CMF – Flat Stamps

Technical Data Sheet

CMT
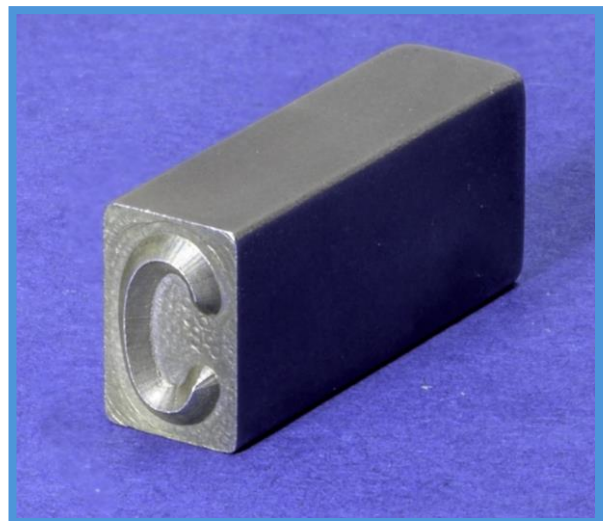**COLUMBIA**
MARKING
TOOLS

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Flat Stamps – CMF

The CMF – flat type is used for indention marking and is held in the stamp recess/holder with a set screw. The CMF flat type is used in the Model 78 with the rod style "A". The CMF flat type is also used in Press Holders, Flat Holders for roll marking round parts, and Hand-holders.

The set screw is inserted from the side of the line of type. It pushes all the type together. This retention method is not good for applications with extensive vibrations. For those applications CMT recommends a groove or step type stamp.

The CMF Flat type are made in the USA with a double pass engraving process for quality, clarity of mark, and longevity of the tool.
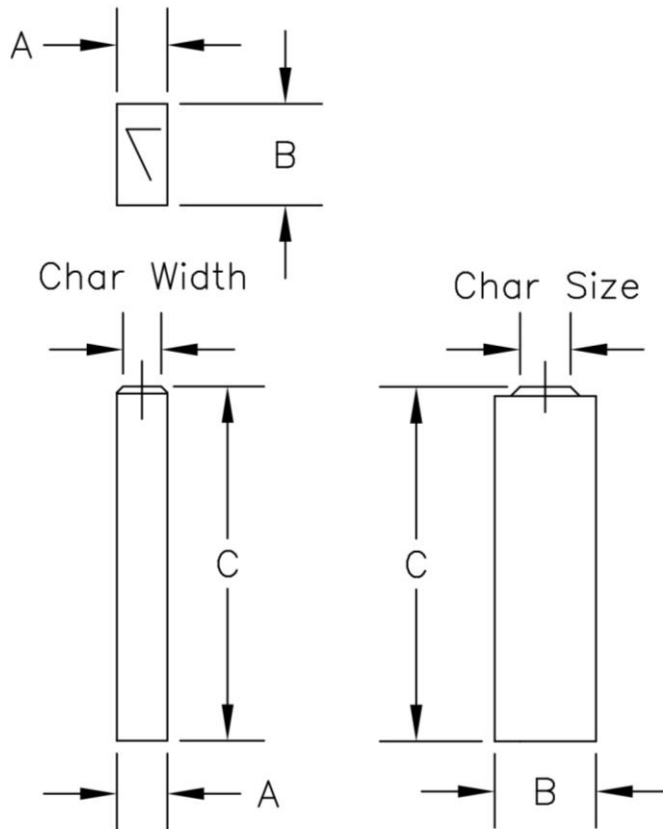
Technical Specifications:

- Double pass engraved (NOT EDM)

- W-1 Tool Steel

- 45 Degree engraving angle

- Sharp face character

- Gothic standard (San Serif) font

- Heat treated to 57-59 Rc

- Deburred

- Acc Coating for long life

Drawing

A = Width

B = Height

C = Length

Char Size – Measured from the top of the character.

