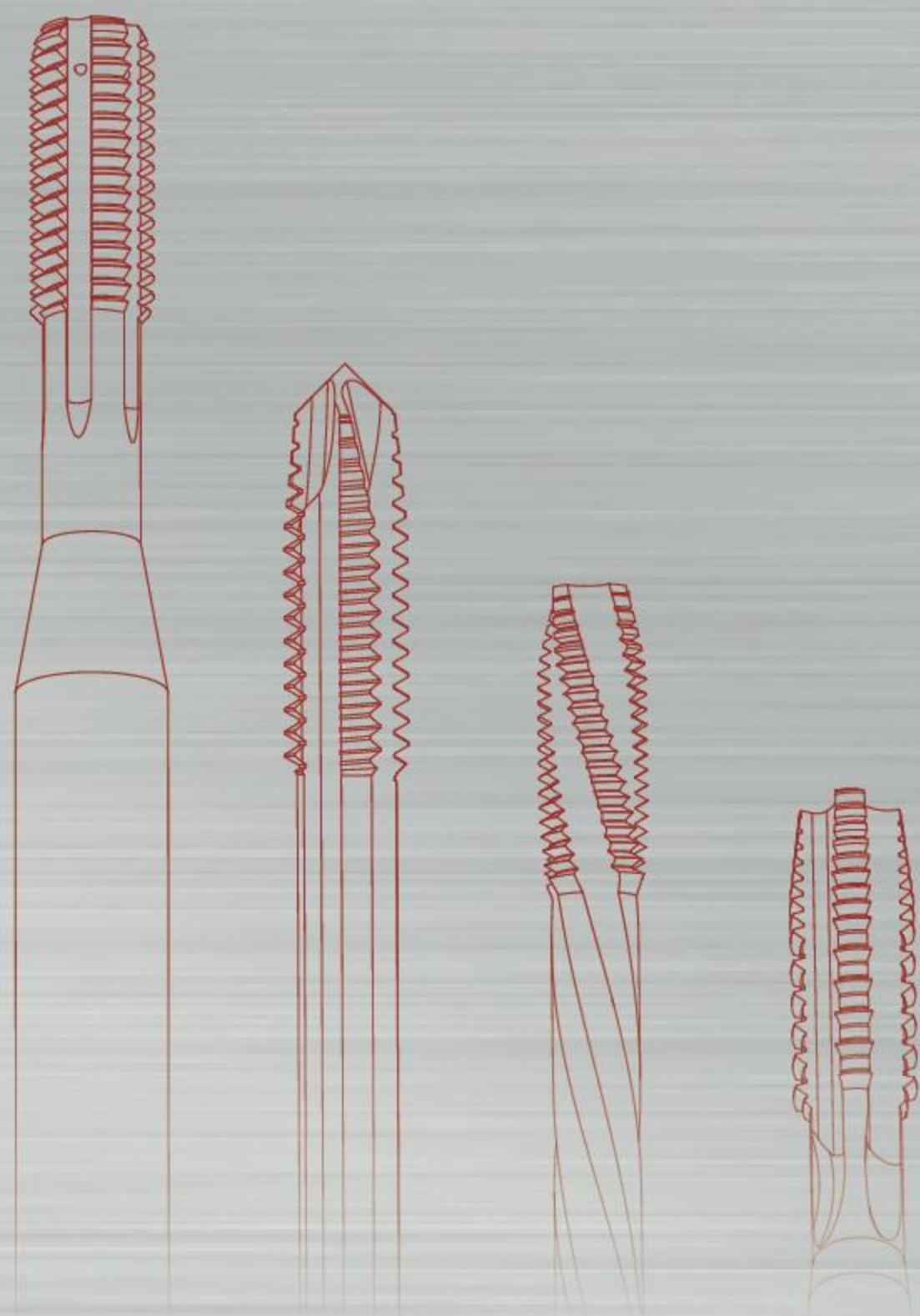


BELZ



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BELZ INC.



BELZ INC.



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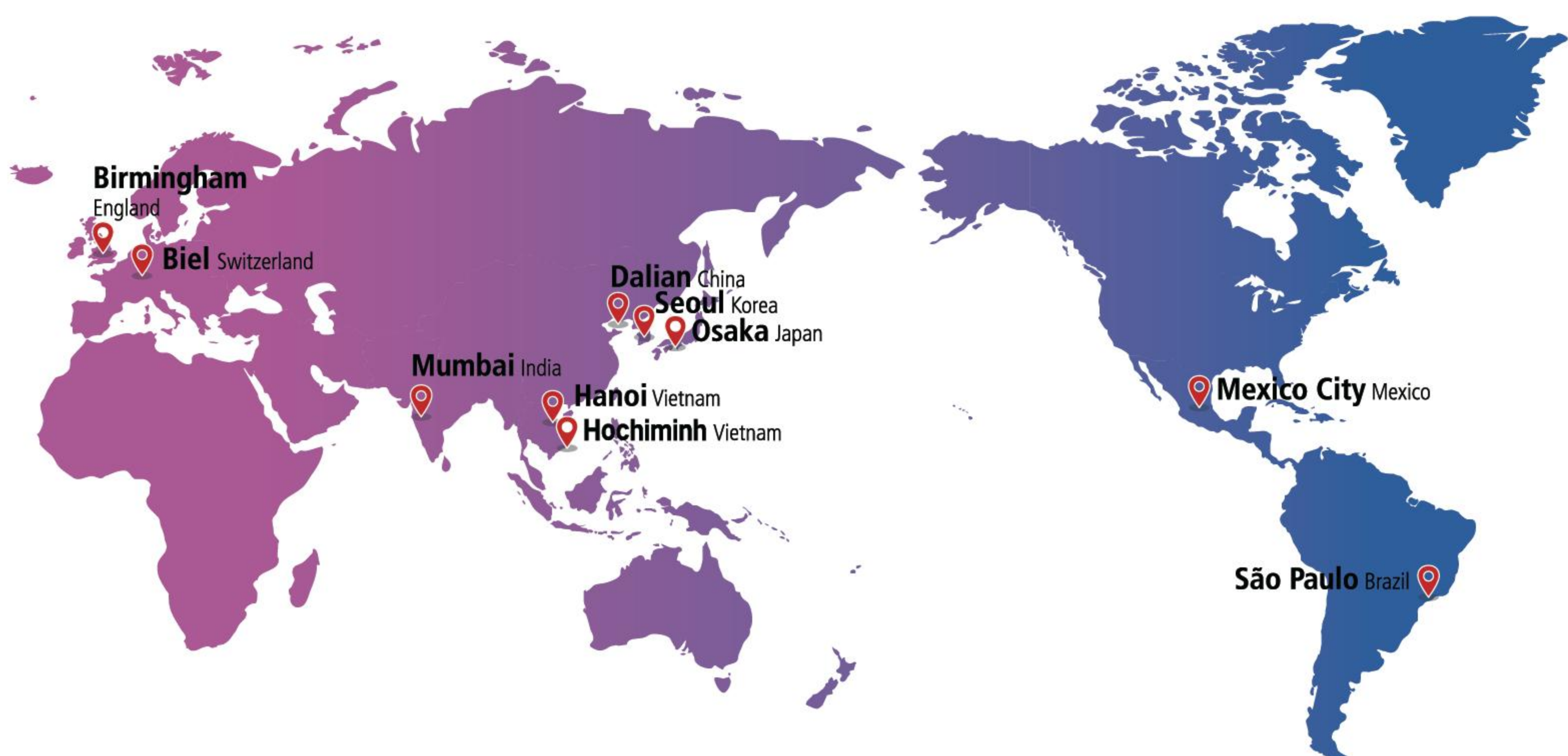


## Company profile

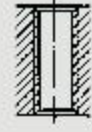
Founded in 1918 in Sutz, Switzerland, Belz has evolved nearly a century to become a leading powerhouse in manufacturing first-class taps and drill bits.

In 2014, the company was integrated into YunDa International and relocated to Dalian, China. With YunDa's continuous investment in R&D and equipments, Belz entered a new stage of development. It now offers increasingly optimized round tool solutions with enhanced product and service capabilities for global users.

## Global Layout



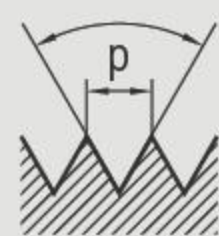
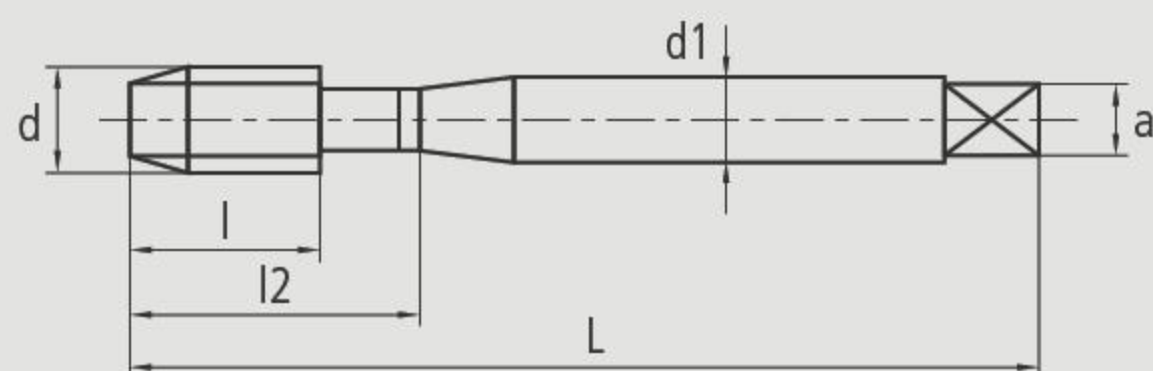


