up	11000 up	11000 up	11000 up	8500 up	7330 up	5625 up	5500 up	4890~9780	4400~8800	3000~8000	3690~7340
			IPM	1.5	2.5	2.6	4.2	4.2	4.2	4.3	4.5	4.5	4.5	4.6	4.7
	26-28	Copper and Copper Alloys (Bronze / Brass)	SFM	45	65~80	65~80	55~80	80	65~80	65~80	65~80	65~80	65~80	65~80	65~80
			RPM	11000 up	7700~9900	5140~6600	3350~4950	3850~3960	2570~3300	2200~2830	1930~2480	1710~2200	1540~1980	1400~1800	1290~1650
			IPM	0.8	1.6	2.5	3.3	3.3	3.3	3.3	3.3	3.4	3.6	3.7	3.3
	30	Non Metallic Materials	SFM	45	90	90~110	90~110	90~120	90~110	90~110	90~110	90~140	90~110	90~110	75~110
			RPM	11000 up	11000 up	7335~8800	5500~6600	4400~5820	3665~4400	3140~3770	2750~3300	2445~3770	2205~2640	2000~2400	1535~2200
			IPM	1.2	1.6	2.0	2.6	2.6	2.6	2.6	2.6	2.8	2.8	2.9	3.0
S	36	Titanium Alloys	SFM	45	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55	45~55	
			RPM	11000 up	5500~5600	3670~4400	2750~3300	2200~2640	1840~2200	1570~1890	1380~1650	1220~1470	1100~1320	1000~1200	920~1100
			IPM	0.5	0.6	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.2	1.4
	37	Titanium Alloys	SFM	25~35	25~35	25~35	25~35	25~35	25~30	25~35	25~35	25~35	25~35	25~35	
			RPM	6600~8800	3300~4400	2200~2940	1650~2260	1320~1760	1100~1290	850~1260	830~1100	740~980	560~880	600~800	550~740
			IPM	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.9	1.0

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

NOTES:

- (1) The cutting conditions in this table are given for reference, which should be varied depending on the machine, tooling, depth of cut, cutting fluid and other conditions.
- (2) Use a holder of strong gripping force and machine of high stiffness

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

ROUGHER (MULTI-FLUTE) / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)											
						1/4	5/16	3/8	1/2	5/8	3/4	1	1-1/8	1-1/4	1-1/2	1 3/4	2
P	1	Non-alloy steel	0.5D	1.5D	SFM	120	120	120	120	120	120	120	120	120	120	120	120
					IPT	.0006	.001	.0014	.0019	.0024	.0028	.0031	.0033	.0036	.0042	.0049	.0056
					RPM	1825	1475	1225	925	725	600	450	400	375	300	250	225
					IPM	3	4	7	7	7	7	7	8	8	8	7	10
	2		0.5D	1.5D	SFM	100	100	100	100	100	100	100	100	100	100	100	100
					IPT	.0006	.001	.0014	.0019	.0024	.0028	.0031	.0033	.0036	.0042	.0049	.0056
					RPM	1525	1225	1025	775	600	500	375	350	300	250	225	200
					IPM	3	4	6	6	6	6	6	7	6	6	7	9
	3-4		0.5D	1.5D	SFM	80	80	80	80	80	80	80	80	80	80	80	80
					IPT	.0006	.001	.0014	.0019	.0024	.0028	.0031	.0033	.0036	.0042	.0049	.0056
					RPM	1225	975	825	600	500	400	300	275	250	200	175	150
IPM		2			3	5	5	5	4	5	5	5	5	5	7		
5	0.5D	1.5D	SFM	50	50	50	50	50	50	50	50	50	50	50	50		
			IPT	.0005	.0008	.0011	.0015	.0019	.0022	.0025	.0026	.0029	.0034	.0039	.0045		
			RPM	775	600	500	375	300	250	200	175	150	125	100	100		
			IPM	1	1	2	2	2	2	3	3	3	3	2	4		
6	0.5D	1.5D	SFM	100	100	100	100	100	100	100	100	100	100	100	100		
			IPT	.0006	.001	.0014	.0019	.0024	.0028	.0031	.0033	.0036	.0042	.0049	.0056		
			RPM	1525	1225	1025	775	600	500	375	350	300	250	225	200		
			IPM	3	4	6	6	6	6	6	7	6	6	7	9		
7	0.5D	1.5D	SFM	80	80	80	80	80	80	80	80	80	80	80	80		
			IPT	.0006	.001	.0014	.0019	.0024	.0028	.0031	.0033	.0036	.0042	.0049	.0056		
			RPM	1225	975	825	600	500	400	300	275	250	200	175	150		
			IPM	2	3	5	5	5	4	5	5	5	5	5	7		
8-9	0.5D	1.5D	SFM	50	50	50	50	50	50	50	50	50	50	50	50		
			IPT	.0005	.0008	.0011	.0015	.0019	.0022	.0025	.0026	.0029	.0034	.0039	.0045		
			RPM	775	600	500	375	300	250	200	175	150	125	100	100		
			IPM	1	1	2	2	2	2	3	3	3	3	2	4		
10	0.5D	1.5D	SFM	100	100	100	100	100	100	100	100	100	100	100	100		
			IPT	.0005	.0008	.0011	.0015	.0019	.0022	.0025	.0026	.0029	.0034	.0039	.0045		
			RPM	1525	1225	1025	775	600	500	375	350	300	250	225	200		
			IPM	2	3	5	5	5	4	5	5	5	5	5	7		
11.1	0.5D	1.5D	SFM	50	50	50	50	50	50	50	50	50	50	50	50		
			IPT	.0005	.0008	.0011	.0015	.0019	.0022	.0025	.0026	.0029	.0034	.0039	.0045		
			RPM	775	600	500	375	300	250	200	175	150	125	100	100		
			IPM	1	1	2	2	2	2	3	3	3	3	2	4		
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	SFM	260	260	260	260	260	260	260	260	260	260	260	
	IPT	.0008			.0013	.0018	.0024	.003	.0035	.0039	.0041	.0045	.0052	.0061	.007		
23-25	Aluminum-cast, alloyed	0.5D	1.5D	RPM	3975	3175	2650	1975	1600	1325	1000	875	800	650	575	500	
				IPM	10	12	19	19	19	19	20	22	22	20	21	28	
				SFM	235	235	235	235	235	235	235	235	235	235	235	235	235
				IPT	.0007	.0012	.0016	.0022	.0028	.0032	.0036	.0038	.0041	.0048	.0056	.0064	
RPM	3600	2875	2400	1800	1425	1200	900	800	725	600	525	450					
	IPM	8	10	15	16	16	15	16	18	18	17	18	23				

SFM = Surface Feet per Minute
RPM = Revolutions Per Minute
IPT = Inches Per Tooth
IPM = Inches Per Minute
Ap : Inch (Axial Depth of Cut)
Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
TiCN coated tools increase speed ~30%
TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

Holemaking
Threading
Milling
Indexable
Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

ROUGHER, BALL NOSE (MULTI-FLUTE) / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)							
						5/16	3/8	1/2	5/8	3/4	1	1-1/4	1-3/4
P	1	Non-alloy steel	0.5D	1.5D	SFM	115	110	120	115	110	120	115	130
					IPT	.0010	.0014	.0019	.0025	.0031	.0040	.0038	.0048
					RPM	1400	1100	900	700	560	450	350	280
					IPM	4	6	7	7	7	9	8	8
	2		0.5D	1.5D	SFM	90	90	105	90	90	105	90	100
					IPT	.0009	.0014	.0019	.0027	.0033	.0035	.0036	.0045
					RPM	1100	900	800	560	450	400	280	220
					IPM	3	5	6	6	6	7	6	6
	3-4		0.5D	1.5D	SFM	75	80	80	75	80	80	70	80
					IPT	.0011	.0013	.0016	.0022	.0025	.0039	.0038	.0046
					RPM	900	800	630	450	400	310	220	180
					IPM	3	4	4	4	4	6	5	5
5	0.5D	1.5D	SFM	45	45	50	45	45	45	45	50		
			IPT	.0006	.0011	.0019	.0027	.0034	.0033	.0036	.0045		
			RPM	560	450	400	280	220	180	140	110		
			IPM	1	2	3	3	3	3	3	3		
6	0.5D	1.5D	SFM	90	90	105	90	90	105	90	100		
			IPT	.0009	.0014	.0019	.0027	.0033	.0035	.0036	.0045		
			RPM	1100	900	800	560	450	400	280	220		
			IPM	3	5	6	6	6	7	6	6		
7	0.5D	1.5D	SFM	75	80	80	75	80	80	70	80		
			IPT	.0011	.0013	.0016	.0022	.0025	.0039	.0038	.0046		
			RPM	900	800	630	450	400	310	220	180		
			IPM	3	4	4	4	4	6	5	5		
8-9	0.5D	1.5D	SFM	45	45	50	45	45	45	45	50		
			IPT	.0006	.0011	.0019	.0027	.0034	.0033	.0036	.0045		
10	0.5D	1.5D	RPM	560	450	400	280	220	180	140	110		
			SFM	90	90	105	90	90	105	90	100		
11.1	0.5D	1.5D	IPT	.0009	.0014	.0019	.0027	.0033	.0035	.0036	.0045		
			RPM	1100	900	800	560	450	400	280	220		
			IPM	3	5	6	6	6	7	6	6		
			SFM	45	45	50	45	45	45	45	50		
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	IPT	.0006	.0011	.0019	.0027	.0034	.0033	.0036	.0045
					RPM	560	450	400	280	220	180	140	110
					IPM	1	2	3	3	3	3	3	3
					SFM	255	245	260	260	235	260	260	290
23-25	Aluminum-cast, alloyed	0.5D	1.5D	IPT	.0010	.0010	.0020	.0028	.0042	.0036	.0042	.0048	
				RPM	3100	2500	2000	1600	1200	1000	800	630	
				IPM	9	10	16	18	20	18	20	18	
				SFM	255	245	260	260	235	260	260	290	
					IPT	.0010	.0010	.0020	.0028	.0042	.0036	.0042	.0048
					RPM	3100	2500	2000	1600	1200	1000	800	630
					IPM	9	10	16	18	20	18	20	18
					SFM	255	245	260	260	235	260	260	290

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

ROUGHER, TRUNCATED (MULTI-FLUTE) / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)										
						1/4	5/16	3/8	1/2	5/8	11/16	7/8	1	1-1/4	1-3/8	2 (6 & 8 FL)
P	1	Non-alloy steel	0.5D	1.5D	SFM	120	115	110	120	115	115	115	120	115	110	125
					IPT	.0004	.0005	.0011	.0017	.0021	.0024	.0028	.0031	.0033	.0038	.0035 / .0026
					RPM	1800	1400	1100	900	700	630	500	450	350	310	240
					IPM	3	3	5	6	6	6	7	7	7	7	5
	2		0.5D	1.5D	SFM	85	90	90	105	90	90	105	105	90	90	100
					IPT	.0004	.0005	.0011	.0013	.0018	.0020	.0022	.0025	.0030	.0033	.0035 / .0026
					RPM	1300	1100	900	800	560	500	450	400	280	250	190
					IPM	2	2	4	4	4	4	5	5	5	5	4
	3-4		0.5D	1.5D	SFM	80	75	80	80	75	70	80	80	70	70	80
					IPT	.0004	.0006	.0013	.0016	.0022	.0025	.0023	.0026	.0030	.0033	.0033 / .0025
RPM		1200			900	800	630	450	400	350	310	220	200	150		
IPM		2			2	4	4	4	4	4	4	4	4	3		
5	0.5D	1.5D	SFM	50	45	45	50	45	45	50	45	45	45	60		
			IPT	.0003	.0004	.0011	.0013	.0018	.0020	.0027	.0033	.0036	.0042	.0045 / .0034		
			RPM	800	560	450	400	280	250	220	180	140	120	110		
			IPM	1	1	2	2	2	2	3	3	3	3	3		
6	0.5D	1.5D	SFM	85	90	90	105	90	90	105	105	90	90	100		
			IPT	.0004	.0005	.0011	.0013	.0018	.0020	.0022	.0025	.0030	.0033	.0035 / .0026		
			RPM	1300	1100	900	800	560	500	450	400	280	250	190		
			IPM	2	2	4	4	4	4	5	5	5	5	4		
7	0.5D	1.5D	SFM	80	75	80	80	75	70	80	80	70	70	80		
			IPT	.0004	.0006	.0013	.0016	.0022	.0025	.0023	.0026	.0030	.0033	.0033 / .0025		
			RPM	1200	900	800	630	450	400	350	310	220	200	150		
			IPM	2	2	4	4	4	4	4	4	4	4	3		
8-9	0.5D	1.5D	SFM	50	45	45	50	45	45	50	45	45	45	60		
			IPT	.0003	.0004	.0011	.0013	.0018	.0020	.0027	.0033	.0036	.0042	.0045 / .0034		
			RPM	800	560	450	400	280	250	220	180	140	120	110		
			IPM	1	1	2	2	2	2	3	3	3	3	3		
10	0.5D	1.5D	SFM	85	90	90	105	90	90	105	105	90	90	100		
			IPT	.0004	.0005	.0011	.0013	.0018	.0020	.0022	.0025	.0030	.0033	.0035 / .0026		
			RPM	1300	1100	900	800	560	500	450	400	280	250	190		
			IPM	2	2	4	4	4	4	5	5	5	5	4		
11.1	0.5D	1.5D	SFM	50	45	45	50	45	45	50	45	45	45	60		
			IPT	.0003	.0004	.0011	.0013	.0018	.0020	.0027	.0033	.0036	.0042	.0045 / .0034		
			RPM	800	560	450	400	280	250	220	180	140	120	110		
			IPM	1	1	2	2	2	2	3	3	3	3	3		
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	SFM	295	255	245	260	260	250	250	260	260	250	260
					IPT	.0003	.0006	.0011	.0016	.0022	.0027	.0027	.0028	.0033	.0036	.0037 / .0028
					RPM	4500	3100	2500	2000	1600	1400	1100	1000	800	700	500
					IPM	6	7	11	13	14	15	15	14	16	15	11
23-25	Aluminum-cast, alloyed	0.5D	1.5D	SFM	295	255	245	260	260	250	250	260	260	250	260	
				IPT	.0003	.0006	.0011	.0016	.0022	.0027	.0027	.0028	.0033	.0036	.0037 / .0028	
				RPM	4500	3100	2500	2000	1600	1400	1100	1000	800	700	500	
				IPM	6	7	11	13	14	15	15	14	16	15	11	

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

Holemaking
 Threading
 Milling
 Indexable
 Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

2-FLUTE, ALUMINUM SPECIFIC / SLOTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						1/8	3/16	1/4	5/16	7/16	1/2	9/16	5/8	3/4	13/16
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	SFM	260	365	445	425	575	590	515	575	450	425
					IPT	.0014	.0017	.0021	.0042	.0047	.0052	.0070	.0070	.0111	.0128
					RPM	8000	7400	6800	5200	5000	4500	3500	3500	2300	2000
					IPM	23	25	29	44	47	47	49	49	51	51
	23-25	Aluminum-cast, alloyed	1.0D	0.5D	SFM	170	235	290	275	370	385	335	370	295	275
					IPT	.0014	.0017	.0021	.0042	.0047	.0052	.0070	.0070	.0111	.0128
					RPM	5200	4810	4420	3380	3250	2930	2280	2280	1500	1300
					IPM	15	16	19	28	31	31	32	32	33	33

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%

※ For tools with >3xD LOC, reduce feed approximately 50%

Holemaking

Threading

Milling

ROUGHER, ALUMINUM SPECIFIC (MULTI-FLUTE) / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						1/4	5/16	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	SFM	295	255	245	260	260	250	250	260	260	250
					IPT	.0004	.0008	.0015	.0022	.0029	.0036	.0045	.0047	.0067	.0071
					RPM	4500	3100	2500	2000	1600	1400	1100	1000	800	700
					IPM	6	7	11	13	14	15	15	14	16	15
	23-25	Aluminum-cast, alloyed	0.5D	1.5D	SFM	295	255	245	260	260	250	250	260	260	250
					IPT	.0004	.0008	.0015	.0022	.0029	.0036	.0045	.0047	.0067	.0071
					RPM	4500	3100	2500	2000	1600	1400	1100	1000	800	700
					IPM	6	7	11	13	14	15	15	14	16	15

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%

※ For tools with >3xD LOC, reduce feed approximately 50%

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

HIGH HELIX (MULTI-FLUTE) / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)													
				1/4	1/4	5/8	5/8	3/4	3/4	1	1	1-1/2	1-1/2	2	2		
				Ae	0.08D	0.32D	0.03D	0.3D	0.03D	0.35D	0.02D	0.3D	0.13D	0.05D	0.01D	0.8D	
Ap	1.4D	1.4D	1.6D	1.6D	1.6D	1.6D	1.6D	1.6D	1.6D	1.05D	1.05D	1.0D	1.0D				
P	1-5	Non-alloy steel	SFM	120	105	125	105	100	90	120	105	110	95	115	100		
			IPT	.0007	.0008	.0013	.0015	.0016	.0019	.0016	.0018	.0022	.0026	.0025	.0029		
			RPM	1840	1600	750	650	520	450	460	400	280	240	220	190		
			IPM	4	4	3	3	3	3	3	3	3	3	2	2		
	6-9	Low alloy steel	SFM	120	105	125	105	100	90	120	105	110	95	115	100		
			IPT	.0007	.0008	.0013	.0015	.0016	.0019	.0016	.0018	.0022	.0026	.0025	.0029		
			RPM	1840	1600	750	650	520	450	460	400	280	240	220	190		
			IPM	4	4	3	3	3	3	3	3	3	3	2	2		
	10-11	High alloyed steel, and tool steel	SFM	80	45	75	65	75	65	75	65	65	60	75	65		
			IPT	.0006	.0011	.0014	.0017	.0016	.0019	.0016	.0018	.0021	.0023	.0023	.0027		
			RPM	1250	650	460	400	370	320	290	250	170	150	140	120		
			IPM	2	2	2	2	2	2	2	2	1	1	1	1		
M	12-14	Stainless steel	SFM	65	35	65	55	60	50	65	55	60	50	60	50		
			IPT	.0006	.0010	.0012	.0014	.0016	.0018	.0015	.0017	.0022	.0025	.0024	.0028		
			RPM	980	510	390	340	300	260	240	210	150	130	120	100		
			IPM	2	2	1	1	1	1	1	1	1	1	1	1		
K	15-16	Grey cast iron	SFM	135	70	135	120	125	110	135	115	125	110	135	120		
			IPT	.0008	.0014	.0016	.0019	.0022	.0025	.0021	.0024	.0028	.0032	.0028	.0032		
			RPM	2050	1100	840	730	630	550	510	440	320	280	260	230		
			IPM	5	5	4	4	4	4	4	4	4	4	3	3		
	17-18	Nodular cast iron	SFM	135	70	135	120	125	110	135	115	125	110	135	120		
			IPT	.0008	.0014	.0016	.0019	.0022	.0025	.0021	.0024	.0028	.0032	.0028	.0032		
			RPM	2050	1100	840	730	630	550	510	440	320	280	260	230		
			IPM	5	5	4	4	4	4	4	4	4	4	3	3		
	19-20	Low alloy steel	SFM	135	70	135	120	125	110	135	115	125	110	135	120		
			IPT	.0008	.0014	.0016	.0019	.0022	.0025	.0021	.0024	.0028	.0032	.0028	.0032		
			RPM	2050	1100	840	730	630	550	510	440	320	280	260	230		
			IPM	5	5	4	4	4	4	4	4	4	4	3	3		

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

CORNER ROUNING / INCH

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)												
				7/16	1/2	5/8	3/4	7/8	1	1-1/8	1-1/4	1-3/8	1-1/2	1-5/8	1-15/16	1-7/8
P	1	Non-alloy steel	SFM	65	65	65	65	65	65	65	65	65	65	65	65	65
			IPT	.0008	.0008	.0011	.0012	.0014	.0016	.0017	.0019	.0019	.0021	.0022	.0023	.0023
			RPM	580	500	400	340	290	250	220	200	180	170	160	130	130
			IPM	1.8	1.6	1.8	1.6	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.2	1.2
	2		SFM	50	50	50	50	50	50	50	50	50	50	50	50	50
			IPT	.0008	.0008	.0011	.0012	.0014	.0016	.0016	.0018	.0018	.0021	.0021	.0023	.0023
			RPM	430	370	300	250	210	190	170	150	140	120	120	100	100
			IPM	1.4	1.2	1.3	1.2	1.2	1.2	1.1	1.1	1	1	1	0.9	0.9
	3-4		SFM	35	35	35	35	35	35	35	35	35	35	35	35	35
			IPT	.0009	.0010	.0013	.0015	.0018	.0019	.0023	.0025	.0028	.0031	.0000	.0000	.0036
			RPM	290	250	200	170	140	130	110	100	90	80	80	70	70
			IPM	1	1	1	1	1	1	1	1	1	1	0	0	1
5	SFM	50	45	45	50	45	45	50	45	45	45	45	45	45		
	IPT	.0004	.0006	.0015	.0017	.0024	.0027	.0045	.0056	.0071	.0083	.0083	.0083	.0083		
	RPM	800	560	450	400	280	250	220	180	140	120	120	120	120		
	IPM	1	1	2	2	2	2	3	3	3	3	3	3	3		
6	SFM	50	50	50	50	50	50	50	50	50	50	50	50	50		
	IPT	.0008	.0008	.0011	.0012	.0014	.0016	.0016	.0018	.0018	.0021	.0021	.0023	.0023		
	RPM	430	370	300	250	210	190	170	150	140	120	120	100	100		
	IPM	1.4	1.2	1.3	1.2	1.2	1.2	1.1	1.1	1	1	1	0.9	0.9		
7	SFM	35	35	35	35	35	35	35	35	35	35	35	35	35		
	IPT	.0009	.0010	.0013	.0015	.0018	.0019	.0023	.0025	.0028	.0031	.0000	.0000	.0036		
	RPM	290	250	200	170	140	130	110	100	90	80	80	70	70		
	IPM	1	1	1	1	1	1	1	1	1	1	0	0	1		
8-9	SFM	50	45	45	50	45	45	50	45	45	45	45	45	45		
	IPT	.0004	.0006	.0015	.0017	.0024	.0027	.0045	.0056	.0071	.0083	.0083	.0083	.0083		
	RPM	800	560	450	400	280	250	220	180	140	120	120	120	120		
	IPM	1	1	2	2	2	2	3	3	3	3	3	3	3		
10	SFM	50	50	50	50	50	50	50	50	50	50	50	50	50		
	IPT	.0008	.0008	.0011	.0012	.0014	.0016	.0016	.0018	.0018	.0021	.0021	.0023	.0023		
	RPM	430	370	300	250	210	190	170	150	140	120	120	100	100		
	IPM	1.4	1.2	1.3	1.2	1.2	1.2	1.1	1.1	1	1	1	0.9	0.9		
11.1	SFM	50	45	45	50	45	45	50	45	45	45	45	45	45		
	IPT	.0004	.0006	.0015	.0017	.0024	.0027	.0045	.0056	.0071	.0083	.0083	.0083	.0083		
	RPM	800	560	450	400	280	250	220	180	140	120	120	120	120		
	IPM	1	1	2	2	2	2	3	3	3	3	3	3	3		
N	21-22	Aluminum-wrought alloy	SFM	295	295	295	295	295	295	295	295	295	295	295	295	
			IPT	.0009	.0009	.0013	.0013	.0016	.0015	.0018	.0019	.0021	.0023	.0022	.0022	
			RPM	2580	2250	1800	1500	1290	1130	1000	900	820	750	690	580	
			IPM	9	8	9	8	8	7	7	7	7	7	6	5	
	23-25		Aluminum-cast, alloyed	SFM	295	295	295	295	295	295	295	295	295	295	295	295
				IPT	.0009	.0009	.0013	.0013	.0016	.0015	.0018	.0019	.0021	.0023	.0022	.0022
				RPM	2580	2250	1800	1500	1290	1130	1000	900	820	750	690	580
				IPM	9	8	9	8	8	7	7	7	7	7	6	5

