

Multi-Flute

Single End Mills

High Speed Steel & M42 8% Cobalt

Bright Finish & TiN Coated

Multi-Flute end mills offer higher feed rates, improved surface finish and greater core strength for reduced tool deflection.

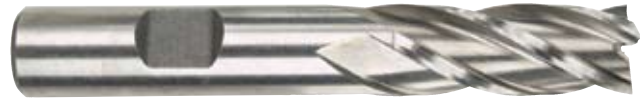
Center Cutting end allows for plunge cutting like a drill into solid material.

M42 8% Cobalt offers increased wear and heat resistance for abrasive and difficult materials, higher speeds and feeds and long life in production applications.

Titanium Nitride (TiN) Coating is an excellent coating for machining a wide variety of materials at greatly increased speeds and feeds. TiN coating increases tool surface hardness, lubricity, and heat resistance and resists chip welding.

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List No. 1897 High Speed Steel

List No. 4550 High Speed Steel Center Cutting

List No. 4550G High Speed Steel Center Cutting
TiN Coated

List No. 4586 M42 8% Cobalt Center Cutting

STANDARD All sizes — 1 each
PACKAGE

Tool Coatings
Also Available

DIA.	DEC. EQUIV.	SHANK DIA.	LENGTH OF CUT	OAL	NO. OF FLUTES	1897	4550	4550G	4586
						High Speed Steel NON-CENTER CUTTING	High Speed Steel CENTER CUTTING	High Speed Steel CENTER CUTTING TIN COATED	COBALT CENTER CUTTING
						EDP NO.	EDP NO.	EDP NO.	EDP NO.
1/8	.1250	3/8	3/8	25/16	4	43501	44135	96100	44426
9/64	.1406	3/8	1/2	23/8	4	—	43020	—	—
5/32	.1562	3/8	7/16	25/16	4	43541	43021	96102	44415
11/64	.1719	3/8	1/2	23/8	4	43562	43022	—	—
3/16	.1875	3/8	1/2	23/8	4	43502	44136	96104	44427
13/64	.2031	3/8	1/2	23/8	4	43563	43023	—	—
7/32	.2188	3/8	1/2	23/8	4	43542	44149	96106	44416
15/64	.2344	3/8	5/8	27/16	4	43564	43024	—	—
1/4	.2500	3/8	5/8	27/16	4	43503	44137	96108	44428
17/64	.2656	3/8	11/16	21/2	4	43565	43025	—	—
9/32	.2812	3/8	11/16	21/2	4	43543	44150	96110	44417
19/64	.2969	3/8	3/4	21/2	4	43566	43026	—	—
5/16	.3125	3/8	3/4	21/2	4	43504	44138	96112	44429
21/64	.3281	3/8	3/4	21/2	4	43567	43027	—	—
11/32	.3438	3/8	3/4	21/2	4	43544	44151	96114	44418
23/64	.3594	3/8	3/4	21/2	4	43568	43028	—	—
3/8	.3750	3/8	3/4	21/2	4	43505	44139	96116	44430
25/64	.3906	3/8	1	211/16	4	43569	43029	—	—
13/32	.4062	3/8	1	211/16	4	43545	44152	96118	44419
27/64	.4219	3/8	1	211/16	4	43570	43030	—	—
7/16	.4375	3/8	1	211/16	4	43506	44153	96120	44420
29/64	.4531	1/2	11/4	31/4	4	43571	43031	—	—
15/32	.4688	1/2	11/4	31/4	4	43546	44154	96122	44421
31/64	.4844	1/2	11/4	31/4	4	43572	43032	—	—
1/2	.5000	3/8	1	211/16	4	43507	43033	—	—
1/2	.5000	1/2	11/4	31/4	4	43508	44140	96124	44431
17/32	.5312	1/2	13/8	33/8	4	43547	44155	96096	—
9/16	.5625	1/2	13/8	33/8	4	43509	44156	96125	44422
19/32	.5938	1/2	13/8	33/8	4	43548	—	—	—
5/8	.6250	1/2	13/8	33/8	4	43510	43034	96098	—
5/8	.6250	5/8	15/8	33/4	4	43511	44141	96126	44432
5/8	.6250	5/8	15/8	33/4	6	—	—	—	44433
21/32	.6562	1/2	15/8	35/8	4	43549	—	—	—
11/16	.6875	1/2	15/8	35/8	4	43512	—	—	—
11/16	.6875	5/8	15/8	33/4	4	43513	44142	96127	—

(continued)

Multi-Flute Single End Mills (continued)

