



Micro sized solid carbide end mills & drills

THE MANUFACTURER ADVANTAGE—

GET TO KNOW
WHO MAKES
YOUR MICROS



» Melin Tool Micro Catalog

- » New Micro 3 Flute Series
- » Over **3000** MICRO items INSIDE
- » Expanded manufacturing facility & product line



FEATURES

- » **2 FLUTE AMG MICRO SERIES** with diameter sizes (.005"-.125")
- » **3 FLUTE EMG MICRO SERIES** with dia. sizes (.010"-.250")
- » **4 FLUTE CCMG MICRO SERIES** with dia. sizes (.005"-.125")
- » Wide range of **LENGTH BEHIND SHANK (LBS) OPTIONS**
- » Radius, Drill Point, CVD Diamond Coated, and Double End Tools

Additional product series, which make up our entire END MILL PRODUCT LINE, can be found in our full line catalog or at www.melintool.com.

INTRODUCTION

With Melin's **MICRO END MILL PRODUCT LINE**, you

BENEFIT FROM THE MANUFACTURER'S ADVANTAGE— Melin Tool's micro products are manufactured in-house, in our Cleveland, Ohio Facility. Our

advantage is that we have complete control of the entire manufacturing process. We use the highest quality carbide rod and state-of-the-art grinding, inspection and coating equipment. Melin Tool provides SUPERIOR performance, with reliable and consistent quality - EVERY TIME!

Our high precision micro end mills can be produced on our advanced **ROLLOMATIC®** CNC grinding machines, including several 528XW and **ShapeSmart® np3**, which are designed to execute extremely close tolerances. We also have our **WALTER®** Helitronic micro/mini. To ensure quality, we have multiple, sophisticated inspection devices: a **ZOLLER Genius 3m Micro** with a huge intensity of magnification & a **ROLLOMATIC® LS-II Smart**. This is what separates Melin from other micro end mill lines and helps us manufacture premium cutting tools.

WHERE DO YOUR MICROs ORIGINATE?



MICRO TOOL CATALOG

Micro Size Solid Carbide End Mills & Drills



www.melintool.com

Manufacturing Advantage

Melin Tool's micro products are manufactured **in-house**, in our Cleveland, Ohio facility. Not all micro tools suppliers manufacture their own product. WE DO! Our advantage is that we have complete control of the entire manufacturing process.

We use the highest quality carbide rod and we have **state-of-the-art** grinding, inspection and coating equipment for making micro tools. Melin Tools provide **superior** performance, with reliable and consistent quality - every time!

melin has invested over **\$2 MILLION** in 2015 for highly sophisticated micro production equipment & training to make micros efficiently, at a high quality, and with a fast turn around time. We continue to add new machines to help better serve the needs of our customers

quality is something melin strives for. several NEW inspection machines have been introduced on the shop floor. melin now has a high intensity of magnification that inspects down to 2 micron (μm) in diameter



PRODUCTION INVESTMENT

Several ROLLOMATIC® 528XW with Smart changer, ROLLOMATIC® SharpSmart® np3, WALTER® Helitronic micro, WALTER® Helitronic mini



QUALITY

Zoller Genius® 3m Micro,
ROLLOMATIC® LS-II Smart
Starrett HDV300



Get to Know Who Makes Your Micros



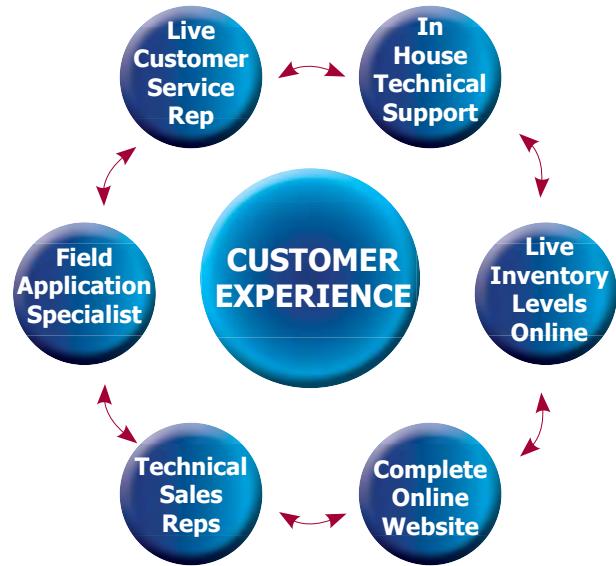
Carefully crafted product packaging has been introduced for the micro series. Rubberized base and caps help protect both ends of the product. Tip protectors can be found on smaller items that need extra security.



PACKAGING

NEW custom packaging to protect your investment

You can call Melin at any time and be confident that a live customer service rep will be happy to help answer any questions you have. Melin also has a comprehensive website that hosts our live inventory levels and list price



EXPERIENCE

Melin strives to always put the customer first. Our people answer the phones and provide top of the line customer service.

- NEW 3 Flute EMG Micro Series
- in-between sizes added in Micro AMG & CCMG series
- several LBS (reach) options available in stock

Metric Available -pg 15



MICRO SERIES: AMG
2 Flute Micro Square End Mill
 Diameters Range From .005 - .125"
 Page: 11

Metric Available -pg 20



MICRO SERIES: AMG-__-B
2 Flute Micro Ball End Mill
 Diameters Range From .005 - .120"
 Page: 16



INDEX



MICRO SERIES: EMG
3 Flute Micro Square End Mill
Diameters Range From .010 - .250"
Page: 21



MICRO SERIES: EMG-__-B
3 Flute Micro Ball End Mill
Diameters Range From .010 - .250"
Page: 30

(For larger diameters, please see full line catalog)



- All inch tools have a 1/8 Shank
Metric tools have 3mm shanks
(larger sizes found in full line catalog)
- DON'T see what you need... We can quickly manufacture exactly what you need
- Available Bright or Coated
Need a different coating? in house coating has a 3 day turn around on stocked bright parts.

Metric Available pg- 42



MICRO SERIES: CCMG
4 Flute Micro Square End Mill
Diameters Range From .005 - .125"
Page: 37

Metric Available pg- 47



MICRO SERIES: CCMG-__-B
4 Flute Micro Ball End Mill
Diameters Range From .010 - .125"
Page: 43



INDEX



MICRO SERIES: CCMG-__-R

4 Flute Micro Radius End Mill
Diameters Range From .020 - .125"
Page: 48

MICRO SERIES: CCMG-__-DIA

4 Flute CVD Diamond Coated Square
End Mill on Solid Carbide Substrate
Diameters Range From .015-.375"
Page: 51

(For larger diameters, please see full line catalog)



- New Micro Series are *constantly* being added, visit www.melintool.com for latest micro additions
- Thousands of tools added in 2015
- State-of-the-art equipment for enhanced CAPABILITY and CAPACITY



MICRO SERIES: CCMG-__-B-DIA

4 Flute CVD Diamond Coated Ball End Mill on Solid Carbide Substrate
Diameters Range From .015-.375"

Page: 53

MICRO SERIES: AMG-__-DP

2 Flute 60°, 82°, 90° Drill Point End Mill
Diameters Range From .015-.250"
Page: 55



INDEX



MICRO SERIES: CCMG-__-DP

4 Flute 60°, 82°, 90° Drill Point End Mill
Diameters Range From .031 - .250"
Page: 57

MICRO SERIES: BRMG

2 Flute Double End Corner Rounders
End Mill
Radius Size From .010 - .156"
Page: 59

(For larger diameters, please see full line catalog)



- Melin COATINGS:

- TiN
- TiCN
- AlTiN
- nACo
- nACRo
- ZrN
- DLC
- CVD Diamond

COATING

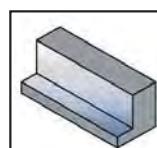
IN HOUSE coating allows us to provide you with the best coating for your applications. We can put any coating, EVEN DIAMOND on any size you need!

- **AlTiN** - Our unique ALUMINUM TITANIUM NITRIDE coating is ideal for HIGH temperature cutting operation in many materials such as *titanium and nickel alloys, Co-Cr-Mo, stainless steel, alloy steels and cast iron*. When exposed to higher temperatures, it forms a hard aluminum oxide layer and, as temperatures increase, the coating INSULATES the tool and **transfers heat into the chips**. It is an extremely tough coating that will hold up in heavy and interrupted cuts.
- **TiCN** - Our unique TITANIUM CARBONITRIDE coating has an exceptional **HIGH hardness** and **LOW coefficient of friction** coating which provides excellent wear resistance. TiCN performs well cutting *alloy steels, stainless steels, and in high speed cutting* where moderate temperatures are generated at the cutting edge. The high lubricity of TiCN facilitates chip flow, prevents build up and reduces cutting forces and temperature.
- **nACo** - Our unique ALUMINUM TITANIUM NITRIDE + SILICON NITRIDE coating is extremely well suited for high performance drilling and milling applications. It has a great ability to RESIST HIGH HEAT up to 1200°C before it starts to oxidize and break down. It has a tough core with high wear and heat resistance. A top layer with extreme high nanohardness. A very low coefficient of friction for less resistance. Up to (1-7) µm thickness in coating layers for the most protection against heat and tool breakdown.
- **nACRo** - Our unique ALUMINUM CHROME NITRIDE + SILICON NITRIDE coating is an excellent coating for **high abrasive wear and heat resistance**. A top layer with **HIGH HARDNESS** and **TOUGHNESS**. Heat resistance of up to 1100°C before it starts to oxidize and break down. It has a wide application range and is good in *super alloys applications*. It has a very **low coefficient of friction** for less resistance (0.35). Best in very tough operations. Up to (1-7) µm thickness in coating layers. A premium coating for those difficult applications.
- **CVD Diamond** - CVD diamond coating takes place in a vacuum chamber using a hot-filament, chemical vapor deposition (CVD) process. Carbon gases are introduced into the vacuum chamber where high temperatures cause carbon atoms to re-bond into a 100% pure crystalline diamond structure. The crystalline diamond slowly grows on the surface of cutting tools, forming a continuous coating of up to 20 microns in thickness. CVD diamond coated end mills are a standard choice among mold and die shops for machining graphite, and among manufacturers machining component parts made of hard carbon, high-silicon aluminum and other non-ferrous materials.
- **PVD (Amorphous DLC) Diamond** - PVD diamond coating is a less expensive alternative to CVD Diamond. This PVD process produces hard, smooth, hydrogen free diamond like carbon (DLC) film. This coating can be applied to any uncoated carbide tool (CVD Diamond requires a special carbide substrate).

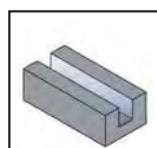


MACHINING OPERATIONS

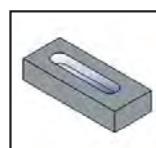
Profile



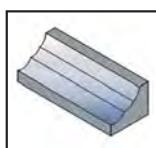
Slot



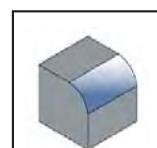
Plunging



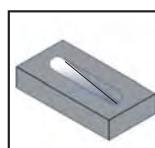
Profile
Cutting



Chamfer



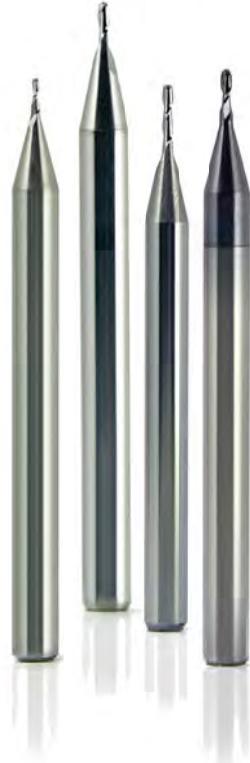
Ramping



SERIES: AMG

2 FLUTE MELIN **SQUARE** AND **BALL** MICRO END MILLS

Expanded Melin 2 Flute Series offered in both square, and ball end styles. This series offers stub and standard lengths of cut. With Melin's in house coating capabilities, All tools in this series are available to you bright or can be ordered with any of Melin's coatings (recommended coating for this series is AlTiN).



(For larger diameters, please see full line catalog)



- Sizes available
 - Square from 0.005 - 0.125
 - Ball from 0.005 - 0.120
- Length of cut 1.5xD & 3xD
- Center cutting
- Metric offering available
- Bright, AlTiN, & Amorphous (DLC)
Diamond
additional coatings available on request
- Made from premium submicron
grain carbide

ALL LENGTHS - SQUARE END BALL END

Premium 2 Flute Carbide Micro End Mills. Square and Ball End in both stub and standard length of cuts. Ideal for **profiling**, **slotting** and **plunging**. Manufactured in Cleveland, OH.

**2
FLUTES**

SERIES: AMG

2 FLUTE MELIN MICRO SQUARE END MILLS



| | | | | | | | | | | |
|---------|--|--|--|------------------|--|--|--|--|--|--|
| Carbide | | | | +.0005 -.0005 | | | | | | |
|---------|--|--|--|------------------|--|--|--|--|--|--|

| DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--------|---------------------|---------------|--------------|------------|
| 0.005 | 1/8 | 0.008 | 1-1/2 | stub | AMGS-.005 | 16629 | 56629 | |
| 0.005 | 1/8 | 0.015 | 1-1/2 | std | AMG-.005 | 10615 | 50615 | |
| 0.006 | 1/8 | 0.009 | 1-1/2 | stub | AMGS-.006 | 16630 | 56630 | |
| 0.006 | 1/8 | 0.018 | 1-1/2 | std | AMG-.006 | 16636 | 56636 | |
| 0.007 | 1/8 | 0.011 | 1-1/2 | stub | AMGS-.007 | 16638 | 56638 | |
| 0.007 | 1/8 | 0.021 | 1-1/2 | std | AMG-.007 | 16640 | 56640 | |
| 0.008 | 1/8 | 0.012 | 1-1/2 | stub | AMGS-.008 | 16643 | 56643 | |
| 0.008 | 1/8 | 0.024 | 1-1/2 | std | AMG-.008 | 16651 | 56651 | |
| 0.009 | 1/8 | 0.014 | 1-1/2 | stub | AMGS-.009 | 16652 | 56652 | |
| 0.009 | 1/8 | 0.027 | 1-1/2 | std | AMG-.009 | 16653 | 56653 | |
| 0.010 | 1/8 | 0.015 | 1-1/2 | stub | AMGS-.010 | 16654 | 56654 | 76654 |
| 0.010 | 1/8 | 0.030 | 1-1/2 | std | AMG-.010 | 10617 | 50617 | 70617 |
| 0.011 | 1/8 | 0.017 | 1-1/2 | stub | AMGS-.011 | 16655 | 56655 | 76655 |
| 0.011 | 1/8 | 0.033 | 1-1/2 | std | AMG-.011 | 16658 | 56658 | 76658 |
| 0.012 | 1/8 | 0.018 | 1-1/2 | stub | AMGS-.012 | 16659 | 56659 | 76659 |
| 0.012 | 1/8 | 0.036 | 1-1/2 | std | AMG-.012 | 16660 | 56660 | 76660 |
| 0.013 | 1/8 | 0.020 | 1-1/2 | stub | AMGS-.013 | 16670 | 56670 | 76670 |
| 0.013 | 1/8 | 0.039 | 1-1/2 | std | AMG-.013 | 16671 | 56671 | 76671 |
| 0.014 | 1/8 | 0.021 | 1-1/2 | stub | AMGS-.014 | 16672 | 56672 | 76672 |
| 0.014 | 1/8 | 0.042 | 1-1/2 | std | AMG-.014 | 16673 | 56673 | 76673 |
| 0.015 (1/64) | 1/8 | 0.023 | 1-1/2 | stub | AMGS-.015 | 16674 | 56674 | 76674 |
| 0.015 (1/64) | 1/8 | 0.045 | 1-1/2 | std | AMG-.015 | 10619 | 50619 | 70619 |
| 0.016 | 1/8 | 0.024 | 1-1/2 | stub | AMGS-.016 | 16675 | 56675 | 76675 |
| 0.016 | 1/8 | 0.048 | 1-1/2 | std | AMG-.016 | 16676 | 56676 | 76676 |
| 0.017 | 1/8 | 0.026 | 1-1/2 | stub | AMGS-.017 | 16677 | 56677 | 76677 |
| 0.017 | 1/8 | 0.051 | 1-1/2 | std | AMG-.017 | 16678 | 56678 | 76678 |
| 0.018 | 1/8 | 0.027 | 1-1/2 | stub | AMGS-.018 | 16679 | 56679 | 76679 |
| 0.018 | 1/8 | 0.054 | 1-1/2 | std | AMG-.018 | 16680 | 56680 | 76680 |
| 0.019 | 1/8 | 0.029 | 1-1/2 | stub | AMGS-.019 | 16681 | 56681 | 76681 |
| 0.019 | 1/8 | 0.057 | 1-1/2 | std | AMG-.019 | 16682 | 56682 | 76682 |

sizes continued on next page



2 FL - Micro Square End Mills



(discount code PIC2)

| DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|------------------------------|------------------------------|------------------------------|------------------------------|---------------|-----------------------------|-----------------------|----------------------|--------------------|
| 0.020 | 1/8 | 0.030 | 1-1/2 | stub | AMGS-.020 | 16683 | 56683 | 76683 |
| 0.020 | 1/8 | 0.060 | 1-1/2 | std | AMG-.020 | 10621 | 50621 | 70621 |
| 0.021 | 1/8 | 0.032 | 1-1/2 | stub | AMGS-.021 | 16684 | 56684 | 76684 |
| 0.021 | 1/8 | 0.063 | 1-1/2 | std | AMG-.021 | 16685 | 56685 | 76685 |
| 0.022 | 1/8 | 0.033 | 1-1/2 | stub | AMGS-.022 | 16686 | 56686 | 76686 |
| 0.022 | 1/8 | 0.066 | 1-1/2 | std | AMG-.022 | 16687 | 56687 | 76687 |
| 0.023 | 1/8 | 0.035 | 1-1/2 | stub | AMGS-.023 | 16688 | 56688 | 76688 |
| 0.023 | 1/8 | 0.069 | 1-1/2 | std | AMG-.023 | 16689 | 56689 | 76689 |
| 0.024 | 1/8 | 0.036 | 1-1/2 | stub | AMGS-.024 | 16690 | 56690 | 76690 |
| 0.024 | 1/8 | 0.072 | 1-1/2 | std | AMG-.024 | 16691 | 56691 | 76691 |
| 0.025 | 1/8 | 0.038 | 1-1/2 | stub | AMGS-.025 | 16692 | 56692 | 76692 |
| 0.025 | 1/8 | 0.075 | 1-1/2 | std | AMG-.025 | 10623 | 50623 | 70623 |
| 0.026 | 1/8 | 0.039 | 1-1/2 | stub | AMGS-.026 | 16693 | 56693 | 76693 |
| 0.026 | 1/8 | 0.078 | 1-1/2 | std | AMG-.026 | 16694 | 56694 | 76694 |
| 0.027 | 1/8 | 0.041 | 1-1/2 | stub | AMGS-.027 | 16695 | 56695 | 76695 |
| 0.027 | 1/8 | 0.081 | 1-1/2 | std | AMG-.027 | 16696 | 56696 | 76696 |
| 0.028 | 1/8 | 0.042 | 1-1/2 | stub | AMGS-.028 | 16697 | 56697 | 76697 |
| 0.028 | 1/8 | 0.084 | 1-1/2 | std | AMG-.028 | 16745 | 56745 | 76745 |
| 0.029 | 1/8 | 0.044 | 1-1/2 | stub | AMGS-.029 | 16763 | 56763 | 76763 |
| 0.029 | 1/8 | 0.087 | 1-1/2 | std | AMG-.029 | 16781 | 56781 | 76781 |
| 0.030 | 1/8 | 0.045 | 1-1/2 | stub | AMGS-.030 | 16908 | 56908 | 76908 |
| 0.030 | 1/8 | 0.090 | 1-1/2 | std | AMG-.030 | 10625 | 50625 | 70625 |
| 0.031 (1/32) | 1/8 | 0.047 | 1-1/2 | stub | AMGS-.031 | 16916 | 56916 | 76916 |
| 0.031 (1/32) | 1/8 | 0.093 | 1-1/2 | std | AMG-.031 | 16917 | 56917 | 76917 |
| 0.032 | 1/8 | 0.048 | 1-1/2 | stub | AMGS-.032 | 16918 | 56918 | 76918 |
| 0.032 | 1/8 | 0.096 | 1-1/2 | std | AMG-.032 | 16919 | 56919 | 76919 |
| 0.033 | 1/8 | 0.050 | 1-1/2 | stub | AMGS-.033 | 16920 | 56920 | 76920 |
| 0.033 | 1/8 | 0.099 | 1-1/2 | std | AMG-.033 | 16921 | 56921 | 76921 |
| 0.034 | 1/8 | 0.051 | 1-1/2 | stub | AMGS-.034 | 16922 | 56922 | 76922 |
| 0.034 | 1/8 | 0.102 | 1-1/2 | std | AMG-.034 | 16923 | 56923 | 76923 |
| 0.035 | 1/8 | 0.053 | 1-1/2 | stub | AMGS-.035 | 16924 | 56924 | 76924 |
| 0.035 | 1/8 | 0.105 | 1-1/2 | std | AMG-.035 | 10627 | 50627 | 70627 |
| 0.036 | 1/8 | 0.054 | 1-1/2 | stub | AMGS-.036 | H1753 | H1961 | |
| 0.036 | 1/8 | 0.108 | 1-1/2 | std | AMG-.036 | H1523 | H1962 | |
| 0.037 | 1/8 | 0.056 | 1-1/2 | stub | AMGS-.037 | H1406 | H1963 | |
| 0.037 | 1/8 | 0.111 | 1-1/2 | std | AMG-.037 | H1524 | H1964 | |
| 0.038 | 1/8 | 0.057 | 1-1/2 | stub | AMGS-.038 | H1407 | H1965 | |
| 0.038 | 1/8 | 0.114 | 1-1/2 | std | AMG-.038 | H1525 | H1966 | |
| 0.039 | 1/8 | 0.059 | 1-1/2 | stub | AMGS-.039 | H1408 | H1967 | |
| 0.039 | 1/8 | 0.117 | 1-1/2 | std | AMG-.039 | H1526 | H1527 | |
| 0.040 | 1/8 | 0.060 | 1-1/2 | stub | AMGS-.040 | 16925 | 56925 | 76925 |
| 0.040 | 1/8 | 0.120 | 1-1/2 | std | AMG-.040 | 10629 | 50629 | 70629 |
| 0.041 | 1/8 | 0.123 | 1-1/2 | std | AMG-.041 | H1528 | H1968 | |
| 0.042 | 1/8 | 0.126 | 1-1/2 | std | AMG-.042 | H1529 | H1969 | |
| 0.043 | 1/8 | 0.129 | 1-1/2 | std | AMG-.043 | H1530 | H1970 | |
| 0.044 | 1/8 | 0.132 | 1-1/2 | std | AMG-.044 | H1531 | H1971 | |

sizes continued on next page

SERIES: AMG

2 FLUTE MELIN MICRO SQUARE END MILLS

| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|--------|---------------------|---------------|--------------|------------|
| 0.045 | 1/8 | 0.068 | 1-1/2 | stub | AMGS-.045 | 16932 | 56932 | 76932 |
| 0.045 | 1/8 | 0.135 | 1-1/2 | std | AMG-.045 | 10631 | 50631 | 70631 |
| 0.046 | 1/8 | 0.138 | 1-1/2 | std | AMG-.046 | H1532 | H1972 | |
| 0.047 (3/64) | 1/8 | 0.071 | 1-1/2 | stub | AMGS-.047 | H1409 | H1410 | |
| 0.047 (3/64) | 1/8 | 0.141 | 1-1/2 | std | AMG-.047 | H1533 | H1534 | H1535 |
| 0.048 | 1/8 | 0.144 | 1-1/2 | std | AMG-.048 | H1536 | H1973 | |
| 0.049 | 1/8 | 0.147 | 1-1/2 | std | AMG-.049 | H1537 | H1974 | |
| 0.050 | 1/8 | 0.074 | 1-1/2 | stub | AMGS-.050 | 16937 | 56937 | 76937 |
| 0.050 | 1/8 | 0.150 | 1-1/2 | std | AMG-.050 | 10633 | 50633 | 70633 |
| 0.051 | 1/8 | 0.153 | 1-1/2 | std | AMG-.051 | H1538 | H1975 | |
| 0.052 | 1/8 | 0.156 | 1-1/2 | std | AMG-.052 | H1539 | H1976 | |
| 0.053 | 1/8 | 0.159 | 1-1/2 | std | AMG-.053 | H1540 | H1977 | |
| 0.054 | 1/8 | 0.162 | 1-1/2 | std | AMG-.054 | H1541 | H1978 | |
| 0.055 | 1/8 | 0.083 | 1-1/2 | stub | AMGS-.055 | 17000 | 57000 | 77000 |
| 0.055 | 1/8 | 0.165 | 1-1/2 | std | AMG-.055 | 10635 | 50635 | 70635 |
| 0.056 | 1/8 | 0.168 | 1-1/2 | std | AMG-.056 | H1542 | H1979 | |
| 0.057 | 1/8 | 0.171 | 1-1/2 | std | AMG-.057 | H1543 | H1980 | |
| 0.058 | 1/8 | 0.174 | 1-1/2 | std | AMG-.058 | H1544 | H1981 | |
| 0.059 | 1/8 | 0.177 | 1-1/2 | std | AMG-.059 | H1545 | H1982 | |
| 0.060 | 1/8 | 0.090 | 1-1/2 | stub | AMGS-.060 | 17116 | 57116 | 77116 |
| 0.060 | 1/8 | 0.180 | 1-1/2 | std | AMG-.060 | 10637 | 50637 | 70637 |
| 0.062 (1/16) | 1/8 | 0.093 | 1-1/2 | stub | AMGS-.062 | H1411 | H1412 | |
| 0.062 (1/16) | 1/8 | 0.186 | 1-1/2 | std | AMG-.062 | H1546 | H1547 | H1548 |
| 0.065 | 1/8 | 0.098 | 1-1/2 | stub | AMGS-.065 | 17117 | 57117 | 77117 |
| 0.065 | 1/8 | 0.195 | 1-1/2 | std | AMG-.065 | 10639 | 50639 | 70639 |
| 0.070 | 1/8 | 0.105 | 1-1/2 | stub | AMGS-.070 | 17118 | 57118 | 77118 |
| 0.070 | 1/8 | 0.210 | 1-1/2 | std | AMG-.070 | 10641 | 50641 | 70641 |
| 0.075 | 1/8 | 0.113 | 1-1/2 | stub | AMGS-.075 | 17119 | 57119 | 77119 |
| 0.075 | 1/8 | 0.225 | 1-1/2 | std | AMG-.075 | 10643 | 50643 | 70643 |
| 0.078 (5/64) | 1/8 | 0.117 | 1-1/2 | stub | AMGS-.078 | H1413 | H1414 | |
| 0.078 (5/64) | 1/8 | 0.234 | 1-1/2 | std | AMG-.078 | H1549 | H1550 | H1551 |
| 0.080 | 1/8 | 0.120 | 1-1/2 | stub | AMGS-.080 | 17120 | 57120 | 77120 |
| 0.080 | 1/8 | 0.240 | 1-1/2 | std | AMG-.080 | 10645 | 50645 | 70645 |
| 0.085 | 1/8 | 0.128 | 1-1/2 | stub | AMGS-.085 | 17121 | 57121 | 77121 |
| 0.085 | 1/8 | 0.255 | 1-1/2 | std | AMG-.085 | 10647 | 50647 | 70647 |
| 0.090 | 1/8 | 0.135 | 1-1/2 | stub | AMGS-.090 | 17122 | 57122 | 77122 |
| 0.090 | 1/8 | 0.270 | 1-1/2 | std | AMG-.090 | 10649 | 50649 | 70649 |
| 0.093 (3/32) | 1/8 | 0.140 | 1-1/2 | stub | AMGS-.093 | H1415 | H1416 | |
| 0.093 (3/32) | 1/8 | 0.279 | 1-1/2 | std | AMG-.093 | H1552 | H1553 | H1554 |
| 0.095 | 1/8 | 0.143 | 1-1/2 | stub | AMGS-.095 | 17123 | 57123 | 77123 |
| 0.095 | 1/8 | 0.285 | 1-1/2 | std | AMG-.095 | 10651 | 50651 | 70651 |

sizes continued on next page



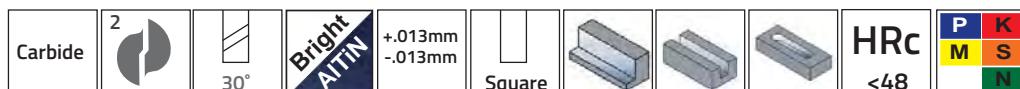
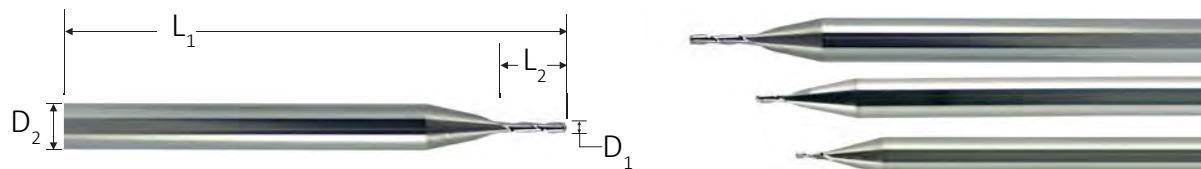


| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|--------|---------------------|---------------|--------------|------------|
| 0.100 | 1/8 | 0.150 | 1-1/2 | stub | AMGS-.100 | 17124 | 57124 | 77124 |
| 0.100 | 1/8 | 0.300 | 1-1/2 | std | AMG-.100 | 10653 | 50653 | 70653 |
| 0.105 | 1/8 | 0.158 | 1-1/2 | stub | AMGS-.105 | H1606 | H1607 | |
| 0.105 | 1/8 | 0.315 | 1-1/2 | std | AMG-.105 | H1585 | H1586 | |
| 0.110 | 1/8 | 0.165 | 1-1/2 | stub | AMGS-.110 | H1608 | H1609 | |
| 0.110 | 1/8 | 0.330 | 1-1/2 | std | AMG-.110 | H1588 | H1589 | |
| 0.115 | 1/8 | 0.173 | 1-1/2 | stub | AMGS-.115 | H1610 | H1611 | |
| 0.115 | 1/8 | 0.345 | 1-1/2 | std | AMG-.115 | H1591 | H1592 | |
| 0.118 | 1/8 | 0.177 | 1-1/2 | stub | AMGS-.118 | H1983 | H1984 | |
| 0.118 | 1/8 | 0.354 | 1-1/2 | std | AMG-.118 | H2015 | H2016 | |
| 0.120 | 1/8 | 0.180 | 1-1/2 | stub | AMGS-.120 | H1927 | H1928 | |
| 0.120 | 1/8 | 0.360 | 1-1/2 | std | AMG-.120 | H1925 | H1926 | |
| 0.125 (1/8) | 1/8 | 0.187 | 1-1/2 | stub | AMGS-.125 | H1985 | H1986 | |
| 0.125 (1/8) | 1/8 | 0.375 | 1-1/2 | std | AMG-.125 | H1987 | H1988 | H1989 |