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

3-FLUTE (THROW AWAY) / SLOTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						3/32	1/8	1/4	3/8	1/2	9/16	5/8	7/8	1	1-1/8
P	1	Non-alloy steel	1.0D	0.5D	SFM	135	115	120	110	120	120	115	115	120	120
					IPT	.0001	.0003	.0010	.0018	.0024	.0027	.0031	.0040	.0039	.0039
					RPM	5600	3500	1800	1100	900	800	700	500	450	400
					IPM	2	3	5	6	7	7	7	6	5	5
	2		1.0D	0.5D	SFM	110	105	105	90	105	105	90	105	105	105
					IPT	.0001	.0003	.0010	.0020	.0025	.0025	.0032	.0039	.0039	.0039
					RPM	4500	3200	1600	900	800	700	560	450	400	350
					IPM	2	3	5	5	6	5	5	5	5	4
	3-4		1.0D	0.5D	SFM	100	80	80	80	80	80	75	80	80	80
					IPT	.0002	.0003	.0010	.0020	.0025	.0028	.0030	.0039	.0038	.0037
RPM		4000			2500	1200	800	630	560	450	350	310	280		
IPM		2			2	4	5	5	4	4	4	4	3		
5	1.0D	0.5D	SFM	55	50	50	45	50	50	45	50	45	45		
			IPT	.0001	.0003	.0010	.0019	.0025	.0029	.0031	.0039	.0037	.0038		
			RPM	2200	1600	800	450	400	350	280	220	180	160		
			IPM	1	1	2	3	3	3	3	3	2	2		
6	1.0D	0.5D	SFM	110	105	105	90	105	105	90	105	105	105		
			IPT	.0001	.0003	.0010	.0020	.0025	.0025	.0032	.0039	.0039	.0039		
			RPM	4500	3200	1600	900	800	700	560	450	400	350		
			IPM	2	3	5	5	6	5	5	5	5	4		
7	1.0D	0.5D	SFM	100	80	80	80	80	80	75	80	80	80		
			IPT	.0002	.0003	.0010	.0020	.0025	.0028	.0030	.0039	.0038	.0037		
			RPM	4000	2500	1200	800	630	560	450	350	310	280		
			IPM	2	2	4	5	5	4	4	4	4	3		
8-9	1.0D	0.5D	SFM	55	50	50	45	50	50	45	50	45	45		
			IPT	.0001	.0003	.0010	.0019	.0025	.0029	.0031	.0039	.0037	.0038		
			RPM	2200	1600	800	450	400	350	280	220	180	160		
			IPM	1	1	2	3	3	3	3	3	2	2		
10	1.0D	0.5D	SFM	110	105	105	90	105	105	90	105	105	105		
			IPT	.0001	.0003	.0010	.0020	.0025	.0025	.0032	.0039	.0039	.0039		
			RPM	4500	3200	1600	900	800	700	560	450	400	350		
			IPM	2	3	5	5	6	5	5	5	5	4		
11.1	1.0D	0.5D	SFM	55	50	50	45	50	50	45	50	45	45		
			IPT	.0001	.0003	.0010	.0019	.0025	.0029	.0031	.0039	.0037	.0038		
			RPM	2200	1600	800	450	400	350	280	220	180	160		
			IPM	1	1	2	3	3	3	3	3	2	2		
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	SFM	295	360	365	305	325	325	325	320	315	325
					IPT	.0003	.0005	.0011	.0025	.0030	.0032	.0035	.0042	.0046	.0048
RPM					12000	11000	5600	3100	2500	2200	2000	1400	1200	1100	
IPM					9	15	19	24	22	21	21	18	17	16	
23-25	Aluminum-cast, alloyed	1.0D	0.5D	SFM	295	360	365	305	325	325	325	320	315	325	
				IPT	.0003	.0005	.0011	.0025	.0030	.0032	.0035	.0042	.0046	.0048	
				RPM	12000	11000	5600	3100	2500	2200	2000	1400	1200	1100	
				IPM	9	15	19	24	22	21	21	18	17	16	

SFM = Surface Feet per Minute
RPM = Revolutions Per Minute
IPT = Inches Per Tooth
IPM = Inches Per Minute
Ap : Inch (Axial Depth of Cut)
Ae : Inch (Radial Depth of Cut)

TiN coated tools increase speed ~20%
TiCN coated tools increase speed ~30%
TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

COBALT & HSS END MILLS

RECOMMENDED CUTTING CONDITIONS

3-FLUTE (THROW AWAY) / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)															
						3/32	1/8	5/32	3/16	1/4	5/16	3/8	1/2	9/16	5/8	11/16	13/16	7/8	1	1-1/8	1-3/16
P	1	Non-alloy steel	0.1D	1.5D	SFM	135	115	115	110	120	115	110	120	120	115	115	120	115	120	110	110
					IPT	.0001	.0003	.0005	.0008	.0010	.0014	.0018	.0024	.0027	.0031	.0032	.0036	.0040	.0039	.0039	.0039
					RPM	5600	3500	2800	2200	1800	1400	1100	900	800	700	630	560	500	450	400	350
					IPM	2	3	4	5	5	6	6	7	7	7	6	6	6	5	5	4
	2		0.1D	1.5D	SFM	110	105	90	90	105	90	90	105	105	90	90	95	105	105	105	95
					IPT	.0001	.0003	.0005	.0007	.0009	.0014	.0017	.0022	.0022	.0028	.0031	.0035	.0035	.0036	.0035	.0033
					RPM	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310
					IPM	2	2	3	4	4	5	5	5	5	5	5	5	5	4	4	3
	3-4		0.1D	1.5D	SFM	100	80	75	80	80	75	80	80	80	75	70	85	80	80	80	80
					IPT	.0001	.0002	.0004	.0005	.0007	.0011	.0016	.0020	.0023	.0023	.0026	.0026	.0030	.0028	.0029	.0029
					RPM	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250
					IPM	1	2	2	3	3	3	4	4	4	3	3	3	3	3	2	2
5	0.1D	1.5D	SFM	55	50	45	45	50	45	45	50	50	45	45	45	50	45	45	50		
			IPT	.0001	.0002	.0004	.0005	.0008	.0012	.0015	.0018	.0021	.0024	.0027	.0030	.0030	.0026	.0025	.0025		
			RPM	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160		
			IPM	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1		
6	0.1D	1.5D	SFM	110	105	90	90	105	90	90	105	105	90	90	95	105	105	105	95		
			IPT	.0001	.0003	.0005	.0007	.0009	.0014	.0017	.0022	.0022	.0028	.0031	.0035	.0035	.0036	.0035	.0033		
			RPM	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310		
			IPM	2	2	3	4	4	5	5	5	5	5	5	5	5	4	4	3		
7	0.1D	1.5D	SFM	100	80	75	80	80	75	80	80	80	75	70	85	80	80	80	80		
			IPT	.0001	.0002	.0004	.0005	.0007	.0011	.0016	.0020	.0023	.0023	.0026	.0026	.0030	.0028	.0029	.0029		
			RPM	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250		
			IPM	1	2	2	3	3	3	4	4	4	3	3	3	3	3	2	2		
8-9	0.1D	1.5D	SFM	55	50	45	45	50	45	45	50	50	45	45	45	50	45	45	50		
			IPT	.0001	.0002	.0004	.0005	.0008	.0012	.0015	.0018	.0021	.0024	.0027	.0030	.0030	.0026	.0025	.0025		
			RPM	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160		
			IPM	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1		
10	0.1D	1.5D	SFM	110	105	90	90	105	90	90	105	105	90	90	95	105	105	105	95		
			IPT	.0001	.0003	.0005	.0007	.0009	.0014	.0017	.0022	.0022	.0028	.0031	.0035	.0035	.0036	.0035	.0033		
			RPM	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310		
			IPM	2	2	3	4	4	5	5	5	5	5	5	5	5	4	4	3		
11.1	0.1D	1.5D	SFM	55	50	45	45	50	45	45	50	50	45	45	45	50	45	45	50		
			IPT	.0001	.0002	.0004	.0005	.0008	.0012	.0015	.0018	.0021	.0024	.0027	.0030	.0030	.0026	.0025	.0025		
			RPM	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160		
			IPM	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1		
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	SFM	295	360	325	310	365	325	305	325	325	325	325	340	320	315	325	340
					IPT	.0002	.0003	.0005	.0007	.0008	.0014	.0019	.0023	.0024	.0026	.0029	.0030	.0032	.0035	.0036	.0036
					RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100
					IPM	7	11	13	14	14	17	18	17	16	16	16	14	13	13	12	12
	23-25		0.1D	1.5D	SFM	295	360	325	310	365	325	305	325	325	325	325	340	320	315	325	340
					IPT	.0002	.0003	.0005	.0007	.0008	.0014	.0019	.0023	.0024	.0026	.0029	.0030	.0032	.0035	.0036	.0036
					RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100
					IPM	7	11	13	14	14	17	18	17	16	16	16	14	13	13	12	12

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute

TiN coated tools increase speed ~20%
 TiCN coated tools increase speed ~30%
 TiAlN coated tools increase speed ~40%

※ For tools with >3xD LOC, reduce feed approximately 50%

POWDER METAL END MILLS PM60 ONLY ONE



ONLY ONE

SELECTION GUIDE

ONLY ONE

- PM60 Powder Metal offers the toughness of cobalt and near carbide level performance
- Y-coating (same coating as used on YG-1's High-Performance products)
- Perfect solution to prevent carbide chipping in less stable applications

SERIES	GYG64	GYG67
FLUTE	2	4
HELIX ANGLE	30°	30°
CUTTING EDGE SHAPE	SQUARE	BALL NOSE
SIZE MIN	D1/8	R1/16
SIZE MAX	D1	R1/2
PAGE	204	204
LENGTH	CENTER CUT	



◎ : Excellent ○ : Good

Recommended cutting conditions : P.208-213

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC	GYG64	GYG67
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎
	4		About 0.75% C Annealed	270	28	◎	◎
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎
	6	Low alloy steel	Annealed	180	10	◎	◎
	7		Quenched & Tempered	275	29	◎	◎
	8		Quenched & Tempered	300	32	◎	◎
	9		Quenched & Tempered	350	38	○	○
	10	High alloyed steel, and tool steel	Annealed	200	15	◎	◎
	11		Quenched & Tempered	325	35	○	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎
	13		Martensitic Quenched & Tempered	240	23	◎	◎
	14		Austenitic	180	10	◎	◎
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎
	16		Pearlitic (Martensitic)	260	26	◎	◎
	17	Nodular cast iron	Ferritic	160	3	◎	◎
	18		Pearlitic	250	25	◎	◎
	19	Malleable cast iron	Ferritic	130		◎	◎
	20		Pearlitic	230	21	◎	◎
N	21	Aluminum-wrought alloy	Not Curable	60			
	22		Curable Hardened	100			
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75			
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	○
	27		CuZn, CuSnZn (Brass)	90		○	○
	28		CuSn, lead-free copper and electrolytic copper	100		○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Ni or Co Based Cured	350	38		
	35		Cast	320	34		
	36	Titanium Alloys	Pure Titanium	400 Rm			
37	Alpha + Beta Alloys Hardened		1050 Rm				
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42	○	○
	41	Hardened Cast Iron	Hardened	550	55		

Holemaking

Threading

Milling

Indexable

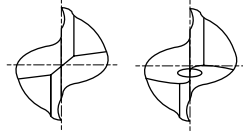
Rotary Tool Holder

ONLY ONE

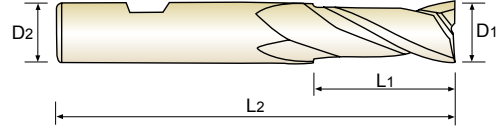
FLAT SHANK

GYG64 SERIES

PM60, 2 FLUTE (Center Cut)



up to Ø1/8inch over Ø1/8 inch



PM 60
2
30°
FLAT
P. 208

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
Y-COATED		D1	D2	L1	L2
GYG64008	\$14.87	1/8	3/8	3/8	2-5/16
GYG64012	\$14.87	3/16	3/8	7/16	2-5/16
GYG64016	\$16.21	1/4	3/8	1/2	2-5/16
GYG64020	\$20.69	5/16	3/8	9/16	2-5/16
GYG64024	\$20.69	3/8	3/8	9/16	2-5/16
GYG64032	\$31.98	1/2	1/2	1	3
GYG64040	\$46.11	5/8	5/8	1-5/16	3-7/16
GYG64048	\$71.84	3/4	3/4	1-5/16	3-7/16
GYG64064	\$106.06	1	1	1-5/8	4-1/8

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Holemaking

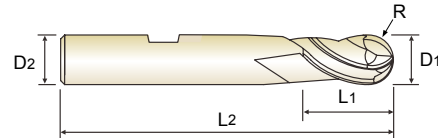
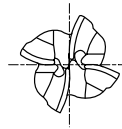
Threading

Milling

FLAT SHANK

GYG67 SERIES

PM60, 4 FLUTE BALL NOSE



PM 60
4
30°
R ±.001
FLAT
P. 209

Unit : Inch

EDP No.	Price	Mill Diameter	Radius of Ball Nose	Shank Diameter	Length of Cut	Overall Length
Y-COATED		D1	R	D2	L1	L2
GYG67008	\$18.76	1/8	R1/16	3/8	3/8	2-5/16
GYG67012	\$18.76	3/16	R3/32	3/8	1/2	2-3/8
GYG67016	\$20.48	1/4	R1/8	3/8	5/8	2-7/16
GYG67020	\$26.27	5/16	R5/32	3/8	3/4	2-1/2
GYG67024	\$26.27	3/8	R3/16	3/8	3/4	2-1/2
GYG67032	\$42.45	1/2	R1/4	1/2	1-1/4	3-1/4
GYG67040	\$61.83	5/8	R5/16	5/8	1-5/8	3-3/4
GYG67048	\$95.74	3/4	R3/8	3/4	1-5/8	3-7/8
GYG67064	\$141.67	1	R1/2	1	2	4-1/2

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

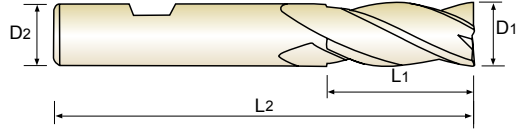
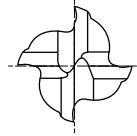
Indexable

Rotary Tool Holder

ONLY ONE

FLAT SHANK
GYG65 SERIES

PM60, 4 FLUTE (Center Cut)



PM 60
4
30°
FLAT
P. 210

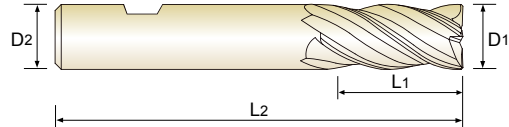
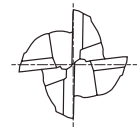
Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
		D1	D2	L1	L2
Y-COATED					
GYG65008	\$16.32	1/8	3/8	3/8	2-5/16
GYG65012	\$16.32	3/16	3/8	1/2	2-3/8
GYG65016	\$17.81	1/4	3/8	5/8	2-7/16
GYG65020	\$22.83	5/16	3/8	3/4	2-1/2
GYG65024	\$22.83	3/8	3/8	3/4	2-1/2
GYG65032	\$36.93	1/2	1/2	1-1/4	3-1/4
GYG65040	\$53.77	5/8	5/8	1-5/8	3-3/4
GYG65048	\$83.25	3/4	3/4	1-5/8	3-7/8
GYG65056	\$92.27	7/8	7/8	1-7/8	4-1/8
GYG65064	\$123.19	1	1	2	4-1/2

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-0.0012	h6

FLAT SHANK
GYG66 SERIES

PM60, 4 FLUTE MULTIPLE HELIX (Center Cut)



PM 60
4
35°/37°
FLAT
P. 211

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
		D1	D2	L1	L2
Y-COATED					
GYG66008	\$18.12	1/8	3/8	3/8	2-5/16
GYG66012	\$18.12	3/16	3/8	1/2	2-3/8
GYG66016	\$19.78	1/4	3/8	5/8	2-7/16
GYG66020	\$25.38	5/16	3/8	3/4	2-1/2
GYG66024	\$25.38	3/8	3/8	3/4	2-1/2
GYG66032	\$41.01	1/2	1/2	1-1/4	3-1/4
GYG66040	\$59.74	5/8	5/8	1-5/8	3-3/4
GYG66048	\$92.52	3/4	3/4	1-5/8	3-7/8
GYG66064	\$136.90	1	1	2	4-1/2

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-0.0012	h6

Holemaking

Threading

Milling

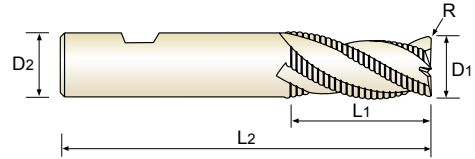
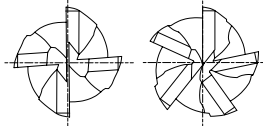
Indexable

Rotary Tool Holder

ONLY ONE

FLAT SHANK
GYG69 SERIES

PM60, MULTI FLUTE MULTIPLE HELIX CORNER RADIUS ROUGHING - FINE (Center Cut)



P. 212

5 Flute, 44°/44.5°/45°

Unit : Inch

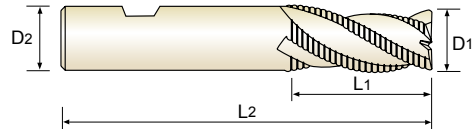
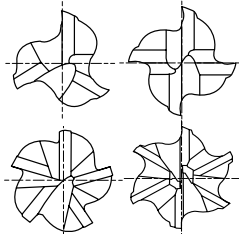
EDP No.	Price	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
Y-COATED		R	D1	D2	L1	L2	
GYG69016	\$30.43	R.020	1/4	3/8	5/8	2-7/16	4
GYG69020	\$32.82	R.020	5/16	3/8	3/4	2-1/2	4
GYG69024	\$39.78	R.020	3/8	3/8	3/4	2-1/2	4
GYG69032	\$59.74	R.020	1/2	1/2	1-1/4	3-1/4	4
GYG69040	\$78.30	R.040	5/8	5/8	1-1/4	3-3/8	5
GYG69048	\$109.12	R.040	3/4	3/4	1-5/8	3-7/8	5
GYG69064	\$163.47	R.040	1	1	2	4-1/2	5

Mill Dia. Tolerance (inch)

0 ~ +.0030

FLAT SHANK
GYG68 SERIES

PM60, MULTI FLUTE ROUGHING- FINE (Center Cut)



P. 213

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
Y-COATED		D1	D2	L1	L2	
GYG68016	\$20.77	1/4	3/8	5/8	2-7/16	3
GYG68020	\$22.41	5/16	3/8	3/4	2-1/2	3
GYG68901	\$33.62	3/8	3/8	1-3/8	3-3/16	3
GYG68024	\$27.15	3/8	3/8	3/4	2-1/2	4
GYG68902	\$40.76	3/8	3/8	1-1/2	3-1/4	4
GYG68032	\$50.44	1/2	1/2	1-1/4	3-1/4	4
GYG68903	\$64.47	1/2	1/2	2	4	4
GYG68040	\$61.90	5/8	5/8	1-5/8	3-3/4	4
GYG68904	\$88.04	5/8	5/8	2-1/2	4-5/8	4
GYG68048	\$99.67	3/4	3/4	1-5/8	3-7/8	4
GYG68905	\$116.97	3/4	3/4	2-1/2	4-3/4	4
GYG68906	\$129.04	3/4	3/4	3	5-1/4	4
GYG68064	\$151.10	1	1	2	4-1/2	5
GYG68907	\$210.27	1	1	4	6-1/2	5
GYG68116	\$266.11	1-1/4	1-1/4	2	4-1/2	6

Mill Dia. Tolerance (inch)

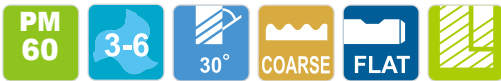
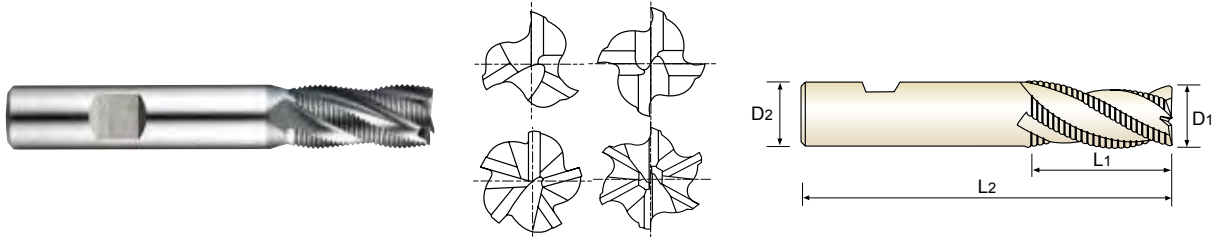
up to 1 0~+.0030

over 1 0~+.0060

ONLY ONE

FLAT SHANK
GYG70 SERIES

PM60, MULTI FLUTE ROUGHING- COARSE (Center Cut)



P. 213

Unit : Inch

EDP No.	Price	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
		D1	D2	L1	L2	
Y-COATED						
GYG70016	\$19.86	1/4	3/8	5/8	2-7/16	3
GYG70020	\$21.48	5/16	3/8	3/4	2-1/2	3
GYG70024	\$24.78	3/8	3/8	3/4	2-1/2	4
GYG70032	\$47.80	1/2	1/2	1-1/4	3-1/4	4
GYG70040	\$58.58	5/8	5/8	1-5/8	3-3/4	4
GYG70048	\$95.53	3/4	3/4	1-5/8	3-7/8	4
GYG70064	\$144.97	1	1	2	4-1/2	5
GYG70116	\$251.76	1-1/4	1-1/4	2	4-1/2	6