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|                       | •                                                                                   | •                                                                                   |                                                                                     |                                                                                     |    | DR-MO-POT HOMO     | 02   |
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|                       | •                                                                                   | •                                                                                   |                                                                                     |                                                                                     |    | DE-G-POT AlCrN     | 04   |
| P Line                |                                                                                     |                                                                                     | •                                                                                   | •                                                                                   |    | DP-G-SFT TiCN+DLC  | 05   |
|                       | •                                                                                   | •                                                                                   |                                                                                     |                                                                                     |    | DP-G-POT TiCN+DLC  | 07   |
|                       | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |    | DP-G-STT TiCN+DLC  | 09   |
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| DIN          |                                     |                                                                     |
| R Line       | DR-MO-SFT                           | Suitable for Stainless steel & Low - medium carbon steel SFT - HSSE |
|              | DR-MO-POT                           | Suitable for Stainless steel & Low - medium carbon steel POT - HSSE |
| E Line       | DE-G-SFT                            | High Efficiency & Stable Working Conditions SFT -HSSE               |
|              | DE-G-POT                            | High Efficiency & Stable Working Conditions POT -HSSE               |
| P Line       | DP-G-SFT                            | High performance & General Purpose SFT - HSS PM                     |
|              | DP-G-POT                            | High performance & General Purpose POT - HSS PM                     |
|              | DP-G-STT                            | High performance & General Purpose STT - HSS PM                     |
|              | DP-G-NRT                            | High performance & General Purpose NRT - HSS PM                     |
| JIS          |                                     |                                                                     |
| R Line       | JR-MO-SFT                           | Suitable for Stainless steel & Low - medium carbon steel SFT - HSSE |
|              | JR-MO-POT                           | Suitable for Stainless steel & Low - medium carbon steel POT - HSSE |
|              | JR-GX-SFT                           | General Purpose & Unstable Working Conditions SFT - HSSE            |
|              | JR-GX-POT                           | General Purpose & Unstable Working Conditions POT - HSSE            |
|              | JR-GZ-SFT                           | General Purpose & Stable/Unstable Working Conditions SFT - HSSE     |
|              | JR-GZ-POT                           | General Purpose & Stable/Unstable Working Conditions POT - HSSE     |
|              | JR-GZ-STT                           | General Purpose & Stable/Unstable Working Conditions STT - HSSE     |
| E Line       | JE-G-SFT                            | High Efficiency & Stable Working Conditions SFT -HSSE               |
|              | JE-G-POT                            | High Efficiency & Stable Working Conditions POT -HSSE               |
| P Line       | JP-G-SFT                            | High performance & General Purpose SFT - HSS PM                     |
|              | JP-G-POT                            | High performance & General Purpose POT - HSS PM                     |
|              | JP-G-STT                            | High performance & General Purpose STT - HSS PM                     |
|              | JP-P-NRT                            | High performance for steel NRT - HSS PM                             |
|              | JP-M-NRT                            | High performance for stainless steel NRT - HSS PM                   |
|              | JP-N-NRT                            | High performance for snon ferrous alloysteel NRT - HSS PM           |
|              |                                     |                                                                     |
| Stock        | ● Available   ○ Production to order | Performance   ◎ Excellent   ○ Good                                  |
|              |                                     |                                                                     |

**DIN R Line****DR-MO-SFT**

Suitable for Stainless steel &amp; Low - medium carbon steel



HSSE



HSSE



HSSE



HSSE



Norm

DIN371

DIN371

DIN374

DIN376

Surface treatment

HOMO

HOMO

HOMO

HOMO



C/2.5P

C/2.5P

C/2.5P

C/2.5P

| Size     | L   | l   | L2 | d1  | a   | Limit | Flute |       | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|----------|-----|-----|----|-----|-----|-------|-------|-------|-----------|-----------|-----------|-----------|
| M3*0.5   | 56  | 5   | 18 | 3.5 | 2.7 | 6H    | 3     | 2.5   | 345811 ●  |           |           |           |
| M3.5*0.6 | 56  | 6   | 20 | 4   | 3   | 6H    | 3     | 2.9   | 345820 ●  |           |           |           |
| M4*0.5   | 63  | 5.6 |    | 2.8 | 2.1 | 6H    | 3     | 3.5   |           |           | 345821 ○  |           |
| M4*0.7   | 63  | 7   | 21 | 4.5 | 3.4 | 6H    | 3     | 3.3   | 345812 ●  |           |           |           |
| M5*0.5   | 70  | 6.4 |    | 3.5 | 2.7 | 6H    | 3     | 4.5   |           |           | 345822 ○  |           |
| M5*0.8   | 70  | 8   | 25 | 6   | 4.9 | 6H    | 3     | 4.2   | 345813 ●  |           |           |           |
| M6*0.5   | 80  | 8   |    | 4.5 | 3.4 | 6H    | 3     | 5.5   |           |           | 345823 ○  |           |
| M6*0.75  | 80  | 8   |    | 4.5 | 3.4 | 6H    | 3     | 5.25  |           |           | 345824 ○  |           |
| M6*1     | 80  | 10  | 30 | 6   | 4.9 | 6H    | 3     | 5     | 345814 ●  |           |           |           |
| M8*0.75  | 80  | 10  | 30 | 6   | 4.9 | 6H    | 3     | 7.25  |           |           | 345825 ○  |           |
| M8*1     | 90  | 10  | 36 | 6   | 4.9 | 6H    | 3     | 7     |           |           | 345826 ○  |           |
| M8*1.25  | 90  | 13  | 35 | 8   | 6.2 | 6H    | 3     | 6.8   |           | 345815 ●  |           |           |
| M10*0.75 | 90  | 10  | 39 | 7   | 5.5 | 6H    | 3     | 9.25  |           |           | 345827 ○  |           |
| M10*1    | 90  | 10  | 39 | 7   | 5.5 | 6H    | 3     | 9     |           |           | 345828 ○  |           |
| M10*1.25 | 100 | 13  | 39 | 7   | 5.5 | 6H    | 3     | 8.8   |           |           | 345829 ○  |           |
| M10*1.5  | 100 | 15  | 39 | 10  | 8   | 6H    | 3     | 8.5   |           | 345816 ●  |           |           |
| M12*1    | 100 | 15  | 40 | 9   | 7   | 6H    | 3     | 11    |           |           | 345830 ○  |           |
| M12*1.25 | 100 | 15  | 40 | 9   | 7   | 6H    | 3     | 10.8  |           |           | 345831 ○  |           |
| M12*1.5  | 100 | 15  | 40 | 9   | 7   | 6H    | 3     | 10.5  |           |           | 345832 ○  |           |
| M12*1.75 | 110 | 18  | 53 | 9   | 7   | 6H    | 3     | 10.2  |           |           |           | 345817 ●  |
| M14*1    | 100 | 15  | 40 | 11  | 9   | 6H    | 3     | 13    |           |           | 345833 ○  |           |
| M14*1.25 | 100 | 15  | 40 | 11  | 9   | 6H    | 3     | 12.75 |           |           | 345834 ○  |           |
| M14*1.5  | 100 | 15  | 40 | 11  | 9   | 6H    | 3     | 12.5  |           |           | 345835 ○  |           |
| M14*2    | 110 | 20  | 53 | 11  | 9   | 6H    | 3     | 12    |           |           |           | 345818 ●  |
| M16*1    | 100 | 15  | 48 | 12  | 9   | 6H    | 3     | 15    |           |           | 345836 ○  |           |
| M16*1.25 | 100 | 15  | 48 | 12  | 9   | 6H    | 3     | 14.75 |           |           | 345837 ○  |           |
| M16*1.5  | 100 | 15  | 48 | 12  | 9   | 6H    | 3     | 14.5  |           |           | 345838 ○  |           |
| M16*2    | 110 | 20  | 53 | 12  | 9   | 6H    | 3     | 14    |           |           |           | 345819 ●  |