LARGER Sizes In [Full Line Catalog](#)

SERIES: AMG (Metric)

2 FLUTE MELIN MICRO SQUARE END MILLS



| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|--------|---------------------|---------------|--------------|
| 0.2mm | 3mm | 0.4mm | 38mm | std | AMG-M0.2 | 13649 | 53649 |
| 0.3mm | 3mm | 0.9mm | 38mm | std | AMG-M0.3 | 13650 | 53650 |
| 0.4mm | 3mm | 1.2mm | 38mm | std | AMG-M0.4 | 13651 | 53651 |
| 0.5mm | 3mm | 1.5mm | 38mm | std | AMG-M0.5 | 13652 | 53652 |
| 0.6mm | 3mm | 1.8mm | 38mm | std | AMG-M0.6 | 13653 | 53653 |
| 0.7mm | 3mm | 2.1mm | 38mm | std | AMG-M0.7 | 13654 | 53654 |
| 0.8mm | 3mm | 2.4mm | 38mm | std | AMG-M0.8 | 13655 | 53655 |
| 0.9mm | 3mm | 2.7mm | 38mm | std | AMG-M0.9 | 13656 | 53656 |
| 1.0mm | 3mm | 3.0mm | 38mm | std | AMG-M3M1 | 16935 | 56935 |
| 1.1mm | 3mm | 3.3mm | 38mm | std | AMG-M1.1 | 13658 | 53658 |
| 1.2mm | 3mm | 3.6mm | 38mm | std | AMG-M1.2 | 13659 | 53659 |
| 1.3mm | 3mm | 3.9mm | 38mm | std | AMG-M1.3 | 13660 | 53660 |
| 1.4mm | 3mm | 4.2mm | 38mm | std | AMG-M1.4 | 13661 | 53661 |
| 1.5mm | 3mm | 4.5mm | 38mm | std | AMG-M1.5 | 13662 | 53662 |

LARGER Sizes In [Full Line Catalog](#)

SERIES: AMG-__-B

2 FLUTE MELIN MICRO BALL END MILLS



| | | | | | | |
|---------|--|--|--|--|--------------------|--|
| Carbide | | | | | +0.0005 -0.0005 | |
|---------|--|--|--|--|--------------------|--|



HRc
<48



| DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--------|---------------------|---------------|--------------|------------|
| 0.005 | 1/8 | 0.008 | 1-1/2 | stub | AMGS-.005-B | 17665 | 57665 | |
| 0.005 | 1/8 | 0.015 | 1-1/2 | std | AMG-.005-B | 17671 | 57671 | |
| 0.006 | 1/8 | 0.009 | 1-1/2 | stub | AMGS-.006-B | 17690 | 57690 | |
| 0.006 | 1/8 | 0.018 | 1-1/2 | std | AMG-.006-B | 17697 | 57697 | |
| 0.007 | 1/8 | 0.011 | 1-1/2 | stub | AMGS-.007-B | 17710 | 57710 | |
| 0.007 | 1/8 | 0.021 | 1-1/2 | std | AMG-.007-B | 17721 | 57721 | |
| 0.008 | 1/8 | 0.012 | 1-1/2 | stub | AMGS-.008-B | 17725 | 57725 | |
| 0.008 | 1/8 | 0.024 | 1-1/2 | std | AMG-.008-B | 17726 | 57726 | |
| 0.009 | 1/8 | 0.014 | 1-1/2 | stub | AMGS-.009-B | 17728 | 57728 | |
| 0.009 | 1/8 | 0.027 | 1-1/2 | std | AMG-.009-B | 17731 | 57731 | |
| 0.010 | 1/8 | 0.015 | 1-1/2 | stub | AMGS-.010-B | 17734 | 57734 | 77734 |
| 0.010 | 1/8 | 0.030 | 1-1/2 | std | AMG-.010-B | 13142 | 53142 | 73142 |
| 0.011 | 1/8 | 0.017 | 1-1/2 | stub | AMGS-.011-B | 17738 | 57738 | 77738 |
| 0.011 | 1/8 | 0.033 | 1-1/2 | std | AMG-.011-B | 17740 | 57740 | 77740 |
| 0.012 | 1/8 | 0.018 | 1-1/2 | stub | AMGS-.012-B | 17742 | 57742 | 77742 |
| 0.012 | 1/8 | 0.036 | 1-1/2 | std | AMG-.012-B | 17744 | 57744 | 77744 |
| 0.013 | 1/8 | 0.020 | 1-1/2 | stub | AMGS-.013-B | 17746 | 57746 | 77746 |
| 0.013 | 1/8 | 0.039 | 1-1/2 | std | AMG-.013-B | 17748 | 57748 | 77748 |
| 0.014 | 1/8 | 0.021 | 1-1/2 | stub | AMGS-.014-B | 17750 | 57750 | 77750 |
| 0.014 | 1/8 | 0.042 | 1-1/2 | std | AMG-.014-B | 17753 | 57753 | 77753 |
| 0.015 (1/64) | 1/8 | 0.023 | 1-1/2 | stub | AMGS-.015-B | 17758 | 57758 | 77758 |
| 0.015 (1/64) | 1/8 | 0.045 | 1-1/2 | std | AMG-.015-B | 13143 | 53143 | 73143 |
| 0.016 | 1/8 | 0.024 | 1-1/2 | stub | AMGS-.016-B | 17763 | 57763 | 77763 |
| 0.016 | 1/8 | 0.048 | 1-1/2 | std | AMG-.016-B | 17765 | 57765 | 77765 |
| 0.017 | 1/8 | 0.026 | 1-1/2 | stub | AMGS-.017-B | 17767 | 57767 | 77767 |
| 0.017 | 1/8 | 0.051 | 1-1/2 | std | AMG-.017-B | 17769 | 57769 | 77769 |
| 0.018 | 1/8 | 0.027 | 1-1/2 | stub | AMGS-.018-B | 17771 | 57771 | 77771 |
| 0.018 | 1/8 | 0.054 | 1-1/2 | std | AMG-.018-B | 17773 | 57773 | 77773 |
| 0.019 | 1/8 | 0.029 | 1-1/2 | stub | AMGS-.019-B | 17775 | 57775 | 77775 |
| 0.019 | 1/8 | 0.057 | 1-1/2 | std | AMG-.019-B | 17777 | 57777 | 77777 |

sizes continued on next page





2 FL - Micro Ball End Mills



(product code PIC2)

| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|--------|---------------------|---------------|--------------|------------|
| 0.020 | 1/8 | 0.030 | 1-1/2 | stub | AMGS-.020-B | 17780 | 57780 | 77780 |
| 0.020 | 1/8 | 0.060 | 1-1/2 | std | AMG-.020-B | 13144 | 53144 | 73144 |
| 0.021 | 1/8 | 0.032 | 1-1/2 | stub | AMGS-.021-B | 17785 | 57785 | 77785 |
| 0.021 | 1/8 | 0.063 | 1-1/2 | std | AMG-.021-B | 17790 | 57790 | 77790 |
| 0.022 | 1/8 | 0.033 | 1-1/2 | stub | AMGS-.022-B | 17813 | 57813 | 77813 |
| 0.022 | 1/8 | 0.066 | 1-1/2 | std | AMG-.022-B | 17963 | 57963 | 77963 |
| 0.023 | 1/8 | 0.035 | 1-1/2 | stub | AMGS-.023-B | 17996 | 57996 | 77996 |
| 0.023 | 1/8 | 0.069 | 1-1/2 | std | AMG-.023-B | 17997 | 57997 | 77997 |
| 0.024 | 1/8 | 0.036 | 1-1/2 | stub | AMGS-.024-B | 17998 | 57998 | 77998 |
| 0.024 | 1/8 | 0.072 | 1-1/2 | std | AMG-.024-B | 17999 | 57999 | 77999 |
| 0.025 | 1/8 | 0.038 | 1-1/2 | stub | AMGS-.025-B | 18025 | 58025 | 78025 |
| 0.025 | 1/8 | 0.075 | 1-1/2 | std | AMG-.025-B | 13145 | 53145 | 73145 |
| 0.026 | 1/8 | 0.039 | 1-1/2 | stub | AMGS-.026-B | 18180 | 58180 | 78180 |
| 0.026 | 1/8 | 0.078 | 1-1/2 | std | AMG-.026-B | 18245 | 58245 | 78245 |
| 0.027 | 1/8 | 0.041 | 1-1/2 | stub | AMGS-.027-B | 18246 | 58246 | 78246 |
| 0.027 | 1/8 | 0.081 | 1-1/2 | std | AMG-.027-B | 18247 | 58247 | 78247 |
| 0.028 | 1/8 | 0.042 | 1-1/2 | stub | AMGS-.028-B | 18514 | 58514 | 78514 |
| 0.028 | 1/8 | 0.084 | 1-1/2 | std | AMG-.028-B | 18519 | 58519 | 78519 |
| 0.029 | 1/8 | 0.044 | 1-1/2 | stub | AMGS-.029-B | 18533 | 58533 | 78533 |
| 0.029 | 1/8 | 0.087 | 1-1/2 | std | AMG-.029-B | 18546 | 58546 | 78546 |
| 0.030 | 1/8 | 0.045 | 1-1/2 | stub | AMGS-.030-B | 18556 | 58556 | 78556 |
| 0.030 | 1/8 | 0.090 | 1-1/2 | std | AMG-.030-B | 13146 | 53146 | 73146 |
| 0.031 (1/32) | 1/8 | 0.047 | 1-1/2 | stub | AMGS-.031-B | 18557 | 58557 | 78557 |
| 0.031 (1/32) | 1/8 | 0.093 | 1-1/2 | std | AMG-.031-B | 18559 | 58559 | 78559 |
| 0.032 | 1/8 | 0.048 | 1-1/2 | stub | AMGS-.032-B | 18561 | 58561 | 78561 |
| 0.032 | 1/8 | 0.096 | 1-1/2 | std | AMG-.032-B | 18563 | 58563 | 78563 |
| 0.033 | 1/8 | 0.050 | 1-1/2 | stub | AMGS-.033-B | 18564 | 58564 | 78564 |
| 0.033 | 1/8 | 0.099 | 1-1/2 | std | AMG-.033-B | 18565 | 58565 | 78565 |
| 0.034 | 1/8 | 0.051 | 1-1/2 | stub | AMGS-.034-B | 18566 | 58566 | 78566 |
| 0.034 | 1/8 | 0.102 | 1-1/2 | std | AMG-.034-B | 18814 | 58814 | 78814 |
| 0.035 | 1/8 | 0.053 | 1-1/2 | stub | AMGS-.035-B | 18815 | 58815 | 78815 |
| 0.035 | 1/8 | 0.105 | 1-1/2 | std | AMG-.035-B | 13147 | 53147 | 73147 |
| 0.036 | 1/8 | 0.054 | 1-1/2 | stub | AMGS-.036-B | H1595 | H1933 | |
| 0.036 | 1/8 | 0.108 | 1-1/2 | std | AMG-.036-B | H1555 | H1934 | |
| 0.037 | 1/8 | 0.056 | 1-1/2 | stub | AMGS-.037-B | H1596 | H1935 | |
| 0.037 | 1/8 | 0.111 | 1-1/2 | std | AMG-.037-B | H1556 | H1936 | |
| 0.038 | 1/8 | 0.057 | 1-1/2 | stub | AMGS-.038-B | H1597 | H1937 | |
| 0.038 | 1/8 | 0.114 | 1-1/2 | std | AMG-.038-B | H1557 | H1938 | |
| 0.039 | 1/8 | 0.059 | 1-1/2 | stub | AMGS-.039-B | H1598 | H1939 | |
| 0.039 | 1/8 | 0.117 | 1-1/2 | std | AMG-.039-B | H1558 | H1940 | |
| 0.040 | 1/8 | 0.060 | 1-1/2 | stub | AMGS-.040-B | 18816 | 58816 | 78816 |
| 0.040 | 1/8 | 0.120 | 1-1/2 | std | AMG-.040-B | 13148 | 53148 | 73148 |
| 0.041 | 1/8 | 0.123 | 1-1/2 | std | AMG-.041-B | H1559 | H1941 | |
| 0.042 | 1/8 | 0.126 | 1-1/2 | std | AMG-.042-B | H1560 | H1942 | |

sizes continued on next page

SERIES: AMG-__-B

2 FLUTE MELIN MICRO BALL END MILLS

| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|--------|---------------------|---------------|--------------|------------|
| 0.043 | 1/8 | 0.129 | 1-1/2 | std | AMG-.043-B | H1561 | H1943 | |
| 0.044 | 1/8 | 0.132 | 1-1/2 | std | AMG-.044-B | H1562 | H1944 | |
| 0.045 | 1/8 | 0.068 | 1-1/2 | stub | AMGS-.045-B | 18817 | 58817 | 78817 |
| 0.045 | 1/8 | 0.135 | 1-1/2 | std | AMG-.045-B | 18818 | 58818 | 78818 |
| 0.046 | 1/8 | 0.138 | 1-1/2 | std | AMG-.046-B | H1563 | H1945 | |
| 0.047 (3/64) | 1/8 | 0.071 | 1-1/2 | stub | AMGS-.047-B | H1599 | H1600 | |
| 0.047 (3/64) | 1/8 | 0.141 | 1-1/2 | std | AMG-.047-B | H1564 | H1565 | H1566 |
| 0.048 | 1/8 | 0.144 | 1-1/2 | std | AMG-.048-B | H1567 | H1946 | |
| 0.049 | 1/8 | 0.147 | 1-1/2 | std | AMG-.049-B | H1568 | H1947 | |
| 0.050 | 1/8 | 0.075 | 1-1/2 | stub | AMGS-.050-B | 18819 | 58819 | 78819 |
| 0.050 | 1/8 | 0.150 | 1-1/2 | std | AMG-.050-B | 13149 | 53149 | 73149 |
| 0.051 | 1/8 | 0.153 | 1-1/2 | std | AMG-.051-B | H1569 | H1948 | |
| 0.052 | 1/8 | 0.156 | 1-1/2 | std | AMG-.052-B | H1570 | H1949 | |
| 0.053 | 1/8 | 0.159 | 1-1/2 | std | AMG-.053-B | H1571 | H1950 | |
| 0.054 | 1/8 | 0.162 | 1-1/2 | std | AMG-.054-B | H1572 | H1951 | |
| 0.055 | 1/8 | 0.083 | 1-1/2 | stub | AMGS-.055-B | 18821 | 58821 | 78821 |
| 0.055 | 1/8 | 0.165 | 1-1/2 | std | AMG-.055-B | 18822 | 58822 | 78822 |
| 0.056 | 1/8 | 0.168 | 1-1/2 | std | AMG-.056-B | H1573 | H1952 | |
| 0.057 | 1/8 | 0.171 | 1-1/2 | std | AMG-.057-B | H1574 | H1953 | |
| 0.058 | 1/8 | 0.174 | 1-1/2 | std | AMG-.058-B | H1575 | H1954 | |
| 0.059 | 1/8 | 0.177 | 1-1/2 | std | AMG-.059-B | H1576 | H1955 | |
| 0.060 | 1/8 | 0.090 | 1-1/2 | stub | AMGS-.060-B | 18846 | 58846 | 78846 |
| 0.060 | 1/8 | 0.180 | 1-1/2 | std | AMG-.060-B | 13150 | 53150 | 73150 |
| 0.062 (1/16) | 1/8 | 0.186 | 1-1/2 | std | AMG-.062-B | H2008 | H2009 | H2010 |
| 0.062 (1/16) | 1/8 | 0.093 | 1-1/2 | stub | AMGS-.062-B | H1577 | H1578 | |
| 0.065 | 1/8 | 0.098 | 1-1/2 | stub | AMGS-.065-B | 18847 | 58847 | 78847 |
| 0.065 | 1/8 | 0.195 | 1-1/2 | std | AMG-.065-B | 18848 | 58848 | 78848 |
| 0.070 | 1/8 | 0.105 | 1-1/2 | stub | AMGS-.070-B | 18849 | 58849 | 78849 |
| 0.070 | 1/8 | 0.210 | 1-1/2 | std | AMG-.070-B | 13151 | 53151 | 73151 |
| 0.075 | 1/8 | 0.113 | 1-1/2 | stub | AMGS-.075-B | 18850 | 58850 | 78850 |
| 0.075 | 1/8 | 0.225 | 1-1/2 | std | AMG-.075-B | 18851 | 58851 | 78851 |
| 0.078 (5/64) | 1/8 | 0.117 | 1-1/2 | stub | AMGS-.078-B | H1602 | H1603 | |
| 0.078 (5/64) | 1/8 | 0.234 | 1-1/2 | std | AMG-.078-B | H1579 | H1580 | H1581 |
| 0.080 | 1/8 | 0.120 | 1-1/2 | stub | AMGS-.080-B | 18852 | 58852 | 78852 |
| 0.080 | 1/8 | 0.240 | 1-1/2 | std | AMG-.080-B | 13152 | 53152 | 73152 |
| 0.085 | 1/8 | 0.128 | 1-1/2 | stub | AMGS-.085-B | 18853 | 58853 | 78853 |
| 0.085 | 1/8 | 0.255 | 1-1/2 | std | AMG-.085-B | 18854 | 58854 | 78854 |
| 0.090 | 1/8 | 0.135 | 1-1/2 | stub | AMGS-.090-B | 18855 | 58855 | 78855 |
| 0.090 | 1/8 | 0.270 | 1-1/2 | std | AMG-.090-B | 13153 | 53153 | 73153 |
| 0.093 (3/32) | 1/8 | 0.140 | 1-1/2 | stub | AMGS-.093-B | H1604 | H1605 | |
| 0.093 (3/32) | 1/8 | 0.279 | 1-1/2 | std | AMG-.093-B | H1582 | H1583 | H1584 |

sizes continued on next page





| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|--------|---------------------|---------------|--------------|------------|
| 0.095 | 1/8 | 0.143 | 1-1/2 | stub | AMGS-.095-B | 18856 | 58856 | 78856 |
| 0.095 | 1/8 | 0.285 | 1-1/2 | std | AMG-.095-B | 18857 | 58857 | 78857 |
| 0.100 | 1/8 | 0.150 | 1-1/2 | stub | AMGS-.100-B | 18858 | 58858 | 78858 |
| 0.100 | 1/8 | 0.300 | 1-1/2 | std | AMG-.100-B | 18859 | 58859 | 78859 |
| 0.105 | 1/8 | 0.315 | 1-1/2 | std | AMG-.105-B | H1587 | H1956 | |
| 0.110 | 1/8 | 0.330 | 1-1/2 | std | AMG-.110-B | H1590 | H1957 | |
| 0.115 | 1/8 | 0.345 | 1-1/2 | std | AMG-.115-B | H1593 | H2005 | |
| 0.118 | 1/8 | 0.177 | 1-1/2 | stub | AMGS-.118-B | H1958 | H2006 | |
| 0.118 | 1/8 | 0.354 | 1-1/2 | std | AMG-.118-B | H1959 | H1960 | |
| 0.120 | 1/8 | 0.360 | 1-1/2 | std | AMG-.120-B | H1594 | H2007 | |

LARGER Sizes In [Full Line Catalog](#)

NEED a different SIZE, STYLE or COATING? We are constantly adding standard items to our micro offering & we make CUSTOM designed tools with exceptionally fast deliveries. Contact your local distributor or email us at specials@melintool.com

Can't **FIND**
What You Are
Looking For?

SERIES: AMG-__-B (metric)

2 FLUTE MELIN MICRO BALL END MILLS

(product code PIC2)



| DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--------|---------------------|---------------|--------------|
| 0.2mm | 3mm | 0.4mm | 38mm | std | AMG-M0.2-B | 13677 | 53677 |
| 0.3mm | 3mm | 0.9mm | 38mm | std | AMG-M0.3-B | 13678 | 53678 |
| 0.4mm | 3mm | 1.2mm | 38mm | std | AMG-M0.4-B | 13679 | 53679 |
| 0.5mm | 3mm | 1.5mm | 38mm | std | AMG-M0.5-B | 13680 | 53680 |
| 0.6mm | 3mm | 1.8mm | 38mm | std | AMG-M0.6-B | 13681 | 53681 |
| 0.7mm | 3mm | 2.1mm | 38mm | std | AMG-M0.7-B | 13682 | 53682 |
| 0.8mm | 3mm | 2.4mm | 38mm | std | AMG-M0.8-B | 13683 | 53683 |
| 0.9mm | 3mm | 2.7mm | 38mm | std | AMG-M0.9-B | 13684 | 53684 |
| 1.0mm | 3mm | 3.0mm | 38mm | std | AMG-M3M1-B | 16805 | 56805 |
| 1.1mm | 3mm | 3.3 mm | 38mm | std | AMG-M1.1-B | 13686 | 53686 |
| 1.2mm | 3mm | 3.6mm | 38mm | std | AMG-M1.2-B | 13687 | 53687 |
| 1.3mm | 3mm | 3.9mm | 38mm | std | AMG-M1.3-B | 13688 | 53688 |
| 1.4mm | 3mm | 4.2mm | 38mm | std | AMG-M1.4-B | 13689 | 53689 |
| 1.5mm | 3mm | 4.5mm | 38mm | std | AMG-M1.5-B | 13690 | 53690 |



LARGER Sizes In [Full Line Catalog](#)

WHERE DO YOUR MICROs ORIGINATE?



www.melintool.com • 216-362-4200 • sales@melintool.com



SERIES: EMG

3 FLUTE MELIN SQUARE AND BALL MICRO END MILLS

NEW Melin 3 Flute offered in both square and ball end tools. This series ranges from standard, stub flute, long reach stub flute, long reach, and extended long reach. With Melin's in house coating capabilities, all tools listed are available bright or can be ordered with any Melin coating.



(For larger diameters, please see full line catalog)



- Available from 0.010 - 0.250
- Length of cut 1.5xD, 5xD-10xD & 12xD
- Center cutting
- Extended Neck Styles with LBS
(length below shank) range from
3xD - 25xD
- Bright, AlTiN, & Amorphous (DLC)
Diamond
additional coatings available on request
- Made from premium sub micron grain carbide

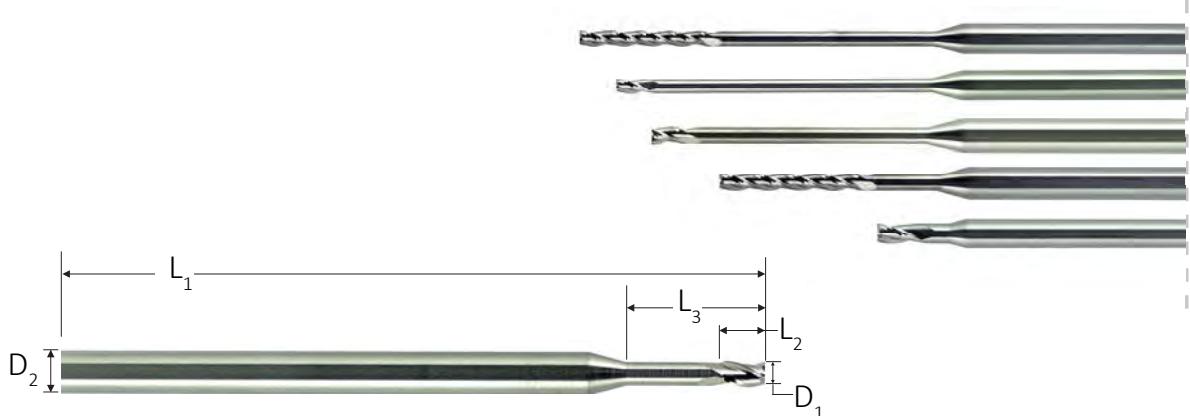
ALL LENGTHS - SQUARE END BALL END

Premium 3 Flute Carbide Micro End Mills. This is our NEWEST series to the micro line. **Extended Neck** styles enables step down milling paths, with higher feed rates. Ideal for **profiling, slotting and plunging**. Manufactured in Cleveland, OH.