Char Width – Style 2A, width is 50% of the character size.

Tolerance - +.000"/-.001" on all dimensions.

Standard Dimensions

Char. Size	Catalog Number	"A"	"B"	"C"	Engraving Depth
1/32" .8mm	CMF03N	1/16" 1.6mm	1/8" 3.2mm		.012" .3mm
1/32" .8mm	CMF03	1/32" .8mm	1/4" 6.3mm		.012" .3mm
1/16" 1.6mm	CMF06N	1/16" 1.6mm	1/8" 3.2mm		.018" .5mm
1/16" 1.6mm	CMF06	1/16" 1.6mm	1/4" 6.3mm		.018" .5mm
3/32" 2.4mm	CMF09N	3/32" 2.4mm	3/16" 4.8mm		.020" .5mm
3/32" 2.4mm	CMF09	3/32" 2.4mm	1/4" 6.3mm	7/8" 22.2mm	.020" .5mm
1/8" 3.2mm	CMF13	1/8" 3.2mm	1/4" 6.3mm		.023" .6mm
5/32" 4mm	CMF16	3/16" 4.8mm	5/16" 7.9mm		.025" .6mm
3/16" 4.8mm	CMF19	3/16" 4.8mm	5/16" 7.9mm		.025" .6mm
1/4" 6.3mm	CMF25	1/4" 6.3mm	3/8" 9.5mm		.030" .8mm
5/16" 7.9mm	CMF31	5/16" 7.9mm	7/16" 11.1mm		.032" .8mm
3/8" 9.8mm	CMF38	3/8" 9.8mm	1/2" 12.7mm	1 25.4mm	.035" .9mm
1/2" 12.7mm	CMF50	1/2" 12.7mm	5/8" 15.9mm	1 1/8" 28.6mm	.050" 1.3mm

How to Order Standard Stamps

Build catalog number as shown.

1) Start with the basic model/stamp style.

2) Add the 2-digit character size notation.

3) Finish with the reading, alpha-numeric characters, punctuation codes, or Symbol numbers. Some symbols may require a double sized insert.

To order individual LETTERS and FIGURES add suffix of actual letter or figure to part number

CMF	09	-A
Style	Char Size	Letter or Figure

To order BLANK SPACERS add suffix of "-00" to part number

CMF	13	-00
Style	Char Size	Blank Spacer

To order PUNCTUATION add suffix from table

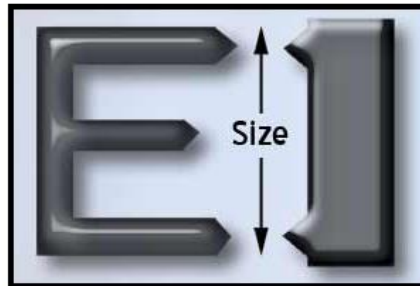| CMF	25	-RR
Style	Char Size	Asterisk Suffix

2 Digit Character Size

- 1/32" – 03
- 1/16" – 06
- 3/32" – 09
- 1/8 – 13
- 5/32" – 16
- 3/16" – 19
- ¼" – 25
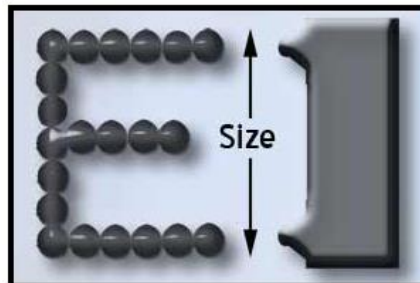- 5/16" – 31
- 3/8" – 38
- 1/2" - 50

Character Face Styles

Standard Sharp Face

Standard CMF Flat Stamps are engraved as sharp face characters. This type of face style is engraved with a sharp edge. A sharp face tool penetrates more easily than flat face.

Custom Dot Style

Dot Style Characters are engraved with a series of conical dots for the lowest possible stress when marking. Recommended for high pressure fittings, aircraft, and other parts where sharp tools might disrupt the molecular structure of the metal.