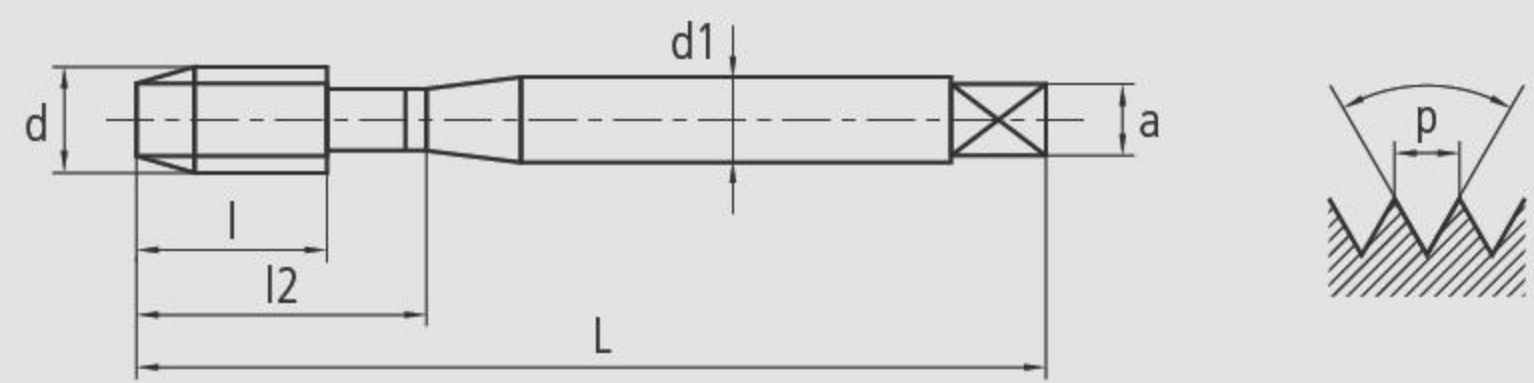
★ Vc: 3-8m/min

★ For Stainless steel, Low - medium carbon steel with hardness ≤ HRC25

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ○ | ⊙ | - | - | - | - |

DIN R Line

DR-MO-POT  
Suitable for Stainless steel & Low - medium carbon steel



HSSE



HSSE



HSSE



HSSE



Norm

DIN371

DIN371

DIN374

DIN376

Surface treatment

HOMO

HOMO

HOMO

HOMO

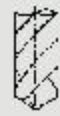


B/4.5P

B/4.5P

B/5P

B/4.5P

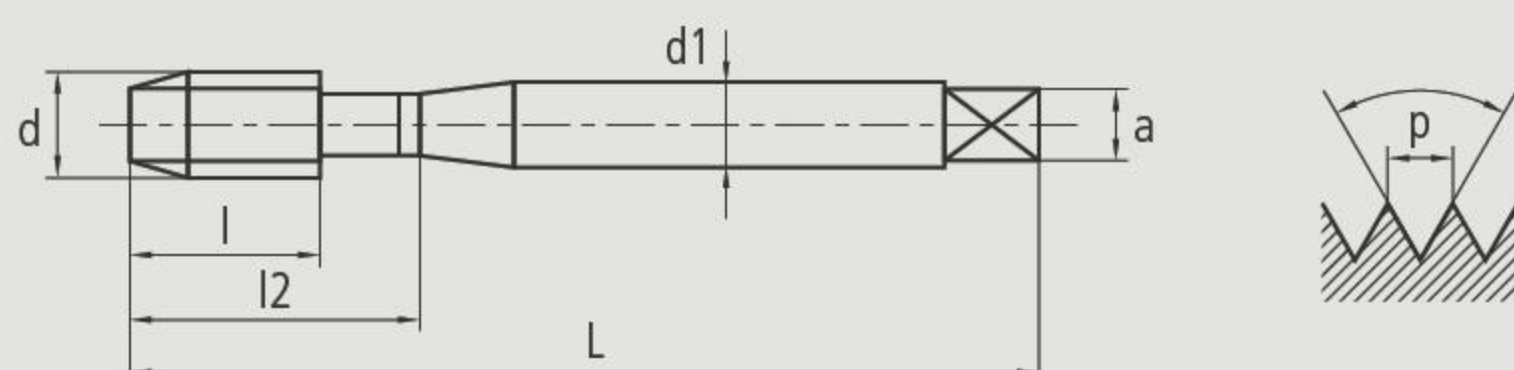
| Size     | L   | I  | L2 | d1  | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|----------|-----|----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M3*0.5   | 56  | 9  | 18 | 3.5 | 2.7 | 6H    | 3     | 2.5                                                                                   | 355811 ●  |           |           |           |
| M3.5*0.6 | 56  | 12 | 20 | 4   | 3   | 6H    | 3     | 2.9                                                                                   | 355820 ●  |           |           |           |
| M4*0.5   | 63  | 10 |    | 2.8 | 2.1 | 6H    | 3     | 3.5                                                                                   |           |           | 355821 ○  |           |
| M4*0.7   | 63  | 12 | 21 | 4.5 | 3.4 | 6H    | 3     | 3.3                                                                                   | 355812 ●  |           |           |           |
| M5*0.5   | 70  | 11 |    | 3.5 | 2.7 | 6H    | 3     | 4.5                                                                                   |           |           | 355822 ○  |           |
| M5*0.8   | 70  | 13 | 25 | 6   | 4.9 | 6H    | 3     | 4.2                                                                                   | 355813 ●  |           |           |           |
| M6*0.5   | 80  | 13 |    | 4.5 | 3.4 | 6H    | 3     | 5.5                                                                                   |           |           | 355823 ○  |           |
| M6*0.75  | 80  | 13 |    | 4.5 | 3.4 | 6H    | 3     | 5.25                                                                                  |           |           | 355824 ○  |           |
| M6*1     | 80  | 15 | 30 | 6   | 4.9 | 6H    | 3     | 5                                                                                     | 355814 ●  |           |           |           |
| M8*0.75  | 80  | 14 | 30 | 6   | 4.9 | 6H    | 3     | 7.25                                                                                  |           |           | 355825 ○  |           |
| M8*1     | 90  | 17 | 36 | 6   | 4.9 | 6H    | 3     | 7                                                                                     |           |           | 355825 ○  |           |
| M8*1.25  | 90  | 18 | 35 | 8   | 6.2 | 6H    | 3     | 6.8                                                                                   |           | 355815 ●  |           |           |
| M10*0.75 | 90  | 18 | 39 | 7   | 5.5 | 6H    | 3     | 9.25                                                                                  |           |           | 355827 ○  |           |
| M10*1    | 90  | 18 | 39 | 7   | 5.5 | 6H    | 3     | 9                                                                                     |           |           | 355828 ○  |           |
| M10*1.25 | 100 | 22 | 39 | 7   | 5.5 | 6H    | 3     | 8.8                                                                                   |           |           | 355829 ○  |           |
| M10*1.5  | 100 | 20 | 39 | 10  | 8   | 6H    | 3     | 8.5                                                                                   |           | 355816 ●  |           |           |
| M12*1    | 100 | 18 | 40 | 9   | 7   | 6H    | 3     | 11                                                                                    |           |           | 355830 ○  |           |
| M12*1.25 | 100 | 22 | 40 | 9   | 7   | 6H    | 3     | 10.8                                                                                  |           |           | 355831 ○  |           |
| M12*1.5  | 100 | 22 | 40 | 9   | 7   | 6H    | 3     | 10.5                                                                                  |           |           | 355832 ○  |           |
| M12*1.75 | 110 | 24 | 53 | 9   | 7   | 6H    | 3     | 10.2                                                                                  |           |           |           | 355817 ●  |
| M14*1    | 100 | 18 | 40 | 11  | 9   | 6H    | 4     | 13                                                                                    |           |           | 355833 ○  |           |
| M14*1.25 | 100 | 22 | 40 | 11  | 9   | 6H    | 4     | 12.75                                                                                 |           |           | 355834 ○  |           |
| M14*1.5  | 100 | 22 | 40 | 11  | 9   | 6H    | 4     | 12.5                                                                                  |           |           | 355835 ○  |           |
| M14*2    | 110 | 26 | 53 | 11  | 9   | 6H    | 4     | 12                                                                                    |           |           |           | 355818 ●  |
| M16*1    | 100 | 18 | 48 | 12  | 9   | 6H    | 4     | 15                                                                                    |           |           | 355836 ○  |           |
| M16*1.25 | 100 | 22 | 48 | 12  | 9   | 6H    | 4     | 14.75                                                                                 |           |           | 355837 ○  |           |
| M16*1.5  | 100 | 22 | 48 | 12  | 9   | 6H    | 4     | 14.5                                                                                  |           |           | 355838 ○  |           |
| M16*2    | 110 | 27 | 53 | 12  | 9   | 6H    | 4     | 14                                                                                    |           |           |           | 355819 ●  |

★ Vc: 3-8m/min  
★ For Stainless steel, Low - medium carbon steel with hardness ≤ HRC25

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ○ | ⊙ | - | - | - | - |

**DIN E Line****DE-G-SFT**

High Efficiency &amp; Stable Working Conditions



HSSE

HSSE

HSSE

HSSE



Norm

DIN371

DIN371

DIN374

DIN376

Coating

AlCrN

AlCrN

AlCrN

AlCrN



C/2.5P

C/2.5P

C/2.5P

C/2.5P

| Size     | L   | l   | L2 | d1  | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|----------|-----|-----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M3*0.5   | 56  | 5   | 18 | 3.5 | 2.7 | 6H    | 3     | 2.5                                                                                   | 245811 ●  |           |           |           |
| M3.5*0.6 | 56  | 6   | 20 | 4   | 3   | 6H    | 3     | 2.9                                                                                   | 245842 ●  |           |           |           |
| M4*0.5   | 63  | 5.6 |    | 2.8 | 2.1 | 6H    | 3     | 3.5                                                                                   |           |           | 245831 ○  |           |
| M4*0.7   | 63  | 7   | 21 | 4.5 | 3.4 | 6H    | 3     | 3.3                                                                                   | 245812 ●  |           |           |           |
| M5*0.5   | 70  | 6.4 | 0  | 3.5 | 2.7 | 6H    | 3     | 4.5                                                                                   |           |           | 245832 ○  |           |
| M5*0.8   | 70  | 8   | 25 | 6   | 4.9 | 6H    | 3     | 4.2                                                                                   | 245813 ●  |           |           |           |
| M6*0.5   | 80  | 8   |    | 4.5 | 3.4 | 6H    | 3     | 5.5                                                                                   |           |           | 245833 ○  |           |
| M6*0.75  | 80  | 8   |    | 4.5 | 3.4 | 6H    | 3     | 5.25                                                                                  |           |           | 245834 ○  |           |
| M6*1     | 80  | 10  | 30 | 6   | 4.9 | 6H    | 3     | 5                                                                                     | 245814 ●  |           |           |           |
| M8*0.75  | 80  | 10  | 30 | 6   | 4.9 | 6H    | 3     | 7.25                                                                                  |           |           | 245835 ○  |           |
| M8*1     | 90  | 10  | 36 | 6   | 4.9 | 6H    | 3     | 7                                                                                     |           |           | 245815 ○  |           |
| M8*1.25  | 90  | 13  | 35 | 8   | 6.2 | 6H    | 3     | 6.8                                                                                   |           | 245816 ●  |           |           |
| M10*0.75 | 90  | 10  | 39 | 7   | 5.5 | 6H    | 3     | 9.25                                                                                  |           |           | 245836 ○  |           |
| M10*1    | 90  | 10  | 39 | 7   | 5.5 | 6H    | 3     | 9                                                                                     |           |           | 245817 ○  |           |
| M10*1.25 | 100 | 13  | 39 | 7   | 5.5 | 6H    | 3     | 8.8                                                                                   |           |           | 245818 ○  |           |
| M10*1.5  | 100 | 15  | 39 | 10  | 8   | 6H    | 3     | 8.5                                                                                   |           | 245819 ●  |           |           |
| M12*1    | 100 | 15  | 40 | 9   | 7   | 6H    | 3     | 11                                                                                    |           |           | 245837 ○  |           |
| M12*1.25 | 100 | 15  | 40 | 9   | 7   | 6H    | 3     | 10.8                                                                                  |           |           | 245820 ○  |           |
| M12*1.5  | 100 | 15  | 40 | 9   | 7   | 6H    | 3     | 10.5                                                                                  |           |           | 245821 ○  |           |
| M12*1.75 | 110 | 18  | 53 | 9   | 7   | 6H    | 3     | 10.2                                                                                  |           |           |           | 245822 ●  |
| M14*1    | 100 | 15  | 40 | 11  | 9   | 6H    | 3     | 13                                                                                    |           |           | 245838 ○  |           |
| M14*1.25 | 100 | 15  | 40 | 11  | 9   | 6H    | 3     | 12.75                                                                                 |           |           | 245839 ○  |           |
| M14*1.5  | 100 | 15  | 40 | 11  | 9   | 6H    | 3     | 12.5                                                                                  |           |           | 245823 ○  |           |
| M14*2    | 110 | 20  | 53 | 11  | 9   | 6H    | 3     | 12                                                                                    |           |           |           | 245824 ●  |
| M16*1    | 100 | 15  | 48 | 12  | 9   | 6H    | 3     | 15                                                                                    |           |           | 245840 ○  |           |
| M16*1.25 | 100 | 15  | 48 | 12  | 9   | 6H    | 3     | 14.75                                                                                 |           |           | 245841 ○  |           |
| M16*1.5  | 100 | 15  | 48 | 12  | 9   | 6H    | 3     | 14.5                                                                                  |           |           | 245825 ○  |           |
| M16*2    | 110 | 20  | 53 | 12  | 9   | 6H    | 3     | 14                                                                                    |           |           |           | 245826 ●  |

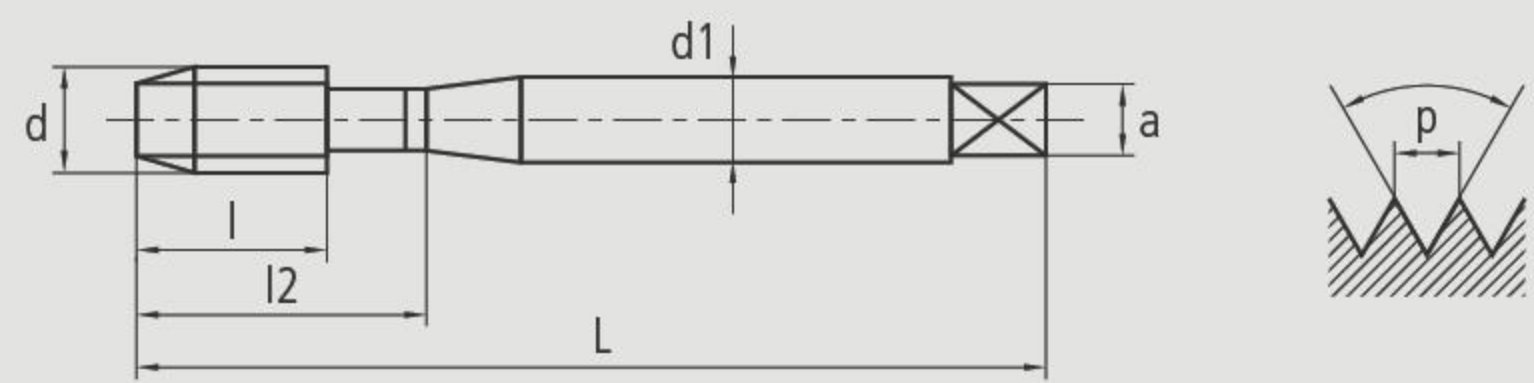
★ Vc: 5-15m/min

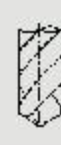
★ Steel, Alloy Steel, Stainless Steel and Cast Iron: HRC 20 to 32