W
FLUTES

SERIES: EMG

3 FLUTE MELIN MICRO SQUARE END MILLS



| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTiN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.010 | 1/8 | 0.015 (1.5x) | 0.030 (3x) | 2-1/2 | EMGN-010-SF3 | H0594 | H0930 | |
| 0.010 | 1/8 | 0.015 (1.5x) | 0.050 (5x) | 2-1/2 | EMGN-010-SF5 | H0595 | H0931 | H1249 |
| 0.010 | 1/8 | 0.015 (1.5x) | 0.080 (8x) | 2-1/2 | EMGN-010-SF8 | H0596 | H0932 | H1250 |
| 0.010 | 1/8 | 0.015 (1.5x) | 0.125 (12x) | 2-1/2 | EMGN-010-SF12 | H0597 | H0933 | H1251 |
| 0.010 | 1/8 | 0.015 (1.5x) | 0.150 (15x) | 2-1/2 | EMGN-010-SF15 | H0598 | H0934 | |
| 0.010 | 1/8 | 0.050 (5x) | | 2-1/2 | EMG-010-LF5 | H0001 | H0225 | H0449 |
| 0.010 | 1/8 | 0.050 (5x) | 0.100 (10x) | 2-1/2 | EMGN-010 | H0103 | H0327 | H0495 |
| 0.010 | 1/8 | 0.080 (8x) | | 2-1/2 | EMG-010-LF8 | H0002 | H0226 | |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.045 (3x) | 2-1/2 | EMGN-015-SF3 | H0599 | H0935 | |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.078 (5x) | 2-1/2 | EMGN-015-SF5 | H0600 | H0936 | H1252 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.125 (8x) | 2-1/2 | EMGN-015-SF8 | H0601 | H0937 | H1253 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.156 (10x) | 2-1/2 | EMGN-015-SF10 | H0602 | H0938 | |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.187 (12x) | 2-1/2 | EMGN-015-SF12 | H0603 | H0939 | H1254 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.225 (15x) | 2-1/2 | EMGN-015-SF15 | H0604 | H0940 | H1255 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.270 (18x) | 2-1/2 | EMGN-015-SF18 | H0605 | H0941 | |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.300 (20x) | 2-1/2 | EMGN-015-SF20 | H0606 | H0942 | |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.375 (25x) | 2-1/2 | EMGN-015-SF25 | H0607 | H0943 | |
| 0.015 (1/64) | 1/8 | 0.078 (5x) | | 2-1/2 | EMG-015-LF5 | H0003 | H0227 | H0450 |
| 0.015 (1/64) | 1/8 | 0.078 (5x) | 0.150 (10x) | 2-1/2 | EMGN-015 | H0104 | H0328 | H0496 |
| 0.015 (1/64) | 1/8 | 0.125 (8x) | | 2-1/2 | EMG-015-LF8 | H0004 | H0228 | H0451 |
| 0.015 (1/64) | 1/8 | 0.187 (12x) | | 2-1/2 | EMG-015-LF12 | H0005 | H0229 | |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.060 (3x) | 2-1/2 | EMGN-020-SF3 | H0608 | H0944 | |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.100 (5x) | 2-1/2 | EMGN-020-SF5 | H0609 | H0945 | H1256 |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.160 (8x) | 2-1/2 | EMGN-020-SF8 | H0610 | H0946 | H1257 |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.200 (10x) | 2-1/2 | EMGN-020-SF10 | H0611 | H0947 | |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.250 (12x) | 2-1/2 | EMGN-020-SF12 | H0612 | H0948 | H1258 |

sizes continued on next page

| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.020 | 1/8 | 0.030 (1.5x) | 0.300 (15x) | 2-1/2 | EMGN-020-SF15 | H0613 | H0949 | H1259 |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.400 (20x) | 2-1/2 | EMGN-020-SF20 | H0614 | H0950 | |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.500 (25x) | 2-1/2 | EMGN-020-SF25 | H0615 | H0951 | |
| 0.020 | 1/8 | 0.100 (5x) | | 2-1/2 | EMG-.020-LF5 | H0006 | H0230 | H0452 |
| 0.020 | 1/8 | 0.100 (5x) | 0.200 (10x) | 2-1/2 | EMGN-020 | H0105 | H0329 | H0497 |
| 0.020 | 1/8 | 0.160 (8x) | | 2-1/2 | EMG-.020-LF8 | H0007 | H0231 | |
| 0.020 | 1/8 | 0.250 (12x) | | 2-1/2 | EMG-.020-LF12 | H0008 | H0232 | |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.075 (3x) | 2-1/2 | EMGN-025-SF3 | H0616 | H0952 | |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.125 (5x) | 2-1/2 | EMGN-025-SF5 | H0617 | H0953 | H1260 |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.203 (8x) | 2-1/2 | EMGN-025-SF8 | H0618 | H0954 | H1261 |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.250 (10x) | 2-1/2 | EMGN-025-SF10 | H0619 | H0955 | |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.312 (12x) | 2-1/2 | EMGN-025-SF12 | H0620 | H0956 | H1262 |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.375 (15x) | 2-1/2 | EMGN-025-SF15 | H0621 | H0957 | H1263 |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.500 (20x) | 2-1/2 | EMGN-025-SF20 | H0622 | H0958 | |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.625 (25x) | 2-1/2 | EMGN-025-SF25 | H0623 | H0959 | |
| 0.025 | 1/8 | 0.125 (5x) | | 2-1/2 | EMG-.025-LF5 | H0009 | H0233 | H0453 |
| 0.025 | 1/8 | 0.125 (5x) | 0.250 (10x) | 2-1/2 | EMGN-025 | H0106 | H0330 | H0498 |
| 0.025 | 1/8 | 0.203 (8x) | | 2-1/2 | EMG-.025-LF8 | H0010 | H0234 | |
| 0.025 | 1/8 | 0.312 (12x) | | 2-1/2 | EMG-.025-LF12 | H0011 | H0235 | |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.090 (3x) | 2-1/2 | EMGN-030-SF3 | H0624 | H0960 | |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.156 (5x) | 2-1/2 | EMGN-030-SF5 | H0625 | H0961 | H1264 |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.250 (8x) | 2-1/2 | EMGN-030-SF8 | H0626 | H0962 | H1265 |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.312 (10x) | 2-1/2 | EMGN-030-SF10 | H0627 | H0963 | |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.375 (12x) | 2-1/2 | EMGN-030-SF12 | H0628 | H0964 | H1266 |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.450 (15x) | 2-1/2 | EMGN-030-SF15 | H0629 | H0965 | |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.600 (20x) | 2-1/2 | EMGN-030-SF20 | H0630 | H0966 | |
| 0.030 | 1/8 | 0.150 (5x) | | 2-1/2 | EMG-.030-LF5 | H0012 | H0236 | H0454 |
| 0.030 | 1/8 | 0.150 (5x) | 0.300 (10x) | 2-1/2 | EMGN-030 | H0107 | H0331 | H0499 |
| 0.030 | 1/8 | 0.250 (8x) | | 2-1/2 | EMG-.030-LF8 | H0013 | H0237 | |
| 0.030 | 1/8 | 0.375 (12x) | | 2-1/2 | EMG-.030-LF12 | H0014 | H0238 | |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.093 (3x) | 2-1/2 | EMGN-031-SF3 | H0631 | H0967 | |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.156 (5x) | 2-1/2 | EMGN-031-SF5 | H0632 | H0968 | H1267 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.250 (8x) | 2-1/2 | EMGN-031-SF8 | H0633 | H0969 | H1268 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.312 (10x) | 2-1/2 | EMGN-031-SF10 | H0634 | H0970 | |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.375 (12x) | 2-1/2 | EMGN-031-SF12 | H0635 | H0971 | H1269 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.470 (15x) | 2-1/2 | EMGN-031-SF15 | H0636 | H0972 | H1270 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.565 (18x) | 2-1/2 | EMGN-031-SF18 | H0637 | H0973 | |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.625 (20x) | 2-1/2 | EMGN-031-SF20 | H0638 | H0974 | |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.687 (22x) | 2-1/2 | EMGN-031-SF22 | H0639 | H0975 | |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.775 (25x) | 2-1/2 | EMGN-031-SF25 | H0640 | H0976 | |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.937 (30x) | 2-1/2 | EMGN-031-SF30 | H0641 | H2020 | |
| 0.031 (1/32) | 1/8 | 0.156 (5x) | | 2-1/2 | EMG-.031-LF5 | H0015 | H0239 | H0455 |
| 0.031 (1/32) | 1/8 | 0.156 (5x) | 0.310 (10x) | 2-1/2 | EMGN-031 | H0108 | H0332 | H0500 |

sizes continued on next page

SERIES: EMG

3 FLUTE MELIN MICRO SQUARE END MILLS

| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.031 (1/32) | 1/8 | 0.250 (8x) | | 2-1/2 | EMG-.031-LF8 | H0016 | H0240 | H0456 |
| 0.031 (1/32) | 1/8 | 0.312 (10x) | | 2-1/2 | EMG-.031-LF10 | H0017 | H0241 | |
| 0.031 (1/32) | 1/8 | 0.375 (12x) | | 2-1/2 | EMG-.031-LF12 | H0018 | H0242 | H0457 |
| 0.031 (1/32) | 1/8 | 0.470 (15x) | | 2-1/2 | EMG-.031-LF15 | H0019 | H0243 | |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.105 (3x) | 2-1/2 | EMGN-.035-SF3 | H0642 | H0977 | |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.187 (5x) | 2-1/2 | EMGN-.035-SF5 | H0643 | H0978 | H1271 |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.281 (8x) | 2-1/2 | EMGN-.035-SF8 | H0644 | H0979 | H1272 |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.350 (10x) | 2-1/2 | EMGN-.035-SF10 | H0645 | H0980 | |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.425 (12x) | 2-1/2 | EMGN-.035-SF12 | H0646 | H0981 | H1273 |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.525 (15x) | 2-1/2 | EMGN-.035-SF15 | H0647 | H0982 | |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.700 (20x) | 2-1/2 | EMGN-.035-SF20 | H0648 | H0983 | |
| 0.035 | 1/8 | 0.175 (5x) | | 2-1/2 | EMG-.035-LF5 | H0020 | H0244 | H0458 |
| 0.035 | 1/8 | 0.175 (5x) | 0.350 (10x) | 2-1/2 | EMGN-.035 | H0109 | H0333 | H0501 |
| 0.035 | 1/8 | 0.280 (8x) | | 2-1/2 | EMG-.035-LF8 | H0021 | H0245 | |
| 0.035 | 1/8 | 0.425 (12x) | | 2-1/2 | EMG-.035-LF12 | H0022 | H0246 | |
| 0.039 | 1/8 | 0.059 (1.5x) | 0.117 (3x) | 2-1/2 | EMGN-.039-SF3 | H0649 | H0984 | |
| 0.039 | 1/8 | 0.059 (1.5x) | 0.203 (5x) | 2-1/2 | EMGN-.039-SF5 | H0650 | H0985 | |
| 0.039 | 1/8 | 0.059 (1.5x) | 0.325 (8x) | 2-1/2 | EMGN-.039-SF8 | H0651 | H0986 | |
| 0.039 | 1/8 | 0.059 (1.5x) | 0.480 (12x) | 2-1/2 | EMGN-.039-SF12 | H0652 | H0987 | |
| 0.039 | 1/8 | 0.203 (5x) | | 2-1/2 | EMG-.039-LF5 | H0023 | H0247 | |
| 0.039 | 1/8 | 0.325 (8x) | | 2-1/2 | EMG-.039-LF8 | H0024 | H0248 | |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.120 (3x) | 2-1/2 | EMGN-.040-SF3 | H0653 | H0988 | |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.203 (5x) | 2-1/2 | EMGN-.040-SF5 | H0654 | H0989 | H1274 |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.325 (8x) | 2-1/2 | EMGN-.040-SF8 | H0655 | H0990 | H1275 |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.400 (10x) | 2-1/2 | EMGN-.040-SF10 | H0656 | H0991 | |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.480 (12x) | 2-1/2 | EMGN-.040-SF12 | H0657 | H0992 | H1276 |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.600 (15x) | 2-1/2 | EMGN-.040-SF15 | H0658 | H0993 | |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.800 (20x) | 2-1/2 | EMGN-.040-SF20 | H0659 | H0994 | |
| 0.040 | 1/8 | 0.060 (1.5x) | 1.000 (25x) | 2-1/2 | EMGN-.040-SF25 | H0660 | H0995 | |
| 0.040 | 1/8 | 0.200 (5x) | | 2-1/2 | EMG-.040-LF5 | H0025 | H0249 | H0459 |
| 0.040 | 1/8 | 0.200 (5x) | 0.400 (10x) | 2-1/2 | EMGN-.040 | H0110 | H0334 | H0502 |
| 0.040 | 1/8 | 0.325 (8x) | | 2-1/2 | EMG-.040-LF8 | H0026 | H0250 | |
| 0.040 | 1/8 | 0.480 (12x) | | 2-1/2 | EMG-.040-LF12 | H0027 | H0251 | |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.135 (3x) | 2-1/2 | EMGN-.045-SF3 | H0661 | H0996 | |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.225 (5x) | 2-1/2 | EMGN-.045-SF5 | H0662 | H0997 | H1277 |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.375 (8x) | 2-1/2 | EMGN-.045-SF8 | H0663 | H0998 | H1278 |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.450 (10x) | 2-1/2 | EMGN-.045-SF10 | H0664 | H0999 | |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.550 (12x) | 2-1/2 | EMGN-.045-SF12 | H0665 | H1000 | H1279 |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.680 (15x) | 2-1/2 | EMGN-.045-SF15 | H0666 | H1001 | |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.900 (20x) | 2-1/2 | EMGN-.045-SF20 | H0667 | H1002 | |

sizes continued on next page



| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.045 | 1/8 | 0.225 (5x) | | 2-1/2 | EMG-.045-LF5 | H0028 | H0252 | H0460 |
| 0.045 | 1/8 | 0.225 (5x) | 0.450 (10x) | 2-1/2 | EMGN-.045 | H0111 | H0335 | H0503 |
| 0.045 | 1/8 | 0.375 (8x) | | 2-1/2 | EMG-.045-LF8 | H0029 | H0253 | |
| 0.045 | 1/8 | 0.550 (12x) | | 2-1/2 | EMG-.045-LF12 | H0030 | H0254 | |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.141 (3x) | 2-1/2 | EMGN-.047-SF3 | H0668 | H1003 | |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.250 (5x) | 2-1/2 | EMGN-.047-SF5 | H0669 | H1004 | H1280 |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.375 (8x) | 2-1/2 | EMGN-.047-SF8 | H0670 | H1005 | H1281 |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.480 (10x) | 2-1/2 | EMGN-.047-SF10 | H0671 | H1006 | |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.570 (12x) | 2-1/2 | EMGN-.047-SF12 | H0672 | H1007 | H1282 |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.710 (15x) | 2-1/2 | EMGN-.047-SF15 | H0673 | H1008 | |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.850 (18x) | 2-1/2 | EMGN-.047-SF18 | H0674 | H1009 | |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.950 (20x) | 2-1/2 | EMGN-.047-SF20 | H0675 | H1010 | |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 1.187 (25x) | 2-1/2 | EMGN-.047-SF25 | H0676 | H1011 | |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 1.406 (30x) | 2-1/2 | EMGN-.047-SF30 | H0677 | H2021 | |
| 0.047 (3/64) | 1/8 | 0.250 (5x) | | 2-1/2 | EMG-.047-LF5 | H0031 | H0255 | H0461 |
| 0.047 (3/64) | 1/8 | 0.250 (5x) | 0.500 (10x) | 2-1/2 | EMGN-.047 | H0112 | H0336 | H0504 |
| 0.047 (3/64) | 1/8 | 0.375 (8x) | | 2-1/2 | EMG-.047-LF8 | H0032 | H0256 | H0462 |
| 0.047 (3/64) | 1/8 | 0.480 (10x) | | 2-1/2 | EMG-.047-LF10 | H0033 | H0257 | |
| 0.047 (3/64) | 1/8 | 0.570 (12x) | | 2-1/2 | EMG-.047-LF12 | H0034 | H0258 | H0463 |
| 0.047 (3/64) | 1/8 | 0.710 (15x) | | 2-1/2 | EMG-.047-LF15 | H0035 | H0259 | |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.150 (3x) | 2-1/2 | EMGN-.050-SF3 | H0678 | H1012 | |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.250 (5x) | 2-1/2 | EMGN-.050-SF5 | H0679 | H1013 | H1283 |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.400 (8x) | 2-1/2 | EMGN-.050-SF8 | H0680 | H1014 | H1284 |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.500 (10x) | 2-1/2 | EMGN-.050-SF10 | H0681 | H1015 | |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.600 (12x) | 2-1/2 | EMGN-.050-SF12 | H0682 | H1016 | H1285 |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.750 (15x) | 2-1/2 | EMGN-.050-SF15 | H0683 | H1017 | |
| 0.050 | 1/8 | 0.300 (6x) | | 2-1/2 | EMG-.050-LF6 | H0036 | H0260 | H0464 |
| 0.050 | 1/8 | 0.300 (6x) | 0.600 (12x) | 2-1/2 | EMGN-.050 | H0113 | H0337 | H0505 |
| 0.050 | 1/8 | 0.400 (8x) | | 2-1/2 | EMG-.050-LF8 | H0037 | H0261 | |
| 0.050 | 1/8 | 0.600 (12x) | | 2-1/2 | EMG-.050-LF12 | H0038 | H0262 | |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.165 (3x) | 2-1/2 | EMGN-.055-SF3 | H0684 | H1018 | |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.275 (5x) | 2-1/2 | EMGN-.055-SF5 | H0685 | H1019 | H1286 |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.450 (8x) | 2-1/2 | EMGN-.055-SF8 | H0686 | H1020 | H1287 |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.560 (10x) | 2-1/2 | EMGN-.055-SF10 | H0687 | H1021 | |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.660 (12x) | 2-1/2 | EMGN-.055-SF12 | H0688 | H1022 | H1288 |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.825 (15x) | 2-1/2 | EMGN-.055-SF15 | H0689 | H1023 | |
| 0.055 | 1/8 | 0.275 (5x) | | 2-1/2 | EMG-.055-LF5 | H0039 | H0263 | |
| 0.055 | 1/8 | 0.385 (7x) | | 2-1/2 | EMG-.055-LF7 | H0040 | H0264 | H0465 |
| 0.055 | 1/8 | 0.385 (7x) | 0.770 (14x) | 2-1/2 | EMGN-.055 | H0114 | H0338 | H0506 |
| 0.055 | 1/8 | 0.660 (12x) | | 2-1/2 | EMG-.055-LF12 | H0041 | H0265 | |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.180 (3x) | 2-1/2 | EMGN-.060-SF3 | H0690 | H1024 | |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.312 (5x) | 2-1/2 | EMGN-.060-SF5 | H0691 | H1025 | H1289 |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.500 (8x) | 2-1/2 | EMGN-.060-SF8 | H0692 | H1026 | H1290 |

SERIES: EMG

3 FLUTE MELIN MICRO SQUARE END MILLS

| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.060 | 1/8 | 0.090 (1.5x) | 0.625 (10x) | 2-1/2 | EMGN-.060-SF10 | H0693 | H1027 | |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.720 (12x) | 2-1/2 | EMGN-.060-SF12 | H0694 | H1028 | H1291 |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.900 (15x) | 2-1/2 | EMGN-.060-SF15 | H0695 | H1029 | |
| 0.060 | 1/8 | 0.090 (1.5x) | 1.200 (20x) | 2-1/2 | EMGN-.060-SF20 | H0696 | H1030 | |
| 0.060 | 1/8 | 0.312 (5x) | | 2-1/2 | EMG-.060-LF5 | H0042 | H0266 | |
| 0.060 | 1/8 | 0.500 (8x) | | 2-1/2 | EMG-.060-LF8 | H0043 | H0267 | H0466 |
| 0.060 | 1/8 | 0.500 (8x) | 1.000 (16x) | 2-1/2 | EMGN-.060 | H0115 | H0339 | H0507 |
| 0.060 | 1/8 | 0.720 (12x) | | 2-1/2 | EMG-.060-LF12 | H0044 | H0268 | |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.186 (3x) | 2-1/2 | EMGN-.062-SF3 | H0697 | H1031 | |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.312 (5x) | 2-1/2 | EMGN-.062-SF5 | H0698 | H1032 | H1292 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.500 (8x) | 2-1/2 | EMGN-.062-SF8 | H0699 | H1033 | H1293 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.625 (10x) | 2-1/2 | EMGN-.062-SF10 | H0700 | H1034 | |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.750 (12x) | 2-1/2 | EMGN-.062-SF12 | H0701 | H1035 | H1294 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.950 (15x) | 2-1/2 | EMGN-.062-SF15 | H0702 | H1036 | H1295 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 1.125 (18x) | 2-1/2 | EMGN-.062-SF18 | H0703 | H1037 | |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 1.250 (20x) | 2-1/2 | EMGN-.062-SF20 | H0704 | H1038 | |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 1.375 (22x) | 3 | EMGN-.062-SF22 | H0705 | H1039 | |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 1.550 (25x) | 3 | EMGN-.062-SF25 | H0706 | H1040 | |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 1.875 (30x) | 3 | EMGN-.062-SF30 | H0707 | H2022 | |
| 0.062 (1/16) | 1/8 | 0.312 (5x) | | 2-1/2 | EMG-.062-LF5 | H0045 | H0269 | H0467 |
| 0.062 (1/16) | 1/8 | 0.500 (8x) | | 2-1/2 | EMG-.062-LF8 | H0046 | H0270 | H0468 |
| 0.062 (1/16) | 1/8 | 0.500 (8x) | 1.000 (16x) | 2-1/2 | EMGN-.062 | H0116 | H0340 | H0508 |
| 0.062 (1/16) | 1/8 | 0.625 (10x) | | 2-1/2 | EMG-.062-LF10 | H0047 | H0271 | |
| 0.062 (1/16) | 1/8 | 0.750 (12x) | | 2-1/2 | EMG-.062-LF12 | H0048 | H0272 | H0469 |
| 0.062 (1/16) | 1/8 | 0.950 (15x) | | 2-1/2 | EMG-.062-LF15 | H0049 | H0273 | H0470 |
| 0.065 | 1/8 | 0.097 (1.5x) | 0.325 (5x) | 2-1/2 | EMGN-.065-SF5 | H0708 | H1041 | |
| 0.065 | 1/8 | 0.097 (1.5x) | 0.530 (8x) | 2-1/2 | EMGN-.065-SF8 | H0709 | H1042 | H1296 |
| 0.065 | 1/8 | 0.097 (1.5x) | 0.800 (12x) | 2-1/2 | EMGN-.065-SF12 | H0710 | H1043 | |
| 0.065 | 1/8 | 0.325 (5x) | | 2-1/2 | EMG-.065-LF5 | H0050 | H0274 | |
| 0.065 | 1/8 | 0.500 (8x) | | 2-1/2 | EMG-.065-LF8 | H0051 | H0275 | H0471 |
| 0.065 | 1/8 | 0.500 (8x) | 1.000 (15x) | 2-1/2 | EMGN-.065 | H0117 | H0341 | H0509 |
| 0.070 | 1/8 | 0.105 (1.5x) | 0.375 (5x) | 2-1/2 | EMGN-.070-SF5 | H0711 | H1044 | |
| 0.070 | 1/8 | 0.105 (1.5x) | 0.570 (8x) | 2-1/2 | EMGN-.070-SF8 | H0712 | H1045 | H1297 |
| 0.070 | 1/8 | 0.105 (1.5x) | 0.850 (12x) | 2-1/2 | EMGN-.070-SF12 | H0713 | H1046 | |
| 0.070 | 1/8 | 0.105 (1.5x) | 1.062 (15x) | 2-1/2 | EMGN-.070-SF15 | H0714 | H1047 | |
| 0.070 | 1/8 | 0.375 (5x) | | 2-1/2 | EMG-.070-LF5 | H0052 | H0276 | |
| 0.070 | 1/8 | 0.500 (7x) | | 2-1/2 | EMG-.070-LF7 | H0053 | H0277 | H0472 |
| 0.070 | 1/8 | 0.500 (7x) | 1.000 (14x) | 2-1/2 | EMGN-.070 | H0118 | H0342 | H0510 |
| 0.070 | 1/8 | 0.850 (12x) | | 2-1/2 | EMG-.070-LF12 | H0054 | H0278 | |

sizes continued on next page



| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.075 | 1/8 | 0.112 (1.5x) | 0.375 (5x) | 2-1/2 | EMGN-.075-SF5 | H0715 | H1048 | |
| 0.075 | 1/8 | 0.112 (1.5x) | 0.625 (8x) | 2-1/2 | EMGN-.075-SF8 | H0716 | H1049 | H1298 |
| 0.075 | 1/8 | 0.112 (1.5x) | 0.900 (12x) | 2-1/2 | EMGN-.075-SF12 | H0717 | H1050 | |
| 0.075 | 1/8 | 0.375 (5x) | | 2-1/2 | EMG-.075-LF5 | H0055 | H0279 | |
| 0.075 | 1/8 | 0.500 (7x) | | 2-1/2 | EMG-.075-LF7 | H0056 | H0280 | H0473 |
| 0.075 | 1/8 | 0.500 (7x) | 1.000 (13x) | 2-1/2 | EMGN-.075 | H0119 | H0343 | H0511 |
| 0.075 | 1/8 | 0.900 (12x) | | 2-1/2 | EMG-.075-LF12 | H0057 | H0281 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.234 (3x) | 2-1/2 | EMGN-.078-SF3 | H0718 | H1051 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.406 (5x) | 2-1/2 | EMGN-.078-SF5 | H0719 | H1052 | H1299 |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.625 (8x) | 2-1/2 | EMGN-.078-SF8 | H0720 | H1053 | H1300 |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.800 (10x) | 2-1/2 | EMGN-.078-SF10 | H0721 | H1054 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.940 (12x) | 2-1/2 | EMGN-.078-SF12 | H0722 | H1055 | H1301 |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 1.187 (15x) | 2-1/2 | EMGN-.078-SF15 | H0723 | H1056 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 1.400 (18x) | 3 | EMGN-.078-SF18 | H0724 | H1057 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 1.562 (20x) | 3 | EMGN-.078-SF20 | H0725 | H1058 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 1.950 (25x) | 3 | EMGN-.078-SF25 | H0726 | H1059 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 2.343 (30x) | 4 | EMGN-.078-SF30 | H0727 | H2023 | |
| 0.078 (5/64) | 1/8 | 0.406 (5x) | | 2-1/2 | EMG-.078-LF5 | H0058 | H0282 | H0474 |
| 0.078 (5/64) | 1/8 | 0.500 (6x) | 1.000 (12x) | 2-1/2 | EMGN-.078 | H0120 | H0344 | H0512 |
| 0.078 (5/64) | 1/8 | 0.625 (8x) | | 2-1/2 | EMG-.078-LF8 | H0059 | H0283 | H0475 |
| 0.078 (5/64) | 1/8 | 0.800 (10x) | | 2-1/2 | EMG-.078-LF10 | H0060 | H0284 | |
| 0.078 (5/64) | 1/8 | 0.940 (12x) | | 2-1/2 | EMG-.078-LF12 | H0061 | H0285 | H0476 |
| 0.078 (5/64) | 1/8 | 1.187 (15x) | | 2-1/2 | EMG-.078-LF15 | H0062 | H0286 | H0477 |
| 0.080 | 1/8 | 0.120 (1.5x) | 0.406 (5x) | 2-1/2 | EMGN-.080-SF5 | H0728 | H1060 | |
| 0.080 | 1/8 | 0.120 (1.5x) | 0.650 (8x) | 2-1/2 | EMGN-.080-SF8 | H0729 | H1061 | H1302 |
| 0.080 | 1/8 | 0.120 (1.5x) | 0.960 (12x) | 2-1/2 | EMGN-.080-SF12 | H0730 | H1062 | |
| 0.080 | 1/8 | 0.406 (5x) | | 2-1/2 | EMG-.080-LF5 | H0063 | H0287 | |
| 0.080 | 1/8 | 0.750 (9x) | | 2-1/2 | EMG-.080-LF9 | H0064 | H0288 | H0478 |
| 0.080 | 1/8 | 0.750 (9x) | 1.250 (15x) | 2-1/2 | EMGN-.080 | H0121 | H0345 | H0513 |
| 0.080 | 1/8 | 0.960 (12x) | | 2-1/2 | EMG-.080-LF12 | H0065 | H0289 | |
| 0.085 | 1/8 | 0.127 (1.5x) | 0.425 (5x) | 2-1/2 | EMGN-.085-SF5 | H0731 | H1063 | |
| 0.085 | 1/8 | 0.127 (1.5x) | 0.700 (8x) | 2-1/2 | EMGN-.085-SF8 | H0732 | H1064 | H1303 |
| 0.085 | 1/8 | 0.127 (1.5x) | 1.020 (12x) | 2-1/2 | EMGN-.085-SF12 | H0733 | H1065 | |
| 0.085 | 1/8 | 0.425 (5x) | | 2-1/2 | EMG-.085-LF5 | H0066 | H0290 | |
| 0.085 | 1/8 | 0.750 (9x) | | 2-1/2 | EMG-.085-LF9 | H0067 | H0291 | H0479 |
| 0.085 | 1/8 | 0.750 (9x) | 1.250 (14x) | 2-1/2 | EMGN-.085 | H0122 | H0346 | H0514 |
| 0.090 | 1/8 | 0.135 (1.5x) | 0.450 (5x) | 2-1/2 | EMGN-.090-SF5 | H0734 | H1066 | |
| 0.090 | 1/8 | 0.135 (1.5x) | 0.750 (8x) | 2-1/2 | EMGN-.090-SF8 | H0735 | H1067 | H1304 |
| 0.090 | 1/8 | 0.135 (1.5x) | 1.080 (12x) | 2-1/2 | EMGN-.090-SF12 | H0736 | H1068 | |
| 0.090 | 1/8 | 0.450 (5x) | | 2-1/2 | EMG-.090-LF5 | H0068 | H0292 | |
| 0.090 | 1/8 | 0.750 (8x) | | 2-1/2 | EMG-.090-LF8 | H0069 | H0293 | H0480 |
| 0.090 | 1/8 | 0.750 (8x) | 1.250 (13x) | 2-1/2 | EMGN-.090 | H0123 | H0347 | H0515 |
| 0.090 | 1/8 | 1.080 (12x) | | 2-1/2 | EMG-.090-LF12 | H0070 | H0294 | |

