

CMS – Step Stamps

Technical Data Sheet

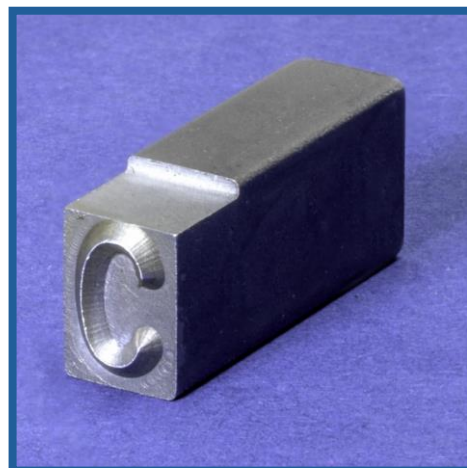


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Other Resources

- Overestimates of Character size
- Character Size Data
- Symbols
- Estimated Hammer Force
- Marking Pressure Chart
- Engraving Depth
- Character Size on Rounds
- Style of Fractions



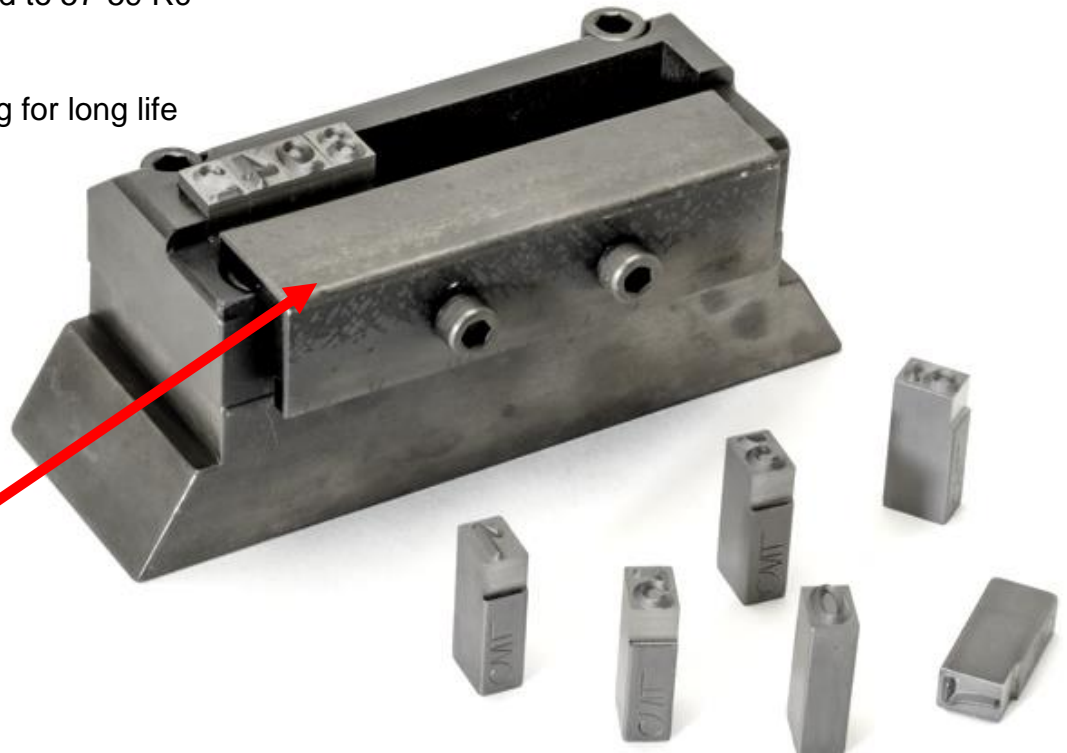
Step Stamps – CMS

The CMS – step type is used for indentation marking and is held in the stamp recess/holder with spring clip. The CMS step type is used in the Roll Marking tooling, hand holders, and press holders.