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ◎ | ○ | ○ | - | - | - |

DIN E Line

DE-G-POT  
High Efficiency & Stable Working Conditions



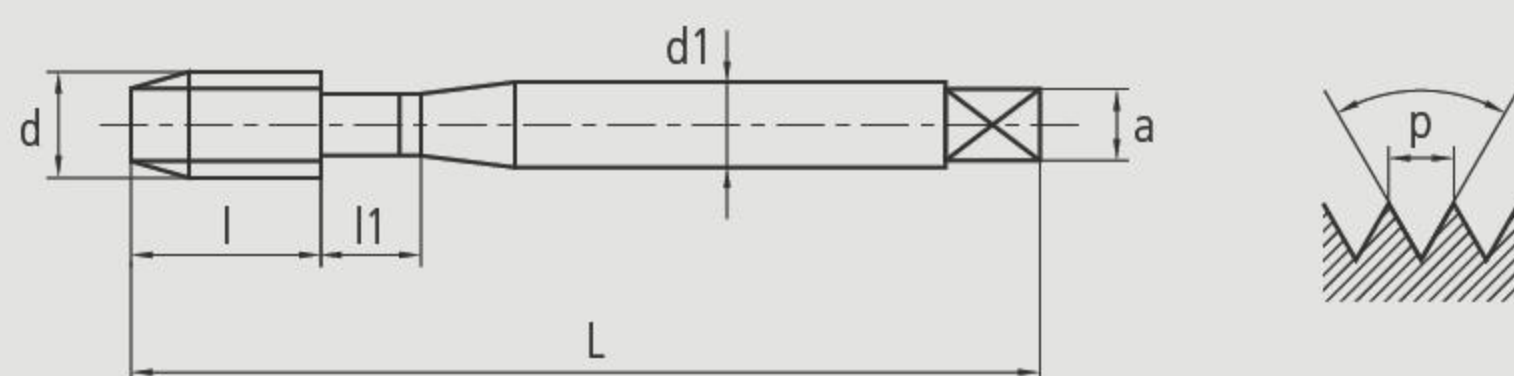
| Norm                                                                                 |     |    |    |     |     |       |       |                                                                                       | HSSE      | HSSE      | HSSE      | HSSE      |
|--------------------------------------------------------------------------------------|-----|----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| Coating                                                                              |     |    |    |     |     |       |       |                                                                                       | DIN371    | DIN371    | DIN374    | DIN376    |
|  |     |    |    |     |     |       |       |                                                                                       | AlCrN     | AlCrN     | AlCrN     | AlCrN     |
|                                                                                      |     |    |    |     |     |       |       |                                                                                       | B/4.5P    | B/4.5P    | B/5P      | B/4.5P    |
| Size                                                                                 | L   | l  | L2 | d1  | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
| M3*0.5                                                                               | 56  | 9  | 18 | 3.5 | 2.7 | 6H    | 3     | 2.5                                                                                   | 255811 ●  |           |           |           |
| M3.5*0.6                                                                             | 56  | 12 | 20 | 4   | 3   | 6H    | 3     | 2.9                                                                                   | 255842 ●  |           |           |           |
| M4*0.5                                                                               | 63  | 10 |    | 2.8 | 2.1 | 6H    | 3     | 3.5                                                                                   |           |           | 255831 ○  |           |
| M4*0.7                                                                               | 63  | 12 | 21 | 4.5 | 3.4 | 6H    | 3     | 3.3                                                                                   | 255812 ●  |           |           |           |
| M5*0.5                                                                               | 70  | 11 |    | 3.5 | 2.7 | 6H    | 3     | 4.5                                                                                   |           |           | 255832 ○  |           |
| M5*0.8                                                                               | 70  | 13 | 25 | 6   | 4.9 | 6H    | 3     | 4.2                                                                                   | 255813 ●  |           |           |           |
| M6*0.5                                                                               | 80  | 13 |    | 4.5 | 3.4 | 6H    | 3     | 5.5                                                                                   |           |           | 255833 ○  |           |
| M6*0.75                                                                              | 80  | 13 |    | 4.5 | 3.4 | 6H    | 3     | 5.25                                                                                  |           |           | 255834 ○  |           |
| M6*1                                                                                 | 80  | 15 | 30 | 6   | 4.9 | 6H    | 3     | 5                                                                                     | 255814 ●  |           |           |           |
| M8*0.75                                                                              | 80  | 14 | 30 | 6   | 4.9 | 6H    | 3     | 7.25                                                                                  |           |           | 255835 ○  |           |
| M8*1                                                                                 | 90  | 17 | 36 | 6   | 4.9 | 6H    | 3     | 7                                                                                     |           |           | 255815 ○  |           |
| M8*1.25                                                                              | 90  | 18 | 35 | 8   | 6.2 | 6H    | 3     | 6.8                                                                                   |           | 255816 ●  |           |           |
| M10*0.75                                                                             | 90  | 18 | 39 | 7   | 5.5 | 6H    | 3     | 9.25                                                                                  |           |           | 255836 ○  |           |
| M10*1                                                                                | 90  | 18 | 39 | 7   | 5.5 | 6H    | 3     | 9                                                                                     |           |           | 255817 ○  |           |
| M10*1.25                                                                             | 100 | 22 | 39 | 7   | 5.5 | 6H    | 3     | 8.8                                                                                   |           |           | 255818 ○  |           |
| M10*1.5                                                                              | 100 | 20 | 39 | 10  | 8   | 6H    | 3     | 8.5                                                                                   |           | 255819 ●  |           |           |
| M12*1                                                                                | 100 | 18 | 40 | 9   | 7   | 6H    | 3     | 11                                                                                    |           |           | 255837 ○  |           |
| M12*1.25                                                                             | 100 | 22 | 40 | 9   | 7   | 6H    | 3     | 10.8                                                                                  |           |           | 255820 ○  |           |
| M12*1.5                                                                              | 100 | 22 | 40 | 9   | 7   | 6H    | 3     | 10.5                                                                                  |           |           | 255821 ○  |           |
| M12*1.75                                                                             | 110 | 24 | 53 | 9   | 7   | 6H    | 3     | 10.2                                                                                  |           |           |           | 255822 ●  |
| M14*1                                                                                | 100 | 18 | 40 | 11  | 9   | 6H    | 4     | 13                                                                                    |           |           | 255838 ○  |           |
| M14*1.25                                                                             | 100 | 22 | 40 | 11  | 9   | 6H    | 4     | 12.75                                                                                 |           |           | 255839 ○  |           |
| M14*1.5                                                                              | 100 | 22 | 40 | 11  | 9   | 6H    | 4     | 12.5                                                                                  |           |           | 255823 ○  |           |
| M14*2                                                                                | 110 | 26 | 53 | 11  | 9   | 6H    | 4     | 12                                                                                    |           |           |           | 255824 ●  |
| M16*1                                                                                | 100 | 18 | 48 | 12  | 9   | 6H    | 4     | 15                                                                                    |           |           | 255840 ○  |           |
| M16*1.25                                                                             | 100 | 22 | 48 | 12  | 9   | 6H    | 4     | 14.75                                                                                 |           |           | 255841 ○  |           |
| M16*1.5                                                                              | 100 | 22 | 48 | 12  | 9   | 6H    | 4     | 14.5                                                                                  |           |           | 255825 ○  |           |
| M16*2                                                                                | 110 | 27 | 53 | 12  | 9   | 6H    | 4     | 14                                                                                    |           |           |           | 255826 ●  |

★ Vc: 10-20m/min  
★ Steel, Alloy Steel, Stainless Steel and Cast Iron; HRC 20 to 32

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ⊙ | ○ | ○ | - | - | - |

**DIN P Line****DP-G-SFT**

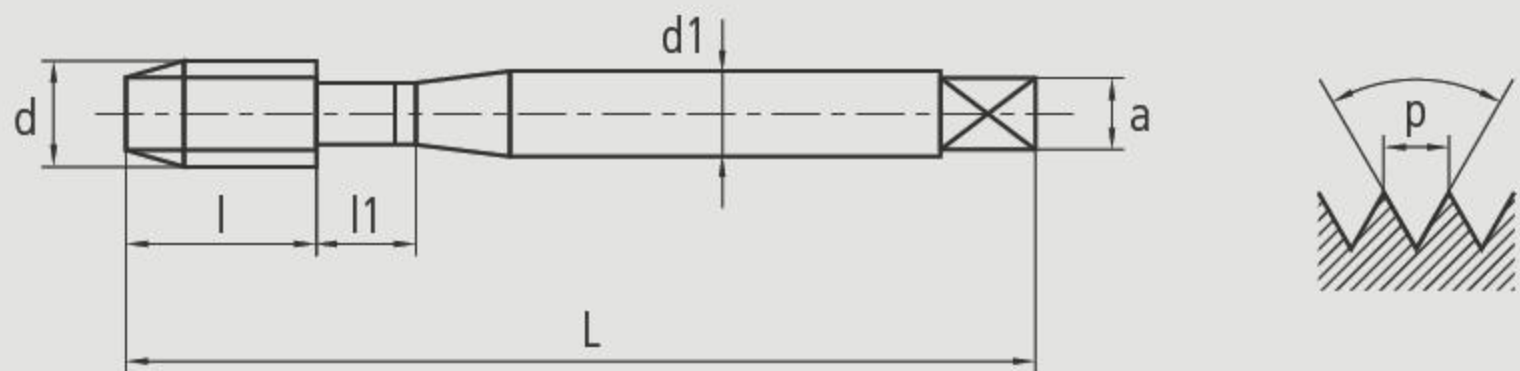
High Performance &amp; General Purpose

**HSS-PM****HSS-PM****HSS-PM****HSS-PM****Norm****DIN371****DIN371****DIN374****DIN376****Coating****TiCN+DLC****TiCN+DLC****TiCN+DLC****TiCN+DLC****C/2.5P****C/2.5P****C/2.5P****C/2.5P**

