

# HV Series

1.2025

Excellent chip ejection, stable tapping and long life

■ HVSP blind hole - HVPO through hole ■

**Z-PRO**  
*Ultimate Machine Tap Series*





HSS-E

0X



2.5P  
THCHT

**Spiral fluted taps for excellent chip evacuation**

## Parameters

Recommended tapping conditions for the HVSP tap series.

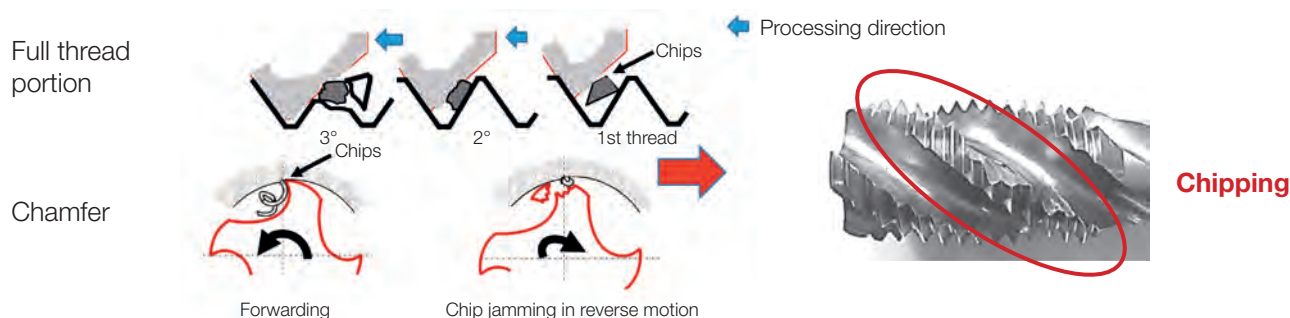
| Workpiece materials                          | Vc (m/min) |
|----------------------------------------------|------------|
| <b>P1</b> Low carbon steel                   | 3 ÷ 12     |
| <b>P2</b> Medium carbon steel                | 3 ÷ 12     |
| <b>P3</b> High carbon and medium alloy steel | 3 ÷ 12     |

| Workpiece materials       | Vc (m/min) |
|---------------------------|------------|
| <b>P4</b> Alloy steel     | 3 ÷ 12     |
| <b>M1</b> Stainless steel | <5         |

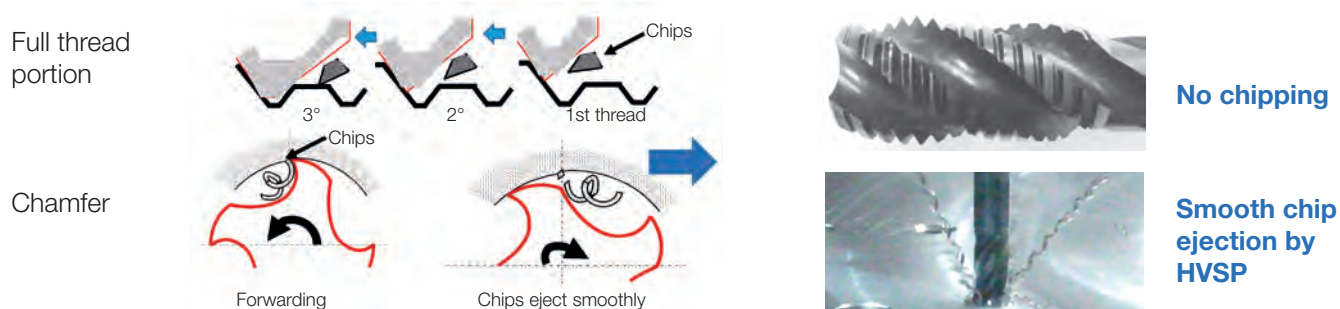
## Product features

HVSP are designed to avoid chipping problems and provide smooth chip ejection, by combining the unique Yamawa BLF thread geometry, a special geometry of the cutting edge and a unique flute design

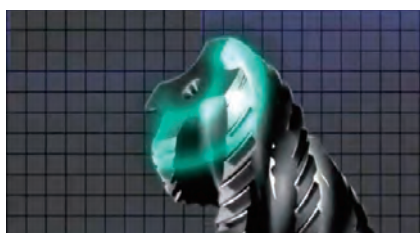
### Tapping with standard SP - Chipping happens on thread portion



### Tapping with HVSP - No chipping

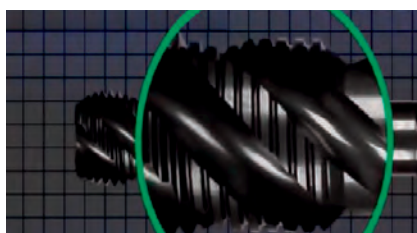


### Designed to avoid chipping problems



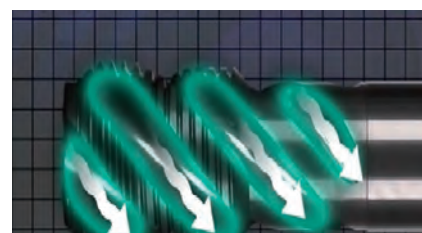
#### Advanced cutting edge

Specially designed geometry in cutting edge prevents chip incursion from the back side of chamfer thread portion during reverse motion



#### BLF shape on full thread portion

The BLF shape produces excellent cutting performances enabling the prevention of flute chipping problems



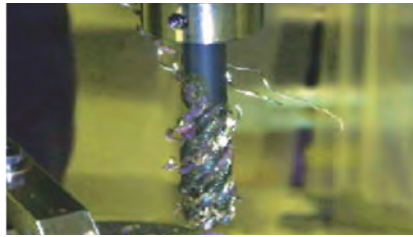
#### Unique flute design

Unique flute design for smooth chip ejection

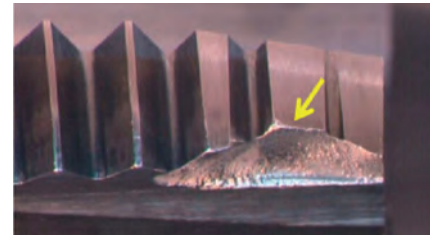
Soft Structural steel such as St44-2 and low carbon steels are widely used in large size parts. Chips created by large size taps are thick and long becoming difficult to eject, resulting in high risk of chip tangling and cutting edge chipping.