Mill Dia. Tolerance (inch)	
up to 1	0~+.0030
over 1	0~+.0060

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

ONLY ONE

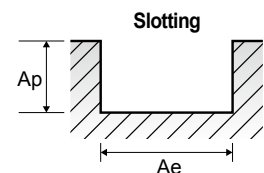
RECOMMENDED CUTTING CONDITIONS

GYG 64

2FLUTE / SLOTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	
P	1	Non-alloy steel	1.0D	0.5D	SFM	185	245	260	255	260	265	265	235	235	
					IPT	.0006	.0013	.0015	.0021	.0028	.0030	.0039	.0046	.0041	
					RPM	5710	4950	3960	3130	2640	2030	1620	1200	890	
					IPM	7	13	12	13	15	12	13	11	7	
	2		1.0D	0.5D	SFM	150	200	215	215	225	215	225	225	195	195
					IPT	.0006	.0012	.0014	.0022	.0029	.0033	.0034	.0042	.0044	
					RPM	4610	4080	3310	2650	2270	1650	1380	990	750	
					IPM	6	10	9	11	13	11	9	8	7	
	3-4		1.0D	0.5D	SFM	125	160	170	180	180	170	175	175	150	150
					IPT	.0007	.0014	.0017	.0022	.0031	.0036	.0039	.0042	.0047	
					RPM	3810	3280	2610	2170	1840	1300	1080	890	580	
					IPM	5	9	9	10	11	9	9	7	5	
5	1.0D	0.5D	SFM	85	105	110	115	110	110	110	110	110	115		
			IPT	.0007	.0011	.0015	.0020	.0027	.0031	.0036	.0041	.0041			
			RPM	2610	2140	1650	1400	1140	850	680	550	430			
			IPM	3	5	5	6	6	5	5	5	4			
6	1.0D	0.5D	SFM	150	200	215	215	225	215	225	225	195	195		
			IPT	.0006	.0012	.0014	.0022	.0029	.0033	.0034	.0042	.0044			
			RPM	4610	4080	3310	2650	2270	1650	1380	990	750			
			IPM	6	10	9	11	13	11	9	8	7			
7	1.0D	0.5D	SFM	125	160	170	180	180	170	175	175	150	150		
			IPT	.0007	.0014	.0017	.0022	.0031	.0036	.0039	.0042	.0047			
			RPM	3810	3280	2610	2170	1840	1300	1080	890	580			
			IPM	5	9	9	10	11	9	9	7	5			
8	1.0D	0.5D	SFM	85	105	110	115	110	110	110	110	110	115		
			IPT	.0007	.0011	.0015	.0020	.0027	.0031	.0036	.0041	.0041			
			RPM	2610	2140	1650	1400	1140	850	680	550	430			
			IPM	3	5	5	6	6	5	5	5	4			
9	1.0D	0.5D	SFM	65	80	85	90	85	85	90	90	80	80		
			IPT	.0007	.0011	.0014	.0019	.0028	.0028	.0036	.0039	.0040			
			RPM	2010	1670	1300	1080	870	650	540	450	300			
			IPM	3	4	4	4	5	4	4	4	2			
10	1.0D	0.5D	SFM	150	200	215	215	225	215	225	225	195	195		
			IPT	.0006	.0012	.0014	.0022	.0029	.0033	.0034	.0042	.0044			
			RPM	4610	4080	3310	2650	2270	1650	1380	990	750			
			IPM	6	10	9	11	13	11	9	8	7			
11.1	1.0D	0.5D	SFM	85	105	110	115	110	110	110	110	110	115		
			IPT	.0007	.0011	.0015	.0020	.0027	.0031	.0036	.0041	.0041			
			RPM	2610	2140	1650	1400	1140	850	680	550	430			
			IPM	3	5	5	6	6	5	5	5	4			
11.2	1.0D	0.3D	SFM	45	60	60	60	60	60	60	60	65	50		
			IPT	.0007	.0011	.0014	.0019	.0029	.0028	.0035	.0039	.0038			
			RPM	1400	1200	900	760	630	450	380	320	200			
			IPM	2	3	3	3	4	3	3	3	2			
M	14.1	Stainless steel	1.0D	0.5D	SFM	70	90	95	100	95	95	95	100	85	
					IPT	.0007	.0011	.0014	.0019	.0028	.0028	.0036	.0040	.0038	
					RPM	2210	1870	1450	1200	970	730	580	500	330	
					IPM	3	4	4	4	5	4	4	4	3	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	SFM	150	200	215	215	225	215	225	195	195	
					IPT	.0006	.0012	.0014	.0022	.0029	.0033	.0034	.0042	.0044	
					RPM	4610	4080	3310	2650	2270	1650	1380	990	750	
					IPM	6	10	9	11	13	11	9	8	7	
H	40	Hardened Cast Iron	1.0D	0.3D	SFM	45	60	60	60	60	60	60	65	50	
					IPT	.0007	.0011	.0014	.0019	.0029	.0028	.0035	.0039	.0038	
					RPM	1400	1200	900	760	630	450	380	320	200	
					IPM	2	3	3	3	4	3	3	3	2	

SFM = Surface Feet per Minute
RPM = Revolutions Per Minute
IPT = Inches Per Tooth
IPM = Inches Per Minute
Ap : Inch (Axial Depth of Cut)
Ae : Inch (Radial Depth of Cut)



ONLY ONE

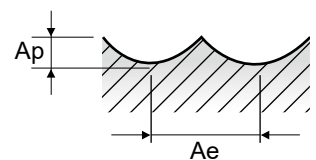
RECOMMENDED CUTTING CONDITIONS

GYG67

4FLUTE / BALL / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	
P	1	Non-alloy steel	0.5D	0.2D	SFM	270	310	330	330	340	340	340	335	295	
					IPT	.0007	.0012	.0016	.0023	.0032	.0034	.0042	.0046	.0048	
					RPM	8320	6270	5010	4050	3480	2610	2070	1700	1130	
					IPM	24	29	32	38	45	36	34	31	22	
	2		0.5D	0.2D	SFM	215	245	260	255	260	265	255	255	245	230
					IPT	.0006	.0010	.0014	.0020	.0028	.0029	.0037	.0041	.0041	
					RPM	6620	4950	3960	3130	2640	2030	1560	1250	880	
					IPM	16	20	22	25	30	23	23	21	15	
	3-4		0.5D	0.2D	SFM	145	160	170	180	175	175	175	175	170	145
					IPT	.0005	.0008	.0011	.0016	.0024	.0025	.0030	.0032	.0037	
					RPM	4410	3260	2610	2170	1770	1350	1080	870	550	
					IPM	8	11	12	14	17	13	13	11	8	
5	0.5D	0.2D	SFM	75	85	90	90	85	85	90	90	90	80		
			IPT	.0004	.0007	.0010	.0014	.0022	.0021	.0027	.0030	.0030			
			RPM	2310	1690	1350	1080	870	650	540	450	300			
			IPM	4	5	6	6	8	6	6	5	4			
6	0.5D	0.2D	SFM	215	245	260	255	260	265	255	255	245	230		
			IPT	.0006	.0010	.0014	.0020	.0028	.0029	.0037	.0041	.0041			
			RPM	6620	4950	3960	3130	2640	2030	1560	1250	880			
			IPM	16	20	22	25	30	23	23	21	15			
7	0.5D	0.2D	SFM	145	160	170	180	175	175	175	175	170	145		
			IPT	.0005	.0008	.0011	.0016	.0024	.0025	.0030	.0032	.0037			
			RPM	4410	3260	2610	2170	1770	1350	1080	870	550			
			IPM	8	11	12	14	17	13	13	11	8			
8	0.5D	0.2D	SFM	75	85	90	90	85	85	90	90	90	80		
			IPT	.0004	.0007	.0010	.0014	.0022	.0021	.0027	.0030	.0030			
			RPM	2310	1690	1350	1080	870	650	540	450	300			
			IPM	4	5	6	6	8	6	6	5	4			
9	0.5D	0.2D	SFM	75	85	90	90	85	85	90	90	90	80		
			IPT	.0004	.0007	.0010	.0014	.0022	.0021	.0027	.0030	.0030			
			RPM	2310	1690	1350	1080	870	650	540	450	300			
			IPM	4	5	6	6	8	6	6	5	4			
10	0.5D	0.2D	SFM	215	245	260	255	260	265	255	255	245	230		
			IPT	.0006	.0010	.0014	.0020	.0028	.0029	.0037	.0041	.0041			
			RPM	6620	4950	3960	3130	2640	2030	1560	1250	880			
			IPM	16	20	22	25	30	23	23	21	15			
11.1	0.5D	0.2D	SFM	75	85	90	90	85	85	90	90	90	80		
			IPT	.0004	.0007	.0010	.0014	.0022	.0021	.0027	.0030	.0030			
			RPM	2310	1690	1350	1080	870	650	540	450	300			
			IPM	4	5	6	6	8	6	6	5	4			
11.2	0.3D	0.2D	SFM	50	60	60	60	60	60	60	60	65	50		
			IPT	.0004	.0007	.0010	.0014	.0023	.0021	.0027	.0029	.0028			
			RPM	1600	1190	950	760	600	450	380	320	200			
			IPM	3	4	4	4	5	4	4	4	2			
M	14.1	Stainless steel	0.5D	0.2D	SFM	80	90	100	100	90	95	100	100	85	
					IPT	.0004	.0008	.0011	.0015	.0021	.0022	.0028	.0030	.0030	
					RPM	2510	1880	1500	1200	940	730	600	500	330	
					IPM	4	6	7	7	8	7	7	6	4	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	0.2D	SFM	215	245	260	255	260	265	255	245	230	
					IPT	.0006	.0010	.0014	.0020	.0028	.0029	.0037	.0041	.0041	
					RPM	6620	4950	3960	3130	2640	2030	1560	1250	880	
					IPM	16	20	22	25	30	23	23	21	15	
H	40	Hardened Cast Iron	0.3D	0.2D	SFM	50	60	60	60	60	60	60	65	50	
					IPT	.0004	.0007	.0010	.0014	.0023	.0021	.0027	.0029	.0028	
					RPM	1600	1190	950	760	600	450	380	320	200	
					IPM	3	4	4	4	5	4	4	4	2	

SFM = Surface Feet per Minute
RPM = Revolutions Per Minute
IPT = Inches Per Tooth
IPM = Inches Per Minute
Ap : Inch (Axial Depth of Cut)
Ae : Inch (Radial Depth of Cut)



Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

ONLY ONE

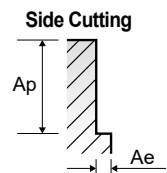
RECOMMENDED CUTTING CONDITIONS

GYG 65

4FLUTE / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1
P	1	Non-alloy steel	0.1D	1.5D	SFM	245	270	290	305	285	295	320	310	285	310
					IPM	.0006	.0011	.0014	.0018	.0027	.0028	.0031	.0035	.0038	.0037
					RPM	7520	5550	4410	3730	2910	2260	1950	1570	1250	1180
	2		0.1D	1.5D	SFM	225	245	265	255	260	265	275	260	260	260
					IPM	.0006	.0010	.0012	.0018	.0025	.0026	.0030	.0035	.0033	.0035
					RPM	6820	5010	4060	3130	2640	2030	1680	1320	1130	990
	3-4		0.1D	1.5D	SFM	165	180	195	195	195	205	195	195	195	190
					IPM	.0006	.0011	.0013	.0018	.0023	.0026	.0034	.0034	.0036	.0036
					RPM	5010	3680	2960	2410	2010	1580	1200	990	820	750
	5		0.1D	1.5D	SFM	100	125	135	135	125	130	135	130	130	130
					IPM	.0007	.0011	.0013	.0017	.0026	.0027	.0032	.0032	.0033	.0035
					RPM	3110	2540	2060	1680	1270	1000	820	670	560	490
6	0.1D	1.5D	SFM	225	245	265	255	260	265	275	260	260	260		
			IPM	.0006	.0010	.0012	.0018	.0025	.0026	.0030	.0035	.0033	.0035		
			RPM	6820	5010	4060	3130	2640	2030	1680	1320	1130	990		
7	0.1D	1.5D	SFM	165	180	195	195	195	205	195	195	190	195		
			IPM	.0006	.0011	.0013	.0018	.0023	.0026	.0034	.0034	.0036	.0036		
			RPM	5010	3680	2960	2410	2010	1580	1200	990	820	750		
8	0.1D	1.5D	SFM	100	125	135	135	125	130	135	130	130	130		
			IPM	.0007	.0011	.0013	.0017	.0026	.0027	.0032	.0032	.0033	.0035		
			RPM	3110	2540	2060	1680	1270	1000	820	670	560	490		
9	0.1D	1.5D	SFM	90	105	110	115	110	105	110	110	110	115		
			IPM	.0005	.0009	.0012	.0016	.0022	.0025	.0030	.0032	.0032	.0034		
			RPM	2710	2140	1650	1400	1140	800	660	550	470	430		
10	0.1D	1.5D	SFM	225	245	265	255	260	265	275	260	260	260		
			IPM	.0006	.0010	.0012	.0018	.0025	.0026	.0030	.0035	.0033	.0035		
			RPM	6820	5010	4060	3130	2640	2030	1680	1320	1130	990		
11.1	0.1D	1.5D	SFM	100	125	135	135	125	130	135	130	130	130		
			IPM	.0007	.0011	.0013	.0017	.0026	.0027	.0032	.0032	.0033	.0035		
			RPM	3110	2540	2060	1680	1270	1000	820	670	560	490		
11.2	0.05D	1.5D	SFM	60	70	75	80	80	75	75	75	75	80		
			IPM	.0005	.0009	.0012	.0016	.0023	.0025	.0030	.0032	.0032	.0035		
			RPM	1900	1470	1150	960	800	580	460	380	330	300		
M	14.1	Stainless steel	0.1D	1.5D	SFM	100	115	120	125	120	120	120	120	120	
					IPM	.0005	.0009	.0012	.0015	.0022	.0025	.0030	.0032	.0032	.0035
					RPM	3010	2340	1800	1520	1240	900	740	600	530	460
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	SFM	225	245	265	255	260	265	275	260	260	
					IPM	.0006	.0010	.0012	.0018	.0025	.0026	.0030	.0035	.0033	.0035
					RPM	6820	5010	4060	3130	2640	2030	1680	1320	1130	990
H	40	Hardened Cast Iron	0.05D	1.5D	SFM	60	70	75	80	80	75	75	75	80	
					IPM	.0005	.0009	.0012	.0016	.0023	.0025	.0030	.0032	.0032	.0035
					RPM	1900	1470	1150	960	800	580	460	380	330	300

SFM = Surface Feet per Minute
 RPM = Revolutions Per Minute
 IPT = Inches Per Tooth
 IPM = Inches Per Minute
 Ap : Inch (Axial Depth of Cut)
 Ae : Inch (Radial Depth of Cut)



ONLY ONE

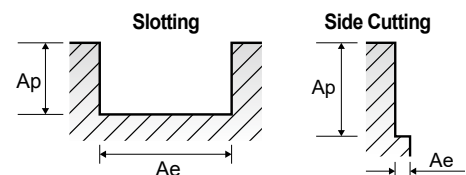
RECOMMENDED CUTTING CONDITIONS

GYG66

4FLUTE / SLOTTING & SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	SLOTTING		SIDE CUTTING		Parameter	Diameter (Ø)								
			Ae	Ap	Ae	Ap		1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
P	1-2	Non-alloy steel	1.0D	0.5D	0.3D	1.5D	SFM	230	230	230	230	250	255	250	255	255
							IPT	.0002	.0005	.0006	.0011	.0015	.0019	.0021	.0026	.0025
							RPM	7020	4680	3510	2810	2570	1930	1540	1290	970
	3-4		1.0D	0.5D	0.3D	1.5D	SFM	210	205	210	210	230	230	230	230	230
							IPT	.0002	.0004	.0006	.0011	.0015	.0019	.0021	.0026	.0025
							RPM	6420	4210	3210	2570	2340	1750	1400	1170	880
	5		1.0D	0.5D	0.3D	1.5D	SFM	145	145	145	145	160	160	160	160	160
							IPT	.0002	.0004	.0006	.0011	.0015	.0018	.0021	.0026	.0026
							RPM	4410	2940	2210	1760	1640	1230	980	820	610
	6		1.0D	0.5D	0.3D	1.5D	SFM	230	230	230	230	250	255	250	255	255
IPT		.0002					.0005	.0006	.0011	.0015	.0019	.0021	.0026	.0025		
RPM		7020					4680	3510	2810	2570	1930	1540	1290	970		
7	1.0D	0.5D	0.3D	1.5D	SFM	210	205	210	210	230	230	230	230	230		
					IPT	.0002	.0004	.0006	.0011	.0015	.0019	.0021	.0026	.0025		
					RPM	6420	4210	3210	2570	2340	1750	1400	1170	880		
8	1.0D	0.5D	0.3D	1.5D	SFM	145	145	145	145	160	160	160	160	160		
					IPT	.0002	.0004	.0006	.0011	.0015	.0018	.0021	.0026	.0026		
					RPM	4410	2940	2210	1760	1640	1230	980	820	610		
9	1.0D	0.5D	0.15D	1.5D	SFM	90	90	90	90	100	95	100	100	95		
					IPT	.0002	.0004	.0006	.0009	.0013	.0016	.0017	.0022	.0021		
					RPM	2710	1800	1350	1080	1000	730	600	500	360		
10	1.0D	0.5D	0.3D	1.5D	SFM	230	230	230	230	250	255	250	255	255		
					IPT	.0002	.0005	.0006	.0011	.0015	.0019	.0021	.0026	.0025		
					RPM	7020	4680	3510	2810	2570	1930	1540	1290	970		
11.1	1.0D	0.5D	0.3D	1.5D	SFM	145	145	145	145	160	160	160	160	160		
					IPT	.0002	.0004	.0006	.0011	.0015	.0018	.0021	.0026	.0026		
					RPM	4410	2940	2210	1760	1640	1230	980	820	610		
11.2	1.0D	0.3D	0.15D	1.5D	SFM	90	90	90	90	100	95	100	100	95		
					IPT	.0002	.0004	.0006	.0009	.0013	.0016	.0017	.0022	.0021		
					RPM	2710	1800	1350	1080	1000	730	600	500	360		
M	14.1	Stainless steel	1.0D	0.5D	0.3D	1.5D	SFM	155	160	160	160	155	155	155	155	155
							IPT	.0002	.0005	.0007	.0011	.0019	.0022	.0025	.0030	.0031
							RPM	4810	3210	2410	1930	1600	1200	960	800	600
							IPM	4	7	7	9	12	11	10	10	7
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	0.3D	1.5D	SFM	230	230	230	230	250	255	250	255	255
							IPT	.0002	.0005	.0006	.0011	.0015	.0019	.0021	.0026	.0025
							RPM	7020	4680	3510	2810	2570	1930	1540	1290	970
							IPM	6	9	9	12	16	14	13	13	10
H	40	Chilled Cast Iron	1.0D	0.3D	0.15D	1.5D	SFM	90	90	90	90	100	95	100	100	95
							IPT	.0002	.0004	.0006	.0009	.0013	.0016	.0017	.0022	.0021
							RPM	2710	1800	1350	1080	1000	730	600	500	360
							IPM	2	3	3	4	5	5	4	4	3

SFM = Surface Feet per Minute
RPM = Revolutions Per Minute
IPT = Inches Per Tooth
IPM = Inches Per Minute
Ap : Inch (Axial Depth of Cut)
Ae : Inch (Radial Depth of Cut)



Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

ONLY ONE

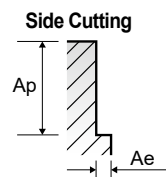
RECOMMENDED CUTTING CONDITIONS

GYG68, GYG70

MULTI FLUTE / SIDE CUTTING / INCH

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)								
						1/4	5/16	3/8	1/2	5/8	3/4	1	1-1/4	
P	1	Non-alloy steel	0.5D	1.5D	SFM	205	235	235	235	235	235	245	175	
					IPT	.0011	.0016	.0022	.0026	.0034	.0044	.0041	.0044	
					RPM	3160	2890	2410	1800	1440	1200	940	670	
	2		0.5D	1.5D	SFM	165	185	185	175	185	185	185	185	130
					IPT	.0011	.0016	.0021	.0027	.0034	.0043	.0042	.0045	
					RPM	2510	2290	1900	1350	1140	950	710	500	
	3-4		0.5D	1.5D	SFM	120	135	130	135	130	130	130	130	90
					IPT	.0009	.0015	.0018	.0025	.0034	.0042	.0042	.0045	
					RPM	1800	1680	1340	1030	800	670	490	350	
	5		0.5D	1.5D	SFM	95	105	110	110	110	110	110	115	80
					IPT	.0011	.0016	.0017	.0024	.0032	.0040	.0041	.0043	
					RPM	1450	1280	1140	850	660	550	430	300	
6	0.5D	1.5D	SFM	165	185	185	175	185	185	185	185	130		
			IPT	.0011	.0016	.0021	.0027	.0034	.0043	.0042	.0045			
			RPM	2510	2290	1900	1350	1140	950	710	500			
7	0.5D	1.5D	SFM	120	135	130	135	130	130	130	130	90		
			IPT	.0009	.0015	.0018	.0025	.0034	.0042	.0042	.0045			
			RPM	1800	1680	1340	1030	800	670	490	350			
8-9	0.5D	1.5D	SFM	95	105	110	110	110	110	110	115	80		
			IPT	.0011	.0016	.0017	.0024	.0032	.0040	.0041	.0043			
			RPM	1450	1280	1140	850	660	550	430	300			
10	0.5D	1.5D	SFM	165	185	185	175	185	185	185	185	130		
			IPT	.0011	.0016	.0021	.0027	.0034	.0043	.0042	.0045			
			RPM	2510	2290	1900	1350	1140	950	710	500			
11.1	0.5D	1.5D	SFM	95	105	110	110	110	110	110	115	80		
			IPT	.0011	.0016	.0017	.0024	.0032	.0040	.0041	.0043			
			RPM	1450	1280	1140	850	660	550	430	300			
11.2	0.3D	1.5D	SFM	70	70	80	75	75	75	75	80	55		
			IPT	.0011	.0016	.0018	.0023	.0032	.0040	.0039	.0042			
			RPM	1050	880	800	580	460	380	300	210			
M	14.1	Stainless steel	0.5D	1.5D	SFM	110	120	120	120	120	120	120	85	
					IPT	.0010	.0015	.0018	.0025	.0034	.0042	.0040	.0043	
					RPM	1650	1440	1200	900	720	600	460	330	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	SFM	165	185	185	175	185	185	185	130	
					IPT	.0011	.0016	.0021	.0027	.0034	.0043	.0042	.0045	
					RPM	2510	2290	1900	1350	1140	950	710	500	
H	40	Hardened Cast Iron	0.3D	1.5D	SFM	70	70	80	75	75	75	80	55	
					IPT	.0011	.0016	.0018	.0023	.0032	.0040	.0039	.0042	
					RPM	1050	880	800	580	460	380	300	210	
					IPM	3	4	6	5	6	6	6	5	

SFM = Surface Feet per Minute
RPM = Revolutions Per Minute
IPT = Inches Per Tooth
IPM = Inches Per Minute
Ap : Inch (Axial Depth of Cut)
Ae : Inch (Radial Depth of Cut)