sizes continued on next page

SERIES: EMG

3 FLUTE MELIN MICRO SQUARE END MILLS

| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 0.279 (3x) | 2-1/2 | EMGN-.093-SF3 | H0737 | H1069 | |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 0.500 (5x) | 2-1/2 | EMGN-.093-SF5 | H0738 | H1070 | H1305 |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 0.750 (8x) | 2-1/2 | EMGN-.093-SF8 | H0739 | H1071 | H1306 |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 0.950 (10x) | 2-1/2 | EMGN-.093-SF10 | H0740 | H1072 | |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 1.125 (12x) | 2-1/2 | EMGN-.093-SF12 | H0741 | H1073 | H1307 |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 1.400 (15x) | 3 | EMGN-.093-SF15 | H0742 | H1074 | H1308 |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 1.675 (18x) | 3 | EMGN-.093-SF18 | H0743 | H1075 | |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 1.875 (20x) | 4 | EMGN-.093-SF20 | H0744 | H1076 | |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 2.312 (25x) | 4 | EMGN-.093-SF25 | H0745 | H1077 | |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 2.812 (30x) | 4 | EMGN-.093-SF30 | H0746 | H2024 | |
| 0.093 (3/32) | 1/8 | 0.500 (5x) | | 2-1/2 | EMG-.093-LF5 | H0071 | H0295 | H0481 |
| 0.093 (3/32) | 1/8 | 0.750 (8x) | | 2-1/2 | EMG-.093-LF8 | H0072 | H0296 | H0482 |
| 0.093 (3/32) | 1/8 | 0.750 (8x) | 1.250 (13x) | 2-1/2 | EMGN-.093 | H0124 | H0348 | H0516 |
| 0.093 (3/32) | 1/8 | 0.950 (10x) | | 2-1/2 | EMG-.093-LF10 | H0073 | H0297 | |
| 0.093 (3/32) | 1/8 | 1.125 (12x) | | 2-1/2 | EMG-.093-LF12 | H0074 | H0298 | H0483 |
| 0.093 (3/32) | 1/8 | 1.400 (15x) | | 3 | EMG-.093-LF15 | H0075 | H0299 | H0484 |
| 0.095 | 1/8 | 0.142 (1.5x) | 0.500 (5x) | 2-1/2 | EMGN-.095-SF5 | H0747 | H1078 | |
| 0.095 | 1/8 | 0.142 (1.5x) | 0.750 (8x) | 2-1/2 | EMGN-.095-SF8 | H0748 | H1079 | H1309 |
| 0.095 | 1/8 | 0.142 (1.5x) | 1.150 (12x) | 2-1/2 | EMGN-.095-SF12 | H0749 | H1080 | |
| 0.095 | 1/8 | 0.500 (5x) | | 2-1/2 | EMG-.095-LF5 | H0076 | H0300 | |
| 0.095 | 1/8 | 0.750 (8x) | | 2-1/2 | EMG-.095-LF8 | H0077 | H0301 | H0485 |
| 0.095 | 1/8 | 0.750 (8x) | 1.250 (13x) | 2-1/2 | EMGN-.095 | H0125 | H0349 | H0517 |
| 0.100 | 1/8 | 0.150 (1.5x) | 0.500 (5x) | 2-1/2 | EMGN-.100-SF5 | H0750 | H1081 | |
| 0.100 | 1/8 | 0.150 (1.5x) | 0.800 (8x) | 2-1/2 | EMGN-.100-SF8 | H0751 | H1082 | H1310 |
| 0.100 | 1/8 | 0.150 (1.5x) | 1.200 (12x) | 2-1/2 | EMGN-.100-SF12 | H0752 | H1083 | |
| 0.100 | 1/8 | 0.150 (1.5x) | 1.500 (15x) | 3 | EMGN-.100-SF15 | H0753 | H1084 | |
| 0.100 | 1/8 | 0.500 (5x) | | 2-1/2 | EMG-.100-LF5 | H0078 | H0302 | |
| 0.100 | 1/8 | 0.750 (7.5x) | | 2-1/2 | EMG-.100-LF7.5 | H0079 | H0303 | H0486 |
| 0.100 | 1/8 | 0.750 (7.5x) | 1.250 (12x) | 2-1/2 | EMGN-.100 | H0126 | H0350 | H0518 |
| 0.100 | 1/8 | 1.200 (12x) | | 2-1/2 | EMG-.100-LF12 | H0080 | H0304 | |
| 0.109 (7/64) | 1/8 | 0.163 (1.5x) | 0.570 (5x) | 2-1/2 | EMGN-.109-SF5 | H0754 | H1085 | |
| 0.109 (7/64) | 1/8 | 0.163 (1.5x) | 0.900 (8x) | 2-1/2 | EMGN-.109-SF8 | H0755 | H1086 | |
| 0.109 (7/64) | 1/8 | 0.570 (5x) | | 2-1/2 | EMG-.109-LF5 | H0081 | H0305 | |
| 0.109 (7/64) | 1/8 | 0.900 (8x) | | 2-1/2 | EMG-.109-LF8 | H0082 | H0306 | |
| 0.118 | 1/8 | 0.177 (1.5x) | 0.625 (5x) | 2-1/2 | EMGN-.118-SF5 | H0756 | H1087 | |
| 0.118 | 1/8 | 0.177 (1.5x) | 0.950 (8x) | 2-1/2 | EMGN-.118-SF8 | H0757 | H1088 | |
| 0.118 | 1/8 | 0.177 (1.5x) | 1.420 (12x) | 3 | EMGN-.118-SF12 | H0758 | H1089 | |
| 0.118 | 1/8 | 0.625 (5x) | | 2-1/2 | EMG-.118-LF5 | H0083 | H0307 | |
| 0.118 | 1/8 | 0.950 (8x) | | 2-1/2 | EMG-.118-LF8 | H0084 | H0308 | |

sizes continued on next page





3 FL - Micro Square End Mills



(product code PIC2)

| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 0.375 (3x) | 2-1/2 | EMGN-.125-SF3 | H0759 | H1090 | |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 0.625 (5x) | 2-1/2 | EMGN-.125-SF5 | H0760 | H1091 | H1311 |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 1.000 (8x) | 2-1/2 | EMGN-.125-SF8 | H0761 | H1092 | H1312 |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 1.250 (10x) | 2-1/2 | EMGN-.125-SF10 | H0762 | H1093 | |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 1.500 (12x) | 3 | EMGN-.125-SF12 | H0763 | H1094 | H1313 |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 1.875 (15x) | 3 | EMGN-.125-SF15 | H0764 | H1095 | |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 2.250 (18x) | 4 | EMGN-.125-SF18 | H0765 | H1096 | |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 2.500 (20x) | 4 | EMGN-.125-SF20 | H0766 | H1097 | |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 3.125 (25x) | 4 | EMGN-.125-SF25 | H0767 | H1098 | |
| 0.125 (1/8) | 1/8 | 0.625 (5x) | | 2-1/2 | EMG-.125-LF5 | H0085 | H0309 | H0487 |
| 0.125 (1/8) | 1/8 | 1.000 (8x) | | 2-1/2 | EMG-.125-LF8 | H0086 | H0310 | H0488 |
| 0.125 (1/8) | 1/8 | 1.000 (8x) | 1.500 (12x) | 2-1/2 | EMGN-.125 | H0127 | H0351 | H0519 |
| 0.125 (1/8) | 1/8 | 1.250 (10x) | | 2-1/2 | EMG-.125-LF10 | H0087 | H0311 | |
| 0.125 (1/8) | 1/8 | 1.500 (12x) | | 3 | EMG-.125-LF12 | H0088 | H0312 | H0489 |
| 0.125 (1/8) | 1/8 | 1.875 (15x) | | 3 | EMG-.125-LF15 | H0089 | H0313 | H0490 |
| 0.140 (9/64) | 3/16 | 0.211 (1.5x) | 0.750 (5x) | 3 | EMGN-.140-SF5 | H0768 | H1099 | |
| 0.140 (9/64) | 3/16 | 0.211 (1.5x) | 1.125 (8x) | 3 | EMGN-.140-SF8 | H0769 | H1100 | |
| 0.156 (5/32) | 3/16 | 0.234 (1.5x) | 0.470 (3x) | 3 | EMGN-.156-SF3 | H0770 | H1101 | |
| 0.156 (5/32) | 3/16 | 0.234 (1.5x) | 0.750 (5x) | 3 | EMGN-.156-SF5 | H0771 | H1102 | |
| 0.156 (5/32) | 3/16 | 0.234 (1.5x) | 1.250 (8x) | 3 | EMGN-.156-SF8 | H0772 | H1103 | |
| 0.156 (5/32) | 3/16 | 0.234 (1.5x) | 1.875 (12x) | 4 | EMGN-.156-SF12 | H0773 | H1104 | |
| 0.156 (5/32) | 3/16 | 0.234 (1.5x) | 2.375 (15x) | 4 | EMGN-.156-SF15 | H0774 | H1105 | |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 0.570 (3x) | 3 | EMGN-.187-SF3 | H0775 | H1106 | |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 1.000 (5x) | 3 | EMGN-.187-SF5 | H0776 | H1107 | H1314 |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 1.500 (8x) | 3 | EMGN-.187-SF8 | H0777 | H1108 | H1315 |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 1.875 (10x) | 4 | EMGN-.187-SF10 | H0778 | H1109 | |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 2.250 (12x) | 4 | EMGN-.187-SF12 | H0779 | H1110 | H1316 |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 2.812 (15x) | 4 | EMGN-.187-SF15 | H0780 | H1111 | |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 3.750 (20x) | 6 | EMGN-.187-SF20 | H0781 | H1112 | |
| 0.187 (3/16) | 3/16 | 1.125 (6x) | 1.625 (8x) | 3 | EMGN-.187 | H0128 | H0352 | H0520 |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 1.250 (5x) | 4 | EMGN-.250-SF5 | H0782 | H1113 | H1317 |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 2.000 (8x) | 4 | EMGN-.250-SF8 | H0783 | H1114 | H1318 |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 2.500 (10x) | 4 | EMGN-.250-SF10 | H0784 | H1115 | |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 3.000 (12x) | 6 | EMGN-.250-SF12 | H0785 | H1116 | H1319 |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 3.750 (15x) | 6 | EMGN-.250-SF15 | H0786 | H1117 | |
| 0.250 (1/4) | 1/4 | 1.500 (6x) | 2.000 (8x) | 4 | EMGN-.250 | H0129 | H0353 | H0521 |

LARGER Sizes In [Full Line Catalog](#)

NEED a different SIZE, STYLE or COATING? We are constantly adding standard items to our micro offering & we make CUSTOM designed tools with exceptionally fast deliveries. Contact your local distributor or email us at specials@melintool.com

Can't FIND
What You Are
Looking For? 29

SERIES: EMG- B

3 FLUTE MELIN MICRO BALL END MILLS



| | | | | | | | | | | | | |
|---------|--|--|--|--------------------------|------------------------|--|--|--|--|--|--|-----------------------|
| Carbide | | | | +.0005 -.0005 <1/8 | +.000 -.002 >1/8 | | | | | | | P K M S N |
|---------|--|--|--|--------------------------|------------------------|--|--|--|--|--|--|-----------------------|

| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|------------------|------------|-----------|---------|
| 0.010 | 1/8 | 0.015 (1.5x) | 0.050 (5x) | 2-1/2 | EMGN-010-SF5-B | H0787 | H1118 | H1320 |
| 0.010 | 1/8 | 0.015 (1.5x) | 0.080 (8x) | 2-1/2 | EMGN-010-SF8-B | H0788 | H1119 | H1321 |
| 0.010 | 1/8 | 0.015 (1.5x) | 0.125 (12x) | 2-1/2 | EMGN-010-SF12-B | H0789 | H1120 | H1322 |
| 0.010 | 1/8 | 0.015 (1.5x) | 0.150 (15x) | 2-1/2 | EMGN-010-SF15-B | H0790 | H1121 | H1323 |
| 0.010 | 1/8 | 0.050 (5x) | | 2-1/2 | EMG-010-LF5-B | H0130 | H0354 | H0522 |
| 0.010 | 1/8 | 0.050 (5x) | 0.100 (10x) | 2-1/2 | EMGN-010-B | H0198 | H0422 | H0567 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.045 (3x) | 2-1/2 | EMGN-015-SF3-B | H0791 | H1122 | |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.078 (5x) | 2-1/2 | EMGN-015-SF5-B | H0792 | H1123 | H1324 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.125 (8x) | 2-1/2 | EMGN-015-SF8-B | H0793 | H1124 | H1325 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.156 (10x) | 2-1/2 | EMGN-015-SF10-B | H0794 | H1125 | H1326 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.187 (12x) | 2-1/2 | EMGN-015-SF12-B | H0795 | H1126 | H1327 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.225 (15x) | 2-1/2 | EMGN-015-SF15-B | H0796 | H1127 | H1328 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.300 (20x) | 2-1/2 | EMGN-015-SF20-B | H0797 | H1128 | H1329 |
| 0.015 (1/64) | 1/8 | 0.022 (1.5x) | 0.375 (25x) | 2-1/2 | EMGN-015-SF25-B | H0798 | H2025 | |
| 0.015 (1/64) | 1/8 | 0.078 (5x) | | 2-1/2 | EMG-015-LF5-B | H0132 | H0356 | H0523 |
| 0.015 (1/64) | 1/8 | 0.078 (5x) | 0.150 (10x) | 2-1/2 | EMGN-015-B | H0199 | H0423 | H0568 |
| 0.015 (1/64) | 1/8 | 0.125 (8x) | | 2-1/2 | EMG-015-LF8-B | H0133 | H0357 | H0524 |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.060 (3x) | 2-1/2 | EMGN-020-SF3-B | H0799 | H1129 | |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.100 (5x) | 2-1/2 | EMGN-020-SF5-B | H0800 | H1130 | H1330 |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.160 (8x) | 2-1/2 | EMGN-020-SF8-B | H0801 | H1131 | H1331 |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.200 (10x) | 2-1/2 | EMGN-020-SF10-B | H0802 | H1132 | |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.250 (12x) | 2-1/2 | EMGN-020-SF12-B | H0803 | H1133 | H1332 |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.300 (15x) | 2-1/2 | EMGN-020-SF15-B | H0804 | H1134 | H1333 |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.400 (20x) | 2-1/2 | EMGN-020-SF20-B | H0805 | H1135 | |
| 0.020 | 1/8 | 0.030 (1.5x) | 0.500 (25x) | 2-1/2 | EMGN-020-SF25-B | H0806 | H2026 | |
| 0.020 | 1/8 | 0.100 (5x) | | 2-1/2 | EMG-020-LF5-B | H0135 | H0359 | H0525 |
| 0.020 | 1/8 | 0.100 (5x) | 0.200 (10x) | 2-1/2 | EMGN-020-B | H0200 | H0424 | H0569 |
| 0.020 | 1/8 | 0.160 (8x) | | 2-1/2 | EMG-020-LF8-B | H0136 | H0360 | |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.075 (3x) | 2-1/2 | EMGN-025-SF3-B | H0807 | H1136 | |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.125 (5x) | 2-1/2 | EMGN-025-SF5-B | H0808 | H1137 | H1334 |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.203 (8x) | 2-1/2 | EMGN-025-SF8-B | H0809 | H1138 | H1335 |

sizes continued on next page



| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.025 | 1/8 | 0.037 (1.5x) | 0.312 (12x) | 2-1/2 | EMGN-.025-SF12-B | H0810 | H1139 | H1336 |
| 0.025 | 1/8 | 0.037 (1.5x) | 0.375 (15x) | 2-1/2 | EMGN-.025-SF15-B | H0811 | H1140 | H1337 |
| 0.025 | 1/8 | 0.125 (5x) | | 2-1/2 | EMG-.025-LF5-B | H0138 | H0362 | H0526 |
| 0.025 | 1/8 | 0.125 (5x) | 0.250 (10x) | 2-1/2 | EMGN-.025-B | H0201 | H0425 | H0570 |
| 0.025 | 1/8 | 0.203 (8x) | | 2-1/2 | EMG-.025-LF8-B | H0139 | H0363 | |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.090 (3x) | 2-1/2 | EMGN-.030-SF3-B | H0812 | H1141 | |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.156 (5x) | 2-1/2 | EMGN-.030-SF5-B | H0813 | H1142 | H1338 |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.250 (8x) | 2-1/2 | EMGN-.030-SF8-B | H0814 | H1143 | H1339 |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.375 (12x) | 2-1/2 | EMGN-.030-SF12-B | H0815 | H1144 | H1340 |
| 0.030 | 1/8 | 0.045 (1.5x) | 0.450 (15x) | 2-1/2 | EMGN-.030-SF15-B | H0816 | H1145 | |
| 0.030 | 1/8 | 0.150 (5x) | | 2-1/2 | EMG-.030-LF5-B | H0140 | H0364 | H0527 |
| 0.030 | 1/8 | 0.150 (5x) | 0.300 (10x) | 2-1/2 | EMGN-.030-B | H0202 | H0426 | H0571 |
| 0.030 | 1/8 | 0.250 (8x) | | 2-1/2 | EMG-.030-LF8-B | H0141 | H0365 | |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.093 (3x) | 2-1/2 | EMGN-.031-SF3-B | H0817 | H1146 | H1341 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.156 (5x) | 2-1/2 | EMGN-.031-SF5-B | H0818 | H1147 | H1342 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.250 (8x) | 2-1/2 | EMGN-.031-SF8-B | H0819 | H1148 | H1343 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.312 (10x) | 2-1/2 | EMGN-.031-SF10-B | H0820 | H1149 | H1344 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.375 (12x) | 2-1/2 | EMGN-.031-SF12-B | H0821 | H1150 | H1345 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.470 (15x) | 2-1/2 | EMGN-.031-SF15-B | H0822 | H1151 | H1346 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.565 (18x) | 2-1/2 | EMGN-.031-SF18-B | H0823 | H1152 | H1347 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.625 (20x) | 2-1/2 | EMGN-.031-SF20-B | H0824 | H1153 | H1348 |
| 0.031 (1/32) | 1/8 | 0.046 (1.5x) | 0.775 (25x) | 2-1/2 | EMGN-.031-SF25-B | H0825 | H1154 | |
| 0.031 (1/32) | 1/8 | 0.156 (5x) | | 2-1/2 | EMG-.031-LF5-B | H0142 | H0366 | H0528 |
| 0.031 (1/32) | 1/8 | 0.156 (5x) | 0.310 (10x) | 2-1/2 | EMGN-.031-B | H0203 | H0427 | H0572 |
| 0.031 (1/32) | 1/8 | 0.250 (8x) | | 2-1/2 | EMG-.031-LF8-B | H0143 | H0367 | H0529 |
| 0.031 (1/32) | 1/8 | 0.312 (10x) | | 2-1/2 | EMG-.031-LF10-B | H0144 | H0368 | |
| 0.031 (1/32) | 1/8 | 0.375 (12x) | | 2-1/2 | EMG-.031-LF12-B | H0145 | H0369 | H0530 |
| 0.031 (1/32) | 1/8 | 0.470 (15x) | | 2-1/2 | EMG-.031-LF15-B | H0146 | H0370 | |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.187 (5x) | 2-1/2 | EMGN-.035-SF5-B | H0826 | H1155 | H1349 |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.281 (8x) | 2-1/2 | EMGN-.035-SF8-B | H0827 | H1156 | H1350 |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.425 (12x) | 2-1/2 | EMGN-.035-SF12-B | H0828 | H1157 | H1351 |
| 0.035 | 1/8 | 0.052 (1.5x) | 0.525 (15x) | 2-1/2 | EMGN-.035-SF15-B | H0829 | H1158 | |
| 0.035 | 1/8 | 0.175 (5x) | | 2-1/2 | EMG-.035-LF5-B | H0147 | H0371 | H0531 |
| 0.035 | 1/8 | 0.175 (5x) | 0.350 (10x) | 2-1/2 | EMGN-.035-B | H0204 | H0428 | H0573 |
| 0.035 | 1/8 | 0.281 (8x) | | 2-1/2 | EMG-.035-LF8-B | H0148 | H0372 | |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.120 (3x) | 2-1/2 | EMGN-.040-SF3-B | H0830 | H1159 | |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.203 (5x) | 2-1/2 | EMGN-.040-SF5-B | H0831 | H1160 | H1352 |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.325 (8x) | 2-1/2 | EMGN-.040-SF8-B | H0832 | H1161 | H1353 |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.400 (10x) | 2-1/2 | EMGN-.040-SF10-B | H0833 | H1162 | |

sizes continued on next page

SERIES: EMG- -B

3 FLUTE MELIN MICRO BALL END MILLS

| DIA D_1 | SHK D_2 | LOC L_2 +.010/-0.000 | LBS L_3 +.010/-0.000 | OAL L_1 | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|---------------------|--------------|---------------------------|---------------------------|--------------|------------------|------------|-----------|---------|
| 0.040 | 1/8 | 0.060 (1.5x) | 0.480 (12x) | 2-1/2 | EMGN-.040-SF12-B | H0834 | H1163 | H1354 |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.600 (15x) | 2-1/2 | EMGN-.040-SF15-B | H0835 | H1164 | H1355 |
| 0.040 | 1/8 | 0.060 (1.5x) | 0.800 (20x) | 2-1/2 | EMGN-.040-SF20-B | H0836 | H1165 | |
| 0.040 | 1/8 | 0.060 (1.5x) | 1.000 (25x) | 2-1/2 | EMGN-.040-SF25-B | H0837 | H2027 | |
| 0.040 | 1/8 | 0.200 (5x) | | 2-1/2 | EMG-.040-LF5-B | H0149 | H0373 | H0532 |
| 0.040 | 1/8 | 0.200 (5x) | 0.400 (10x) | 2-1/2 | EMGN-.040-B | H0205 | H0429 | H0574 |
| 0.040 | 1/8 | 0.325 (8x) | | 2-1/2 | EMG-.040-LF8-B | H0150 | H0374 | |
| 0.040 | 1/8 | 0.480 (5x) | | 2-1/2 | EMG-.040-LF12-B | H0151 | H0375 | |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.225 (5x) | 2-1/2 | EMGN-.045-SF5-B | H0838 | H1166 | H1356 |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.375 (8x) | 2-1/2 | EMGN-.045-SF8-B | H0839 | H1167 | H1357 |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.550 (12x) | 2-1/2 | EMGN-.045-SF12-B | H0840 | H1168 | H1358 |
| 0.045 | 1/8 | 0.067 (1.5x) | 0.680 (15x) | 2-1/2 | EMGN-.045-SF15-B | H0841 | H1169 | |
| 0.045 | 1/8 | 0.225 (5x) | | 2-1/2 | EMG-.045-LF5-B | H0152 | H0376 | H0533 |
| 0.045 | 1/8 | 0.225 (5x) | 0.450 (10x) | 2-1/2 | EMGN-.045-B | H0206 | H0430 | H0575 |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.141 (3x) | 2-1/2 | EMGN-.047-SF3-B | H0842 | H1170 | |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.250 (5x) | 2-1/2 | EMGN-.047-SF5-B | H0843 | H1171 | H1359 |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.375 (8x) | 2-1/2 | EMGN-.047-SF8-B | H0844 | H1172 | H1360 |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.480 (10x) | 2-1/2 | EMGN-.047-SF10-B | H0845 | H1173 | |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.570 (12x) | 2-1/2 | EMGN-.047-SF12-B | H0846 | H1174 | H1361 |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.710 (15x) | 2-1/2 | EMGN-.047-SF15-B | H0847 | H1175 | H1362 |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 0.950 (20x) | 2-1/2 | EMGN-.047-SF20-B | H0848 | H1176 | H1363 |
| 0.047 (3/64) | 1/8 | 0.070 (1.5x) | 1.187 (25x) | 2-1/2 | EMGN-.047-SF25-B | H0849 | H1177 | |
| 0.047 (3/64) | 1/8 | 0.250 (5x) | | 2-1/2 | EMG-.047-LF5-B | H0153 | H0377 | H0534 |
| 0.047 (3/64) | 1/8 | 0.250 (5x) | 0.500 (10x) | 2-1/2 | EMGN-.047-B | H0207 | H0431 | H0576 |
| 0.047 (3/64) | 1/8 | 0.375 (8x) | | 2-1/2 | EMG-.047-LF8-B | H0154 | H0378 | H0535 |
| 0.047 (3/64) | 1/8 | 0.570 (12x) | | 2-1/2 | EMG-.047-LF12-B | H0155 | H0379 | H0536 |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.150 (3x) | 2-1/2 | EMGN-.050-SF3-B | H0850 | H1178 | |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.250 (5x) | 2-1/2 | EMGN-.050-SF5-B | H0851 | H1179 | H1364 |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.400 (8x) | 2-1/2 | EMGN-.050-SF8-B | H0852 | H1180 | H1365 |
| 0.050 | 1/8 | 0.075 (1.5x) | 0.600 (12x) | 2-1/2 | EMGN-.050-SF12-B | H0853 | H1181 | H1366 |
| 0.050 | 1/8 | 0.300 (6x) | | 2-1/2 | EMG-.050-LF6-B | H0156 | H0380 | H0537 |
| 0.050 | 1/8 | 0.300 (6x) | 0.600 (12x) | 2-1/2 | EMGN-.050-B | H0208 | H0432 | H0577 |
| 0.050 | 1/8 | 0.400 (8x) | | 2-1/2 | EMG-.050-LF8-B | H0157 | H0381 | |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.165 (3x) | 2-1/2 | EMGN-.055-SF3-B | H0854 | H1182 | |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.275 (5x) | 2-1/2 | EMGN-.055-SF5-B | H0855 | H1183 | H1367 |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.450 (8x) | 2-1/2 | EMGN-.055-SF8-B | H0856 | H1184 | H1368 |
| 0.055 | 1/8 | 0.082 (1.5x) | 0.660 (12x) | 2-1/2 | EMGN-.055-SF12-B | H0857 | H1185 | H1369 |
| 0.055 | 1/8 | 0.275 (5x) | | 2-1/2 | EMG-.055-LF5-B | H0158 | H0382 | |
| 0.055 | 1/8 | 0.385 (7x) | | 2-1/2 | EMG-.055-LF7-B | H0159 | H0383 | H0538 |
| 0.055 | 1/8 | 0.385 (7x) | 0.770 (14x) | 2-1/2 | EMGN-.055-B | H0209 | H0433 | H0578 |