| Size      | L   | l  | l1 | d1  | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|-----------|-----|----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M1.6*0.35 | 40  | 8  | -  | 2.5 | 2.1 | 6H    | 2     | 1.25                                                                                  | 275845 ○  |           |           |           |
| M2*0.4    | 45  | 6  | 7  | 2.8 | 2.1 | 6H    | 2     | 1.6                                                                                   | 275846 ○  |           |           |           |
| M2.5*0.45 | 50  | 7  | 8  | 2.8 | 2.1 | 6H    | 2     | 2.05                                                                                  | 275847 ○  |           |           |           |
| M3*0.5    | 56  | 7  | 11 | 3.5 | 3.4 | 6HX   | 3     | 2.5                                                                                   | 275832 ●  |           |           |           |
| M4*0.7    | 63  | 9  | 12 | 4.5 | 3.4 | 6HX   | 3     | 3.3                                                                                   | 275811 ●  |           |           |           |
| M5*0.8    | 70  | 10 | 15 | 6   | 4.9 | 6HX   | 3     | 4.2                                                                                   | 275812 ●  |           |           |           |
| M6*1      | 80  | 10 | 20 | 6   | 4.9 | 6HX   | 3     | 5                                                                                     | 275813 ●  |           |           |           |
| M7*1      | 80  | 10 | 20 | 7   | 5.5 | 6HX   | 3     | 6                                                                                     |           | 275814 ○  |           |           |
| M8*1      | 90  | 13 | 22 | 8   | 6.2 | 6HX   | 3     | 7                                                                                     |           | 275815 ●  |           |           |
| M8*1,25   | 90  | 13 | 22 | 8   | 6.2 | 6HX   | 3     | 6.8                                                                                   |           | 275816 ●  |           |           |
| M10*1     | 100 | 15 | 24 | 10  | 8   | 6HX   | 3     | 9                                                                                     |           | 275817 ●  |           |           |
| M10*1.25  | 100 | 15 | 24 | 10  | 8   | 6HX   | 3     | 8.8                                                                                   |           | 275818 ●  |           |           |
| M10*1.5   | 100 | 15 | 24 | 10  | 8   | 6HX   | 3     | 8.5                                                                                   |           | 275819 ●  |           |           |
| M12*1     | 110 | 17 | 32 | 9   | 7   | 6HX   | 3     | 11                                                                                    |           |           | 275820 ●  |           |
| M12*1.25  | 110 | 17 | 32 | 9   | 7   | 6HX   | 3     | 10.8                                                                                  |           |           | 275821 ●  |           |
| M12*1.5   | 110 | 17 | 32 | 9   | 7   | 6HX   | 3     | 10.5                                                                                  |           |           | 275822 ●  |           |
| M12*1.75  | 110 | 17 | 32 | 9   | 7   | 6HX   | 3     | 10.2                                                                                  |           |           |           | 275823 ●  |
| M14*1     | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 13                                                                                    |           |           | 275824 ●  |           |
| M14*1.25  | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 12.75                                                                                 |           |           | 275825 ●  |           |
| M14*1.5   | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 12.5                                                                                  |           |           | 275826 ●  |           |
| M14*2     | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 12                                                                                    |           |           |           | 275827    |
| M16*1     | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 15                                                                                    |           |           | 275828 ●  |           |
| M16*1.25  | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 14.75                                                                                 |           |           | 275829 ●  |           |
| M16*1.5   | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 14.5                                                                                  |           |           | 275830 ●  |           |
| M16*2     | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 14                                                                                    |           |           |           | 275831 ●  |
| M18*1.5   | 125 | 25 | 36 | 14  | 11  | 6HX   | 4     | 16.5                                                                                  |           |           | 275838 ●  |           |
| M18*2     | 125 | 25 | 36 | 14  | 11  | 6HX   | 4     | 16                                                                                    |           |           | 275848 ●  |           |
| M18*2.5   | 125 | 25 | 36 | 14  | 11  | 6HX   | 4     | 15.5                                                                                  |           |           |           | 275839 ●  |

DIN P Line

DP-G-SFT  
High Performance & General Purpose



HSS-PM



HSS-PM



HSS-PM



HSS-PM



Norm

DIN371

DIN371

DIN374

DIN376

Coating

TiCN+DLC

TiCN+DLC

TiCN+DLC

TiCN+DLC

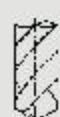


C/2.5P

C/2.5P

C/2.5P

C/2.5P

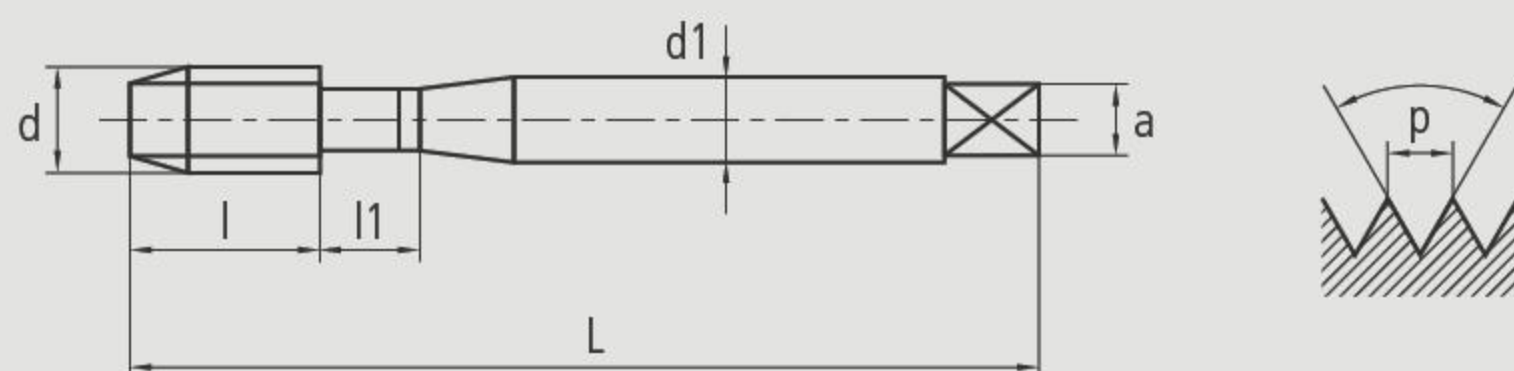
| Size    | L   | l  | l1 | d1 | a    | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|---------|-----|----|----|----|------|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M20*1.5 | 140 | 25 | 44 | 16 | 12   | 6HX   | 4     | 18.5                                                                                  |           |           | 275840 ●  |           |
| M20*2   | 140 | 25 | 44 | 16 | 12   | 6HX   | 4     | 18                                                                                    |           |           | 275835 ○  |           |
| M20*2.5 | 140 | 25 | 44 | 16 | 12   | 6HX   | 4     | 17.5                                                                                  |           |           |           | 275841 ●  |
| M22*1.5 | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 4     | 20.5                                                                                  |           |           | 275849 ○  |           |
| M22*2   | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 4     | 20                                                                                    |           |           | 275850 ○  |           |
| M22*2.5 | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 4     | 19.5                                                                                  |           |           |           | 275851 ○  |
| M24*2   | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 4     | 22                                                                                    |           |           | 275836 ○  |           |
| M24*2.5 | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 4     | 21.5                                                                                  |           |           | 275852 ○  |           |
| M24*3   | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 4     | 21                                                                                    |           |           |           | 275842 ●  |
| M27*2   | 160 | 30 | 48 | 20 | 16   | 6HX   | 4     | 25                                                                                    |           |           | 275837 ○  |           |
| M27*2.5 | 160 | 30 | 48 | 20 | 16   | 6HX   | 4     | 24.5                                                                                  |           |           | 275853 ○  |           |
| M27*3   | 160 | 30 | 48 | 20 | 16   | 6HX   | 4     | 24                                                                                    |           |           |           | 275854 ○  |
| M30*2   | 180 | 35 | 53 | 22 | 18   | 6HX   | 4     | 28                                                                                    |           |           | 275855 ○  |           |
| M30*2.5 | 180 | 35 | 53 | 22 | 18   | 6HX   | 4     | 27.5                                                                                  |           |           | 275856 ○  |           |
| M30*3   | 180 | 35 | 53 | 22 | 18   | 6HX   | 4     | 27                                                                                    |           |           | 275857 ○  |           |
| M30*3.5 | 180 | 35 | 53 | 22 | 18   | 6HX   | 4     | 26.5                                                                                  |           |           |           | 275858 ○  |

★ Multi-layered coating provide excellent wear resistance.  
★ For Carbon Steel, Alloy Steel with a hardness of 35 HRC or lower, Stainless Steel, and Non-ferrous Alloys.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ⊙ | ○ | - | ○ | - | - |

**DIN P Line****DP-G-POT**

High Performance &amp; General Purpose



HSS-PM

HSS-PM

HSS-PM

HSS-PM



Norm

DIN371

DIN371

DIN374

DIN376

Coating

TiCN+DLC

TiCN+DLC

TiCN+DLC

TiCN+DLC

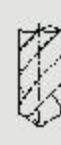


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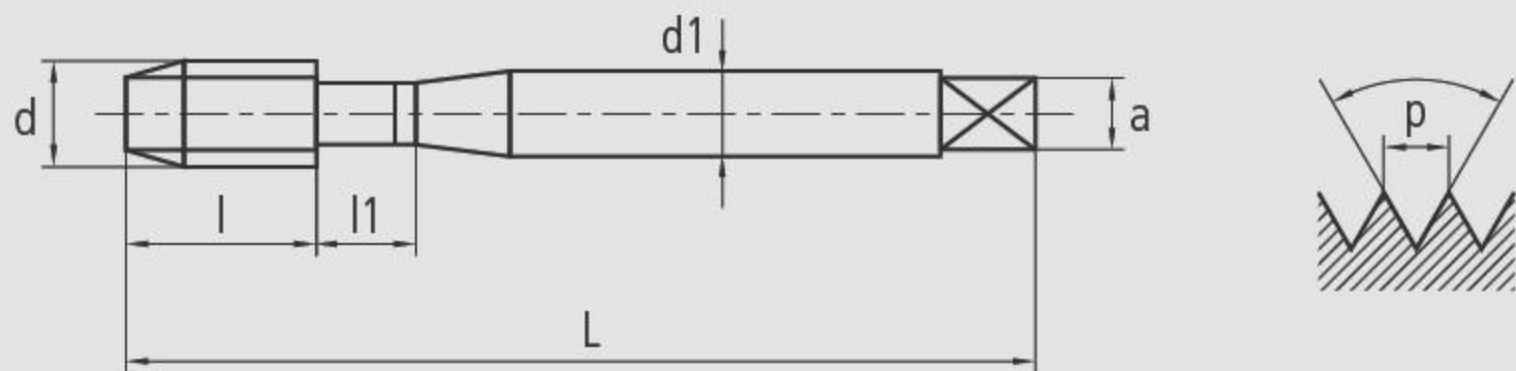
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| Size      | L   | l  | l1 | d1  | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|-----------|-----|----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M1.6*0.35 | 40  | 8  | -  | 2.5 | 2.1 | 6H    | 2     | 1.25                                                                                  | 285833 ○  |           |           |           |
| M2*0.4    | 45  | 6  | 7  | 2.8 | 2.1 | 6H    | 2     | 1.6                                                                                   | 285834 ○  |           |           |           |
| M2.5*0.45 | 50  | 7  | 8  | 2.8 | 2.1 | 6H    | 2     | 2.05                                                                                  | 285835 ○  |           |           |           |
| M3*0.5    | 56  | 7  | 11 | 3.5 | 3.4 | 6HX   | 3     | 2.5                                                                                   | 285832 ●  |           |           |           |
| M4*0.7    | 63  | 9  | 12 | 4.5 | 3.4 | 6HX   | 3     | 3.3                                                                                   | 285811 ●  |           |           |           |
| M5*0.8    | 70  | 10 | 15 | 6   | 4.9 | 6HX   | 3     | 4.2                                                                                   | 285812 ●  |           |           |           |
| M6*1      | 80  | 10 | 20 | 6   | 4.9 | 6HX   | 3     | 5                                                                                     | 285813 ●  |           |           |           |
| M7*1      | 80  | 10 | 20 | 7   | 5.5 | 6HX   | 3     | 6                                                                                     |           | 285814 ○  |           |           |
| M8*1      | 90  | 13 | 22 | 8   | 6.2 | 6HX   | 3     | 7                                                                                     |           | 285815 ●  |           |           |
| M8*1,25   | 90  | 13 | 22 | 8   | 6.2 | 6HX   | 3     | 6.8                                                                                   |           | 285816 ●  |           |           |
| M10*1     | 100 | 15 | 24 | 10  | 8   | 6HX   | 3     | 9                                                                                     |           | 285817 ●  |           |           |
| M10*1.25  | 100 | 15 | 24 | 10  | 8   | 6HX   | 3     | 8.8                                                                                   |           | 285818 ●  |           |           |
| M10*1.5   | 100 | 15 | 24 | 10  | 8   | 6HX   | 3     | 8.5                                                                                   |           | 285819 ●  |           |           |
| M12*1     | 110 | 17 | 32 | 9   | 7   | 6HX   | 3     | 11                                                                                    |           |           | 285820 ●  |           |
| M12*1.25  | 110 | 17 | 32 | 9   | 7   | 6HX   | 3     | 10.8                                                                                  |           |           | 285821 ●  |           |
| M12*1.5   | 110 | 17 | 32 | 9   | 7   | 6HX   | 3     | 10.5                                                                                  |           |           | 285822 ●  |           |
| M12*1.75  | 110 | 17 | 32 | 9   | 7   | 6HX   | 3     | 10.2                                                                                  |           |           |           | 285823 ●  |
| M14*1     | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 13                                                                                    |           |           | 285824 ●  |           |
| M14*1.25  | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 12.75                                                                                 |           |           | 285825 ●  |           |
| M14*1.5   | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 12.5                                                                                  |           |           | 285826 ●  |           |
| M14*2     | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 12                                                                                    |           |           |           | 285827 ●  |
| M16*1     | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 15                                                                                    |           |           | 285828 ●  |           |
| M16*1.25  | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 14.75                                                                                 |           |           | 285829 ●  |           |
| M16*1.5   | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 14.5                                                                                  |           |           | 285830 ●  |           |
| M16*2     | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 14                                                                                    |           |           |           | 285831 ●  |
| M18*1.5   | 125 | 25 | 36 | 14  | 11  | 6HX   | 4     | 16.5                                                                                  |           |           | 285836 ●  |           |
| M18*2     | 125 | 25 | 36 | 14  | 11  | 6HX   | 4     | 16                                                                                    |           |           | 285837 ●  |           |
| M18*2.5   | 125 | 25 | 36 | 14  | 11  | 6HX   | 4     | 15.5                                                                                  |           |           |           | 285838 ●  |