Holemaking

Threading

Milling

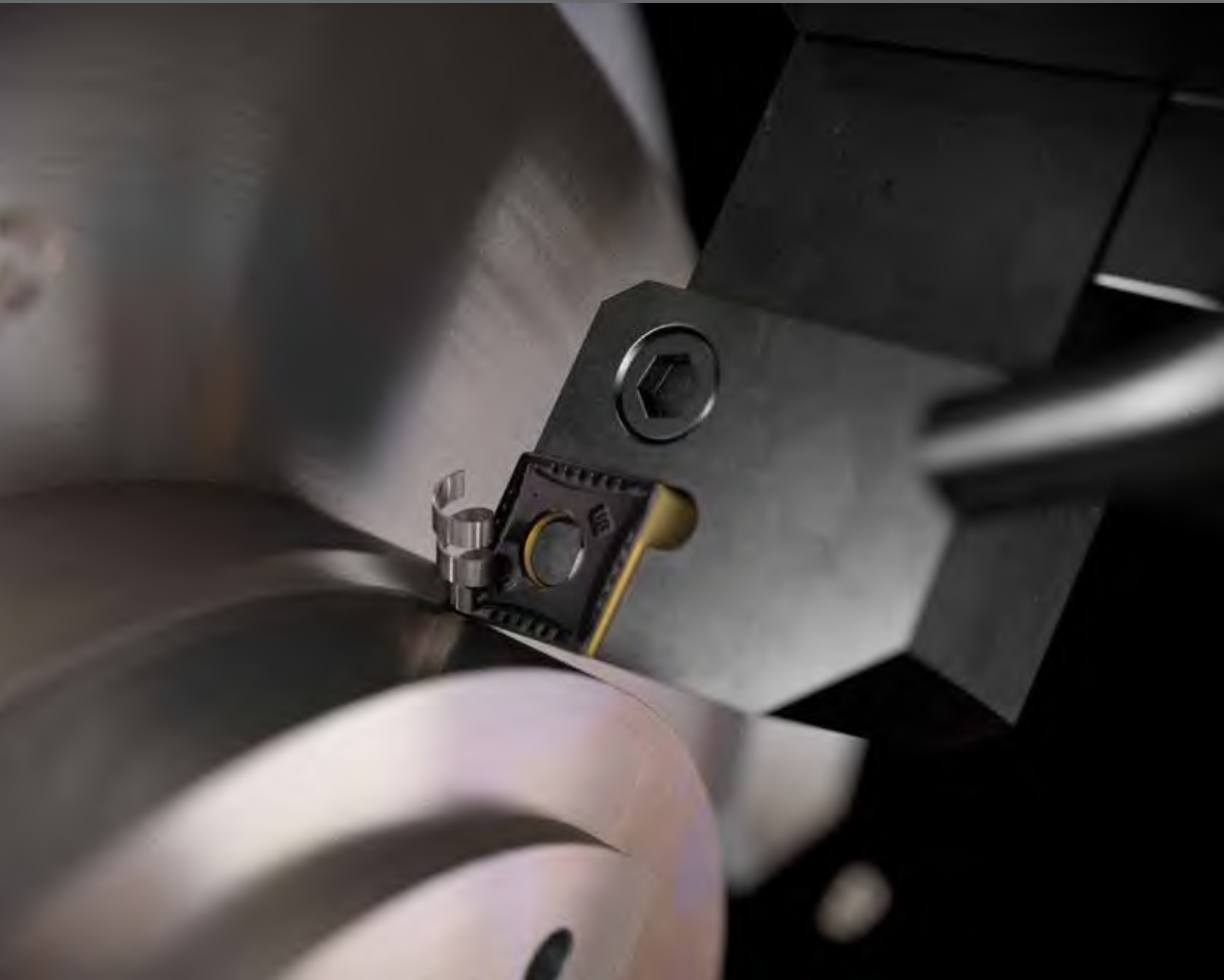
Indexable

Rotary Tool Holder




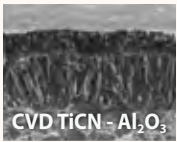

INDEXABLE INSERTS & CUTTER KITS

INDEXABLE INSERTS







INDEXABLE INSERTS

Turning Grades






YG1010 K05 - K15	 CVD TiCN - Al ₂ O ₃	First Choice for Cast Iron <ul style="list-style-type: none"> • Effective coating structure enables high speed machining • Special post treatment for improved chipping resistance
YG3020 P15 - P30	 CVD TiCN - Al ₂ O ₃	First Choice Grade for General Steel Application <ul style="list-style-type: none"> • Substrate especially designed for good toughness • Excellent surface smoothness increases wear resistance and reliability
YG213 M20 - M35	 PVD - TiAlN	First Choice Grade on Low Cutting Speed of Stainless steel <ul style="list-style-type: none"> • First choice on Stainless steel for Low cutting speed • For Medium to low cutting speed

Turning - CCMT DCMT

Series	EDP	Price	Description		Grade	
			Metric	Inch		
CCMT	 UF	22000164	\$7.51	CCMT060204-UF	CCMT21.51-UF	YG3020
		22000170	\$8.99	CCMT09T304-UF	CCMT32.51-UF	
		22000951	\$8.99	CCMT09T308-UF	CCMT32.52-UF	
	 UG	22001553	\$8.99	CCMT09T308-UG	CCMT32.52-UG	YG1010
		22000167	\$7.51	CCMT060204-UG	CCMT21.51-UG	YG3020
		22000683	\$7.51	CCMT060208-UG	CCMT21.52-UG	
		22000173	\$8.99	CCMT09T304-UG	CCMT32.51-UG	
		22000151	\$8.99	CCMT09T308-UG	CCMT32.52-UG	
		22000176	\$10.49	CCMT120404-UG	CCMT431-UG	
		22000154	\$10.49	CCMT120408-UG	CCMT432-UG	
22000915	\$10.49	CCMT120412-UG	CCMT433-UG			
DCMT	 UF	22000208	\$8.22	DCMT070204-UF	DCMT21.51-UF	YG3020
		22000214	\$9.71	DCMT11T304-UF	DCMT32.51-UF	
		22000220	\$9.71	DCMT11T308-UF	DCMT32.52-UF	
	 UG	22001831	\$9.71	DCMT11T304-UG	DCMT32.51-UG	YG1010
		22001832	\$9.71	DCMT11T308-UG	DCMT32.52-UG	YG3020
		22000211	\$8.22	DCMT070204-UG	DCMT21.51-UG	
		22000717	\$8.22	DCMT070208-UG	DCMT21.52-UG	
		22000217	\$9.71	DCMT11T304-UG	DCMT32.51-UG	
		22000223	\$9.71	DCMT11T308-UG	DCMT32.52-UG	

INDEXABLE INSERTS

Turning - RCMT / SCMT / TCMT

Series	EDP	Price	Description		Grade	
			Metric	Inch		
RCMT		22002057	\$6.01	RCMT0602M0		YG1010
		22002058	\$6.57	RCMT0803M0		
		22002059	\$7.19	RCMT10T3M0		
		22001833	\$8.08	RCMT1204M0		
		22000376	\$6.01	RCMT0602M0		YG3020
		22000379	\$6.57	RCMT0803M0		
		22000382	\$7.19	RCMT10T3M0		
		22000385	\$8.08	RCMT1204M0		
SCMT	 UF	22000387	\$9.71	SCMT09T304-UF	SCMT32.51-UF	YG3020
		22001022	\$9.71	SCMT09T308-UF	SCMT32.52-UF	
	 UG	22001834	\$9.71	SCMT09T304-UG	SCMT32.51-UG	YG1010
		22001835	\$9.71	SCMT09T308-UG	SCMT32.52-UG	
		22001836	\$15.99	SCMT120408-UG	SCMT432-UG	
		22000916	\$9.71	SCMT09T304-UG	SCMT32.51-UG	YG3020
		22000160	\$9.71	SCMT09T308-UG	SCMT32.52-UG	
		22000256	\$15.99	SCMT120408-UG	SCMT432-UG	
TCMT	 UF	22000396	\$7.40	TCMT110204-UF	TCMT21.51-UF	YG3020
		22000398	\$9.78	TCMT16T304-UF	TCMT32.51-UF	
		22000625	\$9.78	TCMT16T308-UF	TCMT32.52-UF	
	 UG	22001839	\$7.40	TCMT110204-UG	TCMT21.51-UG	YG1010
		22001840	\$9.78	TCMT16T304-UG	TCMT32.51-UG	
		22001841	\$9.78	TCMT16T308-UG	TCMT32.52-UG	
		22000265	\$7.40	TCMT110204-UG	TCMT21.51-UG	YG3020
		22000715	\$7.40	TCMT110208-UG	TCMT21.52-UG	
		22000268	\$9.78	TCMT16T304-UG	TCMT32.51-UG	
		22000157	\$9.78	TCMT16T308-UG	TCMT32.52-UG	

Holemaking

Threading





Milling

Indexable

Rotary Tool Holder

INDEXABLE INSERTS

Turning - VBMT / VCMT

Series	EDP	Price	Description		Grade	
			Metric	Inch		
VBMT  UF  UG	22000295	\$13.45	VBMT160404-UF	VBMT331-UF	YG3020	
	22000301	\$13.45	VBMT160408-UF	VBMT332-UF		
	22001842	\$13.45	VBMT160404-UG	VBMT331-UG	YG1010	
	22001843	\$13.45	VBMT160408-UG	VBMT332-UG		
	22000298	\$13.45	VBMT160404-UG	VBMT331-UG	YG3020	
	22000304	\$13.45	VBMT160408-UG	VBMT332-UG		
	VCMT  UF  UG	22000421	\$13.46	VCMT160404-UF	VCMT331-UF	YG3020
		22000558	\$13.46	VCMT160408-UF	VCMT332-UF	
22000422		\$13.46	VCMT160408-UG	VCMT332-UG	YG3020	

Holemaking

Threading












Milling

Indexable

Rotary Tool Holder

INDEXABLE INSERTS

Turning - CNMA / CNMG

	Series	EDP	Price	Description		Grade
				Metric	Inch	
CNMA	 NMA	22000894	\$8.91	CNMA120404	CNMA431	YG1010
		22001484	\$8.91	CNMA120408	CNMA432	
		22000777	\$8.91	CNMA120412	CNMA433	
		22001207	\$8.91	CNMA120416	CNMA434	
CNMG	 UF	22000179	\$8.91	CNMG120404-UF	CNMG431-UF	YG3020
		22000190	\$8.91	CNMG120408-UF	CNMG432-UF	
		22001360	\$8.91	CNMG120412-UF	CNMG433-UF	
	 UM	22000185	\$8.91	CNMG120404-UM	CNMG431-UM	YG3020
		22000100	\$8.91	CNMG120408-UM	CNMG432-UM	
		22000486	\$8.91	CNMG120412-UM	CNMG433-UM	
	 UG	22000182	\$8.91	CNMG120404-UG	CNMG431-UG	YG3020
		22000099	\$8.91	CNMG120408-UG	CNMG432-UG	
		22000199	\$8.91	CNMG120412-UG	CNMG433-UG	
	 UC	22000895	\$8.91	CNMG120404-UC	CNMG431-UC	YG1010
		22000865	\$8.91	CNMG120408-UC	CNMG432-UC	
		22000873	\$8.91	CNMG120412-UC	CNMG433-UC	
	 UR	22000196	\$8.91	CNMG120408-UR	CNMG432-UR	YG3020
		22000205	\$8.91	CNMG120412-UR	CNMG433-UR	
		22000623	\$8.91	CNMG120416-UR	CNMG434-UR	
	 KR	22001503	\$8.91	CNMG120408-KR	CNMG432-KR	YG1010
		22000879	\$8.91	CNMG120412-KR	CNMG433-KR	
	 MF	22000613	\$8.91	CNMG120404-MF	CNMG431-MF	YG213
		22000539	\$8.91	CNMG120408-MF	CNMG432-MF	
	 MM	22000548	\$8.91	CNMG120404-MM	CNMG431-MM	YG213
		22000495	\$8.91	CNMG120408-MM	CNMG432-MM	
		22000550	\$8.91	CNMG120412-MM	CNMG433-MM	
	 MG	22001491	\$8.91	CNMG120408-MG	CNMG432-MG	YG213
		22001494	\$8.91	CNMG120412-MG	CNMG433-MG	
	 MR	22000541	\$8.91	CNMG120408-MR	CNMG432-MR	YG213
		22000614	\$8.91	CNMG120412-MR	CNMG433-MR	

Holemaking

Threading










Milling

Indexable

Rotary Tool Holder










INDEXABLE INSERTS

Turning - DNMA / DNMG

	Series	EDP	Price	Description		Grade
				Metric	Inch	
Holemaking	 NMA	22001558	\$11.41	DNMA150404	DNMA431	YG1010
		22001559	\$11.41	DNMA150408	DNMA432	
		22001421	\$11.41	DNMA150412	DNMA433	
Threading	 UF	22000364	\$11.41	DNMG150404-UF	DNMG431-UF	YG3020
		22000774	\$11.41	DNMG150408-UF	DNMG432-UF	
		22001368	\$11.41	DNMG150412-UF	DNMG433-UF	
	 UG	22000772	\$11.41	DNMG150404-UG	DNMG431-UG	YG3020
		22000367	\$11.41	DNMG150408-UG	DNMG432-UG	
		22000487	\$11.41	DNMG150412-UG	DNMG433-UG	
Milling	 UC	22001611	\$11.41	DNMG150408-UC	DNMG432-UC	YG1010
		22001512	\$11.41	DNMG150412-UC	DNMG433-UC	
Indexable	 UM	22000689	\$11.41	DNMG150408-UM	DNMG432-UM	YG3020
		22000488	\$11.41	DNMG150412-UM	DNMG433-UM	
	 UR	22001096	\$11.41	DNMG150408-UR	DNMG432-UR	YG3020
		22001134	\$11.41	DNMG150412-UR	DNMG433-UR	
	 MF	22000771	\$11.41	DNMG150404-MF	DNMG431-MF	YG213
	 MM	22000552	\$11.41	DNMG150404-MM	DNMG431-MM	YG213
		22000514	\$11.41	DNMG150408-MM	DNMG432-MM	
		22000562	\$11.41	DNMG150412-MM	DNMG433-MM	
	 MR	22000808	\$11.41	DNMG150408-MR	DNMG432-MR	YG213
		22000930	\$11.41	DNMG150412-MR	DNMG433-MR	

INDEXABLE INSERTS

Turning - SNMA / SNMG

	Series	EDP	Price	Description		Grade
				Metric	Inch	
SNMA	 NMA	22000767	\$9.86	SNMA120408	SNMA432	YG1010
		22000768	\$9.86	SNMA120412	SNMA433	
SNMG	 UF	22001459	\$9.86	SNMG120404-UF	SNMG431-UF	YG3020
		22001433	\$9.86	SNMG120408-UF	SNMG432-UF	
	 UM	22000784	\$9.86	SNMG120408-UM	SNMG432-UM	YG3020
	 UG	22000142	\$9.86	SNMG120408-UG	SNMG432-UG	YG3020
		22000259	\$9.86	SNMG120412-UG	SNMG433-UG	
		22001169	\$9.86	SNMG120416-UG	SNMG434-UG	
	 UC	22000899	\$9.86	SNMG120408-UC	SNMG432-UC	YG1010
		22000900	\$9.86	SNMG120412-UC	SNMG433-UC	
	 KR	22001064	\$9.86	SNMG120412-KR	SNMG433-KR	YG1010
		22001208	\$9.86	SNMG120416-KR	SNMG434-KR	
	 MF	22000979	\$9.86	SNMG120404-MF	SNMG431-MF	YG213
		22000654	\$9.86	SNMG120408-MF	SNMG432-MF	
		22000656	\$9.86	SNMG120412-MF	SNMG433-MF	
	 MM	22000556	\$9.86	SNMG120408-MM	SNMG432-MM	YG213
		22000566	\$9.86	SNMG120412-MM	SNMG433-MM	
	 MR	22000658	\$9.86	SNMG120408-MR	SNMG432-MR	YG213
22000660		\$9.86	SNMG120412-MR	SNMG433-MR		

Holemaking

Threading







Milling

Indexable

Rotary Tool Holder

INDEXABLE INSERTS

Turning - TNMA / TNMG

	Series	EDP	Price	Description		Grade	
				Metric	Inch		
Holmaking	 NMA	22001582	\$7.29	TNMA160404	TMNA331	YG1010	
		22001486	\$7.29	TNMA160408	TNMA332		
		22001485	\$7.29	TNMA160412	TNMA333		
Threading	 UF	22000271	\$7.29	TNMG160404-UF	TNMG331-UF	YG3020	
		22000277	\$7.29	TNMG160408-UF	TNMG332-UF		
		22000588	\$7.29	TNMG160412-UF	TNMG333-UF		
	 UG	22000274	\$7.29	TNMG160404-UG	TNMG331-UG	YG3020	
		22000145	\$7.29	TNMG160408-UG	TNMG332-UG		
		22000587	\$7.29	TNMG160412-UG	TNMG333-UG		
Milling	 UC	22001316	\$7.29	TNMG160404-UC	TNMG331-UC	YG1010	
		22000901	\$7.29	TNMG160408-UC	TNMG332-UC		
		22000902	\$7.29	TNMG160412-UC	TNMG333-UC		
	 UM	22000952	\$7.29	TNMG160404-UM	TNMG331-UM	YG3020	
		22000283	\$7.29	TNMG160408-UM	TNMG332-UM		
		22000586	\$7.29	TNMG160412-UM	TNMG333-UM		
	Indexable	 UR	22000670	\$7.29	TNMG160408-UR	TNMG332-UR	YG3020
			22000405	\$7.29	TNMG160412-UR	TNMG333-UR	

► NEXT PAGE

Holmaking

Threading



Milling

Indexable

Rotary Tool Holder

INDEXABLE INSERTS

Turning - TNMG

	Series	EDP	Price	Description		Grade
				Metric	Inch	
TNMG	 MF	22000775	\$7.29	TNMG160404-MF	TNMG331-MF	YG213
		22000776	\$7.29	TNMG160408-MF	TNMG332-MF	
	 MM	22000568	\$7.29	TNMG160404-MM	TNMG331-MM	YG213
		22000570	\$7.29	TNMG160408-MM	TNMG332-MM	
		22000603	\$7.29	TNMG160412-MM	TNMG333-MM	
	 MR	22000985	\$7.29	TNMG160408-MR	TNMG332-MR	YG213
		22000827	\$7.29	TNMG160412-MR	TNMG333-MR	YG213
	 MG	22001456	\$7.29	TNMG160404-MG	TNMG331-MG	YG213
		22001569	\$7.29	TNMG160408-MG	TNMG332-MG	

Holemaking

Threading










Milling

Indexable

Rotary Tool Holder


INDEXABLE INSERTS

Turning - VNMA / VNMG

	Series	EDP	Price	Description		Grade	
				Metric	Inch		
Holemaking	 NMA	22001573	\$13.46	VNMA160408	VNMA332	YG1010	
	 UF	22000307	\$13.46	VNMG160404-UF	VNMG331-UF	YG3020	
		22000310	\$13.46	VNMG160408-UF	VNMG332-UF		
	 UM	22001361	\$13.46	VNMG160408-UM	VNMG332-UM	YG3020	
		22000737	\$13.46	VNMG160412-UM	VNMG333-UM		
	 UG	22000940	\$13.46	VNMG160404-UG	VNMG331-UG	YG3020	
		22000313	\$13.46	VNMG160408-UG	VNMG332-UG		
		22000927	\$13.46	VNMG160412-UG	VNMG333-UG		
	VNMG	 UC	22001612	\$13.46	VNMG160404-UC	VNMG331-UC	YG1010
			22000980	\$13.46	VNMG160408-UC	VNMG332-UC	
22001587			\$13.46	VNMG160412-UC	VNMG333-UC		
	 UR	22000431	\$13.46	VNMG160412-UR	VNMG333-UR	YG3020	
	 MR	22000831	\$13.46	VNMG160408-MR	VNMG332-MR	YG213	
Rotary Tool Holder	 MM	22000662	\$13.46	VNMG160404-MM	VNMG331-MM	YG213	
		22000664	\$13.46	VNMG160408-MM	VNMG332-MM		
	 MF	22000947	\$13.46	VNMG160408-MF	VNMG332-MF	YG213	

INDEXABLE INSERTS

Turning - WNMA / WNMG

	Series	EDP	Price	Description		Grade
				Metric	Inch	
WNMA	 NMA	22000903	\$9.44	WNMA080404	WNMA431	YG1010
		22000904	\$9.44	WNMA080408	WNMA432	
		22000905	\$9.44	WNMA080412	WNMA433	
WNMG	 UF	22000316	\$9.44	WNMG080404-UF	WNMG431-UF	YG3020
		22000322	\$9.44	WNMG080408-UF	WNMG432-UF	
		22001410	\$9.44	WNMG080412-UF	WNMG433-UF	
	 UM	22000787	\$9.44	WNMG080404-UM	WNMG431-UM	YG3020
		22000328	\$9.44	WNMG080408-UM	WNMG432-UM	
		22000598	\$9.44	WNMG080412-UM	WNMG433-UM	
		22000584	\$9.44	WNMG080416-UM	WNMG434-UM	
	 UC	22000906	\$9.44	WNMG080404-UC	WNMG431-UC	YG1010
		22000907	\$9.44	WNMG080408-UC	WNMG432-UC	
		22000909	\$9.44	WNMG080412-UC	WNMG433-UC	
		22001187	\$9.44	WNMG080416-UC	WNMG434-UC	
	 UG	22000319	\$9.44	WNMG080404-UG	WNMG431-UG	YG3020
		22000148	\$9.44	WNMG080408-UG	WNMG432-UG	
		22000490	\$9.44	WNMG080412-UG	WNMG433-UG	
		22000583	\$9.44	WNMG080416-UG	WNMG434-UG	
	 UR	22000471	\$9.44	WNMG080408-UR	WNMG432-UR	YG3020
		22000443	\$9.44	WNMG080412-UR	WNMG433-UR	
		22000725	\$9.44	WNMG080416-UR	WNMG434-UR	
	 KR	22000932	\$9.44	WNMG080408-KR	WNMG432-KR	YG1010
		22000933	\$9.44	WNMG080412-KR	WNMG433-KR	

Holemaking

Threading





Milling

Indexable

Rotary Tool Holder

INDEXABLE INSERTS

Turning - WNMG (continued)

Series	EDP	Price	Description		Grade	
			Metric	Inch		
WNMG	 MF	22000668	\$9.44	WNMG080404-MF	WNMG431-MF	YG213
		22000618	\$9.44	WNMG080408-MF	WNMG432-MF	
	 MM	22000572	\$9.44	WNMG080404-MM	WNMG431-MM	YG213
		22000498	\$9.44	WNMG080408-MM	WNMG432-MM	
		22000615	\$9.44	WNMG080412-MM	WNMG433-MM	
	 MR	22000620	\$9.44	WNMG080408-MR	WNMG432-MR	YG213
		22000666	\$9.44	WNMG080412-MR	WNMG433-MR	
	 MG	22001497	\$9.44	WNMG080408-MG	WNMG432-MG	YG213
		22001500	\$9.44	WNMG080412-MG	WNMG433-MG	

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

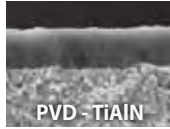
INDEXABLE INSERTS

Milling Grades

YG602

P20 - P35 M20 - M40







K20 - K40 S15 - S25



Universal grade for General Milling Application

- Ultra Dense PVD Coating with optimal thermal resistance & strength
- Sub-Micron substrate designed for demanding application