sizes continued on next page





3 FL - Micro Ball End Mills



(product code PIC2)

| DIA D_1 | SHK D_2 | LOC L_2 +.010/-0.000 | LBS L_3 +.010/-0.000 | OAL L_1 | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|---------------------|--------------|---------------------------|---------------------------|--------------|---------------------|---------------|--------------|------------|
| 0.060 | 1/8 | 0.090 (1.5x) | 0.180 (3x) | 2-1/2 | EMGN-.060-SF3-B | H0858 | H1186 | |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.312 (5x) | 2-1/2 | EMGN-.060-SF5-B | H0859 | H1187 | H1370 |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.500 (8x) | 2-1/2 | EMGN-.060-SF8-B | H0860 | H1188 | H1371 |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.625 (10x) | 2-1/2 | EMGN-.060-SF10-B | H0861 | H1189 | |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.720 (12x) | 2-1/2 | EMGN-.060-SF12-B | H0862 | H1190 | H1372 |
| 0.060 | 1/8 | 0.090 (1.5x) | 0.900 (15x) | 2-1/2 | EMGN-.060-SF15-B | H0863 | H1191 | |
| 0.060 | 1/8 | 0.090 (1.5x) | 1.200 (20x) | 2-1/2 | EMGN-.060-SF20-B | H0864 | H1192 | |
| 0.060 | 1/8 | 0.312 (5x) | | 2-1/2 | EMG-.060-LF5-B | H0160 | H0384 | |
| 0.060 | 1/8 | 0.500 (8x) | | 2-1/2 | EMG-.060-LF8-B | H0161 | H0385 | H0539 |
| 0.060 | 1/8 | 0.500 (8x) | 1.000 (16x) | 2-1/2 | EMGN-.060-B | H0210 | H0434 | H0579 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.186 (3x) | 2-1/2 | EMGN-.062-SF3-B | H0865 | H1193 | H1373 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.312 (5x) | 2-1/2 | EMGN-.062-SF5-B | H0866 | H1194 | H1374 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.500 (8x) | 2-1/2 | EMGN-.062-SF8-B | H0867 | H1195 | H1375 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.625 (10x) | 2-1/2 | EMGN-.062-SF10-B | H0868 | H1196 | H1376 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.750 (12x) | 2-1/2 | EMGN-.062-SF12-B | H0869 | H1197 | H1377 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 0.950 (15x) | 2-1/2 | EMGN-.062-SF15-B | H0870 | H1198 | H1378 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 1.125 (18x) | 2-1/2 | EMGN-.062-SF18-B | H0871 | H1199 | |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 1.250 (20x) | 2-1/2 | EMGN-.062-SF20-B | H0872 | H1200 | H1379 |
| 0.062 (1/16) | 1/8 | 0.093 (1.5x) | 1.550 (25x) | 3 | EMGN-.062-SF25-B | H0873 | H1201 | |
| 0.062 (1/16) | 1/8 | 0.312 (5x) | | 2-1/2 | EMG-.062-LF5-B | H0162 | H0386 | H0540 |
| 0.062 (1/16) | 1/8 | 0.500 (8x) | | 2-1/2 | EMG-.062-LF8-B | H0163 | H0387 | H0541 |
| 0.062 (1/16) | 1/8 | 0.500 (8x) | 1.000 (16x) | 2-1/2 | EMGN-.062-B | H0211 | H0435 | H0580 |
| 0.062 (1/16) | 1/8 | 0.625 (10x) | | 2-1/2 | EMG-.062-LF10-B | H0164 | H0388 | |
| 0.062 (1/16) | 1/8 | 0.750 (12x) | | 2-1/2 | EMG-.062-LF12-B | H0165 | H0389 | H0542 |
| 0.062 (1/16) | 1/8 | 0.950 (15x) | | 2-1/2 | EMG-.062-LF15-B | H0166 | H0390 | H0543 |
| 0.065 | 1/8 | 0.097 (1.5x) | 0.325 (5x) | 2-1/2 | EMGN-.065-SF5-B | H0874 | H2028 | |
| 0.065 | 1/8 | 0.097 (1.5x) | 0.530 (8x) | 2-1/2 | EMGN-.065-SF8-B | H0875 | H1202 | H1380 |
| 0.065 | 1/8 | 0.500 (8x) | | 2-1/2 | EMG-.065-LF8-B | H0167 | H0391 | H0544 |
| 0.065 | 1/8 | 0.500 (8x) | 1.000 (15x) | 2-1/2 | EMGN-.065-B | H0212 | H0436 | H0581 |
| 0.070 | 1/8 | 0.105 (1.5x) | 0.375 (5x) | 2-1/2 | EMGN-.070-SF5-B | H0876 | H2029 | |
| 0.070 | 1/8 | 0.105 (1.5x) | 0.570 (8x) | 2-1/2 | EMGN-.070-SF8-B | H0877 | H1203 | H1381 |
| 0.070 | 1/8 | 0.500 (7x) | | 2-1/2 | EMG-.070-LF7-B | H0168 | H0392 | H0545 |
| 0.070 | 1/8 | 0.500 (7x) | 1.000 (14x) | 2-1/2 | EMGN-.070-B | H0213 | H0437 | H0582 |
| 0.075 | 1/8 | 0.112 (1.5x) | 0.375 (5x) | 2-1/2 | EMGN-.075-SF5-B | H0878 | H2030 | |
| 0.075 | 1/8 | 0.112 (1.5x) | 0.625 (8x) | 2-1/2 | EMGN-.075-SF8-B | H0879 | H1204 | H1382 |
| 0.075 | 1/8 | 0.500 (7x) | | 2-1/2 | EMG-.075-LF7-B | H0169 | H0393 | H0546 |
| 0.075 | 1/8 | 0.500 (7x) | 1.000 (13x) | 2-1/2 | EMGN-.075-B | H0214 | H0438 | H0583 |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.234 (3x) | 2-1/2 | EMGN-.078-SF3-B | H0880 | H1205 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.406 (5x) | 2-1/2 | EMGN-.078-SF5-B | H0881 | H1206 | H1383 |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.625 (8x) | 2-1/2 | EMGN-.078-SF8-B | H0882 | H1207 | H1384 |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.800 (10x) | 2-1/2 | EMGN-.078-SF10-B | H0883 | H1208 | |

sizes continued on next page

SERIES: EMG--B

3 FLUTE MELIN MICRO BALL END MILLS

| DIA D ₁ | SHK D ₂ | LOC L ₂ +.010/-0.000 | LBS L ₃ +.010/-0.000 | OAL L ₁ | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|-----------------------|-----------------------|------------------------------------|------------------------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 0.940 (12x) | 2-1/2 | EMGN-.078-SF12-B | H0884 | H1209 | H1385 |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 1.187 (15x) | 2-1/2 | EMGN-.078-SF15-B | H0885 | H1210 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 1.562 (20x) | 3 | EMGN-.078-SF20-B | H0886 | H1211 | |
| 0.078 (5/64) | 1/8 | 0.117 (1.5x) | 1.950 (25x) | 3 | EMGN-.078-SF25-B | H0887 | H2031 | |
| 0.078 (5/64) | 1/8 | 0.406 (5x) | | 2-1/2 | EMG-.078-LF5-B | H0170 | H0394 | H0547 |
| 0.078 (5/64) | 1/8 | 0.500 (6x) | 1.000 (12x) | 2-1/2 | EMGN-.078-B | H0215 | H0439 | H0584 |
| 0.078 (5/64) | 1/8 | 0.625 (8x) | | 2-1/2 | EMG-.078-LF8-B | H0171 | H0395 | H0548 |
| 0.078 (5/64) | 1/8 | 0.940 (12x) | | 2-1/2 | EMG-.078-LF12-B | H0172 | H0396 | H0549 |
| 0.078 (5/64) | 1/8 | 1.187 (15x) | | 2-1/2 | EMG-.078-LF15-B | H0173 | H0397 | H0550 |
| 0.080 | 1/8 | 0.120 (1.5x) | 0.406 (5x) | 2-1/2 | EMGN-.080-SF5-B | H0888 | H2032 | |
| 0.080 | 1/8 | 0.120 (1.5x) | 0.650 (8x) | 2-1/2 | EMGN-.080-SF8-B | H0889 | H1212 | H1386 |
| 0.080 | 1/8 | 0.750 (9x) | | 2-1/2 | EMG-.080-LF9-B | H0174 | H0398 | H0551 |
| 0.080 | 1/8 | 0.750 (9x) | 1.250 (15x) | 2-1/2 | EMGN-.080-B | H0216 | H0440 | H0585 |
| 0.085 | 1/8 | 0.127 (1.5x) | 0.425 (5x) | 2-1/2 | EMGN-.085-SF5-B | H0890 | H2039 | |
| 0.085 | 1/8 | 0.127 (1.5x) | 0.700 (8x) | 2-1/2 | EMGN-.085-SF8-B | H0891 | H1213 | H1387 |
| 0.085 | 1/8 | 0.750 (9x) | | 2-1/2 | EMG-.085-LF9-B | H0175 | H0399 | H0552 |
| 0.085 | 1/8 | 0.750 (9x) | 1.250 (14x) | 2-1/2 | EMGN-.085-B | H0217 | H0441 | H0586 |
| 0.090 | 1/8 | 0.135 (1.5x) | 0.450 (5x) | 2-1/2 | EMGN-.090-SF5-B | H0892 | H2033 | |
| 0.090 | 1/8 | 0.135 (1.5x) | 0.750 (8x) | 2-1/2 | EMGN-.090-SF8-B | H0893 | H1214 | H1388 |
| 0.090 | 1/8 | 0.750 (8x) | | 2-1/2 | EMG-.090-LF8-B | H0176 | H0400 | H0553 |
| 0.090 | 1/8 | 0.750 (8x) | 1.250 (13x) | 2-1/2 | EMGN-.090-B | H0218 | H0442 | H0587 |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 0.279 (3x) | 2-1/2 | EMGN-.093-SF3-B | H0894 | H1215 | |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 0.500 (5x) | 2-1/2 | EMGN-.093-SF5-B | H0895 | H1216 | H1389 |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 0.750 (8x) | 2-1/2 | EMGN-.093-SF8-B | H0896 | H1217 | H1390 |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 0.950 (10x) | 2-1/2 | EMGN-.093-SF10-B | H0897 | H1218 | |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 1.125 (12x) | 2-1/2 | EMGN-.093-SF12-B | H0898 | H1219 | H1391 |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 1.400 (15x) | 3 | EMGN-.093-SF15-B | H0899 | H1220 | H1392 |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 1.675 (18x) | 3 | EMGN-.093-SF18-B | H0900 | H1221 | |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 1.875 (20x) | 4 | EMGN-.093-SF20-B | H0901 | H1222 | |
| 0.093 (3/32) | 1/8 | 0.139 (1.5x) | 2.312 (25x) | 4 | EMGN-.093-SF25-B | H0902 | H1223 | |
| 0.093 (3/32) | 1/8 | 0.500 (5x) | | 2-1/2 | EMG-.093-LF5-B | H0177 | H0401 | H0554 |
| 0.093 (3/32) | 1/8 | 0.750 (8x) | | 2-1/2 | EMG-.093-LF8-B | H0178 | H0402 | H0555 |
| 0.093 (3/32) | 1/8 | 0.750 (8x) | 1.250 (13x) | 2-1/2 | EMGN-.093-B | H0219 | H0443 | H0588 |
| 0.093 (3/32) | 1/8 | 0.950 (10x) | | 2-1/2 | EMG-.093-LF10-B | H0179 | H0403 | |
| 0.093 (3/32) | 1/8 | 1.125 (12x) | | 2-1/2 | EMG-.093-LF12-B | H0180 | H0404 | H0556 |
| 0.093 (3/32) | 1/8 | 1.400 (15x) | | 3 | EMG-.093-LF15-B | H0181 | H0405 | H0557 |
| 0.095 | 1/8 | 0.142 (1.5x) | 0.500 (5x) | 2-1/2 | EMGN-.095-SF5-B | H0903 | H2034 | |
| 0.095 | 1/8 | 0.142 (1.5x) | 0.750 (8x) | 2-1/2 | EMGN-.095-SF8-B | H0904 | H1224 | H1393 |
| 0.095 | 1/8 | 0.750 (8x) | | 2-1/2 | EMG-.095-LF8-B | H0182 | H0406 | H0558 |
| 0.095 | 1/8 | 0.750 (8x) | 1.250 (13x) | 2-1/2 | EMGN-.095-B | H0220 | H0444 | H0589 |

sizes continued on next page





| DIA D_1 | SHK D_2 | LOC L_2 +.010/-0.000 | LBS L_3 +.010/-0.000 | OAL L_1 | Bright Part Name | Bright EDP | ALTIN EDP | DLC EDP |
|---------------------|--------------|---------------------------|---------------------------|--------------|---------------------|---------------|--------------|------------|
| 0.100 | 1/8 | 0.150 (1.5x) | 0.300 (3x) | 2-1/2 | EMGN-.100-SF3-B | H0905 | H1225 | |
| 0.100 | 1/8 | 0.150 (1.5x) | 0.500 (5x) | 2-1/2 | EMGN-.100-SF5-B | H0906 | H1226 | |
| 0.100 | 1/8 | 0.150 (1.5x) | 0.800 (8x) | 2-1/2 | EMGN-.100-SF8-B | H0907 | H1227 | H1394 |
| 0.100 | 1/8 | 0.150 (1.5x) | 1.200 (12x) | 2-1/2 | EMGN-.100-SF12-B | H0908 | H1228 | |
| 0.100 | 1/8 | 0.500 (5x) | | 2-1/2 | EMG-.100-LF5-B | H0183 | H0407 | |
| 0.100 | 1/8 | 0.750 (7.5x) | | 2-1/2 | EMG-.100-LF7.5-B | H0184 | H0408 | H0559 |
| 0.100 | 1/8 | 0.750 (7.5x) | 1.250 (12x) | 2-1/2 | EMGN-.100-B | H0221 | H0445 | H0590 |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 0.375 (3x) | 2-1/2 | EMGN-.125-SF3-B | H0909 | H1229 | |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 0.625 (5x) | 2-1/2 | EMGN-.125-SF5-B | H0910 | H1230 | H1395 |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 1.000 (8x) | 2-1/2 | EMGN-.125-SF8-B | H0911 | H1231 | H1396 |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 1.250 (10x) | 2-1/2 | EMGN-.125-SF10-B | H0912 | H1232 | |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 1.500 (12x) | 3 | EMGN-.125-SF12-B | H0913 | H1233 | H1397 |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 1.875 (15x) | 3 | EMGN-.125-SF15-B | H0914 | H1234 | H1398 |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 2.250 (18x) | 4 | EMGN-.125-SF18-B | H0915 | H1235 | |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 2.500 (20x) | 4 | EMGN-.125-SF20-B | H0916 | H1236 | H1399 |
| 0.125 (1/8) | 1/8 | 0.187 (1.5x) | 3.125 (25x) | 4 | EMGN-.125-SF25-B | H0917 | H2035 | |
| 0.125 (1/8) | 1/8 | 0.625 (5x) | | 2-1/2 | EMG-.125-LF5-B | H0185 | H0409 | H0560 |
| 0.125 (1/8) | 1/8 | 1.000 (8x) | | 2-1/2 | EMG-.125-LF8-B | H0186 | H0410 | H0561 |
| 0.125 (1/8) | 1/8 | 1.000 (8x) | 1.500 (12x) | 2-1/2 | EMGN-.125-B | H0222 | H0446 | H0591 |
| 0.125 (1/8) | 1/8 | 1.250 (10x) | | 2-1/2 | EMG-.125-LF10-B | H0187 | H0411 | |
| 0.125 (1/8) | 1/8 | 1.500 (12x) | | 3 | EMG-.125-LF12-B | H0188 | H0412 | H0562 |
| 0.125 (1/8) | 1/8 | 1.875 (15x) | | 3 | EMG-.125-LF15-B | H0189 | H0413 | H0563 |
| 0.156 (5/32) | 3/16 | 0.234 (1.5x) | 0.750 (5x) | 3 | EMGN-.156-SF5-B | H0918 | H1237 | |
| 0.156 (5/32) | 3/16 | 0.234 (1.5x) | 1.250 (8x) | 3 | EMGN-.156-SF8-B | H0919 | H1238 | |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 1.000 (5x) | 3 | EMGN-.187-SF5-B | H0920 | H1239 | H1400 |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 1.500 (8x) | 3 | EMGN-.187-SF8-B | H0921 | H1240 | H1401 |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 1.875 (10x) | 4 | EMGN-.187-SF10-B | H0922 | H1241 | |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 2.250 (12x) | 4 | EMGN-.187-SF12-B | H0923 | H1242 | H1402 |
| 0.187 (3/16) | 3/16 | 0.281 (1.5x) | 2.812 (15x) | 4 | EMGN-.187-SF15-B | H0924 | H1243 | |
| 0.187 (3/16) | 3/16 | 1.125 (6x) | 1.625 (8x) | 3 | EMGN-.187-B | H0223 | H0447 | H0592 |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 1.250 (5x) | 4 | EMGN-.250-SF5-B | H0925 | H1244 | H1403 |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 2.000 (8x) | 4 | EMGN-.250-SF8-B | H0926 | H1245 | H1404 |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 2.500 (10x) | 4 | EMGN-.250-SF10-B | H0927 | H1246 | |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 3.000 (12x) | 6 | EMGN-.250-SF12-B | H0928 | H1247 | H1405 |
| 0.250 (1/4) | 1/4 | 0.375 (1.5x) | 3.750 (15x) | 6 | EMGN-.250-SF15-B | H0929 | H1248 | |
| 0.250 (1/4) | 1/4 | 1.500 (6x) | 2.000 (8x) | 4 | EMGN-.250-B | H0224 | H0448 | H0593 |

LARGER Sizes In [Full Line Catalog](#)

COMMITTED TO QUALITY

At Melin Tool Company, **It is UNDERSTOOD that we will not prosper without COMPLETE customer satisfaction.** Success at Melin is measured by how well we serve the customers who distribute and use our products.

Quality is an attitude at Melin. It is an every day, every tool, every order commitment to supply products which meet or exceed ALL of the detailed specification of our customers. Another major quality goal is to monitor and, where possible, improve upon the processes used to achieve this HIGH QUALITY.

COMMITTED TO OUR CUSTOMERS

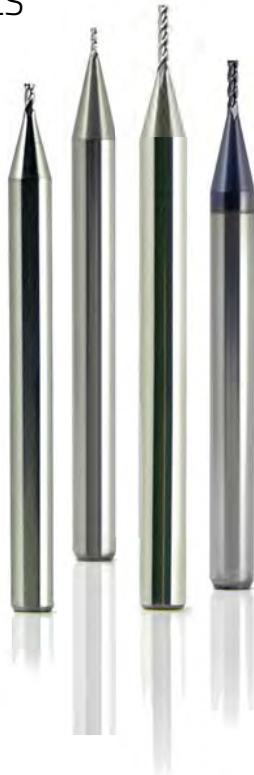


SERIES: CCMG

4 FLUTE MELIN **SQUARE** AND **BALL** MICRO END MILLS

4 FLUTE MELIN **RADIUS** MICRO END MILLS

Newly Expanded 4 Flute offered in square, ball and radius end tools. This series ranges from stub, standard, and long flute. With Melin's in house coating capabilities, All tools listed are available bright or can be coated with any Melin coating.



(For larger diameters, please see full line catalog)



- Available from

Square - 0.005 - 0.125

Ball - 0.010-0.125

Radius - 0.020-0.125

- Length of cut 1.5xD, 3xD, & 5xD
- Center cutting
- Metric offering available
- Bright, AlTiN, & Amorphous (DLC) Diamond
additional coatings available on request
- Made from premium submicron grain carbide

**ALL LENGTHS - SQUARE END
BALL END
RADIUS END**

Premium 4 Flute Carbide Micro End Mills. Square, Ball & Radius End. Available in stub, standard and long flute length of cuts. Ideal for **profiling, and finishing operations** in all medium hard ferrous materials. Manufactured in Cleveland, OH.

**4
FLUTES**

SERIES: CCMG

4 FLUTE MELIN MICRO SQUARE END MILLS



| | | | | | | | | |
|---------|--|--|--|------------------|--|--|--|--|
| Carbide | | | | +.0005 -.0005 | | | | |
|---------|--|--|--|------------------|--|--|--|--|

| DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTiN EDP | DLC EDP |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------|---------------------|---------------|--------------|------------|
| 0.005 | 1/8 | 0.008 | 1-1/2 | stub | CCMGS-.005 | 17126 | 57126 | |
| 0.005 | 1/8 | 0.015 | 1-1/2 | std | CCMG-.005 | H1612 | H1994 | |
| 0.006 | 1/8 | 0.009 | 1-1/2 | stub | CCMGS-.006 | 17129 | 57129 | |
| 0.006 | 1/8 | 0.018 | 1-1/2 | std | CCMG-.006 | 17130 | 57130 | |
| 0.007 | 1/8 | 0.011 | 1-1/2 | stub | CCMGS-.007 | 17132 | 57132 | |
| 0.007 | 1/8 | 0.021 | 1-1/2 | std | CCMG-.007 | 17133 | 57133 | |
| 0.008 | 1/8 | 0.012 | 1-1/2 | stub | CCMGS-.008 | 17134 | 57134 | |
| 0.008 | 1/8 | 0.024 | 1-1/2 | std | CCMG-.008 | 17135 | 57135 | |
| 0.009 | 1/8 | 0.014 | 1-1/2 | stub | CCMGS-.009 | 17136 | 57136 | |
| 0.009 | 1/8 | 0.027 | 1-1/2 | std | CCMG-.009 | 17137 | 57137 | |
| 0.010 | 1/8 | 0.015 | 1-1/2 | stub | CCMGS-.010 | 17370 | 57370 | 77370 |
| 0.010 | 1/8 | 0.030 | 1-1/2 | std | CCMG-.010 | 10655 | 50655 | 70655 |
| 0.011 | 1/8 | 0.017 | 1-1/2 | stub | CCMGS-.011 | 17452 | 57452 | 77452 |
| 0.011 | 1/8 | 0.033 | 1-1/2 | std | CCMG-.011 | 17453 | 57453 | 77453 |
| 0.012 | 1/8 | 0.018 | 1-1/2 | stub | CCMGS-.012 | 17454 | 57454 | 77454 |
| 0.012 | 1/8 | 0.036 | 1-1/2 | std | CCMG-.012 | 17455 | 57455 | 77455 |
| 0.013 | 1/8 | 0.020 | 1-1/2 | stub | CCMGS-.013 | 17456 | 57456 | 77456 |
| 0.013 | 1/8 | 0.039 | 1-1/2 | std | CCMG-.013 | 17457 | 57457 | 77457 |
| 0.014 | 1/8 | 0.021 | 1-1/2 | stub | CCMGS-.014 | 17458 | 57458 | 77458 |
| 0.014 | 1/8 | 0.042 | 1-1/2 | std | CCMG-.014 | 17459 | 57459 | 77459 |
| 0.015 (1/64) | 1/8 | 0.023 | 1-1/2 | stub | CCMGS-.015 | 17460 | 57460 | 77460 |
| 0.015 (1/64) | 1/8 | 0.045 | 1-1/2 | std | CCMG-.015 | 10657 | 50657 | 70657 |
| 0.015 (1/64) | 1/8 | 0.075 | 2-1/2 | long flute | CCMG-.0150-LF | 12379 | 52379 | 72379 |
| 0.016 | 1/8 | 0.024 | 1-1/2 | stub | CCMGS-.016 | 17461 | 57461 | 77461 |
| 0.016 | 1/8 | 0.048 | 1-1/2 | std | CCMG-.016 | 17462 | 57462 | 77462 |
| 0.017 | 1/8 | 0.026 | 1-1/2 | stub | CCMGS-.017 | 17463 | 57463 | 77463 |
| 0.017 | 1/8 | 0.051 | 1-1/2 | std | CCMG-.017 | 17464 | 57464 | 77464 |
| 0.018 | 1/8 | 0.027 | 1-1/2 | stub | CCMGS-.018 | 17465 | 57465 | 77465 |
| 0.018 | 1/8 | 0.054 | 1-1/2 | std | CCMG-.018 | 17466 | 57466 | 77466 |

sizes continued on next page



4 FL - Micro Square End Mills



(product code PIC2)

| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|------------|---------------------|---------------|--------------|------------|
| 0.019 | 1/8 | 0.029 | 1-1/2 | stub | CCMGS-.019 | 17467 | 57467 | 77467 |
| 0.019 | 1/8 | 0.057 | 1-1/2 | std | CCMG-.019 | 17468 | 57468 | 77468 |
| 0.020 | 1/8 | 0.030 | 1-1/2 | stub | CCMGS-.020 | 17469 | 57469 | 77469 |
| 0.020 | 1/8 | 0.060 | 1-1/2 | std | CCMG-.020 | 10659 | 50659 | 70659 |
| 0.020 | 1/8 | 0.100 | 2-1/2 | long flute | CCMG-.0200-LF | 12380 | 52380 | 72380 |
| 0.021 | 1/8 | 0.032 | 1-1/2 | stub | CCMGS-.021 | 17470 | 57470 | 77470 |
| 0.021 | 1/8 | 0.063 | 1-1/2 | std | CCMG-.021 | 17471 | 57471 | 77471 |
| 0.022 | 1/8 | 0.033 | 1-1/2 | stub | CCMGS-.022 | 17472 | 57472 | 77472 |
| 0.022 | 1/8 | 0.066 | 1-1/2 | std | CCMG-.022 | 17473 | 57473 | 77473 |
| 0.023 | 1/8 | 0.035 | 1-1/2 | stub | CCMGS-.023 | 17474 | 57474 | 77474 |
| 0.023 | 1/8 | 0.069 | 1-1/2 | std | CCMG-.023 | 17475 | 57475 | 77475 |
| 0.024 | 1/8 | 0.036 | 1-1/2 | stub | CCMGS-.024 | 17476 | 57476 | 77476 |
| 0.024 | 1/8 | 0.072 | 1-1/2 | std | CCMG-.024 | 17477 | 57477 | 77477 |
| 0.025 | 1/8 | 0.038 | 1-1/2 | stub | CCMGS-.025 | 17478 | 57478 | 77478 |
| 0.025 | 1/8 | 0.075 | 1-1/2 | std | CCMG-.025 | 10661 | 50661 | 70661 |
| 0.025 | 1/8 | 0.125 | 2-1/2 | long flute | CCMG-.0250-LF | 12585 | 52585 | 72585 |
| 0.026 | 1/8 | 0.039 | 1-1/2 | stub | CCMGS-.026 | 17479 | 57479 | 77479 |
| 0.026 | 1/8 | 0.078 | 1-1/2 | std | CCMG-.026 | 17480 | 57480 | 77480 |
| 0.027 | 1/8 | 0.041 | 1-1/2 | stub | CCMGS-.027 | 17481 | 57481 | 77481 |
| 0.027 | 1/8 | 0.081 | 1-1/2 | std | CCMG-.027 | 17482 | 57482 | 77482 |
| 0.028 | 1/8 | 0.042 | 1-1/2 | stub | CCMGS-.028 | 17483 | 57483 | 77483 |
| 0.028 | 1/8 | 0.084 | 1-1/2 | std | CCMG-.028 | 17484 | 57484 | 77484 |
| 0.029 | 1/8 | 0.044 | 1-1/2 | stub | CCMGS-.029 | 17485 | 57485 | 77485 |
| 0.029 | 1/8 | 0.087 | 1-1/2 | std | CCMG-.029 | 17486 | 57486 | 77486 |
| 0.030 | 1/8 | 0.045 | 1-1/2 | stub | CCMGS-.030 | 17487 | 57487 | 77487 |
| 0.030 | 1/8 | 0.090 | 1-1/2 | std | CCMG-.030 | 10663 | 50663 | 70663 |
| 0.030 | 1/8 | 0.150 | 2-1/2 | long flute | CCMG-.0300-LF | 12381 | 52381 | 72381 |
| 0.031 (1/32) | 1/8 | 0.047 | 1-1/2 | stub | CCMGS-.031 | 17488 | 57488 | 77488 |
| 0.031 (1/32) | 1/8 | 0.093 | 1-1/2 | std | CCMG-.031 | 17489 | 57489 | 77489 |
| 0.032 | 1/8 | 0.048 | 1-1/2 | stub | CCMGS-.032 | 17490 | 57490 | 77490 |
| 0.032 | 1/8 | 0.096 | 1-1/2 | std | CCMG-.032 | 17491 | 57491 | 77491 |
| 0.033 | 1/8 | 0.050 | 1-1/2 | stub | CCMGS-.033 | 17492 | 57492 | 77492 |
| 0.033 | 1/8 | 0.099 | 1-1/2 | std | CCMG-.033 | 17493 | 57493 | 77493 |
| 0.034 | 1/8 | 0.051 | 1-1/2 | stub | CCMGS-.034 | 17494 | 57494 | 77494 |
| 0.034 | 1/8 | 0.102 | 1-1/2 | std | CCMG-.034 | 17495 | 57495 | 77495 |
| 0.035 | 1/8 | 0.053 | 1-1/2 | stub | CCMGS-.035 | 17496 | 57496 | 77496 |
| 0.035 | 1/8 | 0.105 | 1-1/2 | std | CCMG-.035 | 10665 | 50665 | 70665 |
| 0.035 | 1/8 | 0.175 | 2-1/2 | long flute | CCMG-.0350-LF | 12587 | 52587 | 72587 |
| 0.036 | 1/8 | 0.054 | 1-1/2 | stub | CCMGS-.036 | H1417 | H1418 | |
| 0.036 | 1/8 | 0.108 | 1-1/2 | std | CCMG-.036 | H1729 | H1730 | |
| 0.037 | 1/8 | 0.056 | 1-1/2 | stub | CCMGS-.037 | H1419 | H1420 | |
| 0.037 | 1/8 | 0.111 | 1-1/2 | std | CCMG-.037 | H1616 | H1617 | |
| 0.038 | 1/8 | 0.057 | 1-1/2 | stub | CCMGS-.038 | H1421 | H1422 | |
| 0.038 | 1/8 | 0.114 | 1-1/2 | std | CCMG-.038 | H1620 | H1621 | |

sizes continued on next page

SERIES: CCMG

4 FLUTE MELIN MICRO SQUARE END MILLS

| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|------------|---------------------|---------------|--------------|------------|
| 0.039 | 1/8 | 0.059 | 1-1/2 | stub | CCMGS-.039 | H1423 | H1424 | |
| 0.039 | 1/8 | 0.117 | 1-1/2 | std | CCMG-.039 | H1624 | H1625 | |
| 0.040 | 1/8 | 0.060 | 1-1/2 | stub | CCMGS-.040 | 17497 | 57497 | 77497 |
| 0.040 | 1/8 | 0.120 | 1-1/2 | std | CCMG-.040 | 10667 | 50667 | 70667 |
| 0.040 | 1/8 | 0.200 | 2-1/2 | long flute | CCMG-.0400-LF | 12383 | 52383 | 72383 |
| 0.041 | 1/8 | 0.123 | 1-1/2 | std | CCMG-.041 | H1628 | H1629 | |
| 0.042 | 1/8 | 0.126 | 1-1/2 | std | CCMG-.042 | H1632 | H1633 | |
| 0.043 | 1/8 | 0.129 | 1-1/2 | std | CCMG-.043 | H1636 | H1637 | |
| 0.044 | 1/8 | 0.132 | 1-1/2 | std | CCMG-.044 | H1640 | H1642 | |
| 0.045 | 1/8 | 0.068 | 1-1/2 | stub | CCMGS-.045 | 17498 | 57498 | 77498 |
| 0.045 | 1/8 | 0.135 | 1-1/2 | std | CCMG-.045 | 10669 | 50669 | 70669 |
| 0.045 | 1/8 | 0.250 | 2-1/2 | long flute | CCMG-.0450-LF | 12384 | 52384 | 72384 |
| 0.046 | 1/8 | 0.138 | 1-1/2 | std | CCMG-.046 | H1644 | H1645 | |
| 0.047 (3/64) | 1/8 | 0.071 | 1-1/2 | stub | CCMGS-.047 | H1425 | H1426 | H1427 |
| 0.047 (3/64) | 1/8 | 0.141 | 1-1/2 | std | CCMG-.047 | H1648 | H1649 | H1653 |
| 0.048 | 1/8 | 0.144 | 1-1/2 | std | CCMG-.048 | H1654 | H1655 | |
| 0.049 | 1/8 | 0.147 | 1-1/2 | std | CCMG-.049 | H1658 | H1659 | |
| 0.050 | 1/8 | 0.075 | 1-1/2 | stub | CCMGS-.050 | 17499 | 57499 | 77499 |
| 0.050 | 1/8 | 0.150 | 1-1/2 | std | CCMG-.050 | 10671 | 50671 | 70671 |
| 0.050 | 1/8 | 0.300 | 2-1/2 | long flute | CCMG-.0500-LF | 12386 | 52386 | 72386 |
| 0.051 | 1/8 | 0.153 | 1-1/2 | std | CCMG-.051 | H1662 | H1663 | |
| 0.052 | 1/8 | 0.156 | 1-1/2 | std | CCMG-.052 | H1666 | H1667 | |
| 0.053 | 1/8 | 0.159 | 1-1/2 | std | CCMG-.053 | H1670 | H1671 | |
| 0.054 | 1/8 | 0.162 | 1-1/2 | std | CCMG-.054 | H1674 | H1675 | |
| 0.055 | 1/8 | 0.083 | 1-1/2 | stub | CCMGS-.055 | 17637 | 57637 | 77637 |
| 0.055 | 1/8 | 0.165 | 1-1/2 | std | CCMG-.055 | 10673 | 50673 | 70673 |
| 0.056 | 1/8 | 0.168 | 1-1/2 | std | CCMG-.056 | H1678 | H1679 | |
| 0.057 | 1/8 | 0.171 | 1-1/2 | std | CCMG-.057 | H1682 | H1683 | |
| 0.058 | 1/8 | 0.174 | 1-1/2 | std | CCMG-.058 | H1686 | H1687 | |
| 0.059 | 1/8 | 0.177 | 1-1/2 | std | CCMG-.059 | H1690 | H1691 | |
| 0.060 | 1/8 | 0.090 | 1-1/2 | stub | CCMGS-.060 | 17643 | 57643 | 77643 |
| 0.060 | 1/8 | 0.180 | 1-1/2 | std | CCMG-.060 | 10675 | 50675 | 70675 |
| 0.060 | 1/8 | 0.500 | 2-1/2 | long flute | CCMG-.0600-LF | 12387 | 52387 | 72387 |
| 0.062 (1/16) | 1/8 | 0.093 | 1-1/2 | stub | CCMGS-.062 | H1428 | H1429 | H1430 |
| 0.062 (1/16) | 1/8 | 0.186 | 1-1/2 | std | CCMG-.062 | H1694 | H1695 | H1699 |
| 0.065 | 1/8 | 0.098 | 1-1/2 | stub | CCMGS-.065 | 17645 | 57645 | 77645 |
| 0.065 | 1/8 | 0.195 | 1-1/2 | std | CCMG-.065 | 10677 | 50677 | 70677 |
| 0.070 | 1/8 | 0.105 | 1-1/2 | stub | CCMGS-.070 | 17647 | 57647 | 77647 |
| 0.070 | 1/8 | 0.210 | 1-1/2 | std | CCMG-.070 | 10679 | 50679 | 70679 |

sizes continued on next page





4 FL - Micro Square End Mills



(product code PIC2)

| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|------------|---------------------|---------------|--------------|------------|
| 0.075 | 1/8 | 0.113 | 1-1/2 | stub | CCMGS-.075 | 17649 | 57649 | 77649 |
| 0.075 | 1/8 | 0.225 | 1-1/2 | std | CCMG-.075 | 10681 | 50681 | 70681 |
| 0.075 | 1/8 | 0.500 | 2-1/2 | long flute | CCMG-.0750-LF | 12389 | 52389 | 72389 |
| 0.078 (5/64) | 1/8 | 0.117 | 1-1/2 | stub | CCMGS-.078 | H1431 | H1432 | H1433 |
| 0.078 (5/64) | 1/8 | 0.234 | 1-1/2 | std | CCMG-.078 | H1700 | H1701 | H1705 |
| 0.080 | 1/8 | 0.120 | 1-1/2 | stub | CCMGS-.080 | 17651 | 57651 | 77651 |
| 0.080 | 1/8 | 0.240 | 1-1/2 | std | CCMG-.080 | 10683 | 50683 | 70683 |
| 0.085 | 1/8 | 0.128 | 1-1/2 | stub | CCMGS-.085 | 17653 | 57653 | 77653 |
| 0.085 | 1/8 | 0.255 | 1-1/2 | std | CCMG-.085 | 10685 | 50685 | 70685 |
| 0.090 | 1/8 | 0.135 | 1-1/2 | stub | CCMGS-.090 | 17656 | 57656 | 77656 |
| 0.090 | 1/8 | 0.270 | 1-1/2 | std | CCMG-.090 | 10687 | 50687 | 70687 |
| 0.090 | 1/8 | 0.500 | 2-1/2 | long flute | CCMG-.0900-LF | 12390 | 52390 | 72390 |
| 0.093 (3/32) | 1/8 | 0.140 | 1-1/2 | stub | CCMGS-.093 | H1436 | H1437 | H1438 |
| 0.093 (3/32) | 1/8 | 0.279 | 1-1/2 | std | CCMG-.093 | H1706 | H1707 | H1711 |
| 0.095 | 1/8 | 0.143 | 1-1/2 | stub | CCMGS-.095 | 17657 | 57657 | 77657 |
| 0.095 | 1/8 | 0.285 | 1-1/2 | std | CCMG-.095 | 10689 | 50689 | 70689 |
| 0.100 | 1/8 | 0.150 | 1-1/2 | stub | CCMGS-.100 | 17663 | 57663 | 77663 |
| 0.100 | 1/8 | 0.300 | 1-1/2 | std | CCMG-.100 | 10691 | 50691 | 70691 |
| 0.105 | 1/8 | 0.158 | 1-1/2 | stub | CCMGS-.105 | H1747 | H1748 | |
| 0.105 | 1/8 | 0.315 | 1-1/2 | std | CCMG-.105 | H1712 | H1713 | H1716 |
| 0.110 | 1/8 | 0.165 | 1-1/2 | stub | CCMGS-.110 | H1749 | H1750 | |
| 0.110 | 1/8 | 0.330 | 1-1/2 | std | CCMG-.110 | H1717 | H1718 | H1721 |
| 0.115 | 1/8 | 0.173 | 1-1/2 | stub | CCMGS-.115 | H1751 | H1752 | |
| 0.115 | 1/8 | 0.345 | 1-1/2 | std | CCMG-.115 | H1722 | H1723 | H1726 |
| 0.118 | 1/8 | 0.177 | 1-1/2 | stub | CCMGS-.118 | H1996 | H1997 | |
| 0.118 | 1/8 | 0.345 | 1-1/2 | std | CCMG-.118 | H2017 | H2018 | |
| 0.120 | 1/8 | 0.180 | 1-1/2 | stub | CCMGS-.120 | H1931 | H1932 | |
| 0.120 | 1/8 | 0.360 | 1-1/2 | std | CCMG-.120 | H1929 | H1930 | H1998 |
| 0.125 (1/8) | 1/8 | 0.187 | 1-1/2 | stub | CCMGS-.125 | H1999 | H2000 | H2001 |
| 0.125 (1/8) | 1/8 | 0.375 | 1-1/2 | std | CCMG-.125 | H2002 | H2003 | H2004 |
| 0.125 (1/8) | 1/8 | 0.750 | 2-1/2 | long flute | CCMG-.1250-LF | 12391 | 52391 | 72391 |

LARGER Sizes In [Full Line Catalog](#)

NEED a different SIZE, STYLE or COATING? We are constantly adding standard items to our micro offering & we make CUSTOM designed tools with exceptionally fast deliveries. Contact your local distributor or email us at specials@melintool.com

Can't FIND
What You Are
Looking For?

SERIES: CCMG (metric)

4 FLUTE MELIN MICRO SQUARE END MILLS

(product code PIC2)



| | | | | | | | | | | | | | | |
|---------|--|--|--|--|----------------------------|--|--|--|--|--|--|--|--|--|
| Carbide | | | | | +.013mm -.013mm <3mm | | | | | | | | | |
|---------|--|--|--|--|----------------------------|--|--|--|--|--|--|--|--|--|

| DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--------|---------------------|---------------|--------------|
| 0.2mm | 3mm | 0.4mm | 38mm | std | CCMG-M0.2 | 13663 | 53663 |
| 0.3mm | 3mm | 0.9mm | 38mm | std | CCMG-M0.3 | 13664 | 53664 |
| 0.4mm | 3mm | 1.2mm | 38mm | std | CCMG-M0.4 | 13665 | 53665 |
| 0.5mm | 3mm | 1.5mm | 38mm | std | CCMG-M0.5 | 13666 | 53666 |
| 0.6mm | 3mm | 1.8mm | 38mm | std | CCMG-M0.6 | 13667 | 53667 |
| 0.7mm | 3mm | 2.1mm | 38mm | std | CCMG-M0.7 | 13668 | 53668 |
| 0.8mm | 3mm | 2.4mm | 38mm | std | CCMG-M0.8 | 13669 | 53669 |
| 0.9mm | 3mm | 2.7mm | 38mm | std | CCMG-M0.9 | 13670 | 53670 |
| 1.0mm | 3mm | 3.0mm | 38mm | std | CCMG-M3M1 | 16933 | 56933 |
| 1.1mm | 3mm | 3.3mm | 38mm | std | CCMG-M1.1 | 13672 | 53672 |
| 1.2mm | 3mm | 3.6mm | 38mm | std | CCMG-M1.2 | 13673 | 53673 |
| 1.3mm | 3mm | 3.9mm | 38mm | std | CCMG-M1.3 | 13674 | 53674 |
| 1.4mm | 3mm | 4.2mm | 38mm | std | CCMG-M1.4 | 13675 | 53675 |
| 1.5mm | 3mm | 4.5mm | 38mm | std | CCMG-M1.5 | 13676 | 53676 |



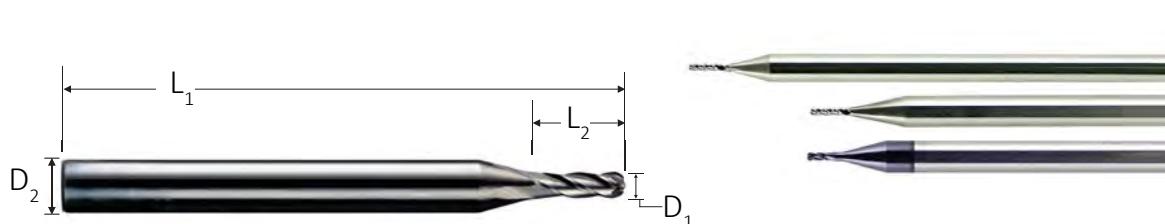
LARGER Sizes In [Full Line Catalog](#)





SERIES: CCMG-__-B

4 FLUTE MELIN MICRO BALL END MILLS



| | | | | | | | | | | | | |
|---------|--|--|--|--|--------------------|--|--|--|--|--|--|--|
| Carbide | | | | | +0.0005 -0.0005 | | | | | | | |
|---------|--|--|--|--|--------------------|--|--|--|--|--|--|--|

| DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------|---------------------|---------------|--------------|------------|
| 0.010 | 1/8 | 0.015 | 1-1/2 | stub | CCMGS-.010-B | 18860 | 58860 | 78860 |
| 0.010 | 1/8 | 0.030 | 1-1/2 | std | CCMG-.010-B | 13154 | 53154 | 73154 |
| 0.011 | 1/8 | 0.017 | 1-1/2 | stub | CCMGS-.011-B | 18861 | 58861 | 78861 |
| 0.011 | 1/8 | 0.033 | 1-1/2 | std | CCMG-.011-B | 18862 | 58862 | 78862 |
| 0.012 | 1/8 | 0.018 | 1-1/2 | stub | CCMGS-.012-B | 18863 | 58863 | 78863 |
| 0.012 | 1/8 | 0.036 | 1-1/2 | std | CCMG-.012-B | 18864 | 58864 | 78864 |
| 0.013 | 1/8 | 0.020 | 1-1/2 | stub | CCMGS-.013-B | 18865 | 58865 | 78865 |
| 0.013 | 1/8 | 0.039 | 1-1/2 | std | CCMG-.013-B | 18866 | 58866 | 78866 |
| 0.014 | 1/8 | 0.021 | 1-1/2 | stub | CCMGS-.014-B | 18867 | 58867 | 78867 |
| 0.014 | 1/8 | 0.042 | 1-1/2 | std | CCMG-.014-B | 18868 | 58868 | 78868 |
| 0.015 (1/64) | 1/8 | 0.023 | 1-1/2 | stub | CCMGS-.015-B | 18869 | 58869 | 78869 |
| 0.015 (1/64) | 1/8 | 0.045 | 1-1/2 | std | CCMG-.015-B | 13155 | 53155 | 73155 |
| 0.015 (1/64) | 1/8 | 0.075 | 2-1/2 | long flute | CCMG-.0150-LF-B | 12392 | 52392 | 72392 |
| 0.016 | 1/8 | 0.024 | 1-1/2 | stub | CCMGS-.016-B | 18870 | 58870 | 78870 |
| 0.016 | 1/8 | 0.048 | 1-1/2 | std | CCMG-.016-B | 18871 | 58871 | 78871 |
| 0.017 | 1/8 | 0.026 | 1-1/2 | stub | CCMGS-.017-B | 18872 | 58872 | 78872 |
| 0.017 | 1/8 | 0.051 | 1-1/2 | std | CCMG-.017-B | 18873 | 58873 | 78873 |
| 0.018 | 1/8 | 0.027 | 1-1/2 | stub | CCMGS-.018-B | 18874 | 58874 | 78874 |
| 0.018 | 1/8 | 0.054 | 1-1/2 | std | CCMG-.018-B | 18875 | 58875 | 78875 |
| 0.019 | 1/8 | 0.029 | 1-1/2 | stub | CCMGS-.019-B | 18876 | 58876 | 78876 |
| 0.019 | 1/8 | 0.057 | 1-1/2 | std | CCMG-.019-B | 18877 | 58877 | 78877 |
| 0.020 | 1/8 | 0.030 | 1-1/2 | stub | CCMGS-.020-B | 18878 | 58878 | 78878 |
| 0.020 | 1/8 | 0.060 | 1-1/2 | std | CCMG-.020-B | 13156 | 53156 | 73156 |
| 0.020 | 1/8 | 0.100 | 2-1/2 | long flute | CCMG-.0200-LF-B | 12393 | 52393 | 72393 |
| 0.021 | 1/8 | 0.032 | 1-1/2 | stub | CCMGS-.021-B | 18879 | 58879 | 78879 |
| 0.021 | 1/8 | 0.063 | 1-1/2 | std | CCMG-.021-B | 18880 | 58880 | 78880 |
| 0.022 | 1/8 | 0.033 | 1-1/2 | stub | CCMGS-.022-B | 18881 | 58881 | 78881 |
| 0.022 | 1/8 | 0.066 | 1-1/2 | std | CCMG-.022-B | 18882 | 58882 | 78882 |

sizes continued on next page

SERIES: CCMG-__-B

4 FLUTE MELIN MICRO BALL END MILLS

| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|------------|---------------------|---------------|--------------|------------|
| 0.023 | 1/8 | 0.035 | 1-1/2 | stub | CCMGS-.023-B | 18883 | 58883 | 78883 |
| 0.023 | 1/8 | 0.069 | 1-1/2 | std | CCMG-.023-B | 18884 | 58884 | 78884 |
| 0.024 | 1/8 | 0.036 | 1-1/2 | stub | CCMGS-.024-B | 18885 | 58885 | 78885 |
| 0.024 | 1/8 | 0.072 | 1-1/2 | std | CCMG-.024-B | 18916 | 58916 | 78916 |
| 0.025 | 1/8 | 0.038 | 1-1/2 | stub | CCMGS-.025-B | 18917 | 58917 | 78917 |
| 0.025 | 1/8 | 0.075 | 1-1/2 | std | CCMG-.025-B | 13157 | 53157 | 73157 |
| 0.025 | 1/8 | 0.125 | 2-1/2 | long flute | CCMG-.0250-LF-B | 12591 | 52591 | 72591 |
| 0.026 | 1/8 | 0.039 | 1-1/2 | stub | CCMGS-.026-B | 18918 | 58918 | 78918 |
| 0.026 | 1/8 | 0.078 | 1-1/2 | std | CCMG-.026-B | 18919 | 58919 | 78919 |
| 0.027 | 1/8 | 0.041 | 1-1/2 | stub | CCMGS-.027-B | 18920 | 58920 | 78920 |
| 0.027 | 1/8 | 0.081 | 1-1/2 | std | CCMG-.027-B | 18921 | 58921 | 78921 |
| 0.028 | 1/8 | 0.042 | 1-1/2 | stub | CCMGS-.028-B | 18922 | 58922 | 78922 |
| 0.028 | 1/8 | 0.084 | 1-1/2 | std | CCMG-.028-B | 18923 | 58923 | 78923 |
| 0.029 | 1/8 | 0.044 | 1-1/2 | stub | CCMGS-.029-B | 18924 | 58924 | 78924 |
| 0.029 | 1/8 | 0.087 | 1-1/2 | std | CCMG-.029-B | 18925 | 58925 | 78925 |
| 0.030 | 1/8 | 0.045 | 1-1/2 | stub | CCMGS-.030-B | 18926 | 58926 | 78926 |
| 0.030 | 1/8 | 0.090 | 1-1/2 | std | CCMG-.030-B | 13158 | 53158 | 73158 |
| 0.030 | 1/8 | 0.150 | 2-1/2 | long flute | CCMG-.0300-LF-B | 12394 | 52394 | 72394 |
| 0.031 (1/32) | 1/8 | 0.047 | 1-1/2 | stub | CCMGS-.031-B | 18927 | 58927 | 78927 |
| 0.031 (1/32) | 1/8 | 0.093 | 1-1/2 | std | CCMG-.031-B | 18928 | 58928 | 78928 |
| 0.032 | 1/8 | 0.048 | 1-1/2 | stub | CCMGS-.032-B | 18929 | 58929 | 78929 |
| 0.032 | 1/8 | 0.096 | 1-1/2 | std | CCMG-.032-B | 18930 | 58930 | 78930 |
| 0.033 | 1/8 | 0.050 | 1-1/2 | stub | CCMGS-.033-B | 18931 | 58931 | 78931 |
| 0.033 | 1/8 | 0.099 | 1-1/2 | std | CCMG-.033-B | 18932 | 58932 | 78932 |
| 0.034 | 1/8 | 0.051 | 1-1/2 | stub | CCMGS-.034-B | 18933 | 58933 | 78933 |
| 0.034 | 1/8 | 0.102 | 1-1/2 | std | CCMG-.034-B | 18934 | 58934 | 78934 |
| 0.035 | 1/8 | 0.053 | 1-1/2 | stub | CCMGS-.035-B | 18935 | 58935 | 78935 |
| 0.035 | 1/8 | 0.105 | 1-1/2 | std | CCMG-.035-B | 13159 | 53159 | 73159 |
| 0.035 | 1/8 | 0.175 | 2-1/2 | long flute | CCMG-.0350-LF-B | 12593 | 52593 | 72593 |
| 0.036 | 1/8 | 0.054 | 1-1/2 | stub | CCMGS-.036-B | H1731 | H1732 | |
| 0.036 | 1/8 | 0.108 | 1-1/2 | std | CCMG-.036-B | H1614 | H1615 | |
| 0.037 | 1/8 | 0.056 | 1-1/2 | stub | CCMGS-.037-B | H1733 | H1734 | |
| 0.037 | 1/8 | 0.111 | 1-1/2 | std | CCMG-.037-B | H1618 | H1619 | |
| 0.038 | 1/8 | 0.057 | 1-1/2 | stub | CCMGS-.038-B | H1735 | H1736 | |
| 0.038 | 1/8 | 0.114 | 1-1/2 | std | CCMG-.038-B | H1622 | H1623 | |
| 0.039 | 1/8 | 0.059 | 1-1/2 | stub | CCMGS-.039-B | H1737 | H1738 | |
| 0.039 | 1/8 | 0.117 | 1-1/2 | std | CCMG-.039-B | H1626 | H1627 | |
| 0.040 | 1/8 | 0.060 | 1-1/2 | stub | CCMGS-.040-B | 18936 | 58936 | 78936 |
| 0.040 | 1/8 | 0.120 | 1-1/2 | std | CCMG-.040-B | 13160 | 53160 | 73160 |
| 0.040 | 1/8 | 0.200 | 2-1/2 | long flute | CCMG-.0400-LF-B | 12396 | 52396 | 72396 |