To order individual DOT STYLE letters and figures add DOT notation to part number as shown.

CMF	09	DOT	-A
Style	Char Size	Dot-Style Notation	Letter or Figure

How to Order Multi-character or Logo Dies

To order LOGO DIES (multiple character stamps) in Flat stamp style add prefix "L" and suffix of ACTUAL LEGEND to catalog number.

L	CMF	13	-FoMoCo
Logo Die	Style	Char Size	Stamp reads "FoMoCo". Width is A*6 (where "A" is the width of a single character)

L	CMF	13	-COMPANY
Logo Die	Style	Char Size	Stamp reads "COMPANY". Width is A*7 (where "A" is the width of a single character)

Dimensions for multi-character dies

MA = Number of characters in the legend x individual character width

B = Same as individual character height

C= Same as individual character length

Benefits of multi-character dies

1. Characters are exactly lined up.

2. Ability to reduce spacing or marking length.

3. Same wear, all characters mark same depth.

4. Easily add custom logos or characters

For Custom logo dies, please email artwork or logo, stamp style, and size required to quotes@columbiamt.com.

Multi-character Dimensions

MA = Width is determined by the number of character and spaces. Multiple the standard width of A by the total number of character and spaces.
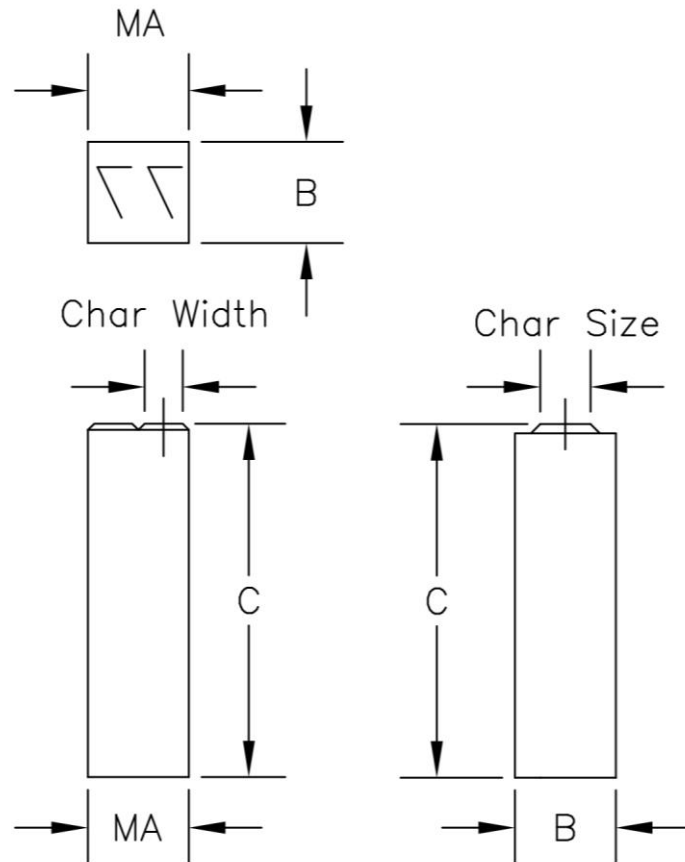
B = Height

C = Length

Char Size – Measured from the top of the character.

Char Width – Style 2A, width is 50% of the character size.

Tolerance - +.000"/-.001" on all dimensions.