Milling - APKT / RDKT

Series	EDP	Price	Description		Grade
			Metric	Inch	
APKT		12000005	\$9.19	APKT100305PDTR	
		12000004	\$9.19	APKT100308PDTR	
		12000003	\$10.60	APKT160404PDTR	
		12000001	\$10.60	APKT160408PDTR	YG602
		12000002	\$10.60	APKT160412PDTR	
		12000006	\$10.60	APKT160416PDTR	
		12000255	\$10.60	APKT160424PDTR	
		12000278	\$9.19	APKT100305-ST	
		12000270	\$10.60	APKT160408-ST	YG602
		12000492	\$10.60	APKT160404-TR	
		12000256	\$10.60	APKT160408-TR	
		12000493	\$10.60	APKT160412-TR	YG602
		12000472	\$10.60	APKT160416-TR	
		12000494	\$10.60	APKT160424-TR	
RDKT		12000035	\$8.13	RDKT0802M0	
		12000041	\$8.46	RDKT10T3M0	YG602
		12000034	\$9.53	RDKT1204M0	
		12000284	\$8.13	RDKT0802M0-TR	
		12000285	\$8.46	RDKT10T3M0-TR	YG602
		12000272	\$9.53	RDKT1204M0-TR	
		12000292	\$8.13	RDKT0802M0-ST	
		12000293	\$8.46	RDKT10T3M0-ST	YG602
		12000294	\$9.53	RDKT1204M0-ST	

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

INDEXABLE INSERTS

Milling - RDKW / RPMT / RPMW

Series	EDP	Price	Description		Grade
			Metric	Inch	
RDKW		12000043	\$8.13	RDKW0802M0	YG602
		12000040	\$8.46	RDKW10T3M0	
		12000042	\$9.53	RDKW1204M0	
RPMT		12000038	\$8.13	RPMT08T2M0	YG602
		12000036	\$8.46	RPMT10T3M0	
		12000037	\$9.53	RPMT1204M0	
		12000230	\$9.53	RPMT1204M0-ST	
RPMW		12000204	\$8.46	RPMW1003M0	YG602
		12000039	\$9.53	RPMW1204M0	

Holemaking

Threading






Milling

Indexable

Rotary Tool Holder

INDEXABLE INSERTS

Milling - SEKT / SPKN / SPKR / TPKN / TPKR

Series	EDP		Description		Grade	
			Metric	Inch		
SEKT		12000056	\$10.94	SEKT12T3AGTN		YG602
		12000057	\$10.94	SEKT13T3AGTN		
		12000055	\$10.94	SEKT1204AFTN		
		12000271	\$10.94	SEKT12T3-ST		YG602
		12000257	\$10.94	SEKT1204-ST		
SPKN		12000048	\$10.94	SPKN1203EDTR	SPKN42EDTR	YG602
		12000280	\$10.94	SPKN1203EDTR-GW	SPKN42EDTR-GW	
		12000279	\$10.94	SPKN1203EDTR-PW	SPKN42EDTR-PW	
		12000049	\$11.86	SPKN1504EDTR	SPKN53EDTR	
		12000305	\$11.86	SPKN1504EDTR-GW	SPKN53EDTR-GW	
		12000299	\$11.86	SPKN1504EDTR-PW	SPKN53EDTR-PW	
SPKR		12000050	\$10.94	SPKR1203EDTR	SPKR42EDTR	YG602
		12000298	\$10.94	SPKR1203EDTR-PW	SPKR42EDTR-PW	
TPKN		12000062	\$9.53	TPKN1603PDTR		YG602
		12000306	\$9.53	TPKN1603PDTR-GW	TPKN32PDTR-GW	
		12000302	\$9.53	TPKN1603PDTR-PW	TPKN32PDTR-PW	
		12000063	\$12.68	TPKN2204PDTR	TPKN43PDTR	
		12000307	\$12.68	TPKN2204PDTR-GW	TPKN43PDTR-GW	
		12000303	\$12.68	TPKN2204PDTR-PW	TPKN43PDTR-PW	
TPKR		12000060	\$9.53	TPKR1603PDTR	TPKR32PDTR	YG602
		12000300	\$9.53	TPKR1603PDTR-PW	TPKR32PDTR-PW	
		12000061	\$12.68	TPKR2204PDTR	TPKR43PDTR	
		12000301	\$12.68	TPKR2204PDTR-PW	TPKR43PDTR-PW	

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

INDEXABLE INSERTS – KITS



APKT

Series	EDP	Price	Contents of Kit	
			Cutter Body	Inserts
APKT10	KIT EM 0.625X.625-10	\$154.00	E90-APKT10-D0625Z2W0625-L350I	APKT100305PDTR (10 inserts)
	KIT EM 0.750X.750-10	\$154.00	E90-APKT10-D075Z3W075-L320I	APKT100305PDTR (10 inserts)
	KIT EM 1.00X.75-10	\$154.00	E90-APKT10-D100Z4C075-L350I	APKT100305PDTR (10 inserts)
	KIT EM 1.00X1.00-10	\$154.00	E90-APKT10-D100Z4W100-L350I	APKT100305PDTR (10 inserts)
	KIT FM 1.50-4FL-10	\$184.80	F90-APKT10-D150Z4S075I	APKT100305PDTR (10 inserts)
	KIT FM 2.00-7FL-10	\$308.00	F90-APKT10-D200Z7S075I	APKT100305PDTR (20 inserts)
APKT16	KIT EM 1.00X1.00-16	\$154.00	E90-APKT16-D100Z2W100-L400I	APKT160408PDTR (10 inserts)
	KIT EM 1.25X1.00-16	\$184.80	E90-APKT16-D125Z3C100-L428I	APKT160408PDTR (10 inserts)
	KIT FM 2.00-5FL-16	\$308.00	F90-APKT16-D200Z5S075I	APKT160408PDTR (20 inserts)
	KIT FM 2.50-6FL-16	\$308.00	F90-APKT16-D250Z6S075I	APKT160408PDTR (20 inserts)
	KIT FM 3.00-7FL-16	\$369.60	F90-APKT16-D300Z7S100I	APKT160408PDTR (20 inserts)
	KIT FM 4.00-8FL-16	\$468.16	F90-APKT16-D400Z8S150I	APKT160408PDTR (20 inserts)

RDKT / SEKT

Series	EDP	Price	Contents of Kit	
			Cutter Body	Inserts
RDKT	KIT R08E-D075Z2	\$129.36	E-RDKT08-D075Z2C075-L700i	RDKT0802M0 YG602 (10 inserts)
	KIT R08E-D100Z3	\$147.84	E-RDKT08-D100Z3C075-L700i	RDKT0802M0 YG602 (10 inserts)
	KIT R10E-D100Z2	\$147.84	E-RDKT10-D100Z2C100-L700i	RDKT10T3M0 YG602 (10 inserts)
	KIT R10F-D150Z5	\$184.80	F-RDKT10-D150Z5S050i	RDKT10T3M0 YG602 (10 inserts)
	KIT R10F-D200Z6	\$277.20	F-RDKT10-D200Z6S075i	RDKT10T3M0 YG602 (20 inserts)
	KIT R12E-D100Z2	\$154.00	E-RDKT12-D100Z2C100-L700i	RDKT1204M0 YG602 (10 inserts)
	KIT R12E-D125Z2	\$160.16	E-RDKT12-D125Z2C125-L800i	RDKT1204M0 YG602 (10 inserts)
	KIT R12E-D125Z3	\$160.16	E-RDKT12-D125Z3C125-L600i	RDKT1204M0 YG602 (10 inserts)
	KIT R12F-D150Z4	\$184.80	F-RDKT12-D150Z4S050i	RDKT1204M0 YG602 (10 inserts)
	KIT R12F-D200Z5	\$277.20	F-RDKT12-D200Z5S075i	RDKT1204M0 YG602 (20 inserts)
SEKT	KIT F45-SEKT-D150Z4	\$227.92	F45-SEKT12-D150Z4S050i	SEKT1204AFTN YG602 (10 inserts)
	KIT F45-SEKT-D200Z5	\$289.52	F45-SEKT12-D200Z5S075i	SEKT1204AFTN YG602 (10 inserts)
	KIT F45-SEKT-D250Z4	\$301.84	F45-SEKT12-D250Z4S075i	SEKT1204AFTN YG602 (10 inserts)
	KIT F45-SEKT-D250Z6	\$400.40	F45-SEKT12-D250Z6S075i	SEKT1204AFTN YG602 (20 inserts)
	KIT F45-SEKT-D300Z4	\$412.72	F45-SEKT12-D300Z4S100i	SEKT1204AFTN YG602 (20 inserts)
	KIT F45-SEKT-D300Z7	\$431.20	F45-SEKT12-D300Z7S100i	SEKT1204AFTN YG602 (20 inserts)
	KIT F45-SEKT-D400Z8	\$579.04	F45-SEKT12-D400Z8S125i	SEKT1204AFTN YG602 (20 inserts)
	KIT F45-SEKT-D500Z10	\$800.80	F45-SEKT12-D500Z10S150i	SEKT1204AFTN YG602 (30 inserts)
KIT F45-SEKT-D600Z12	\$1,028.72	F45-SEKT12-D600Z12S200i	SEKT1204AFTN YG602 (30 inserts)	

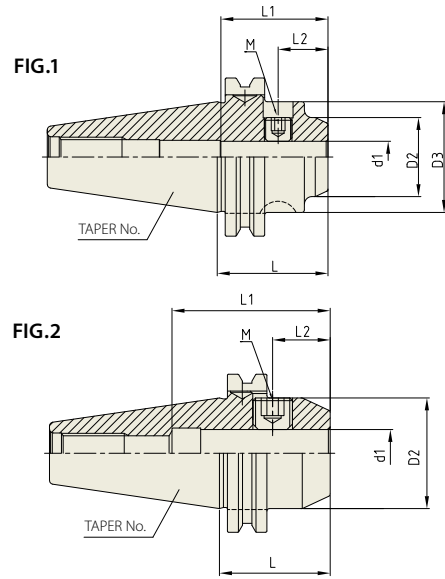
E = End Mill Style C = Cylindrical Shank Dia.
 F = Face Mill Style W = Weldon Shank Dia.
 D = Cutter Diameter S = Arbor Size
 Z = Flute Count i = Inch

TOOLING SYSTEM



END MILL HOLDER

CAT



ASME B5.50-2009-CAT

• STUB

Unit : inch

EDP No.	Price	Taper No.	Model No.	d1	D2	D3	L	L1	L2	M	Fig.
AK206X	\$73.48	40	CAT40 - EMH 1/2 - 1.75	0.500	1.250	1.750	1.750	1.690	0.790	UNF7/16-20 3/8L	1
AK208X	\$62.82		CAT40 - EMH 5/8 - 1.75	0.625	1.500	1.750	1.750	1.930	0.880	UNF1/2-20 1/2L	1
AK210X	\$73.63		CAT40 - EMH 3/4 - 1.75	0.750	1.750	-	1.750	2.050	0.910	UNF5/8-18 1/2L	2
AK214X	\$62.82		CAT40 - EMH 1.0 - 1.75	1.000	1.750	-	1.750	2.170	0.830	UNF3/4-16 3/8L	2
AK217X	\$81.04		CAT40 - EMH 1 1/4 - 2.00	1.250	2.250	-	2.000	2.220	0.830	UNF3/4-16 1/2L	2

Holemaking

Threading

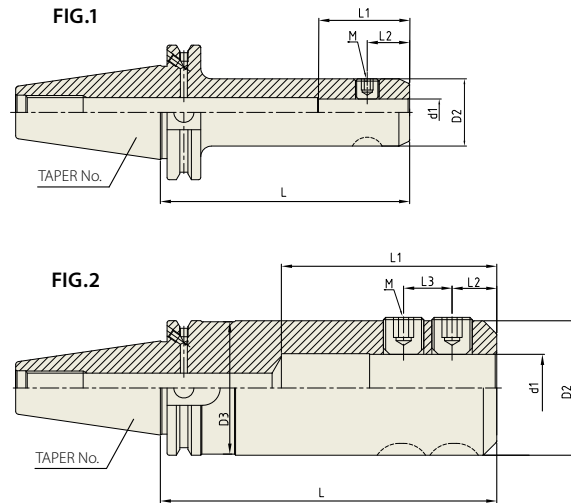
Milling

Indexable

Rotary Tool Holder

END MILL HOLDER

CAT



ASME B5.50-2009-CAT

• STANDARD

Unit : inch

EDP No.	Price	Taper No.	Model No.	d1	D2	D3	L	L1	L2	L3	M	Fig.
AK000BX	\$68.65	40	CAT40 AD/B - EMH 1/8 - 2.50	0.125	0.690	-	2.500	0.591	0.295	-	UNC#8-32 1/4L	1
AK001BX	\$66.07		CAT40 AD/B - EMH 3/16 - 2.50	0.188	0.690	-	2.500	0.787	0.441	-	UNC#10-32 1/4L	1
AK002BX	\$67.00		CAT40 AD/B - EMH 1/4 - 2.50	0.250	0.780	-	2.500	1.299	0.598	-	UNF1/4-28 1/4L	1
AK003BX	\$66.07		CAT40 AD/B - EMH 5/16 - 2.50	0.313	0.880	-	2.500	1.358	0.630	-	UNF5/16-24 1/4L	1
AK004BX	\$59.47		CAT40 AD/B - EMH 3/8 - 2.50	0.375	1.000	-	2.500	1.417	0.630	-	UNF3/8-24 5/16L	1
AK005BX	\$59.47		CAT40 AD/B - EMH 7/16 - 2.50	0.438	1.130	-	2.500	1.417	0.630	-	UNF3/8-24 25/64L	1
AK006BX	\$59.47		CAT40 AD/B - EMH 1/2 - 2.63	0.500	1.250	-	2.630	1.693	0.787	-	UNF7/16-20 3/8L	1
AK008BX	\$61.86		CAT40 AD/B - EMH 5/8 - 3.75	0.625	1.500	-	3.750	3.600	0.881	-	UNF1/2-20 1/2L	1
AK010BX	\$61.86		CAT40 AD/B - EMH 3/4 - 3.75	0.750	1.750	-	3.750	3.900	0.909	-	UNF5/8-18 1/2L	1
AK012BX	\$61.86		CAT40 AD/B - EMH 7/8 - 4.00	0.875	1.880	-	4.000	4.200	0.650	0.811	UNF5/8-18 1/2L	2
AK014BX	\$61.86		CAT40 AD/B - EMH 1.0 - 4.00	1.000	2.000	-	4.000	4.400	0.831	0.902	UNF3/4-16 1/2L	2
AK017BX	\$66.19		CAT40 AD/B - EMH 1 1/4 - 4.25	1.250	2.500	2.461	4.250	4.000	0.831	0.902	UNF3/4-16 11/16L	2
AK021BX	\$74.27		CAT40 AD/B - EMH 1 1/2 - 4.63	1.500	2.500	2.461	4.630	3.978	0.881	1.063	UNF3/4-16 1/2L	2
AL002BX	\$106.20		50	CAT50 AD/B - EMH 1/4 - 2.50	0.250	0.780	-	2.500	1.299	0.598	-	UNF1/4-28 1/4L
AL003BX	\$106.20	CA50 AD/B - EMH 5/16 - 2.50		0.313	0.880	-	2.500	1.358	0.630	-	UNF5/16-24 1/4L	1
AL004BX	\$103.95	CAT50 AD/B - EMH 3/8 - 2.50		0.375	1.000	-	2.500	1.417	0.630	-	UNF3/8-24 5/16L	1
AL005BX	\$103.95	CAT50 AD/B - EMH 7/16 - 2.63		0.438	1.130	-	2.630	1.417	0.630	-	UNF3/8-24 25/64L	1
AL006BX	\$103.95	CAT50 AD/B - EMH 1/2 - 2.63		0.500	1.250	-	2.630	1.693	0.787	-	UNF7/16-20 3/8L	1
AL008BX	\$112.06	CAT50 AD/B - EMH 5/8 - 3.75		0.625	1.500	-	3.750	1.929	0.881	-	UNF1/2-20 1/2L	1
AL010BX	\$112.06	CAT50 AD/B - EMH 3/4 - 3.75		0.750	1.750	-	3.750	2.047	0.909	-	UNF5/8-18 1/2L	1
AL012BX	\$112.06	CAT50 AD/B - EMH 7/8 - 3.75		0.875	1.880	-	3.750	4.200	0.650	0.811	UNF5/8-18 1/2L	2
AL014BX	\$112.13	CAT50 AD/B - EMH 1.0 - 4.00		1.000	2.000	-	4.000	4.400	0.831	0.902	UNF3/4-16 1/2L	2
AL017BX	\$120.19	CAT50 AD/B - EMH 1 1/4 - 4.00		1.250	2.500	-	4.000	4.000	0.831	0.902	UNF3/4-16 11/16L	2
AL021BX	\$134.80	CAT50 AD/B - EMH 1 1/2 - 4.00		1.500	2.500	-	4.000	3.978	0.881	1.063	UNF3/4-16 1/2L	2
AL029BX	\$160.48	CAT50 AD/B - EMH 2.0 - 5.63		2.000	3.750	-	5.630	5.000	1.299	1.358	UNS1-14 7/8L	2

Holemaking

Threading

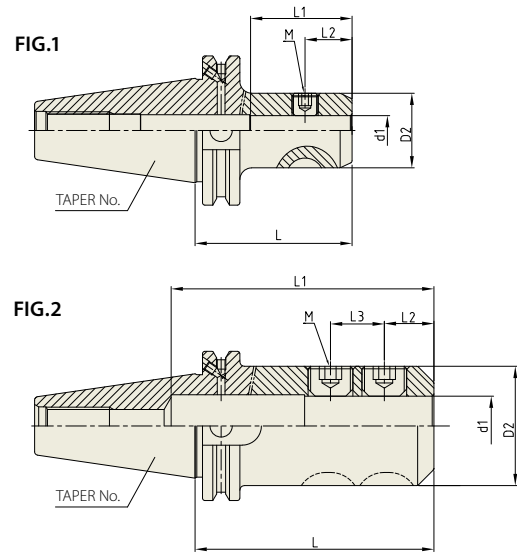
Milling

Indexable

Rotary Tool Holder

END MILL HOLDER

CAT



ASME B5.50-2009-CAT

• EXTENDED

Unit : inch

EDP No.	Price	Taper No.	Model No.	d1	D2	D3	L	L1	L2	L3	M	Fig.
AK104BX	\$70.88	40	CAT40 AD/B - EMH 3/8 - 4.50	0.375	1.000	-	4.500	1.417	0.630	-	UNF3/8-24 5/16L	1
AK106BX	\$64.09		CAT40 AD/B - EMH 1/2 - 4.63	0.500	1.250	-	4.630	1.693	0.787	-	UNF7/16-20 3/8L	1
AK108BX	\$71.64		CAT40 AD/B - EMH 5/8 - 5.75	0.625	1.500	-	5.750	3.600	0.881	-	UNF1/2-20 1/2L	1
AK110BX	\$71.64		CAT40 AD/B - EMH 3/4 - 5.75	0.750	1.750	-	5.750	3.900	0.909	-	UNF5/8-18 1/2L	1
AK112BX	\$71.64		CAT40 AD/B - EMH 7/8 - 6.00	0.875	1.880	-	6.000	4.200	0.650	0.811	UNF5/8-18 1/2L	2
AK114BX	\$73.84		CAT40 AD/B - EMH 1.0 - 6.00	1.000	2.000	-	6.000	4.400	0.831	0.902	UNF3/4-16 1/2L	2
AK117BX	\$78.89		CAT40 AD/B - EMH 1 1/4 - 6.25	1.250	2.500	2.461	6.250	4.000	0.831	0.902	UNF3/4-16 11/16L	2
AK121BX	\$95.96		CAT40 AD/B - EMH 1 1/2 - 6.63	1.500	2.500	2.461	6.630	3.978	0.881	1.063	UNF3/4-16 1/2L	2
AL104BX	\$114.81		50	CAT50 AD/B - EMH 3/8 - 4.50	0.375	1.000	-	4.500	1.417	0.630	-	UNF3/8-24 5/16L
AL106BX	\$114.81	CAT50 AD/B - EMH 1/2 - 4.63		0.500	1.250	-	4.630	1.693	0.787	-	UNF7/16-20 3/8L	1
AL108BX	\$119.66	CAT50 AD/B - EMH 5/8 - 5.75		0.625	1.500	-	5.750	3.449	0.881	-	UNF1/2-20 1/2L	1
AL110BX	\$119.66	CAT50 AD/B - EMH 3/4 - 5.75		0.750	1.750	-	5.750	3.203	0.909	-	UNF5/8-18 1/2L	1
AL112BX	\$119.66	CAT50 AD/B - EMH 7/8 - 5.75		0.875	1.880	-	5.750	4.200	0.650	0.811	UNF5/8-18 1/2L	2
AL114BX	\$119.66	CAT50 AD/B - EMH 1.0 - 6.00		1.000	2.000	-	6.000	4.400	0.831	0.902	UNF3/4-16 1/2L	2
AL117BX	\$132.12	CAT50 AD/B - EMH 1 1/4 - 6.00		1.250	2.500	-	6.000	4.000	0.831	0.902	UNF3/4-16 11/16L	2
AL121BX	\$150.32	CAT50 AD/B - EMH 1 1/2 - 6.00		1.500	2.500	-	6.000	3.978	0.881	1.063	UNF3/4-16 1/2L	2
AL129BX	\$177.91	CAT50 AD/B - EMH 2.0 - 7.63		2.000	3.750	-	7.630	5.000	1.299	1.358	UNS1-14 7/8L	2

Holemaking

Threading

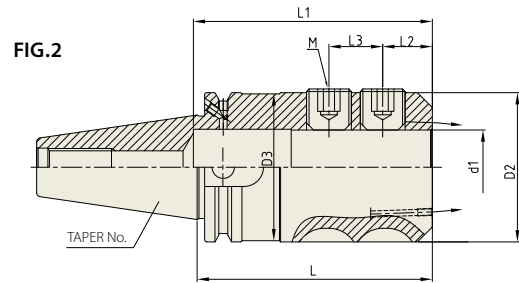
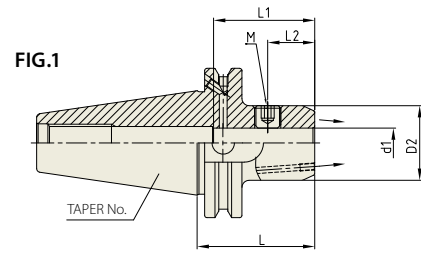
Milling