Ejected chips by large size taps



Entangled chips



Chipping

## Combination with straight oil

Large diameter taps are more effective with an oxidation treatment enabling flutes to retain more oil during tapping helping to avoid welding problems on the thread portion of the tap and galling on tapped thread surface.

**Straight tapping oil** +



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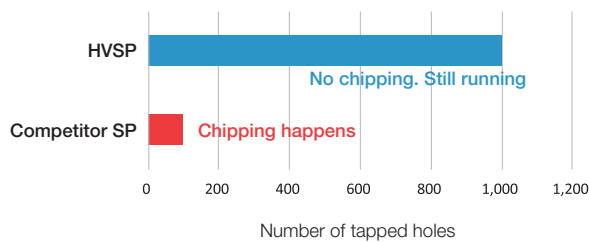


**Excellent internal thread surface!**

## Process data

### Case 1

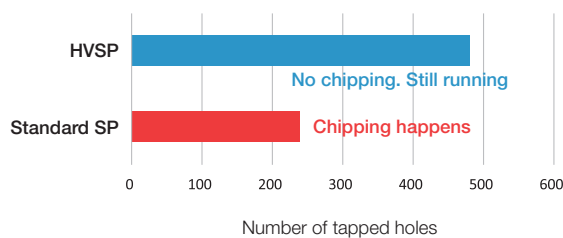
Comparison with other brand SP



| Item                  | HVSP M16X2                  |
|-----------------------|-----------------------------|
|                       | Other brand SP M16X2        |
| Workpiece material    | St44-2 / 1.0044 / Fe430B    |
| Hole shape (depth)    | Blind hole (42 mm)          |
| Direction             | Horizontal                  |
| Bored hole dia. (mm)  | 14.20                       |
| Machine               | Special machine (non rigid) |
| Cutting speed (m/min) | 7.8                         |
| Lubrication           | Straight oil                |

### Case 2

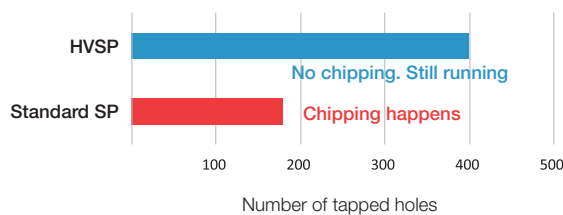
Comparison with standard SP



| Item                  | HVSP M30                     |
|-----------------------|------------------------------|
|                       | Standard SP M30              |
| Workpiece material    | 42CrMo4 / 1.7218             |
| Hole shape (depth)    | Blind hole (60 mm)           |
| Direction             | Horizontal                   |
| Bored hole dia. (mm)  | 26.50                        |
| Machine               | Machining center (non rigid) |
| Cutting speed (m/min) | 4.7                          |
| Lubrication           | Straight oil                 |

### Case 3

Comparison with standard SP



| Item                  | HVSP M36                     |
|-----------------------|------------------------------|
|                       | Standard SP M36              |
| Workpiece material    | Ck55 / 1.1203 / C55          |
| Hole shape (depth)    | Blind hole (42 mm)           |
| Direction             | Vertical                     |
| Bored hole dia. (mm)  | 32.50                        |
| Machine               | Drilling machine (non rigid) |
| Cutting speed (m/min) | 5.0                          |
| Lubrication           | Straight oil                 |



HSS-E

OX



5P  
THCT

**Spiral pointed taps for excellent chip evacuation**

## Parameters

Recommended tapping conditions for the HVPO tap series.

| Workpiece materials                          | Vc (m/min) |
|----------------------------------------------|------------|
| <b>P1</b> Low carbon steel                   | 3 ÷ 12     |
| <b>P2</b> Medium carbon steel                | 3 ÷ 12     |
| <b>P3</b> High carbon and medium alloy steel | 3 ÷ 12     |
| <b>P4</b> Alloy steel                        | 3 ÷ 12     |
| <b>M1</b> Stainless steel                    | <5         |



WATCH THE VIDEO

## Product features

HVPO is designed with unique flute shape to achieve excellent internal threads and long tool life thanks to smooth chip ejection and reduced cutting resistance.

**HVPO**



**Unique spiral pointed shape**

**PO**

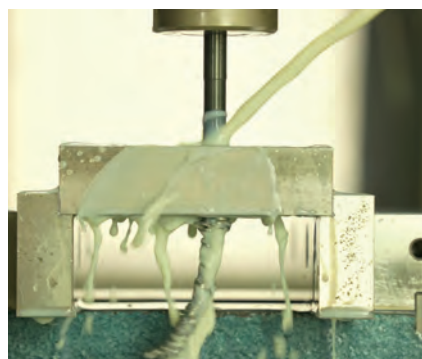


**Conventional**

## Process data

### HVPO M10x1.5

|                    |                             |
|--------------------|-----------------------------|
| Workpiece material | 1.0116 (St 37-3)            |
| Tapping speed      | 10 m/min                    |
| Tapping Length     | 24 mm                       |
| Machine type       | Vertical M/C                |
| Tapping fluid      | Water-soluble cutting fluid |



### Excellent machining conditions

Thanks to the unique flute shape and semi-long overall length of the tap, water-soluble cutting fluid is sufficiently supplied.



### Excellent ejected chips

Chips keep an acceptable form and length, also with ductile materials that tend to produce long chips.