DIN P Line

DP-G-POT  
High Performance & General Purpose



HSS-PM



HSS-PM



HSS-PM



HSS-PM



Norm

DIN371

DIN371

DIN374

DIN376

Coating

TiCN+DLC

TiCN+DLC

TiCN+DLC

TiCN+DLC

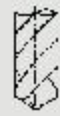


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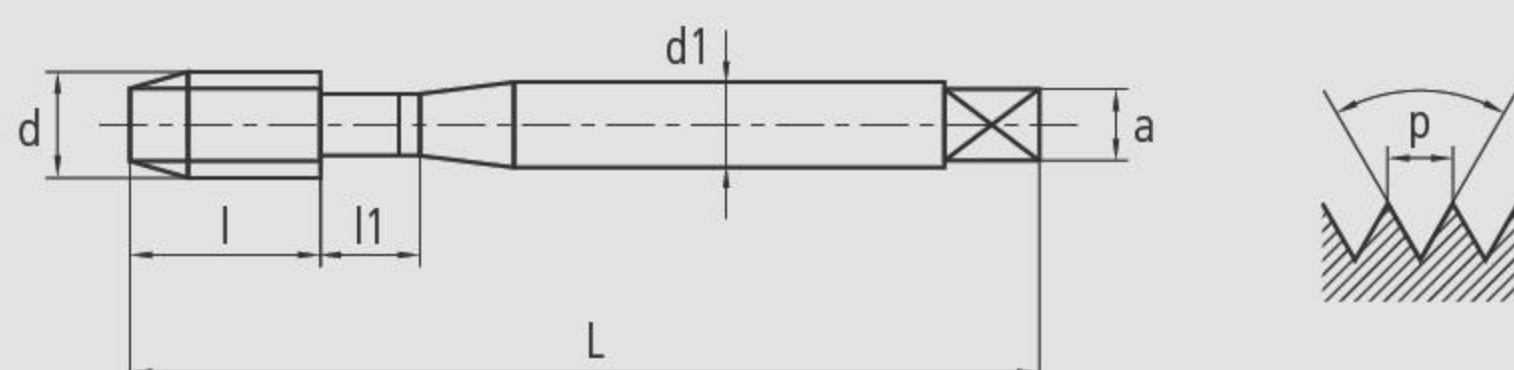
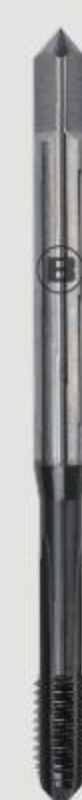
| Size    | L   | l  | l1 | d1 | a    | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|---------|-----|----|----|----|------|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M20*1.5 | 140 | 25 | 44 | 16 | 12   | 6HX   | 4     | 18.5                                                                                  |           |           | 285839 ○  |           |
| M20*2   | 140 | 25 | 44 | 16 | 12   | 6HX   | 4     | 18                                                                                    |           |           | 285840 ○  |           |
| M20*2.5 | 140 | 25 | 44 | 16 | 12   | 6HX   | 4     | 17.5                                                                                  |           |           |           | 285841 ●  |
| M22*1.5 | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 4     | 20.5                                                                                  |           |           | 285842 ○  |           |
| M22*2   | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 4     | 20                                                                                    |           |           | 285843 ○  |           |
| M22*2.5 | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 4     | 19.5                                                                                  |           |           |           | 285844 ○  |
| M24*2   | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 4     | 22                                                                                    |           |           | 285845 ○  |           |
| M24*2.5 | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 4     | 21.5                                                                                  |           |           | 285846 ○  |           |
| M24*3   | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 4     | 21                                                                                    |           |           |           | 285847 ○  |
| M27*2   | 160 | 30 | 48 | 20 | 16   | 6HX   | 4     | 25                                                                                    |           |           | 285848 ○  |           |
| M27*2.5 | 160 | 30 | 48 | 20 | 16   | 6HX   | 4     | 24.5                                                                                  |           |           | 285849 ○  |           |
| M27*3   | 160 | 30 | 48 | 20 | 16   | 6HX   | 4     | 24                                                                                    |           |           |           | 285850 ○  |
| M30*2   | 180 | 35 | 53 | 22 | 18   | 6HX   | 4     | 28                                                                                    |           |           | 285851 ○  |           |
| M30*2.5 | 180 | 35 | 53 | 22 | 18   | 6HX   | 4     | 27.5                                                                                  |           |           | 285852 ○  |           |
| M30*3   | 180 | 35 | 53 | 22 | 18   | 6HX   | 4     | 27                                                                                    |           |           | 285853 ○  |           |
| M30*3.5 | 180 | 35 | 53 | 22 | 18   | 6HX   | 4     | 26.5                                                                                  |           |           |           | 285854 ○  |

★ Multi-layered coating provide excellent wear resistance.  
★ For Carbon Steel, Alloy Steel with a hardness of 35 HRC or lower, Stainless Steel, and Non-ferrous Alloys.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ⊙ | ○ | - | ○ | - | - |

**DIN P Line****DP-G-STT**

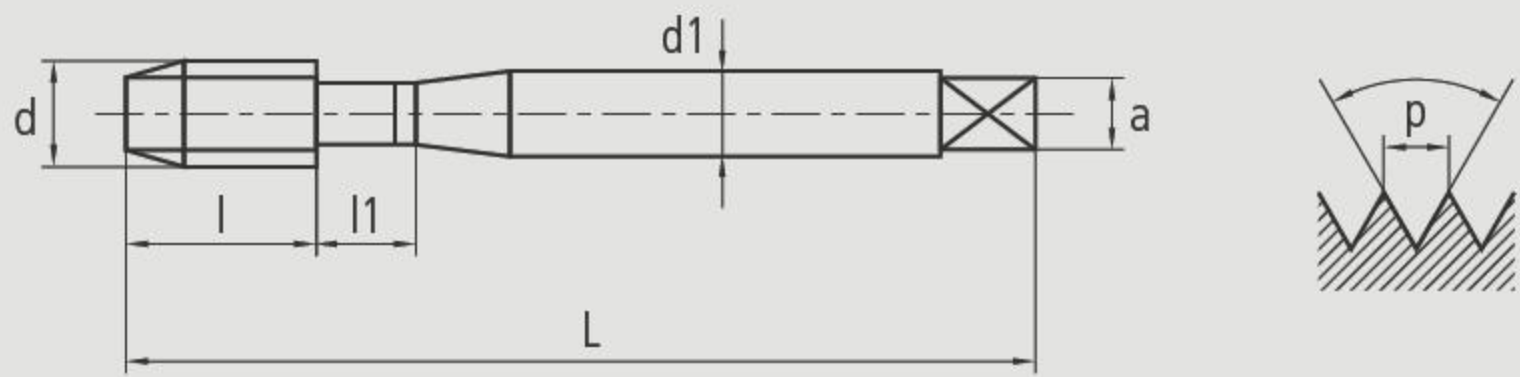
High Performance &amp; General Purpose

**HSS-PM****HSS-PM****HSS-PM****HSS-PM****Norm****DIN371****DIN371****DIN374****DIN376****Coating****TiCN+DLC****TiCN+DLC****TiCN+DLC****TiCN+DLC****C/3P****C/3P****C/3P****C/3P**