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DIA.	DEC. EQUIV.	SHANK DIA.	LENGTH OF CUT	OAL	NO. OF FLUTES	1897	4550	4550G	4586
						High Speed Steel NON-CENTER CUTTING EDP NO.	High Speed Steel CENTER CUTTING EDP NO.	High Speed Steel CENTER CUTTING TIN COATED EDP NO.	COBALT CENTER CUTTING EDP NO.
23/32	.7188	1/2	1 5/8	3 5/8	4	43550	—	—	—
3/4	.7500	1/2	1 5/8	3 5/8	4	43514	—	—	—
3/4	.7500	5/8	1 5/8	3 3/4	4	43515	43035	96133	—
3/4	.7500	3/4	1 5/8	3 7/8	4	43516	44143	96128	44434
3/4	.7500	3/4	1 5/8	3 7/8	6	—	—	—	44435
25/32	.7812	1/2	1 5/8	3 5/8	4	43551	—	—	—
13/16	.8125	5/8	1 7/8	4	4	—	44161	—	—
13/16	.8125	5/8	1 7/8	4	6	43517	—	—	—
13/16	.8125	3/4	1 7/8	4 1/8	4	43518	44157	96129	—
27/32	.8438	7/8	1 7/8	4 1/8	4	43552	—	—	—
7/8	.8750	5/8	1 7/8	4	6	43519	—	—	—
7/8	.8750	3/4	1 7/8	4 1/8	4	43520	43036	96130	—
7/8	.8750	7/8	1 7/8	4 1/8	4	43521	44144	—	44423
29/32	.9062	7/8	1 7/8	4 1/8	4	43553	—	—	—
15/16	.9375	3/4	1 7/8	4 1/8	4	43523	—	—	—
15/16	.9375	7/8	1 7/8	4 1/8	4	43524	44158	—	—
31/32	.9688	1	2	4 1/2	4	43554	—	—	—
1	1.0000	5/8	1 7/8	4	6	43525	—	—	—
1	1.0000	3/4	1 7/8	4 1/8	4	43526	43038	96134	—
1	1.0000	7/8	1 7/8	4 1/8	4	43527	—	—	—
1	1.0000	1	2	4 1/2	4	43528	44145	96132	44436
1	1.0000	1	2	4 1/2	6	—	—	—	44437
1 1/8	1.1250	3/4	1 1/2	3 7/8	6	43555	—	—	—
1 1/8	1.1250	1	2	4 1/2	4	—	44146	96135	—
1 1/8	1.1250	1	2	4 1/2	6	43530	—	—	—
1 1/4	1.2500	3/4	1 1/2	3 7/8	6	43556	—	—	—
1 1/4	1.2500	7/8	2	4 1/4	6	43531	—	—	—
1 1/4	1.2500	1	2	4 1/2	6	43532	43041	96136	—
1 1/4	1.2500	1 1/4	2	4 1/2	4	—	44147	—	44438
1 1/4	1.2500	1 1/4	2	4 1/2	6	43533	—	—	44439
1 3/8	1.3750	3/4	1 1/2	3 7/8	6	43557	—	—	—
1 3/8	1.3750	1	2	4 1/2	4	—	43043	96137	—
1 3/8	1.3750	1	2	4 1/2	6	43534	—	—	—
1 1/2	1.5000	3/4	1 1/2	3 7/8	6	43558	—	—	—
1 1/2	1.5000	1	2	4 1/2	6	43535	—	—	—
1 1/2	1.5000	1 1/4	2	4 1/2	4	—	—	—	44440
1 1/2	1.5000	1 1/4	2	4 1/2	6	43536	44148	96138	44441
1 5/8	1.6250	1 1/4	2	4 1/2	6	43537	—	—	—
1 3/4	1.7500	3/4	1 1/2	3 7/8	6	43559	—	—	—
1 3/4	1.7500	1 1/4	2	4 1/2	6	43538	44159	—	44424
1 7/8	1.8750	1 1/4	2	4 1/2	8	43539*	—	—	—
2	2.0000	3/4	2	4 1/16	8	43560	—	—	—
2	2.0000	1 1/4	2	4 1/2	6	—	44160	—	—
2	2.0000	1 1/4	2	4 1/2	8	43540	—	—	—
2	2.0000	2	4	7 3/4	6	—	—	—	44442

* Available While Supplies Last

CUTTING FLUIDS

Coolants and lubricants offer many benefits including reduced friction and heat, enhanced chip removal, improved accuracy and surface finish, higher speeds and feeds, corrosion protection and increased tool life.

Proper selection and application of cutting fluids is critical to optimizing machining applications. **Please consult your cutting fluids supplier for advice on your specific machining application.**

Multi-Flute Long Length Single End Mills

**High Speed Steel & M42 8% Cobalt
Bright Finish & TiN Coated**

Multi-Flute end mills offer higher feed rates, improved surface finish and greater core strength for reduced tool deflection.