### Excellent internal threads

In 1.0116 (St 37-3) tapping, an excellent internal thread surface can be obtained even using water-soluble cutting fluid.



HSS-E

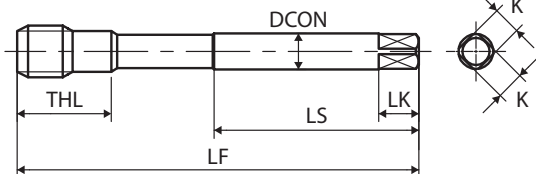
OX



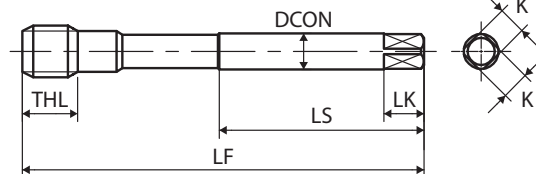
2.5P  
THCHT

## Dimensions and sizes

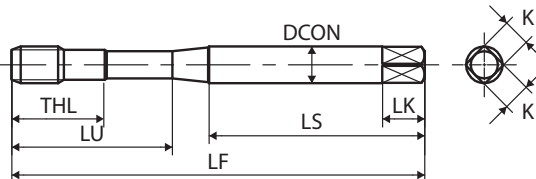
TYPE: EU\_148



TYPE: EU\_023



TYPE: EU\_149



| Size     | TCTR<br>(tolerance) | Ø<br>(mm) | Hole Ø<br>(mm) | Code         | THCHT<br>(chamfer) | LF<br>(mm) | LT | THL<br>(mm) | LU<br>(mm) | LS<br>(mm) | DCON<br>(mm) | K<br>(mm) | LK<br>(mm) | NOF | Type | Stock |
|----------|---------------------|-----------|----------------|--------------|--------------------|------------|----|-------------|------------|------------|--------------|-----------|------------|-----|------|-------|
| M        |                     |           |                |              |                    |            |    |             |            |            |              |           |            |     |      |       |
| M3X0.5   | ISO2X(6HX)          | 2.5       | 2.56           | SD3.0GYEEXJ  | 2.5P               | 56         | -  | 9           | 18         | 34         | 3.5          | 2.7       | 6          | 3   | 149  | ●     |
| M4X0.7   | ISO2X(6HX)          | 3.3       | 3.38           | SD4.0IYEEXJ  | 2.5P               | 63         | -  | 13          | 21         | 38         | 4.5          | 3.4       | 6          | 3   | 149  | ●     |
| M5X0.8   | ISO2X(6HX)          | 4.2       | 4.28           | SD5.0KYEEXJ  | 2.5P               | 70         | -  | 14          | 25         | 39         | 6            | 4.9       | 8          | 3   | 149  | ●     |
| M6X1     | ISO2X(6HX)          | 5         | 5.09           | SD6.0MYEEXJ  | 2.5P               | 80         | -  | 15          | 30         | 45         | 6            | 4.9       | 8          | 3   | 149  | ●     |
| M8X1.25  | ISO2X(6HX)          | 6.8       | 6.85           | SD8.0NYEEXJ  | 2.5P               | 90         | -  | 19          | 35         | 47         | 8            | 6.2       | 9          | 3   | 149  | ●     |
| M10x1.5  | ISO2X(6HX)          | 8.5       | 8.6            | SD0100YEEXJ  | 2.5P               | 100        | -  | 23          | 39         | 52.5       | 10           | 8         | 11         | 3   | 149  | ●     |
| M12X1.75 | ISO2X(6HX)          | 10.3      | 10.36          | SG012PSEEXJ  | 2.5P               | 110        | -  | 26          | -          | 56         | 9            | 7         | 10         | 3   | 148  | ●     |
| M14X2    | ISO2X(6HX)          | 12        | 12.12          | SG014QSEEXJ  | 2.5P               | 110        | -  | 26          | -          | 56         | 11           | 9         | 12         | 3   | 148  | ●     |
| M16X2    | ISO2X(6HX)          | 14        | 14.12          | SG016QSEEXJ  | 2.5P               | 110        | -  | 26          | -          | 56         | 12           | 9         | 12         | 3   | 148  | ●     |
| M18X2.5  | ISO2X(6HX)          | 15.5      | 15.63          | SG018RTEEXJ  | 2.5P               | 125        | -  | 33          | -          | 64         | 14           | 11        | 14         | 4   | 148  | ●     |
| M20X2.5  | ISO2X(6HX)          | 17.5      | 17.63          | SG020RTEEXJ  | 2.5P               | 140        | -  | 33          | -          | 71         | 16           | 12        | 15         | 4   | 148  | ●     |