| Size      | L   | l  | l1 | d1  | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|-----------|-----|----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M1.6*0.35 | 40  | 8  | -  | 2.5 | 2.1 | 6H    | 2     | 1.25                                                                                  | 295833 ○  |           |           |           |
| M2*0.4    | 45  | 6  | 7  | 2.8 | 2.1 | 6H    | 2     | 1.6                                                                                   | 295834 ○  |           |           |           |
| M2.5*0.45 | 50  | 7  | 8  | 2.8 | 2.1 | 6H    | 2     | 2.05                                                                                  | 295835 ○  |           |           |           |
| M3*0.5    | 56  | 7  | 11 | 3.5 | 3.4 | 6HX   | 3     | 2.5                                                                                   | 295831 ●  |           |           |           |
| M4*0.7    | 63  | 9  | 12 | 4.5 | 3.4 | 6HX   | 3     | 3.3                                                                                   | 295832 ●  |           |           |           |
| M5*0.8    | 70  | 10 | 15 | 6   | 4.9 | 6HX   | 3     | 4.2                                                                                   | 295811 ●  |           |           |           |
| M6*1      | 80  | 10 | 20 | 6   | 4.9 | 6HX   | 3     | 5                                                                                     | 295812 ●  |           |           |           |
| M7*1      | 80  | 10 | 20 | 7   | 5.5 | 6HX   | 3     | 6                                                                                     |           | 295813 ○  |           |           |
| M8*1      | 90  | 13 | 22 | 8   | 6.2 | 6HX   | 4     | 7                                                                                     |           | 295814 ●  |           |           |
| M8*1,25   | 90  | 13 | 22 | 8   | 6.2 | 6HX   | 4     | 6.8                                                                                   |           | 295815 ●  |           |           |
| M10*1     | 100 | 15 | 24 | 10  | 8   | 6HX   | 4     | 9                                                                                     |           | 295816 ●  |           |           |
| M10*1.25  | 100 | 15 | 24 | 10  | 8   | 6HX   | 4     | 8.8                                                                                   |           | 295817 ●  |           |           |
| M10*1.5   | 100 | 15 | 24 | 10  | 8   | 6HX   | 4     | 8.5                                                                                   |           | 295818 ●  |           |           |
| M12*1     | 110 | 17 | 32 | 9   | 7   | 6HX   | 4     | 11                                                                                    |           |           | 295819 ●  |           |
| M12*1.25  | 110 | 17 | 32 | 9   | 7   | 6HX   | 4     | 10.8                                                                                  |           |           | 295820 ●  |           |
| M12*1.5   | 110 | 17 | 32 | 9   | 7   | 6HX   | 4     | 10.5                                                                                  |           |           | 295821 ●  |           |
| M12*1.75  | 110 | 17 | 32 | 9   | 7   | 6HX   | 4     | 10.2                                                                                  |           |           |           | 295822 ●  |
| M14*1     | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 13                                                                                    |           |           | 295823 ●  |           |
| M14*1.25  | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 12.75                                                                                 |           |           | 295824 ●  |           |
| M14*1.5   | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 12.5                                                                                  |           |           | 295825 ●  |           |
| M14*2     | 110 | 20 | 33 | 11  | 9   | 6HX   | 4     | 12                                                                                    |           |           |           | 295826 ●  |
| M16*1     | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 15                                                                                    |           |           | 295827 ●  |           |
| M16*1.25  | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 14.75                                                                                 |           |           | 295828 ●  |           |
| M16*1.5   | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 14.5                                                                                  |           |           | 295829 ●  |           |
| M16*2     | 110 | 20 | 34 | 12  | 9   | 6HX   | 4     | 14                                                                                    |           |           |           | 295830 ●  |
| M18*1.5   | 125 | 25 | 36 | 14  | 11  | 6HX   | 4     | 16.5                                                                                  |           |           | 295836 ●  |           |
| M18*2     | 125 | 25 | 36 | 14  | 11  | 6HX   | 4     | 16                                                                                    |           |           | 295837 ○  |           |
| M18*2.5   | 125 | 25 | 36 | 14  | 11  | 6HX   | 4     | 15.5                                                                                  |           |           |           | 295838 ●  |

DIN P Line

DP-G-STT  
High Performance & General Purpose



HSS-PM



HSS-PM



HSS-PM



HSS-PM



Norm

DIN371

DIN371

DIN374

DIN376

Coating

TiCN+DLC

TiCN+DLC

TiCN+DLC

TiCN+DLC

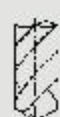


C/3P

C/3P

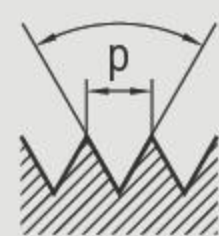
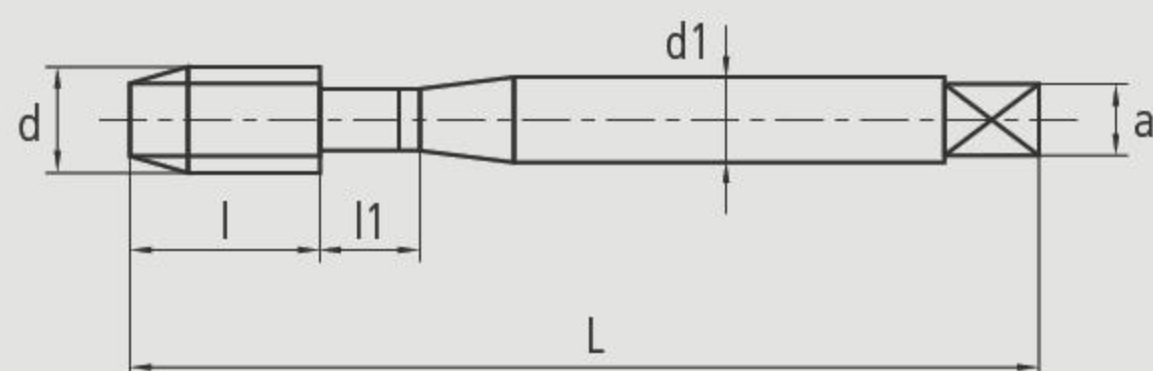
C/3P

C/3P

| Size    | L   | l  | l1 | d1 | a    | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|---------|-----|----|----|----|------|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M20*1.5 | 140 | 25 | 44 | 16 | 12   | 6HX   | 6     | 18.5                                                                                  |           |           | 295839 ●  |           |
| M20*2   | 140 | 25 | 44 | 16 | 12   | 6HX   | 6     | 18                                                                                    |           |           | 295840 ○  |           |
| M20*2.5 | 140 | 25 | 44 | 16 | 12   | 6HX   | 6     | 17.5                                                                                  |           |           |           | 295841 ●  |
| M22*1.5 | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 6     | 20.5                                                                                  |           |           | 295842 ○  |           |
| M22*2   | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 6     | 20                                                                                    |           |           | 295843 ○  |           |
| M22*2.5 | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 6     | 19.5                                                                                  |           |           |           | 295844 ●  |
| M24*2   | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 6     | 22                                                                                    |           |           | 295845 ○  |           |
| M24*2.5 | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 6     | 21.5                                                                                  |           |           | 295846 ○  |           |
| M24*3   | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 6     | 21                                                                                    |           |           |           | 295847 ●  |
| M27*2   | 160 | 30 | 48 | 20 | 16   | 6HX   | 6     | 25                                                                                    |           |           | 295848 ○  |           |
| M27*2.5 | 160 | 30 | 48 | 20 | 16   | 6HX   | 6     | 24.5                                                                                  |           |           | 295849 ○  |           |
| M27*3   | 160 | 30 | 48 | 20 | 16   | 6HX   | 6     | 24                                                                                    |           |           |           | 295850 ○  |
| M30*2   | 180 | 35 | 53 | 22 | 18   | 6HX   | 6     | 28                                                                                    |           |           | 295851 ○  |           |
| M30*2.5 | 180 | 35 | 53 | 22 | 18   | 6HX   | 6     | 27.5                                                                                  |           |           | 295852 ○  |           |
| M30*3   | 180 | 35 | 53 | 22 | 18   | 6HX   | 6     | 27                                                                                    |           |           | 295853 ○  |           |
| M30*3.5 | 180 | 35 | 53 | 22 | 18   | 6HX   | 6     | 26.5                                                                                  |           |           |           | 295854 ○  |
| M36*4   | 200 | 50 | 48 | 28 | 22   | 6HX   | 6     | 32                                                                                    |           |           |           | 295855 ○  |

★ Multi-layered coating provide excellent wear resistance.  
★ Suitable for cast iron, steel, some cast aluminum, and manual tapping. Hardness within HRC 35.

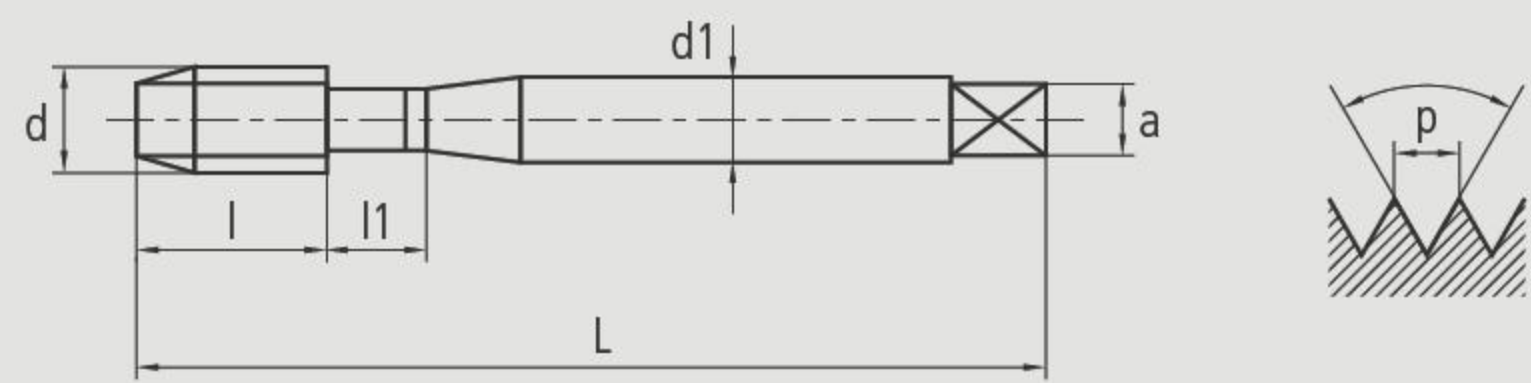
| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ○ | - | ⊙ | ○ | - | - |