Indexable

Rotary Tool Holder

END MILL HOLDER

CAT



ASME B5.50-2009-CAT

Unit : Inch

EDP No.	Price	Taper No.	Model No.	d1	D2	D3	L	L1	L2	L3	M	Fig.
AK002CX	\$72.96	40	CAT40 AD/B - EMH 1/4C - 1.97	0.250	0.780	-	1.969	1.299	0.598	-	UNF1/4-28 1/4L	1
AK003CX	\$63.32		CAT40 AD/B - EMH 5/16C - 1.97	0.313	0.880	-	1.969	1.359	0.630	-	UNF5/16-24 1/4L	1
AK004CX	\$57.08		CAT40 AD/B - EMH 3/8C - 1.97	0.375	1.000	-	1.969	1.417	0.630	-	UNF3/8-24 5/16L	1
AK005CX	\$57.08		CAT40 AD/B - EMH 1/2C - 1.97	0.500	1.250	-	1.969	1.693	0.787	-	UNF7/16-20 3/8L	1
AK008CX	\$57.08		CAT40 AD/B - EMH 5/8C - 2.48	0.625	1.500	-	2.480	3.600	0.882	-	UNF1/2-20 1/2L	1
AK010CX	\$57.08		CAT40 AD/B - EMH 3/4C - 2.48	0.750	1.750	-	2.480	3.900	0.909	-	UNF5/8-18 1/2L	1
AK012CX	\$72.15		CAT40 AD/B - EMH 1.0C - 3.94	1.000	2.000	-	3.937	4.400	0.831	0.902	UNF3/4-16 1/2L	2
AK017CX	\$72.15		CAT40 AD/B - EMH 1 1/4C - 3.94	1.250	2.500	2.461	3.937	4.000	0.831	0.902	UNF3/4-16 11/16L	2
AL002CX	\$107.30	50	CAT50 AD/B - EMH 1/4C - 2.48	0.250	0.780	-	2.480	1.299	0.591	-	UNF1/4-28 1/4L	1
AL003CX	\$113.51		CAT50 AD/B - EMH 5/16C - 2.48	0.313	0.880	-	2.480	1.358	0.630	-	UNF5/16-24 1/4L	1
AL004CX	\$109.31		CAT50 AD/B - EMH 3/8C - 2.48	0.375	1.000	-	2.480	1.417	0.630	-	UNF3/8-24 5/16L	1
AL005CX	\$109.31		CAT50 AD/B - EMH 1/2C - 2.48	0.500	1.250	-	2.480	1.693	0.787	-	UNF3/8-24 25/64L	1
AL008CX	\$109.31		CAT50 AD/B - EMH 5/8C - 2.48	0.625	1.500	-	2.480	1.890	0.882	-	UNF1/2-20 1/2L	1
AL010CX	\$109.31		CAT50 AD/B - EMH 3/4C - 2.48	0.750	1.750	-	2.480	1.925	0.909	-	UNF5/8-18 1/2L	1
AL012CX	\$118.68		CAT50 AD/B - EMH 1.0C - 3.15	1.000	2.000	-	3.150	4.400	0.831	0.902	UNF3/4-16 1/2L	2
AL017CX	\$125.33		CAT50 AD/B - EMH 1 1/4C - 3.94	1.250	2.500	-	3.937	4.000	0.831	0.902	UNF3/4-16 11/16L	2

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

END MILL HOLDER

CAT

FIG.1

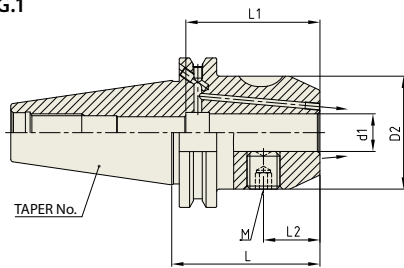
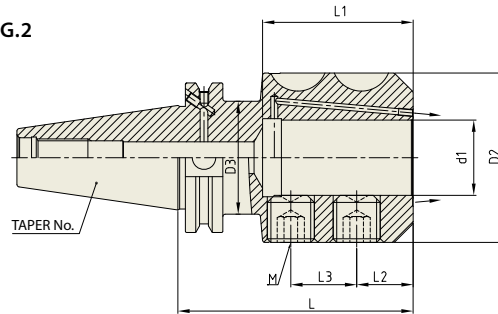


FIG.2



ASME B5.50-2009-CAT

Unit : mm

EDP No.	Price	Taper No.	Model No.	d1	D2	L	L1	L2	L3	M	Fig.	Weight (Kg)
AK311B15X	\$82.98	40	CAT40 AD/B - EMH 6 - 50	6	25	50	35	18	-	M6	1	0.86
AK312B15X	\$82.98		CAT40 AD/B - EMH 8 - 50	8	28	50	35	18	-	M8	1	0.89
AK313B15X	\$72.15		CAT40 AD/B - EMH 10 - 50	10	35	50	39	20	-	M10	1	0.95
AK314B15X	\$72.15		CAT40 AD/B - EMH 12 - 50	12	42	50	36	22.5	-	M12	1	1.03
AK315B15X	\$72.15		CAT40 AD/B - EMH 14 - 50	14	44	50	48	22.5	-	M12	1	1.26
AK316B15X	\$72.15		CAT40 AD/B - EMH 16 - 63	16	48	63	54	24	-	M14	1	1.28
AK317B15X	\$72.15		CAT40 AD/B - EMH 18 - 63	18	50	63	54	24	-	M14	1	1.35
AK318B15X	\$72.15		CAT40 AD/B - EMH 20 - 63	20	52	63	55	25	-	M16	1	1.28
AK319B15X	\$72.15		CAT40 AD/B - EMH 25 - 100	25	65	100	69	24	25	M18	2	2.28
AL311B15X	\$125.71		50	CAT50 AD/B - EMH 6 - 63	6	25	63	35	18	-	M6	1
AL312B15X	\$125.71	CAT50 AD/B - EMH 8 - 63		8	28	63	35	18	-	M8	1	2.70
AL313B15X	\$109.31	CAT50 AD/B - EMH 10 - 63		10	35	63	39	20	-	M10	1	2.90
AL314B15X	\$109.31	CAT50 AD/B - EMH 12 - 63		12	42	63	46	22.5	-	M12	1	2.90
AL315B15X	\$109.31	CAT50 AD/B - EMH 14 - 63		14	44	63	46	22.5	-	M12	1	2.90
AL316B15X	\$109.31	CAT50 AD/B - EMH 16 - 63		16	48	63	46	24	-	M14	1	3.00
AL317B15X	\$109.31	CAT50 AD/B - EMH 18 - 63		18	50	63	46	24	-	M14	1	3.00
AL318B15X	\$109.31	CAT50 AD/B - EMH 20 - 63		20	52	63	56	25	-	M16	1	3.05
AL319B15X	\$118.68	CAT50 AD/B - EMH 25 - 80		25	65	80	60	24	25	M18	2	3.73
AL320B15X	\$125.33	CAT50 AD/B - EMH 32 - 100		32	72	100	64	24	28	M20	2	4.53
AL321B15X	\$173.39	CAT50 AD/B - EMH 40 - 120		40	80	120	74	30	32	M20	2	4.77
AL322B15X	\$175.02	CAT50 AD/B - EMH 50 - 125		50	100	125	84	35	35	M24	2	7.03

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

END MILL HOLDER

BT



FIG.1

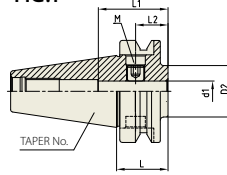


FIG.3

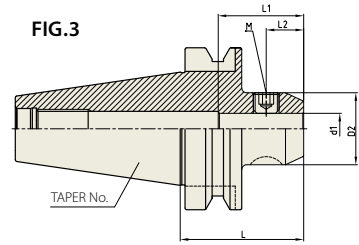


FIG.2

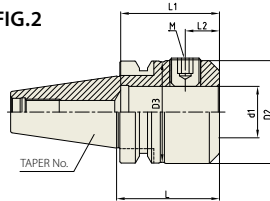
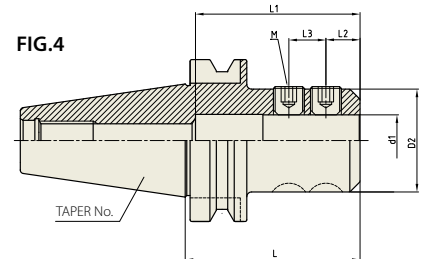


FIG.4



JIS B6339/MAS 403-BT

• STUB

Unit : Inch

EDP No.	Price	Taper No.	Model No.	d1	D2	D3	L	L1	L2	L3	M	Fig.
AH206X	\$63.75	40	BT40 - EMH 1/2 - 1.25	0.500	1.250	-	1.250	1.693	0.787	-	UNF7/16-20 3/8L	1
AH208X	\$63.75		BT40 - EMH 5/8 - 1.38	0.625	1.500	-	1.380	2.400	0.866	-	UNF1/2-20 1/2L	1
AH210X	\$63.75		BT40 - EMH 3/4 - 1.44	0.750	1.750	-	1.440	2.500	0.909	-	UNF5/8-18 1/2L	1
AH214X	\$63.75		BT40 - EMH 1.0 - 2.50	1.000	2.000	-	2.500	2.500	0.831	-	UNF3/4-16 1/2L	1
AH217X	\$70.26		BT40 - EMH 1 1/4 - 2.50	1.250	2.500	2.441	2.500	2.500	0.831	-	UNF3/4-16 11/16L	2

• STANDARD

Unit : Inch

EDP No.	Price	Taper No.	Model No.	d1	D2	D3	L	L1	L2	L3	M	Fig.
AI002X	\$105.53	50	BT50 - EMH 1/4 - 3.00	0.250	0.780	-	3.000	1.299	0.598	-	UNF1/4-28 1/4L	3
AI004X	\$102.59		BT50 - EMH 3/8 - 3.00	0.375	1.000	-	3.000	1.417	0.630	-	UNF3/8-24 5/16L	3
AI006X	\$102.59		BT50 - EMH 1/2 - 3.00	0.500	1.250	-	3.000	1.693	0.787	-	UNF7/16-20 3/8L	3
AI008X	\$102.59		BT50 - EMH 5/8 - 3.00	0.625	1.500	-	3.000	1.929	0.882	-	UNF1/2-20 1/2L	3
AI010X	\$102.59		BT50 - EMH 3/4 - 3.00	0.750	1.750	-	3.000	2.047	0.909	-	UNF5/8-18 1/2L	3
AI012X	\$102.59		BT50 - EMH 7/8 - 4.00	0.875	1.880	-	4.000	4.200	0.650	-	UNF5/8-18 1/2L	4
AI014X	\$105.77		BT50 - EMH 1.0 - 4.25	1.000	2.000	-	4.250	4.636	0.831	0.902	UNF3/4-16 1/2L	4
AI017X	\$111.98		BT50 - EMH 1 1/4 - 4.25	1.250	2.500	-	4.250	4.000	0.831	0.902	UNF3/4-16 11/16L	4
AI021X	\$125.52		BT50 - EMH 1 1/2 - 4.25	1.500	2.500	-	4.250	3.976	0.882	1.063	UNF3/4-16 1/2L	4
AI029X	\$151.85		BT50 - EMH 2.0 - 5.00	2.000	3.750	-	5.000	5.000	1.299	1.358	UNS1-14 7/8L	4

• EXTENDED

Unit : Inch

EDP No.	Price	Taper No.	Model No.	d1	D2	D3	L	L1	L2	L3	M	Fig.
AI104X	\$116.69	50	BT50 - EMH 3/8 - 6.00	0.375	1.000	-	6.000	1.417	0.630	-	UNF3/8-24 5/16L	3
AI106X	\$116.69		BT50 - EMH 1/2 - 6.00	0.500	1.250	-	6.000	1.693	0.787	-	UNF7/16-20 3/8L	3
AI108X	\$116.69		BT50 - EMH 5/8 - 6.00	0.625	1.500	-	6.000	1.929	0.882	-	UNF1/2-20 1/2L	3
AI110X	\$116.69		BT50 - EMH 3/4 - 6.00	0.750	1.750	-	6.000	2.047	0.909	-	UNF5/8-18 1/2L	3
AI112X	\$116.69		BT50 - EMH 7/8 - 6.00	0.875	1.880	-	6.000	4.200	0.650	-	UNF5/8-18 1/2L	4
AI114X	\$117.46		BT50 - EMH 1.0 - 6.00	1.000	2.000	-	6.000	4.636	0.831	0.902	UNF3/4-16 1/2L	4
AI117X	\$124.42		BT50 - EMH 1 1/4 - 6.00	1.250	2.500	-	6.000	4.000	0.831	0.902	UNF3/4-16 11/16L	4
AI121X	\$138.38		BT50 - EMH 1 1/2 - 6.00	1.500	2.500	-	6.000	3.976	0.882	1.063	UNF3/4-16 1/2L	4
AI129X	\$177.91		BT50 - EMH 2.0 - 6.00	2.000	3.750	-	6.000	5.000	1.299	1.358	UNS1-14 7/8L	4

Holemaking

Threading

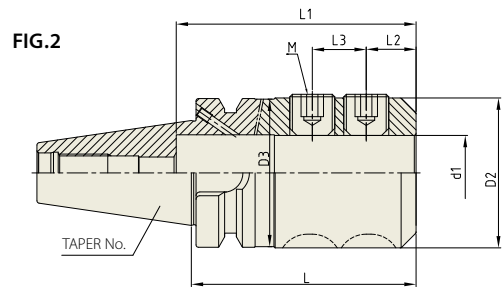
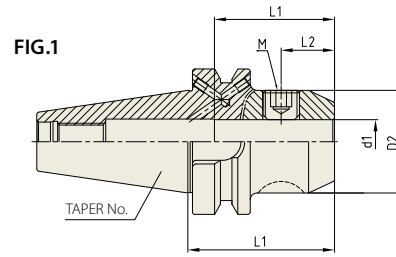
Milling

Indexable

Rotary Tool Holder

END MILL HOLDER

BT



JIS B6339/MAS 403-BT

• STANDARD

Unit : Inch

EDP No.	Price	Taper No.	Model No.	d1	D2	D3	L	L1	L2	L3	M	Fig.
AH000BX	\$69.66	40	BT40 AD/B - EMH 1/8 - 2.50	0.125	0.690	-	2.500	0.591	0.295	-	UNC#8-32 1/4L	1
AH001BX	\$67.05		BT40 AD/B - EMH 3/16 - 2.50	0.187	0.690	-	2.500	0.787	0.441	-	UNC#10-32 1/4L	1
AH002BX	\$67.05		BT40 AD/B - EMH 1/4 - 2.50	0.250	0.780	-	2.500	1.299	0.598	-	UNF1/4-28 1/4L	1
AH003BX	\$67.05		BT40 AD/B - EMH 5/16 - 2.50	0.312	0.880	-	2.500	1.358	0.630	-	UNF5/16-24 1/4L	1
AH004BX	\$67.05		BT40 AD/B - EMH 3/8 - 2.50	0.375	1.000	-	2.500	1.417	0.630	-	UNF3/8-24 5/16L	1
AH005BX	\$67.05		BT40 AD/B - EMH 7/16 - 2.50	0.437	1.130	-	2.500	1.417	0.630	-	UNF3/8-24 25/64L	1
AH006BX	\$67.05		BT40 AD/B - EMH 1/2 - 2.50	0.500	1.250	-	2.500	1.693	0.787	-	UNF7/16-20 3/8L	1
AH008BX	\$67.05		BT40 AD/B - EMH 5/8 - 2.50	0.625	1.500	-	2.500	3.600	0.881	-	UNF1/2-20 1/2L	1
AH010BX	\$67.05		BT40 AD/B - EMH 3/4 - 2.50	0.750	1.750	-	2.500	3.900	0.909	-	UNF5/8-18 1/2L	1
AH012BX	\$62.77		BT40 AD/B - EMH 7/8 - 3.50	0.875	1.880	-	3.500	4.200	0.650	0.811	UNF5/8-18 1/2L	2
AH014BX	\$62.77		BT40 AD/B - EMH 1.0 - 3.75	1.000	2.000	-	3.750	4.400	0.831	0.902	UNF3/4-16 1/2L	2
AH017BX	\$67.15		BT40 AD/B - EMH 1 1/4 - 3.75	1.250	2.500	2.461	3.750	4.000	0.831	0.902	UNF3/4-16 11/16L	2
AH021BX	\$75.37		BT40 AD/B - EMH 1 1/2 - 4.25	1.500	2.500	2.461	4.250	3.978	0.881	1.063	UNF3/4-16 1/2L	2

• EXTENDED

Unit : Inch

EDP No.	Price	Taper No.	Model No.	d1	D2	D3	L	L1	L2	L3	M	Fig.
AH104BX	\$67.29	40	BT40 AD/B - EMH 3/8 - 4.00	0.375	1.000	-	4.000	1.417	0.630	-	UNF3/8-24 5/16L	1
AH106BX	\$67.29		BT40 AD/B - EMH 1/2 - 4.00	0.500	1.250	-	4.000	1.693	0.787	-	UNF7/16-20 3/8L	1
AH108BX	\$67.29		BT40 AD/B - EMH 5/8 - 4.00	0.625	1.500	-	4.000	3.600	0.881	-	UNF1/2-20 1/2L	1
AH110BX	\$67.29		BT40 AD/B - EMH 3/4 - 4.00	0.750	1.750	-	4.000	2.047	0.909	-	UNF5/8-18 1/2L	1
AH114BX	\$67.84		BT40 AD/B - EMH 1.0 - 5.00	1.000	2.000	-	5.000	4.400	0.831	0.902	UNF3/4-16 1/2L	2
AH117BX	\$81.45		BT40 AD/B - EMH 1 1/4 - 5.00	1.250	2.500	2.461	5.000	4.000	0.831	0.902	UNF3/4-16 11/16L	2
AH121BX	\$100.51		BT40 AD/B - EMH 1 1/2 - 6.00	1.500	2.500	2.461	6.000	3.978	0.881	1.063	UNF3/4-16 1/2L	2

Holemaking

Threading

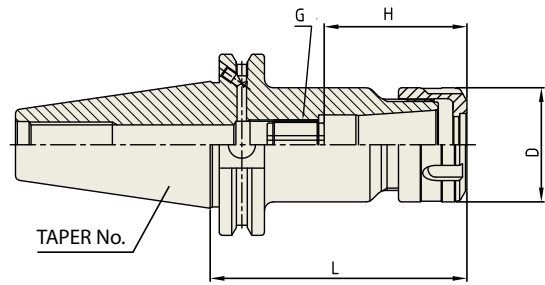
Milling

Indexable

Rotary Tool Holder

ER COLLET CHUCK

CAT



ASME B5.50-2009-CAT

• STUB

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BK232BX	\$73.80	40	CAT40 AD/B - ER 20 - 2.55	0.039 - 0.511	1.339	2.55	1.220	2.315	UN9/16-16 1/2L	ER20
BK233BX	\$73.80		CAT40 AD/B - ER 25 - 2.50	0.039 - 0.629	1.654	2.50	1.339	2.335	UN11/16-16 1/2L	ER25
BK234BX	\$77.10		CAT40 AD/B - ER 32 - 2.70	0.078 - 0.787	1.969	2.70	1.575	3.555	UN7/8-16 1/2L	ER32

• STANDARD

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BK030BX	\$73.80	40	CAT40 AD/B - ER 11 - 3.00	0.019 - 0.275	0.748	3.00	0.654	1.177	UN5/16-18 1/2L	ER11
BK031BX	\$73.80		CAT40 AD/B - ER 16 - 3.00	0.019 - 0.393	1.102	3.00	1.008	2.240	UN7/16-18 1/2L	ER16
BK032BX	\$87.86		CAT40 AD/B - ER 20 - 4.00	0.039 - 0.511	1.339	4.00	1.220	2.315	UN9/16-16 1/2L	ER20
BK133BX	\$94.96		CAT40 AD/B - ER 25 - 4.00	0.039 - 0.629	1.654	4.00	1.339	2.335	UN11/16-16 1/2L	ER25
BK134BX	\$100.91		CAT40 AD/B - ER 32 - 4.00	0.078 - 0.787	1.969	4.00	1.575	3.555	UN7/8-16 1/2L	ER32
BK136BX	\$107.97		CAT40 AD/B - ER 40 - 4.00	0.118 - 1.024	2.480	4.00	2.283	3.634	UN1 1/8-16 1/2L	ER40
BL031BX	\$169.97	50	CAT50 AD/B - ER 16 - 3.00	0.019 - 0.393	1.100	4.00	1.008	1.839	UN7/16-18 1/2L	ER16
BL032BX	\$171.65		CAT50 AD/B - ER 20 - 4.00	0.039 - 0.511	1.339	4.00	1.220	2.315	UN9/16-16 1/2L	ER20
BL033BX	\$171.65		CAT50 AD/B - ER 25 - 4.00	0.039 - 0.629	1.654	4.00	1.339	2.335	UN11/16-16 1/2L	ER25
BL034BX	\$176.41		CAT50 AD/B - ER 32 - 4.00	0.078 - 0.787	1.969	4.00	1.575	3.555	UN7/8-16 1/2L	ER32
BL036BX	\$188.74		CAT50 AD/B - ER 40 - 4.00	0.118 - 1.024	2.480	4.00	2.283	3.634	UN1 1/8-16 1/2L	ER40

• EXTENDED

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BK331BX	\$97.78	40	CAT40 AD/B - ER 16 - 6.00	0.019 - 0.393	1.102	6.00	1.008	2.240	UN7/16-18 1/2L	ER16
BK332BX	\$104.12		CAT40 AD/B - ER 20 - 6.00	0.039 - 0.511	1.339	6.00	1.220	2.315	UN9/16-16 1/2L	ER20
BK333BX	\$108.30		CAT40 AD/B - ER 25 - 6.00	0.039 - 0.629	1.654	6.00	1.339	2.335	UN11/16-16 1/2L	ER25
BK334BX	\$121.26		CAT40 AD/B - ER 32 - 6.00	0.078 - 0.787	1.969	6.00	1.575	3.555	UN7/8-16 1/2L	ER32
BL331BX	\$186.09	50	CAT50 AD/B - ER 16 - 6.00	0.019 - 0.393	1.100	6.00	1.008	1.839	UN7/16-18 1/2L	ER16
BL332BX	\$185.73		CAT50 AD/B - ER 20 - 6.00	0.039 - 0.511	1.330	6.00	1.220	2.315	UN9/16-16 1/2L	ER20
BL333BX	\$185.73		CAT50 AD/B - ER 25 - 6.00	0.039 - 0.629	1.650	6.00	1.339	2.335	UN11/16-16 1/2L	ER25
BL334BX	\$190.66		CAT50 AD/B - ER 32 - 6.00	0.078 - 0.787	1.960	6.00	1.575	3.555	UN7/8-16 1/2L	ER32

• EXTRA EXTENDED

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BK434BX	\$112.92	40	CAT40 AD/B - ER 16 - 8.00	0.019 - 0.393	1.102	8.00	1.008	2.240	UN7/16-18 1/2L	ER16
BK432BX	\$120.21		CAT40 AD/B - ER 20 - 8.00	0.039 - 0.511	1.339	8.00	2.283	3.634	UN9/16-16 1/2L	ER20
BK435BX	\$125.06		CAT40 AD/B - ER 25 - 8.00	0.039 - 0.629	1.654	8.00	1.339	2.335	UN11/16-16 1/2L	ER25
BK433BX	\$140.03		CAT40 AD/B - ER 32 - 8.00	0.078 - 0.787	1.969	8.00	1.575	3.555	UN7/8-16 1/2L	ER32