| M22X2.5  | ISO2X(6HX)          | 19.5      | 19.63          | SG022RTEEXJ  | 2.5P               | 140        | -  | 33          | -          | 71         | 18           | 14.5      | 17         | 4   | 148  | ●     |
| M24X3    | ISO2X(6HX)          | 21        | 21.13          | SG024STEEXJ  | 2.5P               | 160        | -  | 37          | -          | 82         | 18           | 14.5      | 17         | 4   | 023  | ●     |
| M27X3    | ISO2X(6HX)          | 24        | 24.13          | SG027STEEXJ  | 2.5P               | 160        | -  | 37          | -          | 82         | 20           | 16        | 19         | 4   | 023  | ●     |
| M30X3.5  | ISO2X(6HX)          | 26.5      | 26.63          | SG030TBEEEXJ | 2.5P               | 180        | -  | 44          | -          | 92         | 22           | 18        | 21         | 4   | 023  | ●     |
| M33X3.5  | ISO2X(6HX)          | 29.5      | 29.63          | SG033TBEEEXJ | 2.5P               | 180        | -  | 46          | -          | 92         | 25           | 20        | 23         | 4   | 023  | ●     |
| M36X4    | ISO2X(6HX)          | 32        | 32.12          | SG036UBEEXJ  | 2.5P               | 200        | -  | 52          | -          | 102        | 28           | 22        | 25         | 4   | 023  | ●     |
| M39X4    | ISO2X(6HX)          | 35        | 35.12          | SG039UBEEXJ  | 2.5P               | 200        | -  | 52          | -          | 102        | 32           | 24        | 27         | 4   | 023  | ●     |
| M42X4.5  | ISO2X(6HX)          | 37.5      | 37.63          | SG042VBEEXJ  | 2.5P               | 200        | -  | 59          | -          | 102        | 32           | 24        | 27         | 4   | 023  | ●     |
| M48X5    | ISO2X(6HX)          | 43        | 43.12          | SG048WBEEXJ  | 2.5P               | 250        | -  | 65          | -          | 128        | 36           | 29        | 32         | 4   | 023  | ●     |
|          |                     |           |                |              |                    |            |    |             |            |            |              |           |            |     |      |       |
| Size     | TCTR<br>(tolerance) | Ø<br>(mm) | Hole Ø<br>(mm) | Code         | THCHT<br>(chamfer) | LF<br>(mm) | LT | THL<br>(mm) | LU<br>(mm) | LS<br>(mm) | DCON<br>(mm) | K<br>(mm) | LK<br>(mm) | NOF | Type | Stock |
| MF       |                     |           |                |              |                    |            |    |             |            |            |              |           |            |     |      |       |
| M3X0.35  | ISO2X(6HX)          | 2.65      | 2.7            | SD3.0DREEXJ  | 2.5P               | 56         | -  | 9           | 18         | 34         | 3.5          | 2.7       | 6          | 3   | 149  | ●     |
| M4X0.5   | ISO2X(6HX)          | 3.5       | 3.56           | SD4.0GSEEXJ  | 2.5P               | 63         | -  | 9           | 21         | 38         | 4.5          | 3.4       | 6          | 3   | 149  | ●     |
| M5X0.5   | ISO2X(6HX)          | 4.5       | 4.56           | SD5.0GSEEXJ  | 2.5P               | 40         | -  | 9           | 25         | 39         | 6            | 4.9       | 8          | 3   | 149  | ●     |
| M6X0.5   | ISO2X(6HX)          | 5.5       | 5.56           | SD6.0GSEEXJ  | 2.5P               | 80         | -  | 9           | 30         | 45         | 6            | 4.9       | 8          | 3   | 149  | ●     |