The CMS step type is an industry standard, and with the metal plate retention method that assures a secure hold for type while allowing slight motion during the marking process. The CMS Step type are made in the USA with a double pass engraving for quality, clarity of mark, and longevity of the tool.

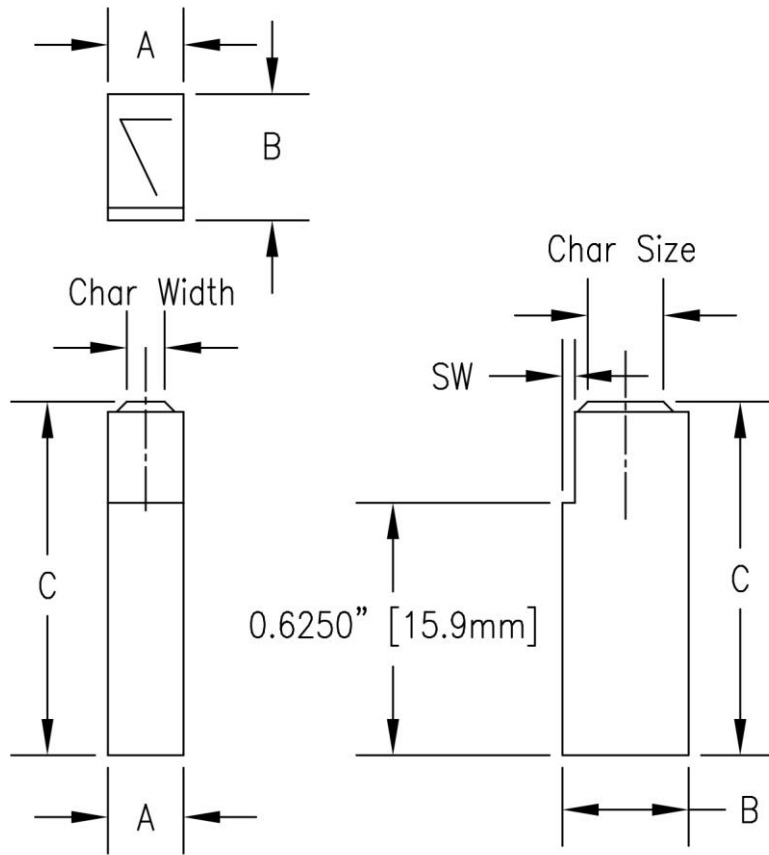
Technical Specifications:

- 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



**Metal plate for
stamp retention.**

Drawing



A = Width

B = Height

C = Length

Char Size –
Measured from
the top of the
character.

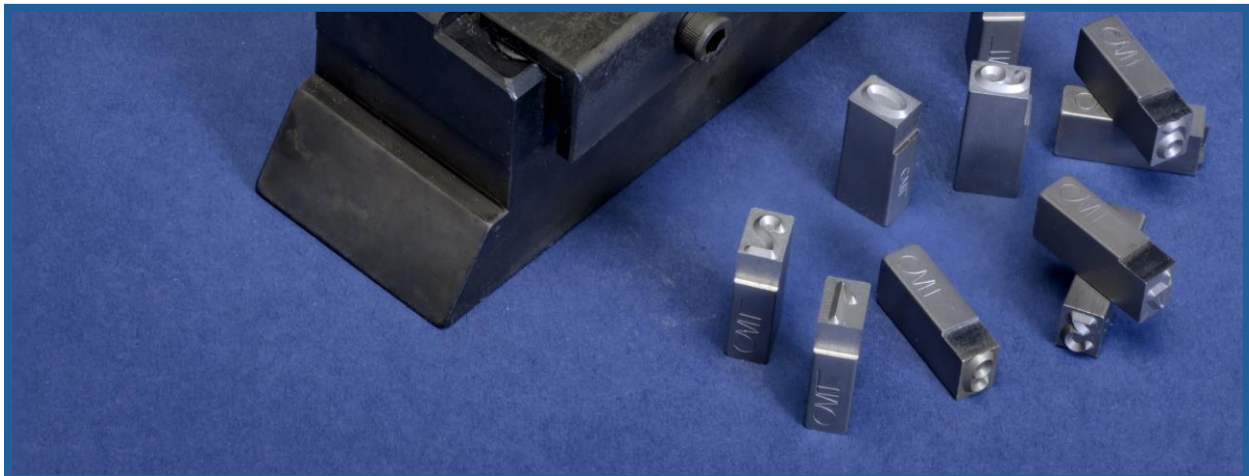
Char Width –
Style 2A, width is
50% of the
character size.

