

2-Flute

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cortador vertical doble

Double End Mills

High Speed Steel & M42 8% Cobalt

Bright Finish & TiN Coated

Center Cutting

2-Flute end mills provide increased chip capacity and are recommended for milling slots, keyways and pockets. **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.



List No. 1896 High Speed Steel

List No. 1896G High Speed Steel TiN Coated

List No. 4581 M42 8% Cobalt

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	1896	1896G	4581
					High Speed Steel	High Speed Steel	COBALT
					EDP NO.	TIN COATED EDP NO.	EDP NO.
1/8	.1250	3/8	3/8	3 1/16	43412	96050	44560
9/64	.1406	3/8	7/16	3 1/8	43431	—	—
5/32	.1562	3/8	7/16	3 1/8	43413	96052	44561
11/64	.1719	3/8	7/16	3 1/8	43432	—	—
3/16	.1875	3/8	7/16	3 1/8	43414	96054	44562
13/64	.2031	3/8	1/2	3 1/8	43433	—	—
7/32	.2188	3/8	1/2	3 1/8	43415	96056	44563
15/64	.2344	3/8	1/2	3 1/8	43434	—	—
1/4	.2500	3/8	1/2	3 1/8	43416	96058	44564
17/64	.2656	3/8	9/16	3 1/8	43435	—	—
9/32	.2812	3/8	9/16	3 1/8	43417	96060	44565
19/64	.2969	3/8	9/16	3 1/8	43436	—	—
5/16	.3125	3/8	9/16	3 1/8	43418	96062	44566
21/64	.3281	3/8	9/16	3 1/8	43437	—	—
11/32	.3438	3/8	9/16	3 1/8	43419	96064	44567
23/64	.3594	3/8	9/16	3 1/8	43438	—	—
3/8	.3750	3/8	9/16	3 1/8	43420	96066	44568
25/64	.3906	1/2	13/16	3 3/4	43439	—	—
13/32	.4062	1/2	13/16	3 3/4	43421	96068	44569
27/64	.4219	1/2	13/16	3 3/4	43440	—	—
7/16	.4375	1/2	13/16	3 3/4	43422	96070	44570
29/64	.4531	1/2	13/16	3 3/4	43441	—	—
15/32	.4688	1/2	13/16	3 3/4	43423	96072	—
31/64	.4844	1/2	13/16	3 3/4	43442	—	—
1/2	.5000	1/2	13/16	3 3/4	43424	96074	44571
9/16	.5625	5/8	1 1/8	5	43425	96075	44572
19/32	.5938	5/8	1 1/8	5	43444*	—	—
5/8	.6250	5/8	1 1/8	5	43426	96076	44573
1 1/16	.6875	3/4	1 5/16	5	43427	96077	44577
23/32	.7188	3/4	1 5/16	5	43446*	—	—
3/4	.7500	3/4	1 5/16	5	43428	96078	44574
25/32	.7812	7/8	1 9/16	5 1/2	43447*	—	—
13/16	.8125	7/8	1 9/16	5 1/2	43448	—	—
27/32	.8438	7/8	1 9/16	5 1/2	43449*	—	—
7/8	.8750	7/8	1 9/16	5 1/2	43429	—	44575*
29/32	.9062	1	1 5/8	5 7/8	43450*	—	—
15/16	.9375	1	1 5/8	5 7/8	43451	—	—
31/32	.9688	1	1 5/8	5 7/8	43452*	—	—
1	1.0000	1	1 5/8	5 7/8	43430	96082	44576*

* Available While Supplies Last

End Mills

2-Flute Miniature Stub Length Double End Mills

$\frac{3}{16}$ " Dia. Shank — Center Cutting
High Speed Steel & M42 8% Cobalt

Miniature $\frac{3}{16}$ " Shank end mills are designed for small diameter milling of slots, keyways and pockets. **Center Cutting** end allows for plunge cutting like a drill into solid material. For maximum rigidity, select the shortest possible length of cut for your application.

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

STANDARD PACKAGE All sizes — 1 each

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List No. 4571 High Speed Steel

List No. 4571C M42 8% Cobalt

DIA.	DEC. EQUIV.	LENGTH OF CUT	OAL	4571	4571C
				High Speed Steel EDP NO.	COBALT EDP NO.
$\frac{1}{32}$	.0312	$\frac{3}{64}$	2	44326	44360
$\frac{3}{64}$	.0469	$\frac{1}{16}$	2	44327	44361
$\frac{1}{16}$	.0625	$\frac{3}{32}$	2	44328	44362
$\frac{5}{64}$	.0781	$\frac{1}{8}$	2	44329	44363
$\frac{3}{32}$	.0938	$\frac{9}{64}$	2	44330	44364
$\frac{7}{64}$	.1094	$\frac{5}{32}$	2	44331	44365
$\frac{1}{8}$	.1250	$\frac{3}{16}$	2	44332	44366
$\frac{9}{64}$	.1406	$\frac{7}{32}$	2	44333	44367
$\frac{5}{32}$	.1562	$\frac{15}{64}$	2	44334	44368
$\frac{11}{64}$	.1719	$\frac{1}{4}$	2	44335	44369
$\frac{3}{16}$	.1875	$\frac{9}{32}$	2	44336	44370