| Size        | TCTR<br>(tolerance) |  Ø<br>(mm)    | Hole Ø<br>(mm) | Code        | THCHT<br>(chamfer) | LF<br>(mm) | LT | THL<br>(mm) | LU<br>(mm) | LS<br>(mm) | DCON<br>(mm) | K<br>(mm) | LK<br>(mm) | NOF | Type | Stock |
|-------------|---------------------|-----------------------------------------------------------------------------------------------|----------------|-------------|--------------------|------------|----|-------------|------------|------------|--------------|-----------|------------|-----|------|-------|
| MF          |                     |                                                                                               |                |             |                    |            |    |             |            |            |              |           |            |     |      |       |
| M6X0.75     | ISO2X(6HX)          | 5.25                                                                                          | 5.33           | SD6.0JSEEXJ | 2.5P               | 80         | -  | 15          | 30         | 45         | 6            | 4.9       | 8          | 3   | 149  | ●     |
| M8X1        | ISO2X(6HX)          | 7                                                                                             | 7.09           | SM8.0MSEEXJ | 2.5P               | 90         | -  | 19          | -          | 46         | 6            | 4.9       | 8          | 3   | 148  | ●     |
| M10X1       | ISO2X(6HX)          | 9                                                                                             | 9.09           | SM010MSEEXJ | 2.5P               | 90         | -  | 19          | -          | 46         | 7            | 5.5       | 8          | 3   | 148  | ●     |
| M10X1.25    | ISO2X(6HX)          | 8.8                                                                                           | 8.85           | SM010NSEEXJ | 2.5P               | 100        | -  | 23          | -          | 51         | 7            | 5.5       | 8          | 3   | 148  | ●     |
| M12X1.25    | ISO2X(6HX)          | 10.8                                                                                          | 10.85          | SM012NSEEXJ | 2.5P               | 100        | -  | 21          | -          | 51         | 9            | 7         | 10         | 3   | 148  | ●     |
| M12X1.5     | ISO2X(6HX)          | 10.5                                                                                          | 10.6           | SM0120SEEXJ | 2.5P               | 100        | -  | 21          | -          | 51         | 9            | 7         | 10         | 3   | 148  | ●     |
| M14X1.5     | ISO2X(6HX)          | 12.5                                                                                          | 12.6           | SM0140SEEXJ | 2.5P               | 100        | -  | 21          | -          | 51         | 11           | 9         | 12         | 3   | 148  | ●     |
| M16X1.5     | ISO2X(6HX)          | 14.5                                                                                          | 14.6           | SM0160SEEXJ | 2.5P               | 100        | -  | 21          | -          | 51         | 12           | 9         | 12         | 3   | 148  | ●     |
| M18X1.5     | ISO2X(6HX)          | 16.5                                                                                          | 16.6           | SM0180TEEXJ | 2.5P               | 110        | -  | 24          | -          | 56         | 14           | 11        | 14         | 4   | 148  | ●     |
| M20X1.5     | ISO2X(6HX)          | 18.5                                                                                          | 18.6           | SM0200TEEXJ | 2.5P               | 125        | -  | 24          | -          | 64         | 16           | 12        | 15         | 2   | 148  | ●     |
| M22X1.5     | ISO2X(6HX)          | 20.5                                                                                          | 20.6           | SM0220TEEXJ | 2.5P               | 125        | -  | 24          | -          | 64         | 18           | 14.5      | 17         | 4   | 148  | ●     |
| M24X1.5     | ISO2X(6HX)          | 22.5                                                                                          | 22.6           | SM0240TEEXJ | 2.5P               | 140        | -  | 27          | -          | 71         | 18           | 14.5      | 17         | 4   | 023  | ●     |
| M27X1.5     | ISO2X(6HX)          | 25.5                                                                                          | 25.6           | SM0270TEEXJ | 2.5P               | 140        | -  | 27          | -          | 71         | 20           | 16        | 19         | 4   | 023  | ●     |
| M30X1.5     | ISO2X(6HX)          | 28.5                                                                                          | 28.6           | SM0300UEEXJ | 2.5P               | 150        | -  | 27          | -          | 77         | 22           | 18        | 21         | 4   | 023  | ●     |
| M30X3       | ISO2X(6HX)          | 27                                                                                            | 27.13          | SM030SUEEXJ | 2.5P               | 180        | -  | 44          | -          | 92         | 22           | 18        | 21         | 4   | 023  | ●     |
| M33X3       | ISO2X(6HX)          | 30                                                                                            | 30.13          | SM033SUEEXJ | 2.5P               | 180        | -  | 46          | -          | 92         | 25           | 20        | 23         | 4   | 023  | ●     |
| M36X3       | ISO2X(6HX)          | 33                                                                                            | 33.13          | SM036SUEEXJ | 2.5P               | 200        | -  | 52          | -          | 102        | 28           | 22        | 25         | 4   | 023  | ●     |
| M39X3       | ISO2X(6HX)          | 36                                                                                            | 36.13          | SM039SUEEXJ | 2.5P               | 200        | -  | 52          | -          | 102        | 32           | 24        | 27         | 4   | 023  | ●     |
| M42X3       | ISO2X(6HX)          | 39                                                                                            | 39.13          | SM042SUEEXJ | 2.5P               | 200        | -  | 59          | -          | 102        | 32           | 24        | 27         | 4   | 023  | ●     |
| M48X3       | ISO2X(6HX)          | 45                                                                                            | 45.13          | SM048SUEEXJ | 2.5P               | 225        | -  | 49          | -          | 115        | 36           | 29        | 32         | 4   | 023  | ●     |
|             |                     |                                                                                               |                |             |                    |            |    |             |            |            |              |           |            |     |      |       |
| Size        | TCTR<br>(tolerance) |  Ø<br>(mm)   | Hole Ø<br>(mm) | Code        | THCHT<br>(chamfer) | LF<br>(mm) | LT | THL<br>(mm) | LU<br>(mm) | LS<br>(mm) | DCON<br>(mm) | K<br>(mm) | LK<br>(mm) | NOF | Type | Stock |
| UNC         |                     |                                                                                               |                |             |                    |            |    |             |            |            |              |           |            |     |      |       |
| 1 -8UNC     | 2BX                 | 22.3                                                                                          | 22.45          | SGU16XYEEXJ | 2.5P               | 160        | -  | 37          | -          | 82         | 18           | 14.5      | 17         | 4   | -    | ●     |