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

SW – Step width
.031" for all
except CMS06N,
CMS03N the SW
= .024"

SW=.031" [.79mm]

Except CMS03N & CMS06N SW=.024" [.61mm]



Standard Dimensions

Char. Size	Catalog Number	"A"	"B"	"C"	Engraving Depth
1/32" .8mm	CMS03N	1/16" 1.6mm	1/8" 3.2mm	7/8" 22.2mm	.012" .3mm
1/32" .8mm	CMS03	1/16" 1.6mm	1/4" 6.3mm		.012" .3mm
1/16" 1.6mm	CMS06N	1/16" 1.6mm	1/8" 3.2mm		.018" .5mm
1/16" 1.6mm	CMS06	1/16" 1.6mm	1/4" 6.3mm		.018" .5mm
3/32" 2.4mm	CMS09N	3/32" 2.4mm	3/16" 4.8mm		.020" .5mm
3/32" 2.4mm	CMS09	3/32" 2.4mm	1/4" 6.3mm		.020" .5mm
1/8" 3.2mm	CMS13	1/8" 3.2mm	1/4" 6.3mm		.023" .6mm
5/32" 4mm	CMS16N	5/32" 4mm	1/4" 6.3mm		.025" .6mm
5/32" 4mm	CMS16	3/16" 4.8mm	5/16" 7.9mm		.025" .6mm
3/16" 4.8mm	CMS19	3/16" 4.8mm	5/16" 7.9mm		.025" .6mm
1/4" 6.3mm	CMS25	1/4" 6.3mm	3/8" 9.5mm		.030" .8mm
5/16" 7.9mm	CMS31	5/16" 7.9mm	7/16" 11.1mm	1 25.4mm	.032" .8mm
3/8" 9.8mm	CMS38	3/8" 9.8mm	1/2" 12.7mm		.035" .9mm
1/2" 12.7mm	CMS50	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-numeri 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

CMS	09	-A
Style	Char Size	Letter or Figure

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

CMS	13	-00
Style	Char Size	Blank Spacer

To order **PUNCTUATION** add suffix from table below to part number

CMS	25	-RR
Style	Char Size	Asterisk Suffix

2 Digit Character Size

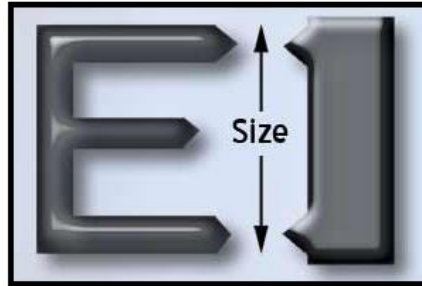
- 1/32" – 03
- 1/16" – 06
- 3/32" – 09
- 1/8" – 13
- 5/32" – 16
- 3/16" – 19
- 1/4" – 25
- 5/16" – 31
- 3/8" – 38
- 1/2" – 50



Character Face Styles

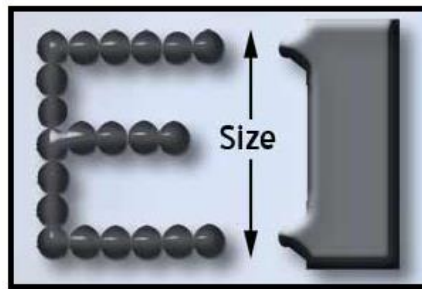
Standard Sharp Face

Standard CMS Step 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 other styles.