sizes continued on next page



www.melintool.com • 216-362-4200 • sales@melintool.com



| DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------|---------------------|---------------|--------------|------------|
| 0.041 | 1/8 | 0.123 | 1-1/2 | std | CCMG-.041-B | H1630 | H1631 | |
| 0.042 | 1/8 | 0.126 | 1-1/2 | std | CCMG-.042-B | H1634 | H1635 | |
| 0.043 | 1/8 | 0.129 | 1-1/2 | std | CCMG-.043-B | H1638 | H1639 | |
| 0.044 | 1/8 | 0.132 | 1-1/2 | std | CCMG-.044-B | H1643 | H1641 | |
| 0.045 | 1/8 | 0.068 | 1-1/2 | stub | CCMGS-.045-B | 18937 | 58937 | 78937 |
| 0.045 | 1/8 | 0.135 | 1-1/2 | std | CCMG-.045-B | 18938 | 58938 | 78938 |
| 0.045 | 1/8 | 0.250 | 2-1/2 | long flute | CCMG-.0450-LF-B | 12397 | 52397 | 72397 |
| 0.046 | 1/8 | 0.138 | 1-1/2 | std | CCMG-.046-B | H1646 | H1647 | |
| 0.047 (3/64) | 1/8 | 0.071 | 1-1/2 | stub | CCMGS-.047-B | H1739 | H1740 | H1601 |
| 0.047 (3/64) | 1/8 | 0.141 | 1-1/2 | std | CCMG-.047-B | H1650 | H1651 | H1652 |
| 0.048 | 1/8 | 0.144 | 1-1/2 | std | CCMG-.048-B | H1656 | H1657 | |
| 0.049 | 1/8 | 0.147 | 1-1/2 | std | CCMG-.049-B | H1660 | H1661 | |
| 0.050 | 1/8 | 0.075 | 1-1/2 | stub | CCMGS-.050-B | 18939 | 58939 | 78939 |
| 0.050 | 1/8 | 0.150 | 1-1/2 | std | CCMG-.050-B | 13161 | 53161 | 73161 |
| 0.050 | 1/8 | 0.300 | 2-1/2 | long flute | CCMG-.0500-LF-B | 12399 | 52399 | 72399 |
| 0.051 | 1/8 | 0.153 | 1-1/2 | std | CCMG-.051-B | H1664 | H1665 | |
| 0.052 | 1/8 | 0.156 | 1-1/2 | std | CCMG-.052-B | H1668 | H1669 | |
| 0.053 | 1/8 | 0.159 | 1-1/2 | std | CCMG-.053-B | H1672 | H1673 | |
| 0.054 | 1/8 | 0.162 | 1-1/2 | std | CCMG-.054-B | H1676 | H1677 | |
| 0.055 | 1/8 | 0.083 | 1-1/2 | stub | CCMGS-.055-B | 18940 | 58940 | 78940 |
| 0.055 | 1/8 | 0.165 | 1-1/2 | std | CCMG-.055-B | 18941 | 58941 | 78941 |
| 0.056 | 1/8 | 0.168 | 1-1/2 | std | CCMG-.056-B | H1680 | H1681 | |
| 0.057 | 1/8 | 0.171 | 1-1/2 | std | CCMG-.057-B | H1684 | H1685 | |
| 0.058 | 1/8 | 0.174 | 1-1/2 | std | CCMG-.058-B | H1688 | H1689 | |
| 0.059 | 1/8 | 0.177 | 1-1/2 | std | CCMG-.059-B | H1692 | H1693 | |
| 0.060 | 1/8 | 0.090 | 1-1/2 | stub | CCMGS-.060-B | 18942 | 58942 | 78942 |
| 0.060 | 1/8 | 0.180 | 1-1/2 | std | CCMG-.060-B | 13162 | 53162 | 73162 |
| 0.060 | 1/8 | 0.500 | 2-1/2 | long flute | CCMG-.0600-LF-B | 12400 | 52400 | 72400 |
| 0.062 (1/16) | 1/8 | 0.093 | 1-1/2 | stub | CCMGS-.062-B | H1696 | H1697 | H1698 |
| 0.062 (1/16) | 1/8 | 0.186 | 1-1/2 | std | CCMG-.062-B | H2011 | H2012 | H2013 |
| 0.065 | 1/8 | 0.098 | 1-1/2 | stub | CCMGS-.065-B | 18943 | 58943 | 78943 |
| 0.065 | 1/8 | 0.195 | 1-1/2 | std | CCMG-.065-B | 18944 | 58944 | 78944 |
| 0.070 | 1/8 | 0.105 | 1-1/2 | stub | CCMGS-.070-B | 18945 | 58945 | 78945 |
| 0.070 | 1/8 | 0.210 | 1-1/2 | std | CCMG-.070-B | 13163 | 53163 | 73163 |
| 0.075 | 1/8 | 0.113 | 1-1/2 | stub | CCMGS-.075-B | 18946 | 58946 | 78946 |
| 0.075 | 1/8 | 0.225 | 1-1/2 | std | CCMG-.075-B | 18947 | 58947 | 78947 |
| 0.075 | 1/8 | 0.500 | 2-1/2 | long flute | CCMG-.0750-LF-B | 12402 | 52402 | 72402 |
| 0.078 (5/64) | 1/8 | 0.117 | 1-1/2 | stub | CCMGS-.078-B | H1741 | H1742 | H1743 |
| 0.078 (5/64) | 1/8 | 0.234 | 1-1/2 | std | CCMG-.078-B | H1702 | H1703 | H1704 |

sizes continued on next page

SERIES: CCMG-__-B

4 FLUTE MELIN MICRO BALL END MILLS

| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|------------|---------------------|---------------|--------------|------------|
| 0.080 | 1/8 | 0.120 | 1-1/2 | stub | CCMGS-.080-B | 18948 | 58948 | 78948 |
| 0.080 | 1/8 | 0.240 | 1-1/2 | std | CCMG-.080-B | 13164 | 53164 | 73164 |
| 0.085 | 1/8 | 0.128 | 1-1/2 | stub | CCMGS-.085-B | 18949 | 58949 | 78949 |
| 0.085 | 1/8 | 0.255 | 1-1/2 | std | CCMG-.085-B | 18950 | 58950 | 78950 |
| 0.090 | 1/8 | 0.135 | 1-1/2 | stub | CCMGS-.090-B | 18951 | 58951 | 78951 |
| 0.090 | 1/8 | 0.270 | 1-1/2 | std | CCMG-.090-B | 13165 | 53165 | 73165 |
| 0.090 | 1/8 | 0.500 | 2-1/2 | long flute | CCMG-.0900-LF-B | 12403 | 52403 | 72403 |
| 0.093 (3/32) | 1/8 | 0.140 | 1-1/2 | stub | CCMGS-.093-B | H1744 | H1745 | H1746 |
| 0.093 (3/32) | 1/8 | 0.279 | 1-1/2 | std | CCMG-.093-B | H1708 | H1709 | H1710 |
| 0.095 | 1/8 | 0.143 | 1-1/2 | stub | CCMGS-.095-B | 18952 | 58952 | 78952 |
| 0.095 | 1/8 | 0.285 | 1-1/2 | std | CCMG-.095-B | 18953 | 58953 | 78953 |
| 0.100 | 1/8 | 0.150 | 1-1/2 | stub | CCMGS-.100-B | 18954 | 58954 | 78954 |
| 0.100 | 1/8 | 0.300 | 1-1/2 | std | CCMG-.100-B | 18955 | 58955 | 78955 |
| 0.105 | 1/8 | 0.315 | 1-1/2 | std | CCMG-.105-B | H1714 | H1715 | |
| 0.110 | 1/8 | 0.330 | 1-1/2 | std | CCMG-.110-B | H1719 | H1720 | |
| 0.115 | 1/8 | 0.345 | 1-1/2 | std | CCMG-.115-B | H1724 | H1725 | |
| 0.118 | 1/8 | 0.177 | 1-1/2 | stub | CCMGS-.118-B | H1990 | H1991 | |
| 0.118 | 1/8 | 0.354 | 1-1/2 | std | CCMG-.118-B | H1992 | H1993 | |
| 0.120 | 1/8 | 0.360 | 1-1/2 | std | CCMG-.120-B | H1727 | H1728 | |
| 0.125 (1/8) | 1/8 | 0.125 | 2-1/2 | long flute | CCMG-.1250-LF-B | 12404 | 52404 | 72404 |



LARGER Sizes In [Full Line Catalog](#)



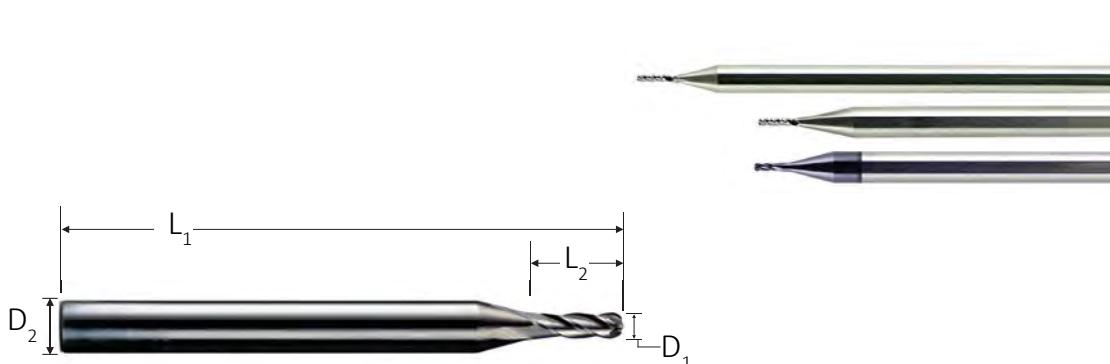
www.melintool.com • 216-362-4200 • sales@melintool.com





SERIES: CCMG-__-B (metric)

4 FLUTE MELIN MICRO BALL END MILLS



| DIA D₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|--------|---------------------|---------------|--------------|
| 0.3mm | 3mm | 0.9mm | 38mm | std | CCMG-M0.3-B | 13692 | 53692 |
| 0.4mm | 3mm | 1.2mm | 38mm | std | CCMG-M0.4-B | 13693 | 53693 |
| 0.5mm | 3mm | 1.5mm | 38mm | std | CCMG-M0.5-B | 13694 | 53694 |
| 0.6mm | 3mm | 1.8mm | 38mm | std | CCMG-M0.6-B | 13695 | 53695 |
| 0.7mm | 3mm | 2.1mm | 38mm | std | CCMG-M0.7-B | 13696 | 53696 |
| 0.8mm | 3mm | 2.4mm | 38mm | std | CCMG-M0.8-B | 13697 | 53697 |
| 0.9mm | 3mm | 2.7mm | 38mm | std | CCMG-M0.9-B | 13698 | 53698 |
| 1.0mm | 3mm | 3.0mm | 38mm | std | CCMG-M1.0-B | 16801 | 56801 |
| 1.1mm | 3mm | 3.3 mm | 38mm | std | CCMG-M1.1-B | 13700 | 53700 |
| 1.2mm | 3mm | 3.6mm | 38mm | std | CCMG-M1.2-B | 13701 | 53701 |
| 1.3mm | 3mm | 3.9mm | 38mm | std | CCMG-M1.3-B | 13702 | 53702 |
| 1.4mm | 3mm | 4.2mm | 38mm | std | CCMG-M1.4-B | 13703 | 53703 |
| 1.5mm | 3mm | 4.5mm | 38mm | std | CCMG-M1.5-B | 13704 | 53704 |

LARGER Sizes In [Full Line Catalog](#)

NEED a different SIZE, STYLE or COATING? We are constantly adding standard items to our micro offering & we make CUSTOM designed tools with exceptionally fast deliveries. Contact your local distributor or email us at specials@melintool.com

Can't **FIND**
What You Are
Looking For? **47**

SERIES: CCMG-__-R(radius)

4 FLUTE MELIN MICRO RADIUS END MILLS



| | | | | | | | | | | |
|---------|--|--|--|--------------------|--|--|--|--|--|--|
| Carbide | | | | +0.0005 -0.0005 | | | | | | |
|---------|--|--|--|--------------------|--|--|--|--|--|--|

| DIA D₁ | SHK D₂ | LOC L₂ | RAD D₁ | OAL L₁ | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------|---------------|--------------|------------|
| 0.020 | 1/8 | 0.060 | 0.005 | 1-1/2 | CCMG-.020-R005 | H1754 | H1755 | H1756 |
| 0.025 | 1/8 | 0.075 | 0.005 | 1-1/2 | CCMG-.025-R005 | H1757 | H1758 | H1759 |
| 0.030 | 1/8 | 0.090 | 0.005 | 1-1/2 | CCMG-.030-R005 | H1760 | H1761 | H1762 |
| 0.031 | 1/8 | 0.093 | 0.005 | 1-1/2 | CCMG-.031-R005 | H1763 | H1764 | H1765 |
| 0.035 | 1/8 | 0.105 | 0.005 | 1-1/2 | CCMG-.035-R005 | H1766 | H1767 | H1768 |
| 0.039 | 1/8 | 0.117 | 0.005 | 1-1/2 | CCMG-.039-R005 | H1769 | H1770 | H2056 |
| 0.040 | 1/8 | 0.120 | 0.005 | 1-1/2 | CCMG-.040-R005 | H1771 | H1772 | H1773 |
| 0.040 | 1/8 | 0.120 | 0.010 | 1-1/2 | CCMG-.040-R010 | H1774 | H1775 | H1776 |
| 0.045 | 1/8 | 0.068 | 0.010 | 1-1/2 | CCMGS-.045-R010 | 14715 | 54715 | 74715 |
| 0.045 | 1/8 | 0.135 | 0.005 | 1-1/2 | CCMG-.045-R005 | H1777 | H1778 | H1779 |
| 0.045 | 1/8 | 0.135 | 0.010 | 1-1/2 | CCMG-.045-R010 | H1780 | H1781 | H1782 |
| 0.047 | 1/8 | 0.141 | 0.005 | 1-1/2 | CCMG-.047-R005 | H1783 | H1784 | H1785 |
| 0.047 | 1/8 | 0.141 | 0.010 | 1-1/2 | CCMG-.047-R010 | H1786 | H1787 | H1788 |
| 0.050 | 1/8 | 0.150 | 0.005 | 1-1/2 | CCMG-.050-R005 | H1789 | H1790 | H1791 |
| 0.050 | 1/8 | 0.150 | 0.010 | 1-1/2 | CCMG-.050-R010 | H1792 | H1793 | H1794 |
| 0.055 | 1/8 | 0.165 | 0.005 | 1-1/2 | CCMG-.055-R005 | H1795 | H1796 | H1797 |
| 0.055 | 1/8 | 0.165 | 0.010 | 1-1/2 | CCMG-.055-R010 | H1798 | H1799 | H1800 |
| 0.060 | 1/8 | 0.180 | 0.005 | 1-1/2 | CCMG-.060-R005 | H1801 | H1802 | H1803 |
| 0.060 | 1/8 | 0.180 | 0.010 | 1-1/2 | CCMG-.060-R010 | H1804 | H1805 | H1806 |
| 0.062 | 1/8 | 0.186 | 0.005 | 1-1/2 | CCMG-.062-R005 | H1807 | H1808 | H1809 |
| 0.062 | 1/8 | 0.186 | 0.010 | 1-1/2 | CCMG-.062-R010 | H1810 | H1811 | H1812 |
| 0.062 | 1/8 | 0.186 | 0.015 | 1-1/2 | CCMG-.062-R015 | H1813 | H1814 | H1815 |
| 0.065 | 1/8 | 0.195 | 0.005 | 1-1/2 | CCMG-.065-R005 | H1816 | H1817 | H1818 |
| 0.065 | 1/8 | 0.195 | 0.010 | 1-1/2 | CCMG-.065-R010 | H1819 | H1820 | H1821 |
| 0.065 | 1/8 | 0.195 | 0.015 | 1-1/2 | CCMG-.065-R015 | H1822 | H1823 | H1824 |

sizes continued on next page



4 FL - Micro Radius End Mills



(product code PIC2)

| DIA D₁ | SHK D ₂ | LOC L ₂ | RAD L ₁ | OAL L ₁ | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|-----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|---------------|--------------|------------|
| 0.070 | 1/8 | 0.210 | 0.005 | 1-1/2 | CCMG-.070-R005 | H1825 | H1826 | H1827 |
| 0.070 | 1/8 | 0.210 | 0.010 | 1-1/2 | CCMG-.070-R010 | H1828 | H1829 | H1830 |
| 0.070 | 1/8 | 0.210 | 0.015 | 1-1/2 | CCMG-.070-R015 | H1831 | H1832 | H1833 |
| 0.075 | 1/8 | 0.225 | 0.005 | 1-1/2 | CCMG-.075-R005 | H1834 | H1835 | H1836 |
| 0.075 | 1/8 | 0.225 | 0.010 | 1-1/2 | CCMG-.075-R010 | H1837 | H1838 | H1839 |
| 0.075 | 1/8 | 0.225 | 0.015 | 1-1/2 | CCMG-.075-R015 | H1840 | H1841 | H1842 |
| 0.078 | 1/8 | 0.234 | 0.005 | 1-1/2 | CCMG-.078-R005 | H1843 | H1844 | H1845 |
| 0.078 | 1/8 | 0.234 | 0.010 | 1-1/2 | CCMG-.078-R010 | H1846 | H1847 | H1848 |
| 0.078 | 1/8 | 0.234 | 0.015 | 1-1/2 | CCMG-.078-R015 | H2036 | H2037 | H2038 |
| 0.080 | 1/8 | 0.240 | 0.005 | 1-1/2 | CCMG-.080-R005 | H1849 | H1850 | H1851 |
| 0.080 | 1/8 | 0.240 | 0.010 | 1-1/2 | CCMG-.080-R010 | H1852 | H1853 | H1854 |
| 0.080 | 1/8 | 0.240 | 0.015 | 1-1/2 | CCMG-.080-R015 | H1855 | H1856 | H1857 |
| 0.085 | 1/8 | 0.255 | 0.005 | 1-1/2 | CCMG-.085-R005 | H1858 | H1859 | H1860 |
| 0.085 | 1/8 | 0.255 | 0.010 | 1-1/2 | CCMG-.085-R010 | H1861 | H1862 | H1863 |
| 0.085 | 1/8 | 0.255 | 0.015 | 1-1/2 | CCMG-.085-R015 | H1864 | H1865 | H1866 |
| 0.090 | 1/8 | 0.270 | 0.005 | 1-1/2 | CCMG-.090-R005 | H1867 | H1868 | H1869 |
| 0.090 | 1/8 | 0.270 | 0.010 | 1-1/2 | CCMG-.090-R010 | H1870 | H1871 | H1872 |
| 0.090 | 1/8 | 0.270 | 0.015 | 1-1/2 | CCMG-.090-R015 | H1873 | H1874 | H1875 |
| 0.093 | 1/8 | 0.279 | 0.005 | 1-1/2 | CCMG-.093-R005 | H1876 | H1877 | H1878 |
| 0.093 | 1/8 | 0.279 | 0.010 | 1-1/2 | CCMG-.093-R010 | H1879 | H1880 | H1881 |
| 0.093 | 1/8 | 0.279 | 0.015 | 1-1/2 | CCMG-.093-R015 | H1882 | H1883 | H1884 |
| 0.093 | 1/8 | 0.279 | 0.020 | 1-1/2 | CCMG-.093-R020 | H1885 | H1886 | H1887 |
| 0.095 | 1/8 | 0.285 | 0.005 | 1-1/2 | CCMG-.095-R005 | H1888 | H1889 | H1890 |
| 0.095 | 1/8 | 0.285 | 0.010 | 1-1/2 | CCMG-.095-R010 | H1891 | H1892 | H1893 |
| 0.095 | 1/8 | 0.285 | 0.015 | 1-1/2 | CCMG-.095-R015 | H1894 | H1895 | H1896 |
| 0.100 | 1/8 | 0.300 | 0.005 | 1-1/2 | CCMG-.100-R005 | H1897 | H1898 | H1899 |
| 0.100 | 1/8 | 0.300 | 0.010 | 1-1/2 | CCMG-.100-R010 | H1900 | H1901 | H1902 |
| 0.100 | 1/8 | 0.300 | 0.015 | 1-1/2 | CCMG-.100-R015 | H1903 | H1904 | H1905 |
| 0.125 | 1/8 | 0.500 | 0.005 | 1-1/2 | CCMG-404-R005 | H1906 | H1907 | H1908 |
| 0.125 | 1/8 | 0.500 | 0.010 | 1-1/2 | CCMG-404-R010 | 11067 | 51067 | 71067 |
| 0.125 | 1/8 | 0.500 | 0.015 | 1-1/2 | CCMG-404-R015 | 15422 | 55422 | 75422 |
| 0.125 | 1/8 | 0.500 | 0.020 | 1-1/2 | CCMG-404-R020 | 11069 | 51069 | 71069 |
| 0.125 | 1/8 | 0.500 | 0.030 | 1-1/2 | CCMG-404-R030 | 11071 | 51071 | 71071 |

LARGER Sizes In [Full Line Catalog](#)

FULL LINE PRODUCT CATALOG

Thousands of additional sizes can be found in the full line catalog

- High Performance Carbide End Mills
- General Purpose Carbide End Mills
- Special Use Carbide End Mills
- High Performance Powdered Metal End Mills
- Cobalt & HSS Roughing End Mills
- General Purpose Cobalt & HSS End Mills
- Carbide Thread Mills
- High Performance Carbide Drills
- General Purpose Carbide Drills
- Carbide & HSS Countersinks
- Carbide Burs
- Custom Specials



SERIES: CCMG-__-DIA

4 FLUTE SQ AND BALL CVD DIAMOND COATED END MILLS

4 Flute **CVD Diamond Coated** end mills on solid Carbide substrate. This series is offered in both square and ball end. It can be used for profiling, slotting, and ramping. CVD Diamond coated tools provide optimum productivity in machining Graphite and other non-ferrous materials. All tools listed in this series come standard with Melin's premium CVD diamond coating. For uncoated or additional coatings please refer to Melin's full line catalog.



(For larger diameters, please see full line catalog)



- Available from 0.015- 0.375
- Available Square and Ball End
- Length of cut 3xD
- Center cutting
- Diamond (CVD) Coated
please refer to page 38 For 4 flute bright parts and additional coating options
- Made from premium submicron grain carbide

ALL LENGTHS - SQUARE END BALL END

Premium 4 Flute Carbide End Mills. Ideal for profiling and finishing operations in graphite and other non-ferrous materials.

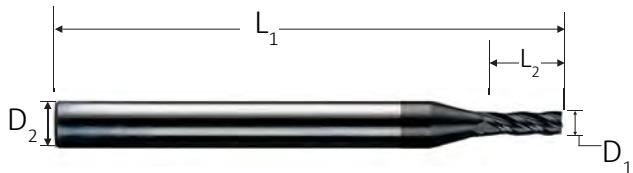
Manufactured in Cleveland, OH.

4
FLUTES

SERIES: CCMG-__-DIA

4 FLUTE SQUARE END DIAMOND COATED END MILLS

(product code PIC)



| | | | | | | | | | | |
|---------------|--|--|----------------|--------------------------|------------------------|--|--|--|--|--|
| Carbide 6% | | | CVD Diamond | +.0005 -.0005 <1/8 | +.000 -.002 ≥1/8 | | | | | |
|---------------|--|--|----------------|--------------------------|------------------------|--|--|--|--|--|

| DIA D ₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | PART NAME | CVD EDP |
|-----------------------|-----------------------|-----------------------|-----------------------|---------------|------------|
| .015 | 1/8 | .045 | 1-1/2 | CCMG-.015-DIA | H6678 |
| .020 | 1/8 | .060 | 1-1/2 | CCMG-.020-DIA | H6679 |
| .031 (1/32) | 1/8 | .093 | 1-1/2 | CCMG-401-DIA | 10061 |
| .040 | 1/8 | .120 | 1-1/2 | CCMG-.040-DIA | H6680 |
| .047 | 1/8 | .141 | 1-1/2 | CCMG-.047-DIA | H6681 |
| .050 | 1/8 | .150 | 1-1/2 | CCMG-.050-DIA | H6682 |
| .060 | 1/8 | .180 | 1-1/2 | CCMG-.060-DIA | H6683 |
| .0625 (1/16) | 1/8 | .186 | 1-1/2 | CCMG-402-DIA | 10063 |
| .078 | 1/8 | .234 | 1-1/2 | CCMG-.078-DIA | H6684 |
| .0938 (3/32) | 1/8 | .279 | 1-1/2 | CCMG-403-DIA | 10065 |
| .100 | 1/8 | .300 | 1-1/2 | CCMG-.100-DIA | H6685 |
| .125 (1/8) | 1/8 | .500 | 1-1/2 | CCMG-404-DIA | 10067 |
| .156 | 3/16 | .470 | 2 | CCMG-.156-DIA | H6686 |
| .1875 (3/16) | 3/16 | .625 | 2 | CCMG-606-DIA | 10069 |
| .250 (1/4) | 1/4 | .750 | 2-1/2 | CCMG-808-DIA | 10071 |
| .3125 (5/16) | 5/16 | .8125 | 2-1/2 | CCMG-1010-DIA | 10073 |
| .375 (3/8) | 3/8 | .100 | 2-1/2 | CCMG-1212-DIA | 10075 |



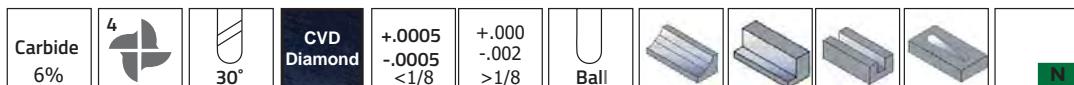
LARGER Sizes In [Full Line Catalog](#)





SERIES: CCMG-__-B-DIA

4 FLUTE BALL END DIAMOND COATED END MILLS



| DIA D ₁ | SHK D ₂ | LOC L ₂ | OAL L ₁ | PART NAME | CVD EDP |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|------------|
| .015 | 1/8 | .045 | 1-1/2 | CCMG-.015-B-DIA | H6687 |
| .020 | 1/8 | .060 | 1-1/2 | CCMG-.020-B-DIA | H6688 |
| .0312 (1/32) | 1/8 | .093 | 1-1/2 | CCMG-401-B-DIA | 10077 |
| .040 | 1/8 | .120 | 1-1/2 | CCMG-.040-B-DIA | H6689 |
| .047 | 1/8 | .141 | 1-1/2 | CCMG-.047-B-DIA | H6690 |
| .050 | 1/8 | .150 | 1-1/2 | CCMG-.050-B-DIA | H6691 |
| .060 | 1/8 | .180 | 1-1/2 | CCMG-.060-B-DIA | H6692 |
| .0625 (1/16) | 1/8 | .186 | 1-1/2 | CCMG-402-B-DIA | 10079 |
| .078 | 1/8 | .234 | 1-1/2 | CCMG-.078-B-DIA | H6693 |
| .0938 (3/32) | 1/8 | .279 | 1-1/2 | CCMG-403-B-DIA | 10081 |
| .100 | 1/8 | .300 | 1-1/2 | CCMG-.100-B-DIA | H6694 |
| .125 (1/8) | 1/8 | .500 | 1-1/2 | CCMG-404-B-DIA | 10083 |
| .156 | 3/16 | .470 | 2 | CCMG-.156-B-DIA | H6695 |
| .1875 (3/16) | 3/16 | .625 | 2 | CCMG-606-B-DIA | 10085 |
| .250 (1/4) | 1/4 | .750 | 2-1/2 | CCMG-808-B-DIA | 10087 |
| .3125 (5/16) | 5/16 | .8125 | 2-1/2 | CCMG-1010-B-DIA | 10089 |
| .375 (3/8) | 3/8 | .100 | 2-1/2 | CCMG-1212-B-DIA | 10091 |

LARGER Sizes In [Full Line Catalog](#)

WHERE DO YOUR MICROs ORIGINATE?



THE MELIN: INVESTMENT

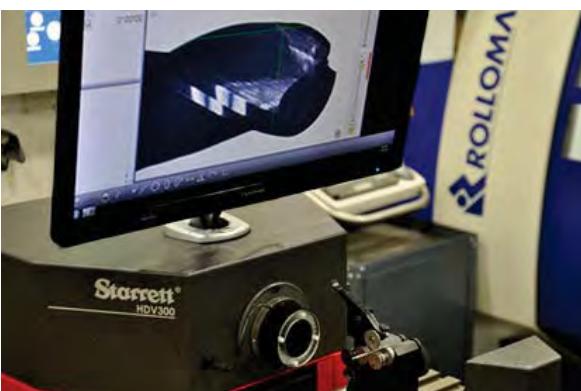
Over **\$2 Millions** Spent in Manufacturing equipment in 2015

PRODUCTION INVESTMENT

Several ROLLOMATIC® 528XW with Smart changer • ROLLOMATIC® SharpSmart® np3 • WALTER® Helitronic micro • WALTER® Helitronic mini

QUALITY

Zoller Genius® 3m Micro, • ROLLOMATIC® LS-II Smart • Starrett HDV300



OVER \$2 MILLION INVESTED IN MELIN MANUFACTURING





SERIES: AMG-__-DP

2 FLUTE MELIN DRILL POINT END MILLS

2 Flute Drill Point End Mills in 60°, 82° and 90° end styles. This series can be used for spotting, countersinking, drilling, side milling and chamfering. With Melin's in house coating capabilities, All tools listed are available bright or can be coated with any Melin coating.