| 1 1/8-7UNC  | 2BX                 | 25                                                                                            | 25.17          | SGU18YYEEXJ | 2.5P               | 180        | -  | 44          | -          | 92         | 22           | 18        | 21         | 4   | -    | ●     |
| 1 1/4-7UNC  | 2BX                 | 28.2                                                                                          | 28.35          | SGU20YYEEXJ | 2.5P               | 180        | -  | 49          | -          | 92         | 22           | 18        | 21         | 4   | -    | ●     |
| 1 3/8-6UNC  | 2BX                 | 30.8                                                                                          | 30.92          | SGU22ZYEEXJ | 2.5P               | 200        | -  | 55          | -          | 102        | 28           | 22        | 25         | 4   | -    | ●     |
| 1 1/2-6UNC  | 2BX                 | 34                                                                                            | 34.1           | SGU24ZYEEXJ | 2.5P               | 200        | -  | 59          | -          | 102        | 32           | 24        | 27         | 4   | -    | ●     |
| 1 3/4-5UNC  | 2BX                 | 39.5                                                                                          | 39.61          | SGU280YEEXJ | 2.5P               | 220        | -  | 65          | -          | 112        | 36           | 29        | 32         | 4   | -    | ●     |
| 2 -4.5UNC   | 2BX                 | 45.2                                                                                          | 45.37          | SGU329YEEXJ | 2.5P               | 250        | -  | 73          | -          | 128        | 40           | 32        | 35         | 4   | -    | ●     |
|             |                     |                                                                                               |                |             |                    |            |    |             |            |            |              |           |            |     |      |       |
| Size        | TCTR<br>(tolerance) |  Ø<br>(mm) | Hole Ø<br>(mm) | Code        | THCHT<br>(chamfer) | LF<br>(mm) | LT | THL<br>(mm) | LU<br>(mm) | LS<br>(mm) | DCON<br>(mm) | K<br>(mm) | LK<br>(mm) | NOF | Type | Stock |
| UNF         |                     |                                                                                               |                |             |                    |            |    |             |            |            |              |           |            |     |      |       |
| 1 -12UNF    | 2BX                 | 23.3                                                                                          | 23.46          | SMU16SYEEXJ | 2.5P               | 140        | -  | 27          | -          | 71         | 18           | 14.5      | 17         | 4   | -    | ●     |
| 1 1/8-12UNF | 2BX                 | 26.5                                                                                          | 26.63          | SMU18SYEEXJ | 2.5P               | 150        | -  | 27          | -          | 77         | 22           | 18        | 21         | 4   | -    | ●     |
| 1 1/4-12UNF | 2BX                 | 29.6                                                                                          | 29.81          | SMU20SYEEXJ | 2.5P               | 150        | -  | 27          | -          | 77         | 22           | 18        | 21         | 4   | -    | ●     |
| 1 3/8-12UNF | 2BX                 | 32.8                                                                                          | 32.98          | SMU22SYEEXJ | 2.5P               | 170        | -  | 29          | -          | 87         | 28           | 22        | 25         | 4   | -    | ●     |
| 1 1/2-12UNF | 2BX                 | 36                                                                                            | 36.16          | SMU24SYEEXJ | 2.5P               | 170        | -  | 29          | -          | 87         | 32           | 24        | 27         | 4   | -    | ●     |
|             |                     |                                                                                               |                |             |                    |            |    |             |            |            |              |           |            |     |      |       |
| Size        | TCTR<br>(tolerance) |  Ø<br>(mm) | Hole Ø<br>(mm) | Code        | THCHT<br>(chamfer) | LF<br>(mm) | LT | THL<br>(mm) | LU<br>(mm) | LS<br>(mm) | DCON<br>(mm) | K<br>(mm) | LK<br>(mm) | NOF | Type | Stock |
| 8UN         |                     |                                                                                               |                |             |                    |            |    |             |            |            |              |           |            |     |      |       |
| 1 1/8-8UN   | 2BX                 | 25.5                                                                                          | 25.62          | SMU18XYEEXJ | 2.5P               | 180        | -  | 44          | -          | 92         | 22           | 18        | 21         | 4   | -    | ●     |
| 1 1/4-8UN   | 2BX                 | 28.5                                                                                          | 28.8           | SMU20XYEEXJ | 2.5P               | 180        | -  | 49          | -          | 92         | 22           | 18        | 21         | 4   | -    | ●     |
| 1 3/8-8UN   | 2BX                 | 31.8                                                                                          | 31.97          | SMU22XYEEXJ | 2.5P               | 200        | -  | 55          | -          | 102        | 28           | 22        | 25         | 4   | -    | ●     |
| 1 1/2-8UN   | 2BX                 | 35                                                                                            | 35.15          | SMU24XYEEXJ | 2.5P               | 200        | -  | 59          | -          | 102        | 32           | 24        | 27         | 4   | -    | ●     |
| 1 3/4-8UN   | 2BX                 | 41.3                                                                                          | 41.5           | SMU28XYEEXJ | 2.5P               | 200        | -  | 49          | -          | 102        | 36           | 29        | 32         | 4   | -    | ●     |
| 2 -8UN      | 2BX                 | 47.8                                                                                          | 47.85          | SMU32XYEEXJ | 2.5P               | 225        | -  | 49          | -          | 115        | 40           | 32        | 35         | 4   | -    | ●     |
|             |                     |                                                                                               |                |             |                    |            |    |             |            |            |              |           |            |     |      |       |
| Size        | TCTR<br>(tolerance) |  Ø<br>(mm) | Hole Ø<br>(mm) | Code        | THCHT<br>(chamfer) | LF<br>(mm) | LT | THL<br>(mm) | LU<br>(mm) | LS<br>(mm) | DCON<br>(mm) | K<br>(mm) | LK<br>(mm) | NOF | Type | Stock |
| 12UN        |                     |                                                                                               |                |             |                    |            |    |             |            |            |              |           |            |     |      |       |
| 1 3/4-12UN  | 2BX                 | 42.3                                                                                          | 42.51          | SMU28SYEEXJ | 2.5P               | 180        | -  | 31          | -          | 92         | 36           | 29        | 32         | 4   | -    | ●     |