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.

CMS	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	CMS	13	-FoMoCo
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Logo Die Style Char Size Stamp reads "FoMoCo". Width is A*6

L	CMS	13	-COMPANY
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Logo Die Style Char Size Stamp reads "COMPANY". Width is A*7

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

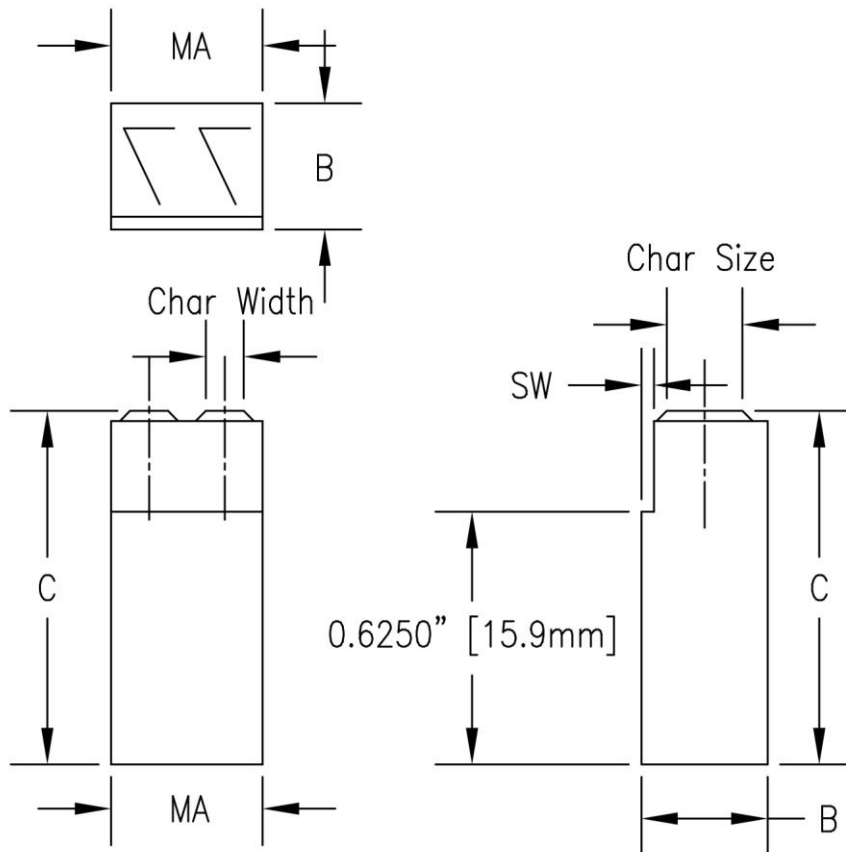
Benefits of multi-character dies

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



SW=.031" [.79mm]

Except CMS03N & CMS06N SW=.024" [.61mm]

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.