2-Flute Miniature Regular Length Double End Mills

$\frac{3}{16}$ " Dia. Shank — Center Cutting
High Speed Steel & M42 8% Cobalt

Miniature $\frac{3}{16}$ " Shank end mills are designed for small diameter milling of slots, keyways and pockets. **Center Cutting** end allows for plunge cutting like a drill into solid material. For maximum rigidity, select the shortest possible length of cut for your application.

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

STANDARD PACKAGE All sizes — 1 each

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List No. 1896 High Speed Steel

List No. 1896C M42 8% Cobalt

Tool Coatings
Also Available

DIA.	DEC. EQUIV.	LENGTH OF CUT	OAL	1896	1896C
				High Speed Steel EDP NO.	COBALT EDP NO.
$\frac{1}{32}$	.0312	$\frac{3}{32}$	$2\frac{1}{4}$	43401	44348
$\frac{3}{64}$	.0469	$\frac{9}{64}$	$2\frac{1}{4}$	43402	44349
$\frac{1}{16}$	.0625	$\frac{3}{16}$	$2\frac{1}{4}$	43403	44350
$\frac{5}{64}$	.0781	$\frac{15}{64}$	$2\frac{1}{4}$	43404	44351
$\frac{3}{32}$	.0938	$\frac{9}{32}$	$2\frac{1}{4}$	43405	44352
$\frac{7}{64}$	.1094	$2\frac{1}{64}$	$2\frac{1}{4}$	43406	44353
$\frac{1}{8}$	.1250	$\frac{3}{8}$	$2\frac{1}{4}$	43407	44354
$\frac{9}{64}$	.1406	$1\frac{3}{32}$	$2\frac{1}{4}$	43408	44355
$\frac{5}{32}$	.1562	$\frac{7}{16}$	$2\frac{1}{4}$	43409	44356
$\frac{11}{64}$	.1719	$\frac{1}{2}$	$2\frac{1}{4}$	43410	44357
$\frac{3}{16}$	.1875	$\frac{1}{2}$	$2\frac{1}{4}$	43411	44358

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.**

2-Flute Miniature Long Length Double End Mills

3/16" Dia. Shank — Center Cutting
High Speed Steel & M42 8% Cobalt

Miniature 3/16" Shank end mills are designed for small diameter milling of slots, keyways and pockets. **Center Cutting** end allows for plunge cutting like a drill into solid material. For maximum rigidity, select the shortest possible length of cut for your application.

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

STANDARD PACKAGE All sizes — 1 each

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List No. 1894 High Speed Steel

List No. 1894C M42 8% Cobalt

DIA.	DEC. EQUIV.	LENGTH OF CUT	OAL	1894	1894C
				High Speed Steel EDP NO.	COBALT EDP NO.
1/16	.0625	7/32	2 1/2	43251	43256
3/32	.0938	9/32	2 5/8	43252	43257
1/8	.1250	3/4	3 1/8	43253	43258
5/32	.1562	7/8	3 1/4	43254	43259
3/16	.1875	1	3 3/8	43255	43260

2-Flute Stub Length Double End Mills

High Speed Steel — Center Cutting

2-Flute end mills provide increased chip capacity and are recommended for milling slots, keyways and pockets. **Center Cutting** end allows for plunge cutting like a drill into solid material.

Stub Length provides increased rigidity when milling shallow slots, keyways and pockets.

STANDARD PACKAGE All sizes — 1 each

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List No. 4563 High Speed Steel

DIA.	DEC. EQUIV.	SHANK DIA.	LENGTH OF CUT	OAL	EDP NO.
1/8	.1250	3/8	3/16	2 3/4	44313
5/32	.1562	3/8	15/64	2 3/4	44314
3/16	.1875	3/8	9/32	2 3/4	44315
7/32	.2188	3/8	21/64	2 3/4	44316
1/4	.2500	3/8	3/8	2 3/4	44317

With MORSE® Modifications Why Start From Scratch?

When standard cutting tools aren't quite right for your application, let **Morse® Modifications** make them perfect for the task. Morse®-modified off-the-shelf standard cutting tools let you start with a standard tool at a standard price. Add a little for modifications, and save by not having to go with expensive custom-designed special cutting tools.

With MORSE® Specials Fast Delivery on Custom Tools.

When your application requires special custom designed cutting tools, **Morse® Specials** offers complete tool design and manufacturing services. Fast quotes, quick delivery, specifically designed for your machining application. Engineered cutting tools optimized for lower overall machining costs.