HSS-E

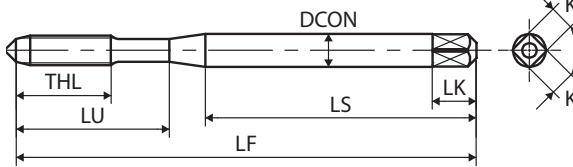
OX



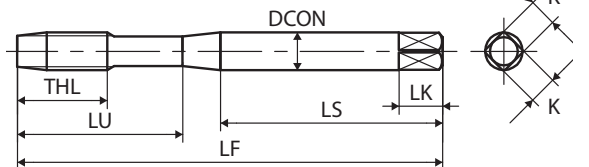
5P  
THCHT

## Dimensions and sizes

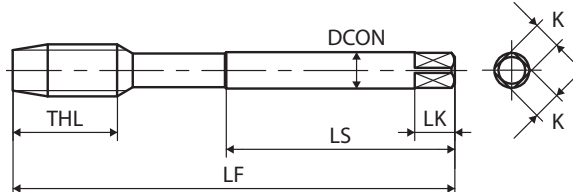
TYPE: EU\_057



TYPE: EU\_084



TYPE: EU\_186



| Size     | TCTR<br>(tolerance) | Ø<br>(mm) | Hole Ø<br>(mm) | Code       | THCHT<br>(chamfer) | LF<br>(mm) | LT | THL<br>(mm) | LU<br>(mm) | LS<br>(mm) | DCON<br>(mm) | K<br>(mm) | LK<br>(mm) | NOF | Type | Stock |
|----------|---------------------|-----------|----------------|------------|--------------------|------------|----|-------------|------------|------------|--------------|-----------|------------|-----|------|-------|
| M        |                     |           |                |            |                    |            |    |             |            |            |              |           |            |     |      |       |
| M3X0.5   | ISO2X(6HX)          | 2.50      | 2.56           | 3113101035 | 5P                 | 56         | -  | 9           | 18         | 34         | 3.5          | 2.7       | 6          | 3   | 057  | ●     |
| M3.5X0.6 | ISO2X(6HX)          | 2.90      | 2.97           | 3113101038 | 5P                 | 56         | -  | 11          | 20         | 32         | 4            | 3         | 6          | 3   | 057  | ●     |
| M4X0.7   | ISO2X(6HX)          | 3.30      | 3.38           | 3113101042 | 5P                 | 45         | -  | 13          | 21         | 38         | 4.5          | 3.4       | 6          | 3   | 057  | ●     |
| M5X0.8   | ISO2X(6HX)          | 4.20      | 4.28           | 3113101049 | 5P                 | 70         | -  | 14          | 25         | 39         | 6            | 4.9       | 8          | 3   | 057  | ●     |
| M6X1     | ISO2X(6HX)          | 5.00      | 5.09           | 3113101055 | 5P                 | 80         | -  | 15          | 30         | 45         | 6            | 4.9       | 8          | 3   | 057  | ●     |
| M7X1     | ISO2X(6HX)          | 6.00      | 6.09           | 3113101060 | 5P                 | 80         | -  | 15          | 30         | 45         | 7            | 5.5       | 8          | 3   | 084  | ●     |
| M8X1.25  | ISO2X(6HX)          | 6.80      | 6.85           | 3113101064 | 5P                 | 90         | -  | 19          | 35         | 47         | 8            | 6.2       | 9          | 3   | 084  | ●     |
| M10X1.5  | ISO2X(6HX)          | 8.50      | 8.60           | 3113101078 | 5P                 | 100        | -  | 23          | 39         | 52         | 10           | 8         | 11         | 3   | 084  | ●     |
| M12X1.75 | ISO2X(6HX)          | 10.30     | 10.36          | 3113101088 | 5P                 | 110        | -  | 26          | -          | 56         | 9            | 7         | 10         | 3   | 086  | ●     |
| M14X2    | ISO2X(6HX)          | 12.00     | 12.12          | 3113101100 | 5P                 | 110        | -  | 26          | -          | 56         | 11           | 9         | 12         | 3   | 086  | ●     |
| M16X2    | ISO2X(6HX)          | 14.00     | 14.12          | 3113101114 | 5P                 | 110        | -  | 26          | -          | 56         | 12           | 9         | 12         | 3   | 086  | ●     |
| M18X2.5  | ISO2X(6HX)          | 15.50     | 15.63          | 3113101128 | 5P                 | 125        |    | 33          | -          | 64         | 14           | 11        | 14         |     | 086  | ●     |
| M20X2.5  | ISO2X(6HX)          | 17.50     | 17.63          | 3113101141 | 5P                 | 140        |    | 33          | -          | 71         | 16           | 12        | 15         |     | 086  | ●     |
| M22X2.5  | ISO2X(6HX)          | 19.50     | 19.63          | 3113101156 | 5P                 | 140        |    | 33          | -          | 71         | 18           | 14.5      | 17         |     | 086  | ●     |
| M24X3    | ISO2X(6HX)          | 21.00     | 21.13          | 3113101167 | 5P                 | 160        |    | 37          | -          | 82         | 18           | 14.5      | 17         |     | 086  | ●     |
| M27X3    | ISO2X(6HX)          | 24.00     | 24.13          | 3113101186 | 5P                 | 160        |    | 37          | -          | 82         | 20           | 16        | 19         |     | 086  | ●     |
| M30X3.5  | ISO2X(6HX)          | 26.50     | 26.63          | 3113101199 | 5P                 | 180        |    | 44          | -          | 92         | 22           | 18        | 21         |     | 086  | ●     |
| M33X3.5  | ISO2X(6HX)          | 29.50     | 29.63          | 3113101211 | 5P                 | 180        |    | 46          | -          | 92         | 25           | 20        | 23         |     | 086  | ●     |
| M36X4    | ISO2X(6HX)          | 32.00     | 32.12          | 3113101225 | 5P                 | 200        |    | 52          | -          | 102        | 28           | 22        | 25         |     | 086  | ●     |