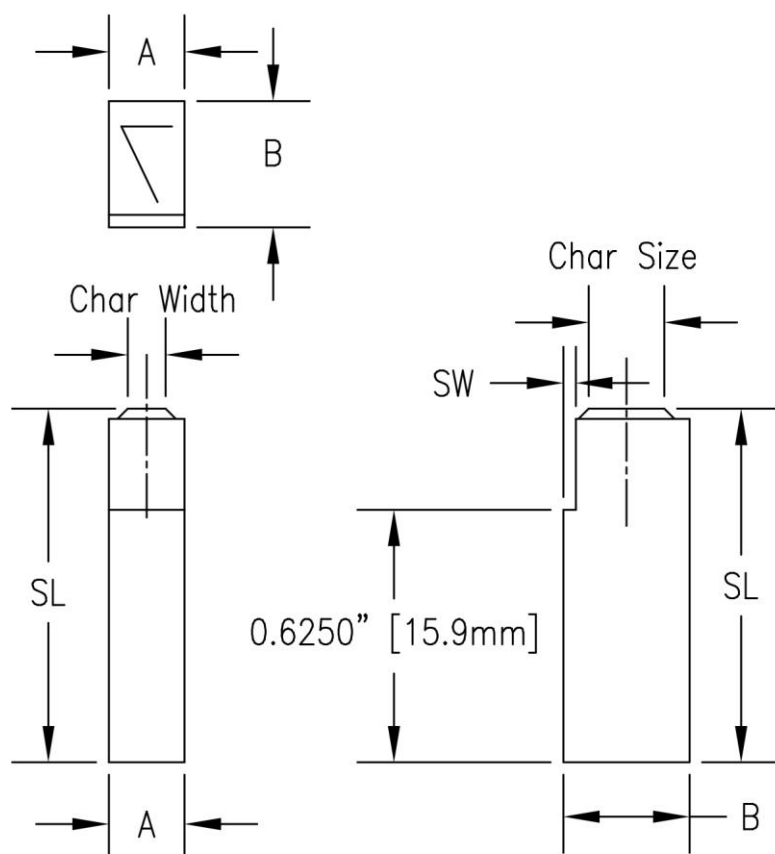


Consideration for overall length of multi-character stamps:

- Spaces may be reduced to less than 1 standard space wide.
- Narrow characters may be reduced 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.

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 - $+.000\"/>$

SW=.031" [.79mm]

Except CMS03N & CMS06N SW=.024" [.61mm]

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

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

Standard Font

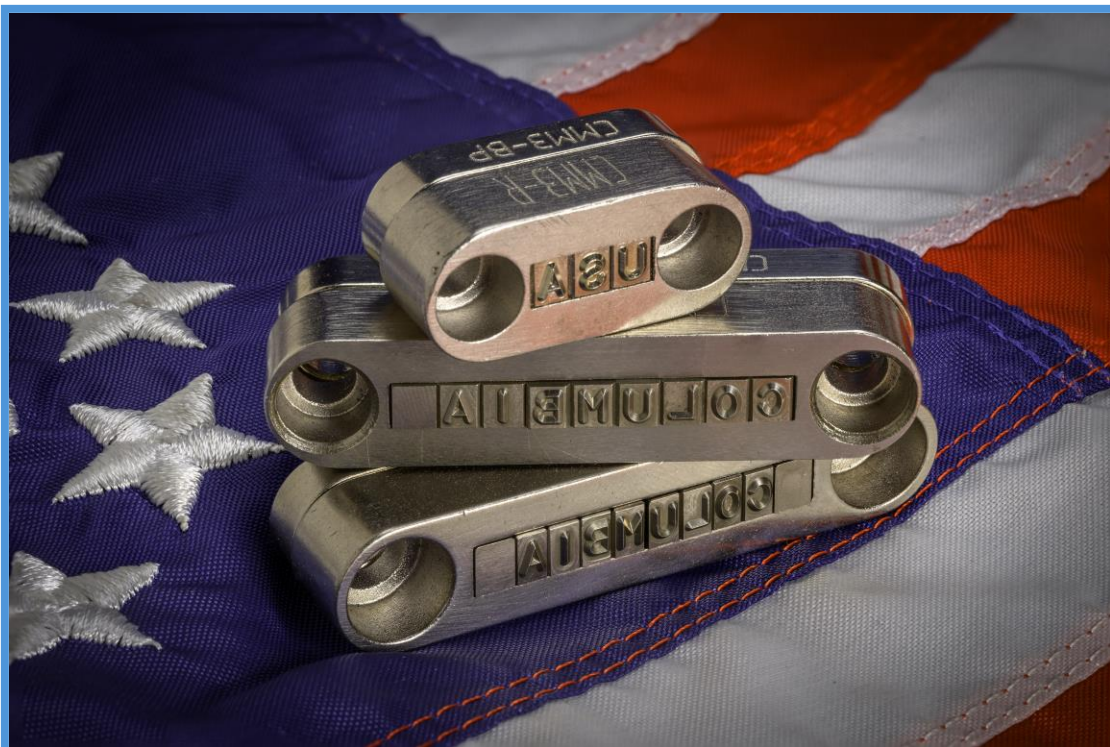
Columbia Marking Tools uses a font called "Gothic". This sans serif font is plain and easy to read.