Consideration for overall length of multi-character stamps:
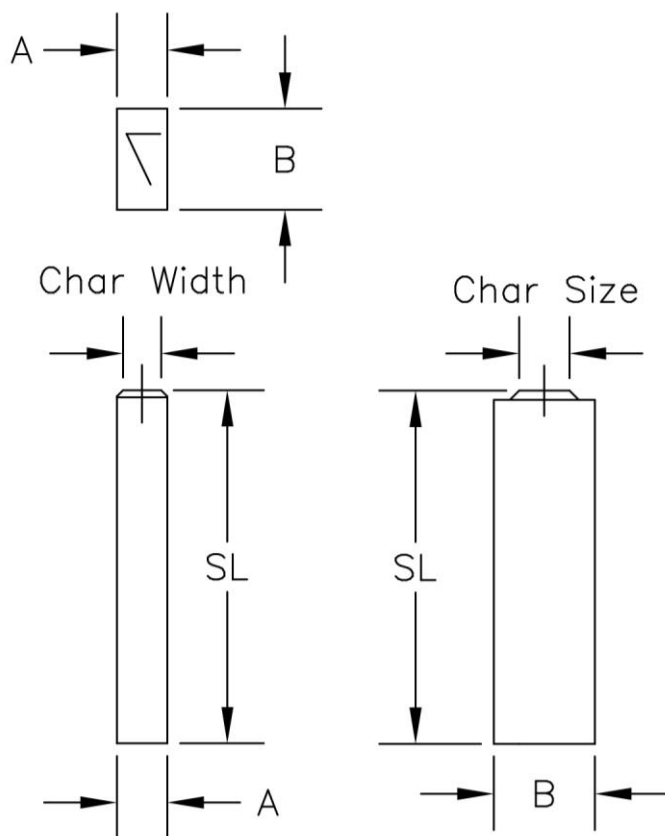
- Spaces may be reduced to less than 1 standard space wide.

- A double wide stamp blank is required for some of the symbols. Symbols where the width is about the same as the height. One example is Symbol #110.

- Blank size may be selected to fill out pocket. If this is the case, please include alignment required: left, right, center.

Special Length Stamps

These stamps are used when marking in a recess or needing additional reach to mark the part.

A = Width

B = Height

SL = Special Length. Special lengths available for up to 2.5"

Char Size – Measured from the top of the character.

Char Width – Style 2A, width is 50% of the character size.

Tolerance - +.000"/-.001" on all dimensions.

To order individual SPECIAL LENGTH letters and figures add SL### notation to part number as shown.

CMF	13	SL100	-A
Style	Char Size	SL###, replace ### with the length required.	Letter or Figure

Special Length Dimensions

Char. Size	Catalog Number	"A"	"B"	"C"	Engraving Depth
1/32" .8mm	CMF03N	1/16" 1.6mm	1/8" 3.2mm		.012" .3mm
1/32" .8mm	CMF03	1/32" .8mm	1/4" 6.3mm		.012" .3mm
1/16" 1.6mm	CMF06N	1/16" 1.6mm	1/8" 3.2mm		.018" .5mm
1/16" 1.6mm	CMF06	1/16" 1.6mm	1/4" 6.3mm		.018" .5mm
3/32" 2.4mm	CMF09N	3/32" 2.4mm	3/16" 4.8mm		.020" .5mm
3/32" 2.4mm	CMF09	3/32" 2.4mm	1/4" 6.3mm	1/2" To 2.50" 12.7mm To 63.5mm	.020" .5mm
1/8" 3.2mm	CMF13	1/8" 3.2mm	1/4" 6.3mm		.023" .6mm
5/32" 4mm	CMF16	3/16" 4.8mm	5/16" 7.9mm		.025" .6mm
3/16" 4.8mm	CMF19	3/16" 4.8mm	5/16" 7.9mm		.025" .6mm
1/4" 6.3mm	CMF25	1/4" 6.3mm	3/8" 9.5mm		.030" .8mm
5/16" 7.9mm	CMF31	5/16" 7.9mm	7/16" 11.1mm		.032" .8mm
3/8" 9.8mm	CMF38	3/8" 9.8mm	1/2" 12.7mm		.035" .9mm
1/2" 12.7mm	CMF50	1/2" 12.7mm	5/8" 15.9mm		.050" 1.3mm

Standard Font

Columbia Marking Tools uses a font called "Gothic". This sans serif font is plain and easy to read.