| Size     | TCTR<br>(tolerance) |  Ø<br>(mm) | Hole Ø<br>(mm) | Code       | THCHT<br>(chamfer) | LF<br>(mm) | LT | THL<br>(mm) | LU<br>(mm) | LS<br>(mm) | DCON<br>(mm) | K<br>(mm) | LK<br>(mm) | NOF | Type | Stock |
|----------|---------------------|--------------------------------------------------------------------------------------------|----------------|------------|--------------------|------------|----|-------------|------------|------------|--------------|-----------|------------|-----|------|-------|
| MF       |                     |                                                                                            |                |            |                    |            |    |             |            |            |              |           |            |     |      |       |
| M3X0.35  | ISO2X(6HX)          | 2.65                                                                                       | 2.70           | 3113101036 | 5P                 | 56         | -  | 5           | 18         | 34         | 3.5          | 2.7       | 6          | 3   | 057  | ●     |
| M4X0.5   | ISO2X(6HX)          | 3.50                                                                                       | 3.56           | 3113101043 | 5P                 | 63         | -  | 5           | 21         | 38         | 4.5          | 3.4       | 6          | 3   | 057  | ●     |
| M5X0.5   | ISO2X(6HX)          | 4.50                                                                                       | 4.56           | 3113101051 | 5P                 | 70         | -  | 6           | 25         | 39         | 6            | 4.9       | 8          | 3   | 057  | ●     |
| M6X0.75  | ISO2X(6HX)          | 5.30                                                                                       | 5.33           | 3113101056 | 5P                 | 80         | -  | 8           | 30         | 45         | 6            | 4.9       | 8          | 3   | 057  | ●     |
| M6X0.5   | ISO2X(6HX)          | 5.50                                                                                       | 5.56           | 3113101057 | 5P                 | 80         | -  | 8           | 30         | 45         | 6            | 4.9       | 8          | 3   | 057  | ●     |
| M8X1     | ISO2X(6HX)          | 7.00                                                                                       | 7.09           | 3113101065 | 5P                 | 90         | -  | 19          | -          | 46         | 6            | 4.9       | 8          | 3   | 086  | ●     |
| M10X1.25 | ISO2X(6HX)          | 8.80                                                                                       | 8.85           | 3113101079 | 5P                 | 100        | -  | 23          | -          | 51         | 7            | 5.5       | 8          | 3   | 086  | ●     |
| M10X1    | ISO2X(6HX)          | 9.00                                                                                       | 9.09           | 3113101080 | 5P                 | 90         | -  | 19          | -          | 46         | 7            | 5.5       | 8          | 3   | 086  | ●     |
| M12X1.5  | ISO2X(6HX)          | 10.50                                                                                      | 10.60          | 3113101089 | 5P                 | 100        | -  | 21          | -          | 51         | 9            | 7         | 10         | 3   | 086  | ●     |
| M12X1.25 | ISO2X(6HX)          | 10.80                                                                                      | 10.85          | 3113101090 | 5P                 | 100        | -  | 21          | -          | 51         | 9            | 7         | 10         | 3   | 086  | ●     |
| M12X1    | ISO2X(6HX)          | 11.00                                                                                      | 11.09          | 3113101091 | 5P                 | 100        | -  | 21          | -          | 51         | 9            | 7         | 10         | 3   | 086  | ●     |
| M14X1.5  | ISO2X(6HX)          | 12.50                                                                                      | 12.60          | 3113101102 | 5P                 | 100        | -  | 21          | -          | 51         | 11           | 9         | 12         | 3   | 086  | ●     |
| M16X1.5  | ISO2X(6HX)          | 14.50                                                                                      | 14.60          | 3113101116 | 5P                 | 100        | -  | 21          | -          | 51         | 12           | 9         | 12         | 3   | 086  | ●     |
| M18X2    | ISO2X(6HX)          | 16.00                                                                                      | 16.12          | 3113101129 | 5P                 | 125        | -  | 33          | -          | 64         | 14           | 11        | 14         | 3   | 086  | ●     |
| M18X1.5  | ISO2X(6HX)          | 16.50                                                                                      | 16.60          | 3113101130 | 5P                 | 110        | -  | 24          | -          | 56         | 14           | 11        | 14         | 3   | 086  | ●     |
| M20X2    | ISO2X(6HX)          | 18.00                                                                                      | 18.12          | 3113101142 | 5P                 | 140        | -  | 33          | -          | 71         | 16           | 12        | 15         | 3   | 086  | ●     |
| M20X1.5  | ISO2X(6HX)          | 18.50                                                                                      | 18.60          | 3113101144 | 5P                 | 125        | -  | 24          | -          | 64         | 16           | 12        | 15         | 3   | 086  | ●     |
| M20X1    | ISO2X(6HX)          | 19.00                                                                                      | 19.09          | 3113101146 | 5P                 | 125        | -  | 24          | -          | 64         | 16           | 12        | 15         | 3   | 086  | ●     |
| M22X2    | ISO2X(6HX)          | 20.00                                                                                      | 20.12          | 3113101157 | 5P                 | 140        | -  | 33          | -          | 71         | 18           | 14.5      | 17         | 3   | 086  | ●     |
| M22X1.5  | ISO2X(6HX)          | 20.50                                                                                      | 20.60          | 3113101158 | 5P                 | 125        | -  | 24          | -          | 64         | 18           | 14.5      | 17         | 3   | 086  | ●     |
| M24X1.5  | ISO2X(6HX)          | 22.50                                                                                      | 22.60          | 3113101170 | 5P                 | 140        | -  | 27          | -          | 71         | 18           | 14.5      | 17         | 3   | 086  | ●     |
| M25X1.5  | ISO2X(6HX)          | 23.50                                                                                      | 23.60          | 3113101177 | 5P                 | 140        | -  | 27          | -          | 71         | 18           | 14.5      | 17         | 3   | 086  | ●     |
| M26X3    | ISO2X(6HX)          | 23.00                                                                                      | 23.12          | 3113101181 | 5P                 | 160        | -  | 37          | -          | 82         | 18           | 14.5      | 17         | 4   | 086  | ●     |
| M27X1.5  | ISO2X(6HX)          | 25.50                                                                                      | 25.60          | 3113101188 | 5P                 | 140        | -  | 27          | -          | 71         | 20           | 16        | 19         | 4   | 086  | ●     |
| M30X3    | ISO2X(6HX)          | 27.00                                                                                      | 27.13          | 3113101200 | 5P                 | 180        | -  | 44          | -          | 92         | 22           | 18        | 21         | 4   | 086  | ●     |
| M30X2    | ISO2X(6HX)          | 28.00                                                                                      | 28.12          | 3113101201 | 5P                 | 150        | -  | 27          | -          | 77         | 22           | 18        | 21         | 4   | 086  | ●     |
| M30X1.5  | ISO2X(6HX)          | 28.50                                                                                      | 28.60          | 3113101202 | 5P                 | 150        | -  | 27          | -          | 77         | 22           | 18        | 21         | 4   | 086  | ●     |
| M32X2    | ISO2X(6HX)          | 30.00                                                                                      | 30.12          | 3113101207 | 5P                 | 150        | -  | 27          | -          | 77         | 22           | 18        | 21         | 4   | 086  | ●     |
| M32X1.5  | ISO2X(6HX)          | 30.50                                                                                      | 30.60          | 3113101208 | 5P                 | 150        | -  | 27          | -          | 77         | 22           | 18        | 21         | 4   | 086  | ●     |
| M33X3    | ISO2X(6HX)          | 30.00                                                                                      | 30.13          | 3113101212 | 5P                 | 180        | -  | 46          | -          | 92         | 25           | 20        | 23         | 4   | 086  | ●     |
| M36X3    | ISO2X(6HX)          | 33.00                                                                                      | 33.13          | 3113101226 | 5P                 | 200        | -  | 52          | -          | 102        | 28           | 22        | 25         | 4   | 086  | ●     |



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Via Don F. Tosatto 8 - 30174 Mestre Venezia, ITALY - t. +39 041.952.543 / f. +39 041.50.44.216 info@yamawa.eu - www.yamawa.eu



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