Center Cutting end allows for plunge cutting like a drill into solid material.

Long Length end mills provide a longer length of cut for deeper milling applications.

M42 8% Cobalt offers increased wear and heat resistance for abrasive and difficult materials, higher speeds and feeds and long life in production applications.

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cortador vertical largo



- List No. 1900 High Speed Steel**
List No. 4551 High Speed Steel Center Cutting
List No. 4551G High Speed Steel Center Cutting TiN Coated
List No. 4587 M42 8% Cobalt Center Cutting

Titanium Nitride (TiN) Coating is an excellent coating for machining a wide variety of materials at greatly increased speeds and feeds. TiN coating increases tool surface hardness, lubricity, and heat resistance and resists chip welding.

STANDARD PACKAGE All sizes — 1 each

**Tool Coatings
Also Available**

DIA.	DEC. EQUIV.	SHANK DIA.	LENGTH OF CUT	OAL	NO. OF FLUTES	1900	4551	4551G	4587
						High Speed Steel NON-CENTER CUTTING	High Speed Steel CENTER CUTTING	High Speed Steel CENTER CUTTING TIN COATED	COBALT CENTER CUTTING
						EDP NO.	EDP NO.	EDP NO.	EDP NO.
3/16	.1875	3/8	1 1/4	3 1/16	4	—	44169	96230	—
7/32	.2188	3/8	1 1/4	3 1/16	4	—	44170	96231	—
1/4	.2500	3/8	1 1/4	3 1/16	4	43776	44171	96232	44534
9/32	.2812	3/8	1 3/8	3 1/8	4	—	44180	96233	44535
5/16	.3125	3/8	1 3/8	3 1/8	4	43777	44172	96234	44536
1 1/32	.3438	3/8	1 1/2	3 1/4	4	—	44181	96235	44537
3/8	.3750	3/8	1 1/2	3 1/4	4	43778	44173	96236	44541
13/32	.4062	1/2	1 3/4	3 3/4	4	—	44182	96237	44538**
7/16	.4375	1/2	1 3/4	3 3/4	4	43779	44183	96238	44539**
15/32	.4688	1/2	2	4	4	—	44184	96239	—
1/2	.5000	1/2	2	4	4	43780	44174	96240	44542
5/8	.6250	5/8	2 1/2	4 5/8	4	43781	44175	96241	44543
3/4	.7500	3/4	3	5 1/4	4	43782	44176	96242	44544
3/4	.7500	3/4	3	5 1/4	6	—	—	—	44545
7/8	.8750	7/8	3 1/2	5 3/4	4	43783	44177	96244	44540
1	1.0000	1	4	6 1/2	4	43784	44178	96245	44546
1	1.0000	1	4	6 1/2	6	—	—	—	44547
1 1/8	1.1250	1	4	6 1/2	4	—	44185	—	—
1 1/8	1.1250	1	4	6 1/2	6	43785	—	—	—
1 1/4	1.2500	1	4	6 1/2	4	—	44186	—	—
1 1/4	1.2500	1	4	6 1/2	6	43786	—	—	—
1 1/4	1.2500	1 1/4	4	6 1/2	4	—	44179	—	44548
1 1/4	1.2500	1 1/4	4	6 1/2	6	43787	—	—	44549
1 3/8	1.3750	1	4	6 1/2	6	43788	—	—	—
1 1/2	1.5000	1	4	6 1/2	4	—	44187	—	—
1 1/2	1.5000	1	4	6 1/2	6	43789	—	—	—
1 1/2	1.5000	1 1/4	4	6 1/2	4	—	44188	—	—
1 1/2	1.5000	1 1/4	4	6 1/2	6	43790	—	—	—
1 3/4	1.7500	1 1/4	4	6 1/2	4	—	44189	—	—
1 3/4	1.7500	1 1/4	4	6 1/2	6	43791	—	—	—
2	2.0000	1 1/4	4	6 1/2	4	—	44190	—	—
2	2.0000	1 1/4	4	6 1/2	8	43792	—	—	—

** Cobalt with 3/8" Shank Dia.

Multi-Flute Extra Long Length Single End Mills

Fraise à queue à rainurer extra-longue

cortador vertical extra largo



**High Speed Steel & M42 8% Cobalt
Bright Finish & TiN Coated**

Multi-Flute end mills offer higher feed rates, improved surface finish and greater core strength for reduced tool deflection.

Center Cutting end allows for plunge cutting like a drill into solid material.

Long Length end mills provide a longer length of cut for deeper milling applications.

M42 8% Cobalt offers increased wear and heat resistance for abrasive and difficult materials, higher speeds and feeds and long life in production applications.