Holemaking

Threading

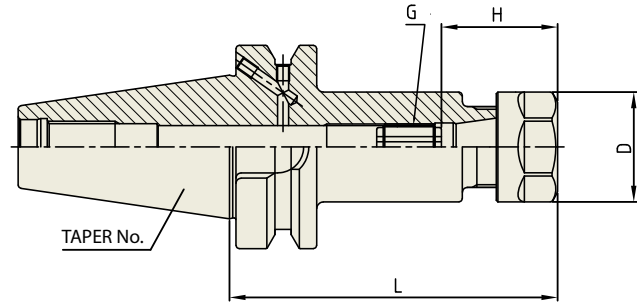
Milling

Indexable

Rotary Tool Holder

ER COLLET CHUCK

BT



JIS B6339/MAS 403-BT

• STUB

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BH232BX	\$73.80	40	BT40 AD/B - ER 20 - 2.20	0.039 - 0.511	1.339	2.200	1.220	2.315	UN9/16-16 1/2L	ER20
BH233BX	\$73.80		BT40 AD/B - ER 25 - 2.50	0.039 - 0.629	1.654	2.500	1.339	2.335	UN11/16-16 1/2L	ER25
BH234BX	\$77.10		BT40 AD/B - ER 32 - 2.40	0.078 - 0.787	1.969	2.400	1.575	3.161	UN7/8-16 1/2L	ER32

• STANDARD

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BH030BX	\$73.80	40	BT40 AD/B - ER 11 - 3.00	0.019 - 0.275	0.748	3.000	0.654	1.453	UN5/16-18 1/2L	ER11
BH031BX	\$73.80		BT40 AD/B - ER 16 - 3.00	0.019 - 0.393	1.102	3.000	1.008	1.886	UN7/16-18 1/2L	ER16
BH032BX	\$87.86		BT40 AD/B - ER 20 - 4.00	0.039 - 0.511	1.339	4.000	1.220	2.315	UN9/16-16 1/2L	ER20
BH133BX	\$94.96		BT40 AD/B - ER 25 - 4.00	0.039 - 0.629	1.654	4.000	1.339	2.335	UN11/16-16 1/2L	ER25
BH134BX	\$100.91		BT40 AD/B - ER 32 - 4.00	0.078 - 0.787	1.969	4.000	1.575	3.555	UN7/8-16 1/2L	ER32
BH136BX	\$107.97		BT40 AD/B - ER 40 - 4.00	0.118 - 1.024	2.480	4.000	2.283	3.437	UN1 1/8-16 1/2L	ER40

• EXTENDED

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BH331BX	\$97.78	40	BT40 AD/B - ER 16 - 6.00	0.019 - 0.393	1.102	6.000	1.008	1.886	UN7/16-18 1/2L	ER16
BH332BX	\$104.12		BT40 AD/B - ER 20 - 6.00	0.039 - 0.511	1.339	6.000	1.220	2.315	UN9/16-16 1/2L	ER20
BH333BX	\$108.30		BT40 AD/B - ER 25 - 6.00	0.039 - 0.629	1.654	6.000	1.339	2.335	UN11/16-16 1/2L	ER25
BH334BX	\$109.52		BT40 AD/B - ER 32 - 6.00	0.078 - 0.787	1.969	6.000	1.575	3.555	UN7/8-16 1/2L	ER32

• EXTRA EXTENDED

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BH434BX	\$127.50	40	BT40 AD/B - ER 16 - 8.00	0.019 - 0.393	1.102	8.000	1.008	1.886	UN7/16-18 1/2L	ER16
BH432BX	\$120.21		BT40 AD/B - ER 20 - 8.00	0.039 - 0.511	1.339	8.000	1.220	2.315	UN9/16-16 1/2L	ER20
BH435BX	\$135.37		BT40 AD/B - ER 25 - 8.00	0.039 - 0.629	1.654	8.000	1.339	2.335	UN11/16-16 1/2L	ER25
BH433BX	\$134.20		BT40 AD/B - ER 32 - 8.00	0.078 - 0.787	1.969	8.000	1.575	3.555	UN7/8-16 1/2L	ER32

* Supplied without wrench.

Holemaking

Threading

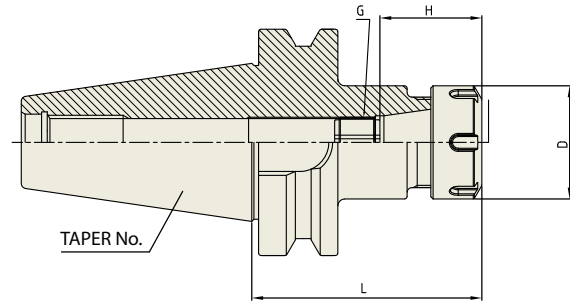
Milling

Indexable

Rotary Tool Holder

ER COLLET CHUCK

BT



JIS B6339/MAS 403-BT

• STANDARD

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BI031X	\$139.39	50	BT50 - ER 16 - 4.88	0.019 - 0.393	1.102	4.880	1.008	1.886	UN7/16-18 1/2L	ER16
BI032X	\$128.91		BT50 - ER 20 - 2.63	0.039 - 0.511	1.339	2.630	1.220	3.102	UN9/16-16 1/2L	ER20
BI033X	\$128.91		BT50 - ER 25 - 2.63	0.039 - 0.629	1.654	2.630	1.339	2.335	UN11/16-16 1/2L	ER25
BI034X	\$140.80		BT50 - ER 32 - 4.00	0.078 - 0.787	1.969	4.000	1.575	3.555	UN7/8-16 1/2L	ER32

• EXTENDED

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H		G	Collet Series
							Min.	Max.		
BI331X	\$150.82	50	BT50 - ER 16 - 6.00	0.019 - 0.393	1.102	6.000	1.008	1.886	UN7/16-18 1/2L	ER16
BI332X	\$150.82		BT50 - ER 20 - 6.00	0.039 - 0.511	1.339	6.000	1.220	3.102	UN9/16-16 1/2L	ER20
BI333X	\$155.10		BT50 - ER 25 - 6.00	0.039 - 0.629	1.654	6.000	1.339	2.335	UN11/16-16 1/2L	ER25
BI334X	\$159.24		BT50 - ER 32 - 6.00	0.078 - 0.787	1.969	6.000	1.575	3.555	UN7/8-16 1/2L	ER32

* Supplied without wrench.

Holemaking

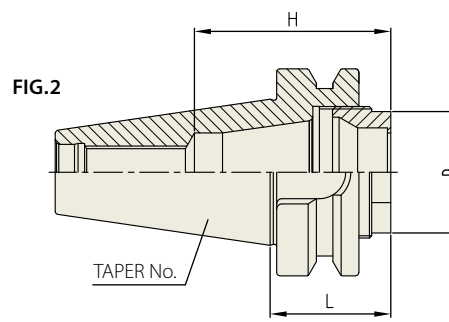
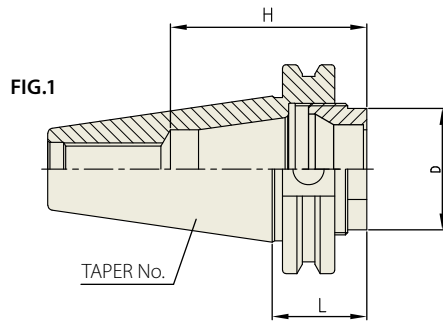
Threading

Milling

Indexable

Rotary Tool Holder

SHORT



ASME B5.50-2009-CAT

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H	Collet Series	Fig.
BK020SHTX	\$63.73	40	CAT40 - ER 32 - SHORT	0.078 - 0.787	1.455	1.134	2.350	ER32 (For Hex. Nut)	1

JIS B6339/MAS 403-BT

Unit : Inch

EDP No.	Price	Taper No.	Model No.	Clamping Range	D	L	H	Collet Series	Fig.
BH020SHTX	\$63.73	40	BT40 - ER 32 - SHORT	0.078 - 0.787	1.455	1.446	2.350	ER32 (For Hex. Nut)	2

Holemaking

Threading

Milling

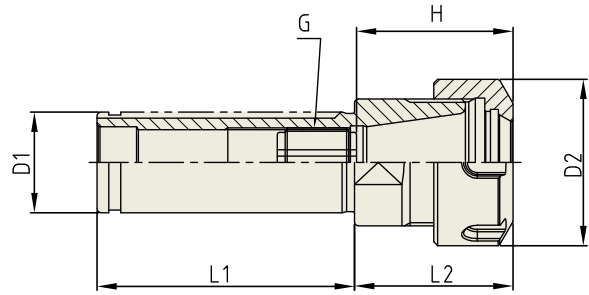
Indexable

Rotary Tool Holder

ER COLLET CHUCK

NC

For CNC LATHE



NC-ER

Unit : Inch

EDP No.	Price	Shank Dia.	Model No.	Clamping Range	D1	D2	L1	L2	H		G	Collet Series
									Min.	Max.		
BN110X	\$77.76	1	NC1 - ER 11	0.019 - 0.275	1.000	0.748	2.559	1.260	0.654	1.350	UN5/16-18 1/2L	ER11
BN111X	\$77.76		NC1 - ER 16	0.019 - 0.393	1.000	1.102	2.559	1.417	1.008	1.886	UN7/16-18 1/2L	ER16
BN112X	\$77.76		NC1 - ER 20	0.039 - 0.511	1.000	1.339	2.559	1.575	1.220	2.315	UN9/16-16 1/2L	ER20
BN113X	\$81.23		NC1 - ER 25	0.039 - 0.629	1.000	1.654	2.559	1.575	1.339	2.315	UN11/16-16 1/2L	ER25
BN114X	\$80.97	1-1/4	NC1-1/4 - ER 20	0.039 - 0.511	1.250	1.339	2.756	1.161	1.220	2.315	UN9/16-16 1/2L	ER20
BN115X	\$87.21		NC1-1/4 - ER 25	0.039 - 0.629	1.250	1.654	2.756	1.575	1.339	2.335	UN11/16-16 1/2L	ER25
BN116X	\$89.65		NC1-1/4 - ER 32	0.078 - 0.787	1.250	1.969	2.756	1.772	1.575	2.453	UN7/8-16 1/2L	ER32
BN117X	\$95.99		NC1-1/4 - ER 40	0.118 - 1.180	1.250	2.480	2.756	3.150	2.441	3.555	UN1 1/8-16 1/2L	ER40

* Supplied without wrench.

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

ER COLLET

ER

Inch Type



Unit : Inch

ER 11		
EDP No.	Clamping Range	Price
110116	1/16	\$19.42
110332	3/32	\$19.42
110108	1/8	\$19.42
110532	5/32	\$19.42
110316	3/16	\$19.42
110732	7/32	\$19.42
110104	1/4	\$19.42
ER11S07	Standard Set	\$164.62
Ø1/16" to 1/4"		
7 pcs		

ER 16		
EDP No.	Clamping Range	PRICE
160116	1/16	\$20.89
160332	3/32	\$20.89
160108	1/8	\$20.09
160532	5/32	\$20.89
160316	3/16	\$20.89
160732	7/32	\$20.89
160104	1/4	\$20.09
160932	9/32	\$20.89
160516	5/16	\$20.89
161132	11/32	\$20.89
160308	3/8	\$20.89
161332	13/32	\$20.89
ER16S12	Standard Set	\$279.63
Ø1/16" to 13/32"		
12 pcs		

ER 20		
EDP No.	Clamping Range	PRICE
200116	1/16	\$22.21
200332	3/32	\$22.21
200108	1/8	\$22.21
200532	5/32	\$22.21
200316	3/16	\$22.21
200732	7/32	\$22.21
200104	1/4	\$22.21
200932	9/32	\$22.21
200516	5/16	\$22.21
201132	11/32	\$22.21
200308	3/8	\$22.21
201332	13/32	\$22.21
200716	7/16	\$22.21
201532	15/32	\$22.21
200102	1/2	\$22.21
ER20S15	Standard Set	\$361.75
Ø1/16" to 1/2"		
15 pcs		

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

ER COLLET

ER

Inch Type



Unit : Inch

ER 25		
EDP No.	Clamping Range	Price
250116	1/16	\$22.59
250332	3/32	\$22.59
250108	1/8	\$22.59
250532	5/32	\$22.59
250316	3/16	\$22.59
250732	7/32	\$22.59
250104	1/4	\$22.59
250932	9/32	\$22.59
250516	5/16	\$22.59
251132	11/32	\$22.59
250308	3/8	\$22.59
251332	13/32	\$22.59
250716	7/16	\$22.59
251532	15/32	\$22.59
250102	1/2	\$22.59
251732	17/32	\$22.59
250916	9/16	\$22.59
251932	19/32	\$22.59
250508	5/8	\$22.59
ER25S19	Standard Set	\$457.67
Ø1/16" to 5/8"		
19 pcs		

ER 32		
EDP No.	Clamping Range	Price
320332	3/32	\$23.70
320108	1/8	\$23.70
320532	5/32	\$23.70
320316	3/16	\$23.70
320732	7/32	\$23.70
320104	1/4	\$23.70
320932	9/32	\$23.70
320516	5/16	\$23.70
321132	11/32	\$23.70
320308	3/8	\$23.70
321332	13/32	\$23.70
320716	7/16	\$23.70
321532	15/32	\$23.70
320102	1/2	\$23.70
321732	17/32	\$23.70
320916	9/16	\$23.70
321932	19/32	\$23.70
320508	5/8	\$23.70
322132	21/32	\$23.70
321116	11/16	\$23.70
322332	23/32	\$23.70
320304	3/4	\$23.70
ER32S22	Standard Set	\$555.16
Ø3/32" to 3/4"		
22 pcs		

ER 40		
EDP No.	Clamping Range	Price
400108	1/8	\$26.31
400532	5/32	\$26.31
400316	3/16	\$26.31
400732	7/32	\$26.31
400104	1/4	\$26.31
400932	9/32	\$26.31
400516	5/16	\$26.31
401132	11/32	\$26.31
400308	3/8	\$26.31
401332	13/32	\$26.31
400716	7/16	\$26.31
401532	15/32	\$26.31
400102	1/2	\$26.31
401732	17/32	\$26.31
400916	9/16	\$26.31
401932	19/32	\$26.31
400508	5/8	\$26.31
402132	21/32	\$26.31
401116	11/16	\$26.31
402332	23/32	\$26.31
400304	3/4	\$26.31
402532	25/32	\$26.31
401316	13/16	\$26.31
402732	27/32	\$26.31
400708	7/8	\$26.31
402932	29/32	\$26.31
401516	15/16	\$26.31
403132	31/32	\$26.31
401000	1	\$26.31
ER40S29	Standard Set	\$1,033.14
Ø1/8" to 1"		
29 pcs		

Holemaking

Threading

Milling

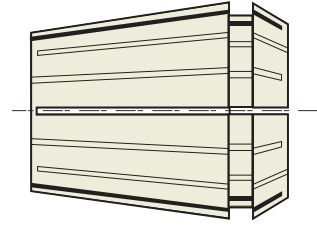
Indexable

Rotary Tool Holder

ER COLLET

ER

Metric Type



Unit : mm

ER 8		
EDP No.	Clamping Range	Price
208010	1.0 - 0.5	\$22.81
208015	1.5 - 1.0	\$22.81
208020	2.0 - 1.5	\$22.81
208025	2.5 - 2.0	\$22.81
208030	3.0 - 2.5	\$22.81
208035	3.5 - 3.0	\$22.81
208040	4.0 - 3.5	\$22.81
208045	4.5 - 4.0	\$22.81
208050	5.0 - 4.5	\$22.81
208000	Standard Set	\$208.92
Ø1.0 - 5.0mm		
9 pcs		

ER 11		
EDP No.	Clamping Range	Price
211010	1.0 - 0.5	\$18.67
211015	1.5 - 1.0	\$18.67
211020	2.0 - 1.5	\$18.67
211025	2.5 - 2.0	\$18.67
211030	3.0 - 2.5	\$18.67
211035	3.5 - 3.0	\$18.67
211040	4.0 - 3.5	\$18.67
211045	4.5 - 4.0	\$18.67
211050	5.0 - 4.5	\$18.67
211055	5.5 - 5.0	\$18.67
211060	6.0 - 5.5	\$18.67
211065	6.5 - 6.0	\$18.67
211070	7.0 - 6.5	\$18.67
211000	Standard Set	\$263.12
Ø1.0 - 7.0mm		
13 pcs		

ER 16		
EDP No.	Clamping Range	Price
216010	1.0 - 0.5	\$20.09
216015	1.5 - 1.0	\$20.09
216020	2.0 - 1.0	\$20.09
216025	2.5 - 2.0	\$20.09
216030	3.0 - 2.0	\$20.09
216040	4.0 - 3.0	\$20.09
216050	5.0 - 4.0	\$20.09
216060	6.0 - 5.0	\$20.09
216070	7.0 - 6.0	\$20.09
216080	8.0 - 7.0	\$20.09
216090	9.0 - 8.0	\$20.09
216100	10.0 - 9.0	\$20.09
216000	Standard Set	\$208.89
Ø1.0 - 10.0mm		
10 pcs		

Holemaking

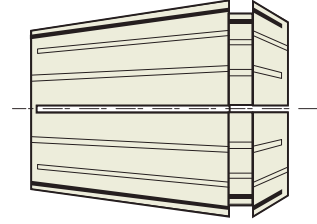
Threading

Milling

Indexable

Rotary Tool Holder

Metric Type



Unit : mm

ER 20		
EDP No.	Clamping Range	Price
220010	1.0 - 0.5	\$21.35
220015	1.5 - 1.0	\$21.35
220020	2.0 - 1.0	\$21.35
220025	2.5 - 2.0	\$21.35
220030	3.0 - 2.0	\$21.35
220040	4.0 - 3.0	\$21.35
220050	5.0 - 4.0	\$21.35
220060	6.0 - 5.0	\$21.35
220070	7.0 - 6.0	\$21.35
220080	8.0 - 7.0	\$21.35
220090	9.0 - 8.0	\$21.35
220100	10.0 - 9.0	\$21.35
220110	11.0 - 10.0	\$21.35
220120	12.0 - 11.0	\$21.35
220130	13.0 - 12.0	\$21.35
220000	Standard Set	\$246.89
Ø2.0 - 13.0mm		
12 pcs		

ER 25		
EDP No.	Clamping Range	Price
225010	1.0 - 1.5	\$21.71
225015	1.5 - 1.0	\$21.71
225020	2.0 - 1.0	\$21.71
225025	2.5 - 2.0	\$21.71
225030	3.0 - 2.0	\$21.71
225040	4.0 - 3.0	\$21.71
225050	5.0 - 4.0	\$21.71
225060	6.0 - 5.0	\$21.71
225070	7.0 - 6.0	\$21.71
225080	8.0 - 7.0	\$21.71
225090	9.0 - 8.0	\$21.71
225100	10.0 - 9.0	\$21.71
225110	11.0 - 10.0	\$21.71
225120	12.0 - 11.0	\$21.71
225130	13.0 - 12.0	\$21.71
225140	14.0 - 13.0	\$21.71
225150	15.0 - 14.0	\$21.71
225160	16.0 - 15.0	\$21.71
225000	Standard Set	\$319.88
Ø2.0 - 16.0mm		
15 pcs		

ER 32		
EDP No.	Clamping Range	Price
232020	2.0 - 1.0	\$23.70
232025	2.5 - 2.0	\$23.70
232030	3.0 - 2.0	\$23.70
232040	4.0 - 3.0	\$23.70
232050	5.0 - 4.0	\$23.70
232060	6.0 - 5.0	\$23.70
232070	7.0 - 6.0	\$23.70
232080	8.0 - 7.0	\$23.70
232090	9.0 - 8.0	\$23.70
232100	10.0 - 9.0	\$23.70
232110	11.0 - 10.0	\$23.70
232120	12.0 - 11.0	\$23.70
232130	13.0 - 12.0	\$23.70
232140	14.0 - 13.0	\$23.70
232150	15.0 - 14.0	\$23.70
232160	16.0 - 15.0	\$23.70
232170	17.0 - 16.0	\$23.70
232180	18.0 - 17.0	\$23.70
232190	19.0 - 18.0	\$23.70
232200	20.0 - 19.0	\$23.70
232000	Standard Set	\$392.99
Ø3.0 - 20.0mm		
18 pcs		

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

Metric Type



Unit : mm

ER 40		
EDP No.	Clamping Range	Price
240030	3.0 - 2.0	\$26.31
240040	4.0 - 3.0	\$26.31
240050	5.0 - 4.0	\$26.31
240060	6.0 - 5.0	\$26.31
240070	7.0 - 6.0	\$26.31
240080	8.0 - 7.0	\$26.31
240090	9.0 - 8.0	\$26.31
240100	10.0 - 9.0	\$26.31
240110	11.0 - 10.0	\$26.31
240120	12.0 - 11.0	\$26.31
240130	13.0 - 12.0	\$26.31
240140	14.0 - 13.0	\$26.31
240150	15.0 - 14.0	\$26.31
240160	16.0 - 15.0	\$26.31
240170	17.0 - 16.0	\$26.31
240180	18.0 - 17.0	\$26.31
240190	19.0 - 18.0	\$26.31
240200	20.0 - 19.0	\$26.31
240210	21.0 - 20.0	\$26.31
240220	22.0 - 21.0	\$26.31
240230	23.0 - 22.0	\$26.31
240240	24.0 - 23.0	\$26.31
240250	25.0 - 24.0	\$26.31
240260	26.0 - 25.0	\$26.31
240270	27.0 - 26.0	\$26.31
240280	28.0 - 27.0	\$26.31
240290	29.0 - 28.0	\$26.31
240300	30.0 - 29.0	\$26.31
240000	Standard Set	\$545.17
Ø4.0 - 26.0mm		
23 pcs		

ER 50		
EDP No.	Clamping Range	Price
250060	6.0 - 4.0	\$53.96
250080	8.0 - 6.0	\$53.96
250100	10.0 - 8.0	\$53.96
250120	12.0 - 10.0	\$53.96
250140	14.0 - 12.0	\$53.96
250160	16.0 - 14.0	\$53.96
250180	18.0 - 16.0	\$53.96
250200	20.0 - 18.0	\$53.96
250220	22.0 - 20.0	\$53.96
250240	24.0 - 22.0	\$53.96
250250	25.0 - 23.0	\$53.96
250260	26.0 - 24.0	\$53.96
250280	28.0 - 26.0	\$53.96
250300	30.0 - 28.0	\$53.96
250320	32.0 - 30.0	\$53.96
250340	34.0 - 32.0	\$53.96
250000	Standard Set	\$905.05
Ø12.0 - 34.0mm		
12 pcs		

Holemaking

Threading

Milling

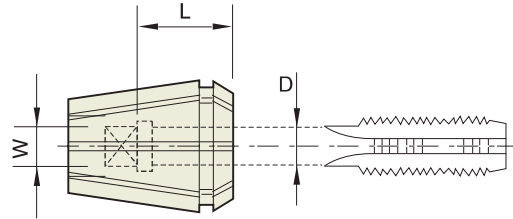
Indexable

Rotary Tool Holder

TAP ER COLLET

RD

Inch Type: ANSI



Below standard TAP ER Collet conforms to **ANSI** (For STANDARD TAPS)