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
0123456789
" # / , : . * ~ - > < + % $ = & x

The alpha/numeric listing above is a reference for the style of font CMT uses. However, there are slight variations between different manufacturing processes.

Even from year to year, the exact font changes slightly. The top part on figure 3, or the top flag on the figure one may be slightly more curved or a different size. CMT strongly recommends providing a picture or rubbing for the exact font recreation when required.

Punctuation

All CMT standard die and stamps are available with a wide variety of punctuation or symbols.

How to order:

For a CMF 3/8" flat type with an Ampersand - the following code would be used:

CMF38AA

To order punctuation on a die or stamps use the appropriate code from the following list.

-AA Ampersand (&)
-BB Dollar Sign ($)
-BS Back Slash (\)
-CC Comma (,)
-DD Dash (-)
-EE Equals Sign (=)
-GG Semi Colon (;)
-HH Apostrophe (')
-II Inch Mark, Quotes (")
-JJ Underscore (_)
-KK Question Mark (?)
-LL Colon (:)
-MM Multiplication (X)
-NN Number Sign (#)
-Degree Symbol (°)

-PP Period (.)
-QQ Percent Sign (%)
-RR Asterisk (*)
-SS Slash, Diagonal (/)
-TT Number Sign (#)
-US Underscore (_) use JJ
-UU Plus Sign (+)
-VV Left Parenthesis [(]
-WW Right Parenthesis [)]
-YY Exclamation Point (!)
-ZZ At Sign (@)
REG- Registration Symbol (®)
PEN- Pentastar
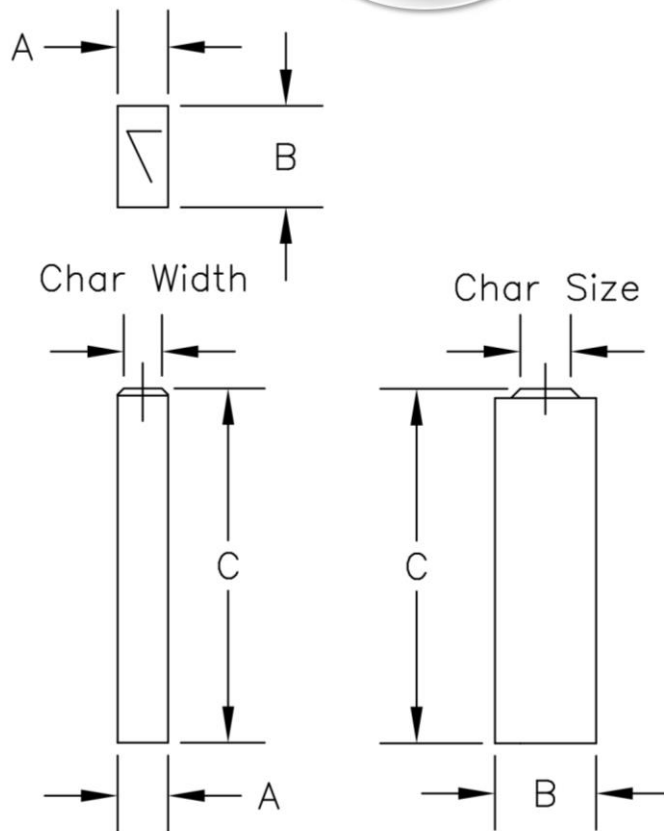PUN- Punctuation Other Examples < > ^ ~ [ ]

Custom Flat Dies

Columbia Marking Tools can design and manufacture custom flat type and dies. CMT can provide a quotation to any customer custom print. The print or the request may be sent to

quotes@columbiamt.com.

Customizations:

- Dimensions: This is the most common customization. A – Width, B – Height, and C – Length.

- Font - Classic styles and replication of characters. Also, marking in reverse or mirror for mold marking or the back of thin material.

- Material

- Engraving Angle

- Engraving Depth

CMT will provide standard parameters for any component not defined by request or print.