(For larger diameters, please see full line catalog)



- Available from .015-0.250
(larger diameters in full line catalog)
- Center cutting
- Bright & AlTiN
additional coatings available on request
- Made from premium submicron grain carbide

ALL LENGTHS - 60°, 82° & 90° DRILL POINT END

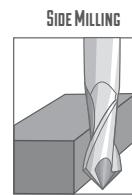
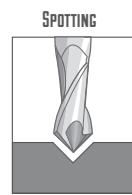
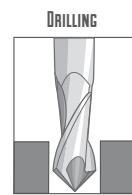
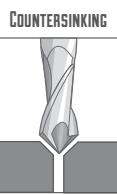
Premium 2 Flute Carbide Micro End Mills. With a single tool, you can **spot drill, countersink, chamfer or profile** in all medium hard ferrous materials. Manufactured in Cleveland, OH.

2
FLUTES

SERIES: AMG-__-DP

2 FLUTE 60°, 82°, 90° DRILL POINT END MILLS

(product code PIC)



Carbide



+.0005
-.0005
<1/8

+.000
-.002
≥1/8



HRc
<48



| | DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | ANGLE A | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP |
|-----|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------|---------------------|---------------|--------------|
| 60° | 1/16 | 1/8 | 3/16 | 1-1/2 | 60 | AMG-402-DP60 | 12199 | 52199 |
| | 3/32 | 1/8 | 3/8 | 1-1/2 | 60 | AMG-403-DP60 | 12200 | 52200 |
| | 1/8 | 1/8 | 1/2 | 1-1/2 | 60 | AMG-404-DP60 | 11663 | 51663 |
| | 3/16 | 3/16 | 5/8 | 2 | 60 | AMG-606-DP60 | 12201 | 52201 |
| | 1/4 | 1/4 | 3/4 | 2-1/2 | 60 | AMG-808-DP60 | 11665 | 51665 |
| 82° | 1/16 | 1/8 | 3/16 | 1-1/2 | 82 | AMG-402-DP82 | H2052 | H2053 |
| | 1/8 | 1/8 | 1/2 | 1-1/2 | 82 | AMG-404-DP82 | 12455 | 52455 |
| | 3/16 | 3/16 | 5/8 | 2 | 82 | AMG-606-DP82 | H2054 | H2055 |
| | 1/4 | 1/4 | 3/4 | 2-1/2 | 82 | AMG-808-DP82 | 16590 | 56590 |
| 90° | .015 | 1/8 | .045 | 1-1/2 | 90 | AMG-.015-DP | 13039 | 53039 |
| | .020 | 1/8 | .060 | 1-1/2 | 90 | AMG-.020-DP | 13029 | 53029 |
| | .025 | 1/8 | .075 | 1-1/2 | 90 | AMG-.025-DP | 13031 | 53031 |
| | .030 | 1/8 | .090 | 1-1/2 | 90 | AMG-.030-DP | 13033 | 53033 |
| | .045 | 1/8 | .105 | 1-1/2 | 90 | AMG-.045-DP | 13035 | 53035 |
| | .060 | 1/8 | .180 | 1-1/2 | 90 | AMG-.060-DP | 13037 | 53037 |
| | 1/32 | 1/8 | 3/32 | 1-1/2 | 90 | AMG-401-DP | H1441 | H2048 |
| | 3/64 | 1/8 | 9/64 | 1-1/2 | 90 | AMG-401-1/2-DP | H1444 | H2049 |
| | 1/16 | 1/8 | 3/16 | 1-1/2 | 90 | AMG-402-DP | 11623 | 51623 |
| | 5/64 | 1/8 | 1/4 | 1-1/2 | 90 | AMG-402-1/2-DP | H1448 | H2050 |
| | 3/32 | 1/8 | 3/8 | 1-1/2 | 90 | AMG-403-DP | 11625 | 51625 |
| | 1/8 | 1/8 | 1/2 | 1-1/2 | 90 | AMG-404-DP | 16083 | 56083 |
| | 1/8 | 1/8 | 1/2 | 1-1/2 | 90 | AMG-404-DP1* | 16703 | 56703 |
| | 5/32 | 3/16 | 9/16 | 2 | 90 | AMG-605-DP | H1451 | H2051 |
| | 3/16 | 3/16 | 5/8 | 2 | 90 | AMG-606-DP | 16084 | 56084 |
| | 3/16 | 3/16 | 5/8 | 2 | 90 | AMG-806-DP1* | 16704 | 56704 |
| | 1/4 | 1/4 | 3/4 | 2-1/2 | 90 | AMG-808-DP | 16085 | 56085 |
| | 1/4 | 1/4 | 3/4 | 2-1/2 | 90 | AMG-808-DP1* | 16712 | 56712 |

* Tool names with "DP1" have a .005 sharp point for groove

See Melin's full line catalog for larger diameter drill points: 5/16 and above



www.melintool.com • 216-362-4200 • sales@melintool.com



SERIES: CCMG-__-DP

4 FLUTE MELIN DRILL POINT END MILLS

4 Flute Drill Point End Mills in 60°, 82° and 90° end styles. This series can be used for spotting, countersinking, drilling, side milling and chamfering. With Melin's in house coating capabilities, All tools listed are available bright or can be coated with any Melin coating.



(For larger diameters, please see full line catalog)



- Available from 0.031-0.250
(larger diameters in full line catalog)
- Center cutting
- Bright & AlTiN
additional coatings available on request
- Made from premium submicron grain carbide

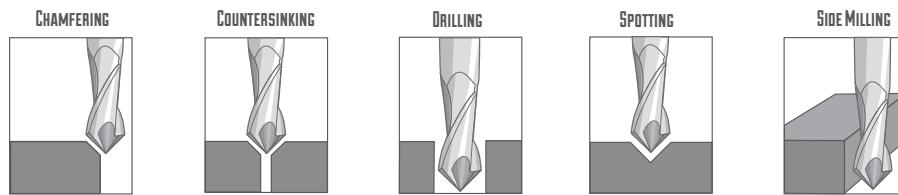
ALL LENGTHS - 60°, 82° & 90° DRILL POINT END

Premium 4 Flute Carbide Micro End Mills. With a single tool, you can **spot drill, countersink, chamfer or profile** in all medium hard ferrous materials. Manufactured in Cleveland, OH.

4
FLUTES

SERIES: CCMG-__-DP

4 FLUTE 60°, 82°, 90° DRILL POINT END MILLS



| | DIA D₁ | SHK D₂ | LOC L₂ | OAL L₁ | ANGLE A | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP |
|-----|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------|---------------------|---------------|--------------|
| 60° | 1/32 | 1/8 | 3/32 | 1-1/2 | 60 | CCMG-401-DP60 | H1452 | H1453 |
| | 3/64 | 1/8 | 9/64 | 1-1/2 | 60 | CCMG-401-1/2-DP60 | H1454 | H1455 |
| | 1/16 | 1/8 | 3/16 | 1-1/2 | 60 | CCMG-402-DP60 | 19764 | 59764 |
| | 5/64 | 1/8 | 1/4 | 1-1/2 | 60 | CCMG-402-1/2-DP60 | H1456 | H1457 |
| | 3/32 | 1/8 | 3/8 | 1-1/2 | 60 | CCMG-403-DP60 | 19765 | 59765 |
| | 1/8 | 1/8 | 1/2 | 1-1/2 | 60 | CCMG-404-DP60 | 19766 | 59766 |
| | 5/32 | 3/16 | 9/16 | 2 | 60 | CCMG-605-DP60 | H1458 | H1459 |
| | 3/16 | 3/16 | 5/8 | 2 | 60 | CCMG-606-DP60 | 19767 | 59767 |
| | 1/4 | 1/4 | 3/4 | 2-1/2 | 60 | CCMG-808-DP60 | 19768 | 59768 |
| 82° | 1/16 | 1/8 | 3/16 | 1-1/2 | 82 | CCMG-402-DP82 | 19775 | 59775 |
| | 5/64 | 1/8 | 1/4 | 1-1/2 | 82 | CCMG-402-1/2-DP82 | H1499 | H1500 |
| | 3/32 | 1/8 | 3/8 | 1-1/2 | 82 | CCMG-403-DP82 | 19776 | 59776 |
| | 1/8 | 1/8 | 1/2 | 1-1/2 | 82 | CCMG-404-DP82 | 19777 | 59777 |
| | 3/16 | 3/16 | 5/8 | 2 | 82 | CCMG-606-DP82 | 19778 | 59778 |
| | 1/4 | 1/4 | 3/4 | 2-1/2 | 82 | CCMG-808-DP82 | 19779 | 59779 |
| 90° | 1/32 | 1/8 | 3/32 | 1-1/2 | 90 | CCMG-401-DP | H1439 | H1440 |
| | 3/64 | 1/8 | 9/64 | 1-1/2 | 90 | CCMG-401-1/2-DP | H1442 | H1443 |
| | 1/16 | 1/8 | 3/16 | 1-1/2 | 90 | CCMG-402-DP | 11629 | 51629 |
| | 5/64 | 1/8 | 1/4 | 1-1/2 | 90 | CCMG-402-1/2-DP | H1445 | H1446 |
| | 3/32 | 1/8 | 3/8 | 1-1/2 | 90 | CCMG-403-DP | 11631 | 51631 |
| | 1/8 | 1/8 | 1/2 | 1-1/2 | 90 | CCMG-404-DP | 11633 | 51633 |
| | 5/32 | 3/16 | 9/16 | 2 | 90 | CCMG-605-DP | H1449 | H1450 |
| | 3/16 | 3/16 | 5/8 | 2 | 90 | CCMG-606-DP | 11635 | 51635 |
| | 1/4 | 1/4 | 3/4 | 2-1/2 | 90 | CCMG-808-DP | 11637 | 51637 |



LARGER Sizes In [Full Line Catalog](#)

See Melin's full line catalog for larger diameter drill points: 5/16 and above



www.melintool.com • 216-362-4200 • sales@melintool.com



SERIES: BRMG

2 FLUTE DOUBLE END CORNER ROUNDING END MILLS

Newly Expanded 2 Flute double end corner rounding end mills. This series offers a wide range of uncoated and coated corner rounders in stub and standard sizes. With Melin's in house coating capabilities, All tools listed are available bright or with any Melin coating. See our main catalog for our 3 and 4 flute selections.



(For larger diameters, please see full line catalog)



- Available radius from 0.010-0.156
- Available with choice of minor diameters
- Bright, AlTiN, & Amorphous (DLC) Diamond
additional coatings available on request
- Made from premium submicron grain carbide

ALL LENGTHS - DOUBLE END CORNER ROUNDERS

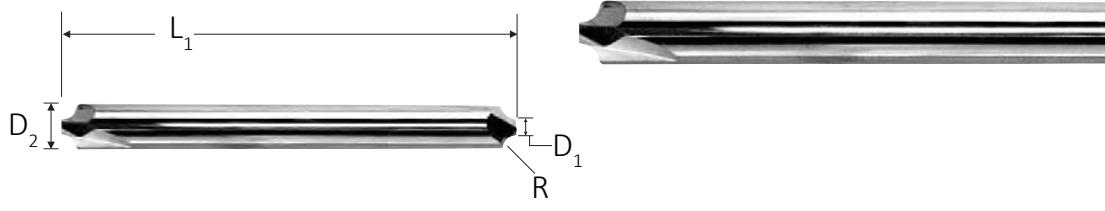
Premium 2 Flute Carbide Double End Corner Rounding End Mills. Ideal for adding a small radius to the workpiece corners for optimal edge finish in medium hard ferrous materials. Manufactured in Cleveland, OH.

2
FLUTES

SERIES: BRMG

2 FLUTE DOUBLE END CORNER ROUNDING END MILLS

(product code PIC)



| Radius R | MINOR DIA D₁ | SHK/ LG. DIA D₂ | OAL L₁ | LENGTH | BRIGHT PART NAME | BRIGHT EDP | ALTIN EDP | DLC EDP |
|--------------------|--------------------------------------|---|-----------------------------|--------|---------------------|---------------|--------------|------------|
| 0.010 | .047 | 1/8 | 1-1/2 | stub | BRMG-4010-S | 11178 | 51178 | 71178 |
| 0.010 | .105 | 1/8 | 1-1/2 | std | BRMG-4010 | 16293 | 56293 | 76293 |
| 0.015 | .047 | 1/8 | 1-1/2 | stub | BRMG-4015-S | 11179 | 51179 | 71179 |
| 0.015 | .095 | 1/8 | 1-1/2 | std | BRMG-4015 | 16294 | 56294 | 76294 |
| 0.020 | .047 | 1/8 | 1-1/2 | stub | BRMG-4020-S | 11181 | 51181 | 71181 |
| 0.020 | .085 | 1/8 | 1-1/2 | std | BRMG-4020 | 16295 | 56295 | 76295 |
| 0.025 | .075 | 1/8 | 1-1/2 | std | BRMG-4025 | 16296 | 56296 | 76296 |
| 0.030 | .047 | 1/8 | 1-1/2 | stud | BRMG-4030-S | 11703 | 51703 | 71703 |
| 0.031 | .047 | 1/8 | 1-1/2 | stub | BRMG-4031-S | 11182 | 51182 | 71182 |
| 0.031 | .063 | 1/8 | 1-1/2 | std | BRMG-4031 | 16297 | 56297 | 76297 |
| 0.035 | .055 | 1/8 | 1-1/2 | std | BRMG-4035 | 16298 | 56298 | 76298 |
| 0.039 | .047 | 1/8 | 1-1/2 | std | BRMG-4039 | 16299 | 56299 | 76299 |
| 0.047 | .047 | 3/16 | 2 | stub | BRMG-6047-S | 11183 | 51183 | 71183 |
| 0.047 | .094 | 3/16 | 2 | std | BRMG-6047 | 16300 | 56300 | 76300 |
| 0.050 | .088 | 3/16 | 2 | std | BRMG-6050 | 16301 | 56301 | 76301 |
| 0.055 | .078 | 3/16 | 2 | std | BRMG-6055 | 16302 | 56302 | 76302 |
| 0.062 | .047 | 3/16 | 2 | stub | BRMG-6062-S | 11185 | 51185 | 71185 |
| 0.062 | .064 | 3/16 | 2 | std | BRMG-6062 | 16303 | 56303 | 76303 |
| 0.072 | .106 | 1/4 | 2-1/2 | std | BRMG-8072 | 16304 | 56304 | 76304 |
| 0.078 | .047 | 1/4 | 2 | stub | BRMG-8078-S | 11186 | 51186 | 71186 |
| 0.078 | .094 | 1/4 | 2-1/2 | std | BRMG-8078 | 16305 | 56305 | 76305 |
| 0.093 | .064 | 1/4 | 2-1/2 | std | BRMG-8093 | 16306 | 56306 | 76306 |
| 0.094 | .047 | 1/4 | 2 | stub | BRMG-8094-S | 11187 | 51187 | 71187 |
| 0.100 | .050 | 1/4 | 2-1/2 | std | BRMG-8100 | 16307 | 56307 | 76307 |
| 0.109 | .095 | 5/16 | 2-1/2 | std | BRMG-10109 | 16308 | 56308 | 76308 |
| 0.118 | .077 | 5/16 | 2-1/2 | std | BRMG-10118 | 16309 | 56309 | 76309 |
| 0.125 | .063 | 5/16 | 2-1/2 | std | BRMG-10125 | 16310 | 56310 | 76310 |
| 0.140 | .095 | 3/8 | 2-1/2 | std | BRMG-12140 | 16311 | 56311 | 76311 |
| 0.156 | .063 | 3/8 | 2-1/2 | std | BRMG-12156 | 16312 | 56312 | 76312 |



LARGER Sizes In [Full Line Catalog](#)



www.melintool.com • 216-362-4200 • sales@melintool.com

S P E E D & F E E D:

2, 3, & 4 FLUTES: AMG, EMG, & CCMG SERIES

| MATERIAL | CONDITIONS | START- ING SFM | FL | CUTTING DIAMETER | | | | | | | |
|--|--|-------------------|--------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | | .005 - .015 | .015 - .030 | .030 - .045 | .045 - .060 | .060 - .075 | .075 - .090 | .090 - .105 | .105 - .125 |
| STAINLESS STEELS ISO-M | | | | | | | | | | | |
| Precipitation 13-8, 15-5, 17-4PH | Slotting @ ≤ 10% of D | 90 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| | Profiling @ 6% of D Axial / ≤ 20% of D Radial | 250 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| Austenitic 302, 303, 304L, 316L | Slotting @ ≤ 15% of D | 100 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| | Profiling @ 6% of D Axial / ≤ 30% of D Radial | 250 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| Martensitic 403, 410, 416 | Slotting @ ≤ 15% x D | 100 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| | Profiling @ 6% of D Axial / ≤ 30% of D Radial | 250 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| HIGH TEMP ALLOYS ISO-S | | | | | | | | | | | |
| Cobalt Base Stellite, Haynes 25, 188, X-40, L-605 | Slotting @ 7% of D | 50 | 2 or 4 | 0.0001 | 0.0001 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 |
| | Profiling @ 5% of D Axial / ≤ 20% of D Radial | 80 | 2 or 4 | 0.0001 | 0.0001 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 |
| Nickel Base Inconel 600, 625, 718, Nickel 200, 270, Invar, Monel 400, 405, K-Monel, PermaNickel 300, Incoly 600 | Slotting @ 7% of D | 40 | 2 or 4 | 0.0001 | 0.0001 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 |
| | Profiling @ 5% of D Axial / ≤ 20% of D Radial | 60 | 2 or 4 | 0.0001 | 0.0001 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 |
| Iron Base Incoloy 800-802, Multimet N-155, Timken 16-26-6 | Slotting @ 7% of D | 80 | 2 or 4 | 0.0001 | 0.0001 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 |
| | Profiling @ 5% of D Axial / ≤ 20% of D Radial | 100 | 2 or 4 | 0.0001 | 0.0001 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 |
| STEELS ISO-P | | | | | | | | | | | |
| High Strength Steels 4140, 4340, 52100 | Slotting @ ≤ 15% of D | 100 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| | Profiling @ 6% of D Axial / ≤ 30% of D Radial | 180 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| High Alloy Steels - Mold & Die A-2, P20, 01, 02, D2, H-13 | Slotting @ ≤ 10% of D | 125 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| | Profiling @ 6% of D Axial / ≤ 20% of D Radial | 250 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| Medium Alloy Steels 200, 250, 300 | Slotting @ ≤ 15% of D | 125 | 2 or 4 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 | 0.0006 | 0.0006 |
| | Profiling @ 6% of D Axial / ≤ 30% of D Radial | 250 | 2 or 4 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 | 0.0006 | 0.0006 |
| Low Alloy Steels-Maraging 10XX, 11XX, 13XX | Slotting @ ≤ 15% of D | 150 | 2 or 4 | 0.0004 | 0.0004 | 0.0005 | 0.0005 | 0.0006 | 0.0006 | 0.0007 | 0.0007 |
| | Profiling @ 6% of D Axial / ≤ 35% of D Radial | 300 | 2 or 4 | 0.0004 | 0.0004 | 0.0005 | 0.0005 | 0.0006 | 0.0006 | 0.0007 | 0.0007 |
| CAST IRONS ISO-K | | | | | | | | | | | |
| Ductile Iron Ductile Cast Iron | Slotting @ 15% of D | 100 | 2 or 4 | 0.0004 | 0.0004 | 0.0005 | 0.0005 | 0.0006 | 0.0006 | 0.0007 | 0.0007 |
| | Profiling @ 10% of D Axial / ≤ 25% of D Radial | 250 | 2 or 4 | 0.0004 | 0.0004 | 0.0005 | 0.0005 | 0.0006 | 0.0006 | 0.0007 | 0.0007 |
| Cast Iron Grey Cast Iron | Slotting @ 25% of D | 125 | 2 or 4 | 0.0004 | 0.0004 | 0.0005 | 0.0006 | 0.0008 | 0.0008 | 0.0010 | 0.0010 |
| | Profiling @ 10% of D Axial / ≤ 35% of D Radial | 400 | 2 or 4 | 0.0004 | 0.0004 | 0.0005 | 0.0006 | 0.0008 | 0.0008 | 0.0010 | 0.0010 |
| TITANIUMS ISO-S | | | | | | | | | | | |
| Titanium Alloys 6AL-4V, ASTM 1, 2, 3, 6AL-2S For 5553, decrease SFM and IPM by 25% | Slotting @ ≤ 15% of D | 125 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| | Profiling @ 6% of D Axial / ≤ 20% of D Radial | 250 | 2 or 4 | 0.0002 | 0.0002 | 0.0003 | 0.0003 | 0.0004 | 0.0004 | 0.0005 | 0.0005 |
| ALUMINUM ISO-N | | | | | | | | | | | |
| Aluminum Alloys 6061-T6, 7075 | Slotting @ ≤ 15% of D | 650 | 2 or 4 | 0.0004 | 0.0004 | 0.0005 | 0.0006 | 0.0008 | 0.0008 | 0.0010 | 0.0010 |
| | Profiling @ 10% of D Axial / ≤ 35% of D Radial | 775 | 2 or 4 | 0.0004 | 0.0004 | 0.0005 | 0.0006 | 0.0008 | 0.0008 | 0.0010 | 0.0010 |

For complete speed and feed charts:

See Full Line Catalog or www.melintool.com



Note: All technical data provided are suggested starting points. They may be increased or decreased depending on machine condition, depth of cut, finish required, coolant, etc.

EXPANDED SERIES:

FOR THE LATEST PRODUCT LISTING, VISIT www.melintool.com

SERIES: HMG

2 Flute Micro Hard Milling Carbide End Mill

- **Ball and Radius**

- **Size offering range**

- 0.020 - 1/2"



- **Material:** Carbide

- Offered in 1.5x, 3x, 5x, 8x, 12x, 15x Reach

- Designed for die and mold milling for hardened steel

- Standard nACo coated for superior hardness

COMING SOON

SERIES: BC

Multi Flute Micro Double Angle Cutters End Mills

- **Size offering range**

- 1/16-1"



- **Material:** Carbide

- Offered Included angle 60° & 90°

- Standard Bright

Available coatings: AlTiN

COMING SOON

SERIES: VBMG2 & VGMG4

2 & 4 Flute Micro Spherical Ball End Mills

- Offered in

- 220°**



- 270° - New**

- 300° - New**

- **Material:** Carbide

- Offered with multiple Lengths Below Shank

- Designed for use in die & mold, for undercutting, and multi axis machining

- Standard nACo Coated

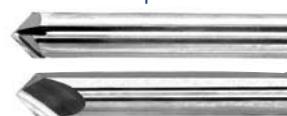


SERIES: CMG2, CMG3 & CMG4

2, 3, & 4 Flute Chamfer Cutters

- **Size offering range**

- 1/8-3/4"



- **Material:** Carbide

- Offered with Pointed End and Flat End

- Multiple angles offered

- Designed for deburring, chamfering & profiling

- Standard Bright

Available coatings: AlTiN

SERIES: VXMG

Multi Flute High Performance Carbide End Mills

- **Size offering range**

- 0.032 - 1"



- **Variable Helix End Mills** offered in 3, 4, 5, 7, & 9 Flutes

- **Material:** Carbide

- Square, radius, chamfer, & ball styles available

- Standard nACo & nACRo Coated

SERIES: ENGRAVING CUTTERS

30°, 60°, 90° Included Angle Engraving Cutters

- **Size offering range**

- 1/8 - 1/2"



- **Pointed Tip & Tipped Off Style**

- **Material:** Carbide

- Standard Bright

Available coatings: AlTiN or DLC



www.melintool.com • 216-362-4200 • sales@melintool.com

**Sign up to get current
MELIN News EMAILED to you
Visit www.melintool.com**




INSIGHTS OF THE MONTH

THE MELIN REFRESHER

prompting your work by providing useful insights

FASTER MATERIAL REMOVAL

VXMG variable flute carbide end mills provide extreme performance with fastest metal removal and longest tool life of **ANY** brand in the business

- 4, 5, 7 & 9 Flute configurations
- Effective for ALL ferrous materials
- Designed for maximum Metal Removal Rates
- For roughing or finishing - all operations
- Many lengths and radius choices - standard
- Inch and Metric sizes - Standard
- Necked styles for step-down milling
- nACo or nACRo coating - standard
- Special series for Titanium and Nickel Based Alloys

[READ MORE >>>](#)



Not all variable flute end mills are the same. Test Melin VXMG end mills in YOUR spindle and prove to yourself, they're the **BEST** in the business!

[Speed & Feed Info](#)



[Variable Flute RESOURCES](#)

[VXMG stock](#) ✓ [VXMG Literature](#)

Application Advice

Productivity Tips of the Month

Use Trochoidal Milling for efficient machining in pocketing operations.
Use a constant circular interpolation movement at full axial depth...
[READ MORE >>>](#)

nACo and nACRo coatings have higher heat resistance and provide higher lubricity than AlTiN, TiAlN, & TiCN. Proven to deliver longer tool life on Titanium Alloys, Stainless & Steel Alloys and Nickel Based Alloys...
www.melintool.com

[Melin Tools in Action](#) 



5565 Venture Drive Cleveland, OH USA
TEL: 216-362-4200 **TEL (toll free):** 1-800-521-1078
FAX: 216-362-4230 **FAX (toll free):** 1-800-521-1558

- **MANUFACTURER ADVANTAGE**
- **EXCELLENCE IN QUALITY AND CONSISTENCY**
- **WORLD CLASS PERFORMANCE**



CONTINUOUS GROWTH

In tool styles, size ranges, material and application solutions

We work hard to bring you the best in the industry

- » Melin continues to build and expand our product line. We are committed to adding new products and services to provide our user tools that will do the job better, faster and less costly.

Call Customer Service for details

Call 216-362-4200
or 1-800-521-1078 toll free



MORE ABOUT MELIN

PRODUCT PORTFOLIO

an overview of melin's offerings

The complete product catalog can be ordered or downloaded at www.melintool.com.

—○ CARBIDE THREAD MILLS

—○ CARBIDE & HSS COUNTERSINKS

—○ CARBIDE BURS

APPLICATION OPTIMIZATION

technical assistance by a veteran staff

- » Utilize our knowledgeable staff of in-field & in-house application engineers for technical questions or problem solving because part of our product is the quality service that comes with it.

Call 216-362-4200
or 1-800-521-1078 toll free

END MILLS

- » High Performance Carbide
- » General Purpose Carbide
- » Special Use Carbide
- » High Performance Powdered Metal
- » General Purpose Cobalt & HSS
- » Cobalt & HSS Roughers

DRILLS

- » High Performance Carbide
- » General Purpose Carbide

SPECIALS

SPEED & FEED MOBILE APP

a convient tool for on the job calculations

- » Download on Google Play
- » Coming soon to the The Apple Store



With Melin's **MICRO END MILL PRODUCT LINE**, you **BENEFIT FROM THE MANUFACTURER'S ADVANTAGE**— Melin Tool's micro products are manufactured in-house, in our Cleveland, Ohio Facility. Our advantage is that we have complete control of the entire manufacturing process. We use the highest quality carbide rod and state-of-the-art grinding, inspection and coating equipment. Melin Tool provides SUPERIOR performance, with reliable and consistent quality - EVERY TIME!

Our high precision micro end mills can be produced on our advanced *ROLLOMATIC®* CNC grinding machines, including several 528XW and *ShapeSmart® np3*, which are designed to execute extremely close tolerances. We also have our *WALTER®* Helitronic micro/mini. To ensure quality, we have multiple, sophisticated inspection devices: a *ZOLLER Genius 3m Micro* with a huge intensity of magnification & a *ROLLOMATIC® LS-II Smart*. This is what separates Melin from other micro end mill lines and helps us manufacture premium cutting tools.



WHERE DO YOUR MICROs ORIGINATE?

Contact Your Authorized Melin Distributor Today

LIT: MICRO2016



MELIN