- List No. 1901 High Speed Steel
- List No. 4552 High Speed Steel Center Cutting
- List No. 4552G High Speed Steel Center Cutting
TiN Coated
- List No. 4588 M42 8% Cobalt Center Cutting

Titanium Nitride (TiN) Coating is an excellent coating for machining a wide variety of materials at greatly increased speeds and feeds. TiN coating increases tool surface hardness, lubricity, and heat resistance and resists chip welding.

STANDARD PACKAGE All sizes — 1 each

DIA.	DEC. EQUIV.	SHANK DIA.	LENGTH OF CUT	OAL	NO. OF FLUTES	1901	4552	4552G	4588
						High Speed Steel NON-CENTER CUTTING EDP NO.	High Speed Steel CENTER CUTTING EDP NO.	High Speed Steel CENTER CUTTING TIN COATED EDP NO.	COBALT CENTER CUTTING EDP NO.
3/16	.1875	3/8	1 3/4	3 9/16	4	—	44199	96250	—
7/32	.2188	3/8	1 3/4	3 9/16	4	—	44200	96251	—
1/4	.2500	3/8	1 3/4	3 9/16	4	43826	44201	96252	45390
9/32	.2812	3/8	1 3/4	3 3/4	4	—	44210	96253	45391
5/16	.3125	3/8	2	3 3/4	4	43827	44202	96254	45392
1 1/32	.3438	3/8	2 1/2	4 1/4	4	—	44211	96255	45393
3/8	.3750	3/8	2 1/2	4 1/4	4	43828	44203	96256	44520
13/32	.4062	3/8	2 3/4	4 1/2	4	—	44212	96257	45394
7/16	.4375	1/2	2 3/4	4 3/4	4	—	44213	96258	45395
15/32	.4688	1/2	3	5	4	—	44214	96259	—
1/2	.5000	1/2	3	5	4	43829	44204	96260	44521
5/8	.6250	5/8	4	6 1/8	4	43830	44205	96261	44522
3/4	.7500	3/4	4	6 1/4	4	43831	44206	96262	44523
3/4	.7500	3/4	4	6 1/4	6	—	—	—	44524
7/8	.8750	7/8	5	7 1/4	4	43832	44207	96264	45396
1	1.0000	1	6	8 1/2	4	43833	44208	96265	44525
1	1.0000	1	6	8 1/2	6	—	—	—	44526
1 1/4	1.2500	1 1/4	6	8 1/2	4	—	44209	—	44527
1 1/4	1.2500	1 1/4	6	8 1/2	6	43834	44215	—	44528
1 1/2	1.5000	1 1/4	8	10 1/2	6	43835	44216	—	45397

Metric 4-Flute Single End Mills

Fraise à queue à rainurer simple

cortador vertical sencilloe



**High Speed Steel
Center Cutting**

Multi-Flute end mills offer higher feed rates, improved surface finish and greater core strength for reduced tool deflection.

List No. 1897M

STANDARD PACKAGE All sizes — 1 each

DIA. MM	DEC. EQUIV.	SHANK DIA.	LENGTH OF CUT	OAL	EDP NO.	DIA. MM	DEC. EQUIV.	SHANK DIA.	LENGTH OF CUT	OAL	EDP NO.
3.0	.1181	3/8	3/8	2 5/16	43392	14.0	.5512	1/2	1 3/8	3 3/8	43379
4.0	.1575	3/8	7/16	2 5/16	43393	15.0	.5906	1/2	1 3/8	3 3/8	43381
5.0	.1968	3/8	9/16	2 1/2	43361	16.0	.6299	5/8	1 3/8	3 3/4	43382
6.0	.2362	3/8	5/8	2 1/2	43363	17.0	.6693	5/8	1 5/8	3 3/4	43383
7.0	.2756	3/8	5/8	2 1/2	43365	18.0	.7087	5/8	1 5/8	3 3/4	43384
8.0	.3150	3/8	3/4	2 1/2	43367	19.0	.7480	3/4	1 5/8	3 7/8	43385
9.0	.3543	3/8	3/4	2 1/2	43369	20.0	.7874	3/4	1 7/8	4 1/8	43386
10.0	.3937	3/8	1	2 1 1/16	43371	22.0	.8661	3/4	1 7/8	4 1/8	43388
11.0	.4331	3/8	1	2 1 1/16	43373	23.0	.9055	7/8	1 7/8	4 1/8	43389
12.0	.4724	3/8	1	2 1 1/16	43375	24.0	.9449	1	2	4 1/2	43390
13.0	.5118	1/2	1 3/8	3 3/8	43377	25.0	.9843	1	2	4 1/2	43391