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
0 1 2 3 4 5 6 7 8 9

” # / , : . * ~ - > < + % \$ = & 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 CMS 3/8" step type with an Ampersand - the following code would be used:

CMS38AA

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

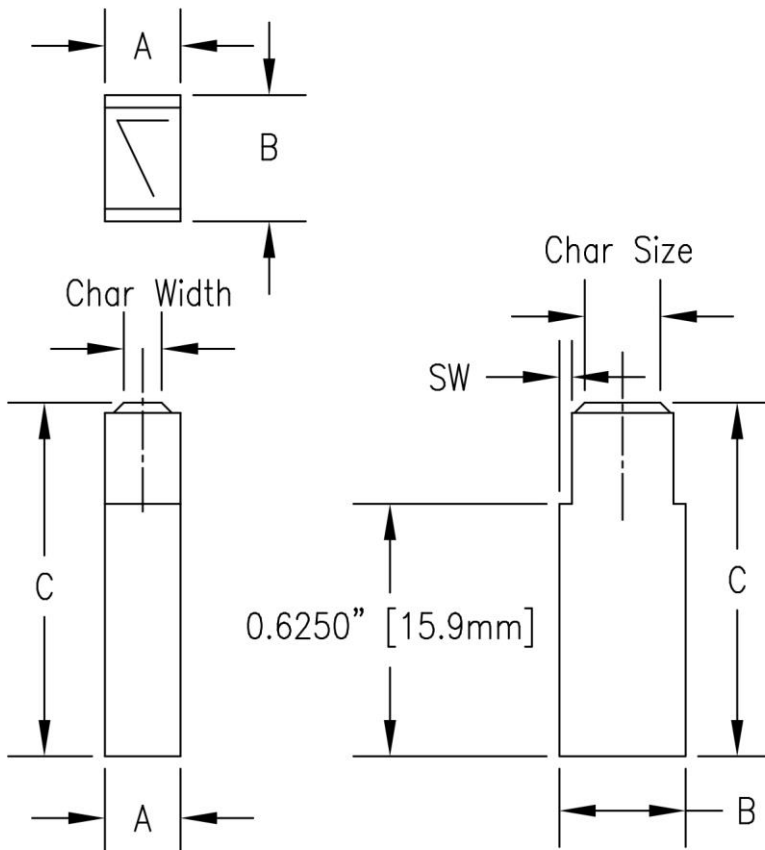


- AA Ampersand (&)
- BB Dollar Sign (\$)
- BS Back Slash (\)
- CC Comma (,)
- DD Dash (-)
- EE Equals Sign (=)
- GG Semi Colon (;)
- HH Apostrophe (')
- II Inch Mark, Quotes (")
- JJ Underscore (_)
- KK Question Mark (?)
- LL Colon (:)
- MM Multiplication (X)
- NN Number Sign (#)
- Degree Symbol (°)

- 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 <
> ^ ~ []

Double Step Type – CMT

These stamps are used when marking in a multi-line holder or to offer flexibility in orientation of the marking legend.



A = Width

B = Height

C = Width

Char Size –
Measured from the
top of the
character.

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

Tolerance -
+.000\"/>

SW=.031\"/>

Except CMT03N & CMT06N SW=.024\"/>

To order individual **DOUBLE STEP** letters and figures add CMT notation to part number as shown.

CMT	13	-A
Style	Char Size	Letter or Figure

Custom Step Dies

Columbia Marking Tools can design and manufacture custom step 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.



Parameters:

- Character Size
- A – Width
- B – Height
- C – Length
- SW – Step width
- CS – Length to Step
- Font
- Material
- Engraving Angle
- Engraving Depth

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