Unit : Inch

ER 11						
EDP No.	Price	TAP		D(∅)	W(□)	L
		Inch	Metric			
11TC1411	\$58.81	#6	M3	0.141	0.110	0.472
11TC1613	\$58.81	#8	M4	0.168	0.131	0.472
11TC1915	\$58.81	#10	M4.5+M5	0.194	0.152	0.472
11TC2216	\$58.81	#12	-	0.220	0.165	0.551
11TC2519	\$58.81	1/4	M6	0.255	0.191	0.551

ER 16						
EDP No.	Price	TAP		D(∅)	W(□)	L
		Inch	Metric			
16TC1411	\$58.81	#6	M3	0.141	0.110	0.709
16TC1613	\$58.81	#8	M4	0.168	0.131	0.709
16TC1915	\$58.81	#10	M4.5+M5	0.194	0.152	0.709
16TC2216	\$58.81	#12	-	0.220	0.165	0.709
16TC2519	\$58.81	1/4	M6	0.255	0.191	0.709
16TC3123	\$58.81	5/16	M7+M8	0.318	0.238	0.709
16TC3224	\$58.81	7/16	-	0.323	0.242	0.709

ER 20						
EDP No.	Price	TAP		D(∅)	W(□)	L
		Inch	Metric			
20TC1411	\$60.25	#6	M3	0.141	0.110	0.709
20TC1613	\$60.25	#8	M4	0.168	0.131	0.709
20TC1915	\$60.25	#10	M4.5+M5	0.194	0.152	0.709
20TC2216	\$60.25	#12	-	0.220	0.165	0.709
20TC2519	\$60.25	1/4	M6	0.255	0.191	0.709
20TC3123	\$60.25	5/16	M7+M8	0.318	0.238	0.866
20TC3828	\$60.25	3/8	M10	0.381	0.286	0.866
20TC3224	\$60.25	7/16	-	0.323	0.242	0.866
20TC3622	\$60.25	1/2	M12	0.367	0.275	0.866

▶ NEXT PAGE

TAP ER COLLET

RD

Below standard TAP ER Collet conforms to **ANSI** (For STANDARD TAPS)

Unit : Inch

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

ER 25						
EDP No.	Price	TAP		D(∅)	W(□)	L
		Inch	Metric			
25TC1411	\$63.11	#6	M3	0.141	0.110	0.709
25TC1613	\$63.11	#8	M4	0.168	0.131	0.709
25TC1915	\$63.11	#10	M4.5+M5	0.194	0.152	0.709
25TC2216	\$63.11	#12	-	0.220	0.165	0.709
25TC2519	\$63.11	1/4	M6	0.255	0.191	0.709
25TC3123	\$63.11	5/16	M7+M8	0.318	0.238	0.866
25TC3828	\$63.11	3/8	M10	0.381	0.286	0.866
25TC3224	\$63.11	7/16	-	0.323	0.242	0.866
25TC3622	\$63.11	1/2	M12	0.367	0.275	0.866
25TC4232	\$63.11	9/16	M14	0.429	0.322	0.984
25TC4836	\$63.11	5/8	M16	0.480	0.360	0.984
25TC5440	\$63.11	11/16	M18	0.542	0.406	0.984
25TC5944	\$63.11	3/4	-	0.590	0.442	0.984

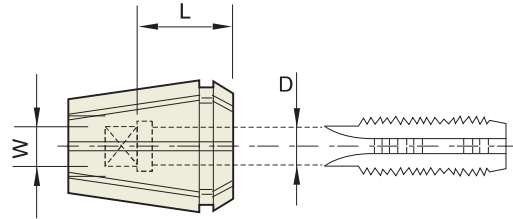
ER 32						
EDP No.	Price	TAP		D(∅)	W(□)	L
		Inch	Metric			
32TC1411	\$67.28	#6	M3	0.141	0.110	0.709
32TC1613	\$67.28	#8	M4	0.168	0.131	0.709
32TC1915	\$67.28	#10	M4.5+M5	0.194	0.152	0.709
32TC2216	\$67.28	#12	-	0.220	0.165	0.709
32TC2519	\$67.28	1/4	M6	0.255	0.191	0.709
32TC3123	\$67.28	5/16	M7+M8	0.318	0.238	0.866
32TC3828	\$67.28	3/8	M10	0.381	0.286	0.866
32TC3224	\$67.28	7/16	-	0.323	0.242	0.866
32TC3627	\$67.28	1/2	M12	0.367	0.275	0.866
32TC4232	\$67.28	9/16	M14	0.429	0.322	0.984
32TC4836	\$67.28	5/8	M16	0.480	0.360	0.984
32TC5440	\$67.28	11/16	M18	0.542	0.406	0.984
32TC5944	\$67.28	3/4	-	0.590	0.442	0.984
32TC6548	\$67.28	13/16	M20	0.652	0.489	0.984

ER 40						
EDP No.	Price	TAP		D(∅)	W(□)	L
		Inch	Metric			
40TC1411	\$79.09	#6	M3	0.141	0.110	0.709
40TC1613	\$79.09	#8	M4	0.168	0.131	0.709
40TC1915	\$79.09	#10	M4.5+M5	0.194	0.152	0.709
40TC2216	\$79.09	#12	-	0.220	0.165	0.709
40TC2519	\$79.09	1/4	M6	0.255	0.191	0.709
40TC3123	\$79.09	5/16	M7+M8	0.318	0.238	0.866
40TC3828	\$79.09	3/8	M10	0.381	0.286	0.866
40TC3224	\$79.09	7/16	-	0.323	0.242	0.866
40TC3627	\$79.09	1/2	M12	0.367	0.275	0.866
40TC4232	\$79.09	9/16	M14	0.429	0.322	0.984
40TC4836	\$79.09	5/8	M16	0.480	0.360	0.984
40TC5440	\$79.09	11/16	M18	0.542	0.406	0.984
40TC5944	\$79.09	3/4	-	0.590	0.442	0.984
40TC6548	\$79.09	13/16	M20	0.652	0.489	0.984
40TC6952	\$79.09	7/8	M22	0.697	0.523	0.984
40TC7657	\$79.09	15/16	M24	0.760	0.570	0.984
40TC8060	\$79.09	1	M25	0.800	0.600	1.102

TAP ER COLLET

RD

Inch Type: ANSI



Below standard TAP ER Collet conforms to **ANSI** (For PIPE TAPS)

Unit : Inch

ER 16					
EDP No.	Price	TAP	D(∅)	W(□)	L
		Inch			
16TP3123	\$58.81	1/8(SS)	0.312	0.234	0.709
16TP4332	\$58.81	1/8(LS)	0.437	0.328	0.709

ER 20					
EDP No.	Price	TAP	D(∅)	W(□)	L
		Inch			
20TP3123	\$60.25	1/8(SS)	0.312	0.234	0.787
20TP4332	\$60.25	1/8(LS)	0.437	0.328	0.787

ER 25					
EDP No.	Price	TAP	D(∅)	W(□)	L
		Inch			
25TP3123	\$63.11	1/8(SS)	0.312	0.234	0.787
25TP4332	\$63.11	1/8(LS)	0.437	0.328	0.787
25TP5642	\$63.11	1/4	0.562	0.420	0.787

ER 32					
EDP No.	Price	TAP	D(∅)	W(□)	L
		Inch			
32TP3123	\$67.28	1/8(SS)	0.312	0.234	0.787
32TP4332	\$67.28	1/8(LS)	0.437	0.328	0.787
32TP5642	\$67.28	1/4	0.562	0.420	0.787

ER 40					
EDP No.	Price	TAP	D(∅)	W(□)	L
		Inch			
40TP3123	\$79.09	1/8(SS)	0.312	0.234	0.787
40TP4332	\$79.09	1/8(LS)	0.437	0.328	0.787
40TP5642	\$79.09	1/4	0.562	0.420	0.787
40TP7053	\$79.09	3/8	0.700	0.530	0.866
40TP6851	\$79.09	1/2	0.687	0.515	0.866
40TP9067	\$79.09	3/4	0.906	0.679	0.945

* SS (Small Shank Series)
LS (Large Shank Series)

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

FIG. 1

EDP No.	Price	Series	Type
ZZ061	\$53.08	ER11 - NUT	FIG. 1
ZZ063	\$53.08	ER16 - NUT	FIG. 1
ZZ066	\$56.18	ER20 - NUT	FIG. 1

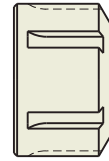
FIG. 2

EDP No.	Price	Series	Type
ZZ069	\$62.30	ER25 - NUT	FIG. 2
ZZ072	\$65.34	ER32 - NUT	FIG. 2
ZZ077	\$72.99	ER40 - NUT	FIG. 2

FIG. 1



FIG. 2



END WRENCH

FIG. 1

EDP No.	Price	Series	Type
ZZ062	\$17.33	ER11	FIG. 1
ZZ064	\$17.33	ER16	FIG. 1
ZZ067	\$17.33	ER20	FIG. 1



FIG. 1

FIG. 2

EDP No.	Price	Series	Type
ZZ070	\$17.33	ER25	FIG. 2
ZZ073	\$17.33	ER32	FIG. 2
ZZ076	\$17.52	ER40	FIG. 2



FIG. 2

END STOP SCREW

FIG. 1

EDP No.	Price	Series	L	d	D	Type
ZZ060	\$5.78	ER11	0.50	0.25	UN 5/16 - 18	FIG. 1

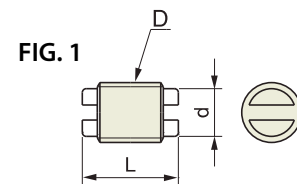
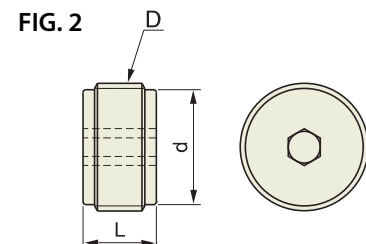


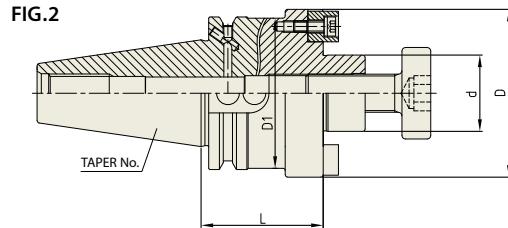
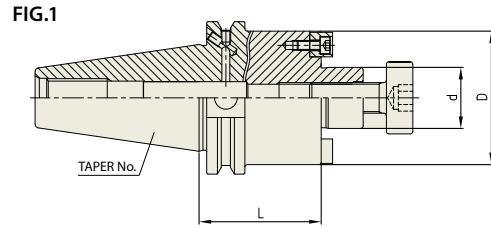
FIG. 2

EDP No.	Price	Series	L	d	D	Type
ZZ065	\$5.78	ER16	0.50	0.35	UN 7/16 - 16	FIG. 2
ZZ068	\$5.78	ER20	0.50	0.48	UN 9/16 - 16	FIG. 2
ZZ071	\$5.78	ER25	0.50	0.60	UN 11/16 - 16	FIG. 2
ZZ074	\$5.78	ER32	0.50	0.79	UN 7/8 - 16	FIG. 2



SHELL MILL ARBOR

CAT



ASME B5.50-2009-CAT

• STANDARD

Unit : inch

Edp No.	Price	Taper No.	Model No.	d	L	D	D1	Collar Bolt	Fig.
EK006BX	\$79.80	40	CAT40 AD/B - SMA 1/2 - 1.50	0.500	1.50	1.44	-	UNF1/4-28x16L	1
EK010BX	\$79.80		CAT40 AD/B - SMA 3/4 - 1.50	0.750	1.50	1.69	-	UNF3/8-24x24L	1
EK014BX	\$82.52		CAT40 AD/B - SMA 1.0 - 2.00	1.000	2.00	2.19	-	UNF1/2-20x32L	1
EK017BX	\$84.10		CAT40 AD/B - SMA 1 1/4 - 2.00	1.250	2.00	2.75	2.46	UNF5/8-18x40L	2
EK021BX	\$102.11		CAT40 AD/B - SMA 1 1/2 - 3.00	1.500	3.00	3.81	2.46	UNF3/4-16x47L	2
EL010BX	\$127.05	50	CAT50 AD/B - SMA 3/4 - 1.50	0.750	1.50	1.69	-	UNF3/8-24x24L	1
EL014BX	\$127.05		CAT50 AD/B - SMA 1.0 - 2.00	1.000	2.00	2.19	-	UNF1/2-20x32L	1
EL017BX	\$129.42		CAT50 AD/B - SMA 1 1/4 - 2.00	1.250	2.00	2.75	-	UNF5/8-18x40L	1
EL021BX	\$140.61		CAT50 AD/B - SMA 1 1/2 - 2.50	1.500	2.50	3.81	-	UNF3/4-16x47L	1
EL029BX	\$164.69		CAT50 AD/B - SMA 2.00 - 3.00	2.000	3.00	4.88	3.84	UN1-14x48L	2

• EXTENDED

Unit : inch

Edp No.	Price	Taper No.	Model No.	d	L	D	D1	Collar Bolt	Fig.
EK306BX	\$93.88	40	CAT40 AD/B - SMA 1/2 - 3.50	0.500	3.50	1.44	-	UNF1/4-28x16L	1
EK310BX	\$93.88		CAT40 AD/B - SMA 3/4 - 3.50	0.750	3.50	1.69	-	UNF3/8-24x24L	1
EK314BX	\$95.79		CAT40 AD/B - SMA 1.0 - 4.00	1.000	4.00	2.19	-	UNF1/2-20x32L	1
EK317BX	\$99.91		CAT40 AD/B - SMA 1 1/4 - 4.00	1.250	4.00	2.75	2.46	UNF5/8-18x40L	2
EK321BX	\$113.80		CAT40 AD/B - SMA 1 1/2 - 4.00	1.500	4.00	3.81	2.46	UNF3/4-16x47L	2
EL310BX	\$140.61	50	CAT50 AD/B - SMA 3/4 - 3.50	0.750	3.50	1.69	-	UNF3/8-24x24L	1
EL314BX	\$140.61		CAT50 AD/B - SMA 1.0 - 4.00	1.000	4.00	2.19	-	UNF1/2-20x32L	1
EL317BX	\$143.24		CAT50 AD/B - SMA 1 1/4 - 4.00	1.250	4.00	2.75	-	UNF5/8-18x40L	1
EL321BX	\$155.60		CAT50 AD/B - SMA 1 1/2 - 4.00	1.500	4.00	3.81	-	UNF3/4-16x47L	1
EL329BX	\$182.02		CAT50 AD/B - SMA 2.0 - 4.00	2.000	4.00	4.88	3.84	UN1-14x48L	2

Holemaking

Threading

Milling

Indexable

Rotary Tool Holder

SHELL MILL ARBOR

BT



FIG.1

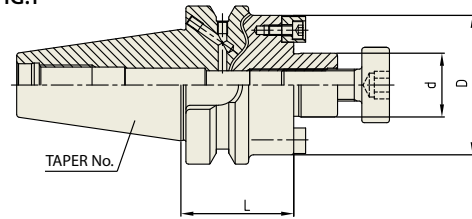
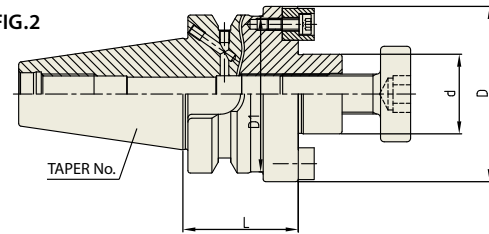


FIG.2



JIS B6339/MAS 403-BT

• **STANDARD**

Unit : Inch

EDP No.	Price	Taper No.	Model No.	d	L	D	D1	Collar Bolt	Fig.
EH006BX	\$79.80	40	BT40 AD/B - SMA 1/2 - 1.75	0.500	1.75	1.44	-	UNF1/4-28x16L	1
EH010BX	\$79.80		BT40 AD/B - SMA 3/4 - 1.77	0.750	1.77	1.69	-	UNF3/8-24x24L	1
EH014BX	\$82.52		BT40 AD/B - SMA 1.0 - 1.77	1.000	1.77	2.19	-	UNF1/2-20x32L	1
EH017BX	\$84.10		BT40 AD/B - SMA 1 1/4 - 1.81	1.250	1.81	2.75	2.44	UNF5/8-18x40L	2
EH021BX	\$102.11		BT40 AD/B - SMA 1 1/2 - 2.36	1.500	2.36	3.81	2.44	UNF3/4-16x47L	2
EI010X	\$117.99	50	BT50 - SMA 3/4 - 1.75	0.750	1.75	1.69	-	UNF3/8-24x24L	1
EI014X	\$100.27		BT50 - SMA 1.0 - 1.75	1.000	1.75	2.19	-	UNF1/2-20x32L	1
EI017X	\$120.38		BT50 - SMA 1 1/4 - 1.75	1.250	1.75	2.75	-	UNF5/8-18x40L	1
EI021X	\$131.64		BT50 - SMA 1 1/2 - 1.75	1.500	1.75	3.81	-	UNF3/4-16x47L	1
EI029X	\$154.14		BT50 - SMA 2.0 - 3.00	2.000	3.00	4.88	3.86	UN1-14x48L	2

• **EXTENDED**

Unit : Inch

EDP No.	Price	Taper No.	Model No.	d	L	D	D1	Collar Bolt	Fig.
EH306BX	\$93.88	40	BT40 AD/B - SMA 1/2 - 3.50	0.500	3.50	1.44	-	UNF1/4-28x16L	1
EH310BX	\$93.88		BT40 AD/B - SMA 3/4 - 4.13	0.750	4.13	1.69	-	UNF3/8-24x24L	1
EH314BX	\$95.79		BT40 AD/B - SMA 1.0 - 4.13	1.000	4.13	2.19	-	UNF1/2-20x32L	1
EH317BX	\$99.91		BT40 AD/B - SMA 1 1/4 - 4.13	1.250	4.13	2.75	2.44	UNF5/8-18x40L	2
EH321BX	\$113.80		BT40 AD/B - SMA 1 1/2 - 4.72	1.500	4.72	3.81	2.44	UNF3/4-16x47L	2
EI310X	\$128.96	50	BT50 - SMA 3/4 - 3.50	0.750	3.50	1.69	-	UNF3/8-24x24L	1
EI314X	\$128.96		BT50 - SMA 1.0 - 4.00	1.000	4.00	2.19	-	UNF1/2-20x32L	1
EI317X	\$131.64		BT50 - SMA 1 1/4 - 4.00	1.250	4.00	2.75	-	UNF5/8-18x40L	1
EI321X	\$143.96		BT50 - SMA 1 1/2 - 4.00	1.500	4.00	3.81	-	UNF3/4-16x47L	1
EI329X	\$168.39		BT50 - SMA 2.0 - 4.00	2.000	4.00	4.88	3.86	UN1-14x48L	2

Holemaking

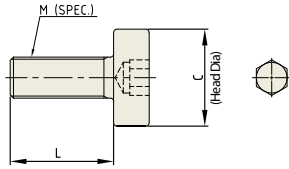
Threading

Milling

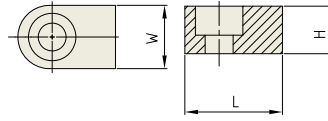
Indexable

Rotary Tool Holder

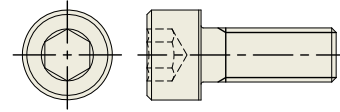
COLLAR BOLT



DRIVE KEY



KEY BOLT



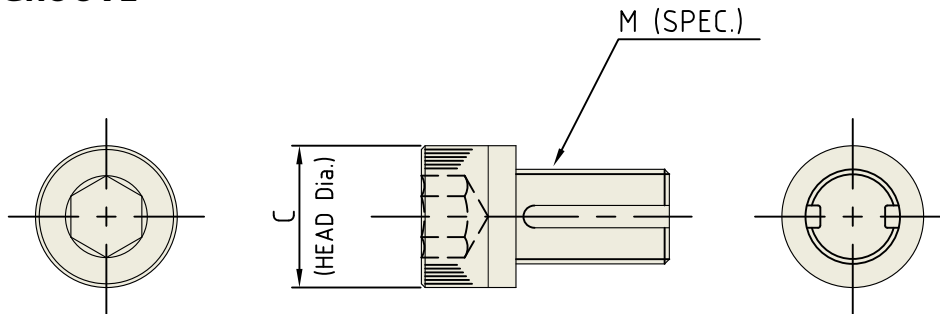
Accessory (Inch)

Unit : Inch

Pilot Dia.	Collar Bolt			Price	Drive Key		Price
	Spec.	Head Dia. (mm)	EDP No.		Spec. (WxHxL)	EDP No.	
1/2	UNF1/4-28x16L	15.7	ZZ031	\$9.09	1/4x1/4x5/16	ZZ021	\$5.07
3/4	UNF3/8-24x24L	22.4	ZZ032	\$9.83	5/16x5/16x3/8	ZZ022	\$5.07
1	UNF1/2-20x32L	30.0	ZZ033	\$10.88	3/8x3/8x2/5	ZZ023	\$5.48
1-1/4	UNF5/8-18x40L	38.1	ZZ034	\$12.33	1/2x1/2x1/2	ZZ024	\$6.48
1-1/2	UNF3/4-16x47L	47.7	ZZ035	\$19.96	5/8x7/15x0.73	ZZ025	\$8.19
2	UN1-14x48L	50.8	ZZ036	\$28.63	3/4x0.7x0.87	ZZ026	\$12.25

* Key Bolt is included with the Drive Key.

COOLANT GROOVE

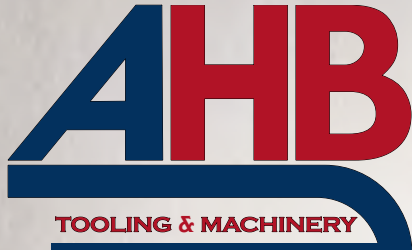


Accessory (Inch)

Pilot Dia.	Collar Bolt			
	Spec.	Head Dia. (mm)	EDP No.	Price
1/2	UNF1/4-28x25.4L	3/8 (9.52)	ZZ251	\$24.30
3/4	UNF3/8-24x25.4L	9/16 (14.27)	ZZ252	\$26.03
3/4	UNF3/8-24x38.1L	9/16 (14.27)	ZZ254	\$31.24
1	UNF1/2-20x31.75L	3/4 (19.05)	ZZ253	\$27.38
1	UNF1/2-20x50.8L	3/4 (19.05)	ZZ255	\$32.85
1-1/4	UNF5/8-18x38.1L	15/16 (23.81)	ZZ256	\$30.48
1-1/2	UNF3/4-16x44.45L	1 1/8 (28.575)	ZZ257	\$33.56
2	UN1-14x50.8L	1 1/2 (38.1)	ZZ258	\$41.95



BEST VALUE IN THE WORLD OF CUTTING TOOLS



TOOLING & MACHINERY

COMPLETE MANUFACTURING SOLUTIONS

800-991-4225

customerservice@ahbinc.com

www.ahbinc.com



Scan for complete
YG-1 Catalog