**DIN P Line****DP-G-NRT****High Performance & General Purpose****HSS-PM****HSS-PM****HSS-PM****HSS-PM****Norm****DIN371****DIN371****DIN374****DIN376****Coating****TiCN+DLC****TiCN+DLC****TiCN+DLC****TiCN+DLC****C/2.5P****C/2.5P****C/2.5P****C/2.5P**

| Size      | L   | l  | L1 | d1  | a   | Limit | Flute |             | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|-----------|-----|----|----|-----|-----|-------|-------|-------------|-----------|-----------|-----------|-----------|
| M1.6*0.35 | 40  | 8  | -  | 2.5 | 2.1 | 6H    | -     | 1.44-1.48   | 305856 ○  |           |           |           |
| M2*0.4    | 45  | 6  | 7  | 2.8 | 2.1 | 6H    | -     | 1.81-1.85   | 305811 ○  |           |           |           |
| M2.5*0.45 | 50  | 7  | 8  | 2.8 | 2.1 | 6H    | -     | 2.28-2.33   | 305812 ○  |           |           |           |
| M3*0.5    | 56  | 7  | 11 | 3.5 | 2.7 | 6HX   | 4     | 2.76-2.81   | 305813 ●  |           |           |           |
| M4*0.7    | 63  | 9  | 12 | 4.5 | 3.4 | 6HX   | 4     | 3.65-3.7    | 305814 ●  |           |           |           |
| M5*0.8    | 70  | 10 | 15 | 6   | 4.9 | 6HX   | 4     | 4.59-4.66   | 305815 ●  |           |           |           |
| M6*1      | 80  | 10 | 20 | 6   | 4.9 | 6HX   | 4     | 5.48-5.57   | 305816 ●  |           |           |           |
| M7*1      | 80  | 10 | 20 | 7   | 5.5 | 6HX   | 4     | 6.48-6.57   |           | 305817 ●  |           |           |
| M8*1      | 90  | 13 | 22 | 8   | 6.2 | 6HX   | 8     | 7.48-7.57   |           | 305818 ●  |           |           |
| M8*1.25   | 90  | 13 | 22 | 8   | 6.2 | 6HX   | 8     | 7.34-7.41   |           | 305819 ●  |           |           |
| M10*1     | 100 | 15 | 24 | 10  | 8   | 6HX   | 8     | 9.48-9.57   |           | 305820 ●  |           |           |
| M10*1.25  | 100 | 15 | 24 | 10  | 8   | 6HX   | 8     | 9.34-9.41   |           | 305821 ●  |           |           |
| M10*1.5   | 100 | 15 | 24 | 10  | 8   | 6HX   | 8     | 9.18-9.28   |           | 305822 ●  |           |           |
| M12*1     | 110 | 17 | 32 | 9   | 7   | 6HX   | 10    | 11.52-11.6  |           |           | 305823 ●  |           |
| M12*1.25  | 110 | 17 | 32 | 9   | 7   | 6HX   | 10    | 11.4-11.49  |           |           | 305824 ●  |           |
| M12*1.5   | 110 | 17 | 32 | 9   | 7   | 6HX   | 10    | 11.26-11.36 |           |           | 305825 ●  |           |
| M12*1.75  | 110 | 17 | 32 | 9   | 7   | 6HX   | 10    | 11.05-11.15 |           |           |           | 305826 ●  |
| M14*1     | 110 | 20 | 33 | 11  | 9   | 6HX   | 10    | 13.5-13.6   |           |           | 305827 ○  |           |
| M14*1.25  | 110 | 20 | 33 | 11  | 9   | 6HX   | 10    | 13.38-13.45 |           |           | 305828 ●  |           |
| M14*1.5   | 110 | 20 | 33 | 11  | 9   | 6HX   | 10    | 13.21-13.30 |           |           | 305829 ●  |           |
| M14*2     | 110 | 20 | 33 | 11  | 9   | 6HX   | 10    | 12.92-13.04 |           |           |           | 305830 ●  |
| M16*1     | 110 | 20 | 34 | 12  | 9   | 6HX   | 10    | 15.5-15.6   |           |           | 305831 ○  |           |
| M16*1.25  | 110 | 20 | 34 | 12  | 9   | 6HX   | 10    | 15.38-15.48 |           |           | 305832 ○  |           |
| M16*1.5   | 110 | 20 | 34 | 12  | 9   | 6HX   | 10    | 15.21-15.3  |           |           | 305833 ○  |           |
| M16*2     | 110 | 20 | 34 | 12  | 9   | 6HX   | 10    | 14.92-15.04 |           |           |           | 305834 ○  |
| M18*1.5   | 125 | 25 | 36 | 14  | 11  | 6HX   | 10    | 17.22-17.31 |           |           | 305835 ○  |           |
| M18*2     | 125 | 25 | 36 | 14  | 11  | 6HX   | 10    | 17.0-17.15  |           |           | 305836 ●  |           |
| M18*2.5   | 125 | 25 | 36 | 14  | 11  | 6HX   | 10    | 16.63-16.78 |           |           |           | 305837 ●  |

DIN P Line

DP-G-NRT  
High Performance & General Purpose



HSS-PM



HSS-PM



HSS-PM



HSS-PM



Norm

DIN371

DIN371

DIN374

DIN376

Coating

TiCN+DLC

TiCN+DLC

TiCN+DLC

TiCN+DLC

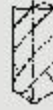


C/2.5P

C/2.5P

C/2.5P

C/2.5P

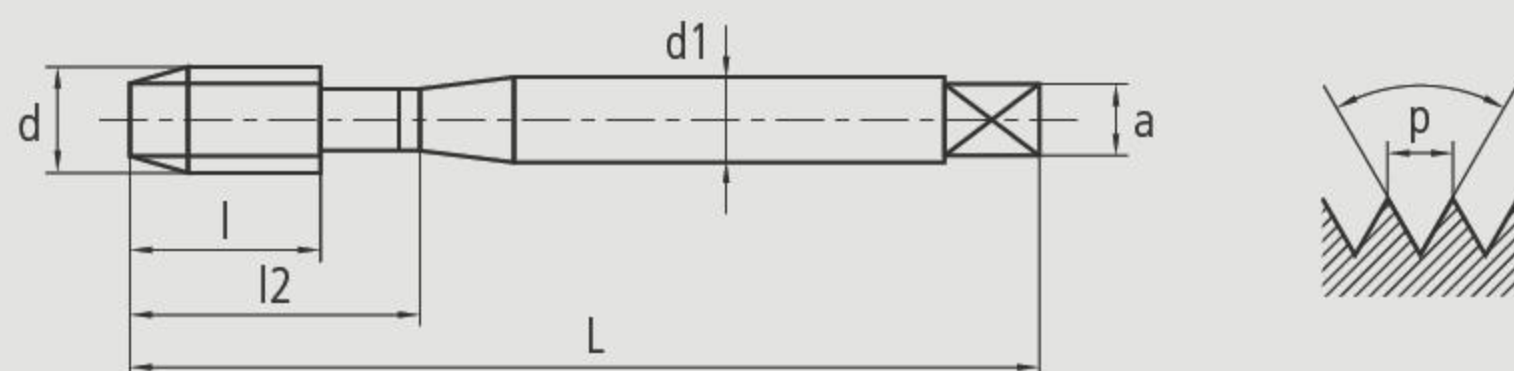
| Size    | L   | l  | L1 | d1 | a    | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|---------|-----|----|----|----|------|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M20*1.5 | 140 | 25 | 44 | 16 | 12   | 6HX   | 10    | 19.26-19.36                                                                           |           |           | 305838 ○  |           |
| M20*2   | 140 | 25 | 44 | 16 | 12   | 6HX   | 10    | 19.0-19.15                                                                            |           |           | 305839 ○  |           |
| M20*2.5 | 140 | 25 | 44 | 16 | 12   | 6HX   | 10    | 18.63-18.78                                                                           |           |           |           | 305840 ●  |
| M22*1.5 | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 12    | 21.26-21.36                                                                           |           |           | 305841 ○  |           |
| M22*2   | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 12    | 21.0-21.1                                                                             |           |           | 305842 ○  |           |
| M22*2.5 | 140 | 25 | 44 | 18 | 14.5 | 6HX   | 12    | 20.75-20.85                                                                           |           |           |           | 305843 ○  |
| M24*2   | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 12    | 23.01-23.16                                                                           |           |           | 305844 ○  |           |
| M24*2.5 | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 12    | 22.75-22.85                                                                           |           |           | 305845 ○  |           |
| M24*3   | 160 | 30 | 48 | 18 | 14.5 | 6HX   | 12    | 22.5-22.6                                                                             |           |           |           | 305846 ○  |
| M27*2   | 160 | 30 | 48 | 20 | 16   | 6HX   | 12    | 26.01-26.16                                                                           |           |           | 305847 ○  |           |
| M27*2.5 | 160 | 30 | 48 | 20 | 16   | 6HX   | 12    | 25.75-25.8                                                                            |           |           | 305848 ○  |           |
| M27*3   | 160 | 30 | 48 | 20 | 16   | 6HX   | 12    | 25.5-25.65                                                                            |           |           |           | 305849 ○  |
| M30*2   | 180 | 35 | 53 | 22 | 18   | 6HX   | 12    | 29.01-29.16                                                                           |           |           | 305850 ○  |           |
| M30*2.5 | 180 | 35 | 53 | 22 | 18   | 6HX   | 12    | 28.75-28.85                                                                           |           |           | 305851 ○  |           |
| M30*3   | 180 | 35 | 53 | 22 | 18   | 6HX   | 12    | 28.5-28.65                                                                            |           |           | 305852 ○  |           |
| M30*3.5 | 180 | 35 | 53 | 22 | 18   | 6HX   | 12    | 28.25-28.35                                                                           |           |           |           | 305853 ○  |
| M36*4   | 200 | 50 | 48 | 28 | 22   | 6HX   | 12    | 34.1-34.2                                                                             |           |           |           | 305857 ○  |

★ Multi-layered coating provide excellent wear resistance.  
★ For Carbon Steel, Alloy Steel with a hardness of 35 HRC or lower, Stainless Steel, and Non-ferrous Alloys.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ⊙ | ○ | - | ○ | - | - |

**JIS R Line****JR-MO-SFT**

Suitable for Stainless steel &amp; Low - medium carbon steel

**HSSE****HSSE****Norm****JIS****JIS****Surface treatment****HOMO****HOMO****C/2.5P****C/2.5P**

| Size     | L  | l  | l2 | d1   | a   | Limit | Flute |  | Art.Stock | Art.Stock |
|----------|----|----|----|------|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|
| M3*0.5   | 46 | 5  | 19 | 4    | 3.2 | OH2   | 3     | 2.5                                                                                   | 715811 ●  |           |
| M3.5*0.6 | 48 | 6  | 20 | 4    | 3.2 | OH2   | 3     | 2.9                                                                                   | 715812 ●  |           |
| M4*0.7   | 52 | 7  | 21 | 5    | 4   | OH2   | 3     | 3.3                                                                                   | 715813 ●  |           |
| M5*0.8   | 60 | 8  | 24 | 5.5  | 4.5 | OH2   | 3     | 4.2                                                                                   | 715814 ●  |           |
| M6*0.75  | 62 | 10 | 29 | 6    | 4.5 | OH2   | 3     | 5.25                                                                                  | 715815 ○  |           |
| M6*1     | 62 | 10 | 29 | 6    | 4.5 | OH2   | 3     | 5                                                                                     | 715816 ●  |           |
| M8*0.75  | 70 | 13 | 37 | 6.2  | 5   | OH2   | 3     | 7.25                                                                                  |           | 715833 ○  |
| M8*1     | 70 | 13 | 37 | 6.2  | 5   | OH2   | 3     | 7                                                                                     |           | 715817 ○  |
| M8*1.25  | 70 | 13 | 37 | 6.2  | 5   | OH3   | 3     | 6.8                                                                                   |           | 715818 ●  |
| M10*0.75 | 75 | 15 | 41 | 7    | 5.5 | OH2   | 3     | 9.25                                                                                  |           | 715834 ○  |
| M10*1    | 75 | 15 | 41 | 7    | 5.5 | OH2   | 3     | 9                                                                                     |           | 715819 ○  |
| M10*1.25 | 75 | 15 | 41 | 7    | 5.5 | OH3   | 3     | 8.8                                                                                   |           | 715820 ○  |
| M10*1.5  | 75 | 15 | 41 | 7    | 5.5 | OH3   | 3     | 8.5                                                                                   |           | 715821 ●  |
| M12*1    | 82 | 18 | 48 | 8.5  | 6.5 | OH2   | 3     | 11                                                                                    |           | 715822 ○  |
| M12*1.25 | 82 | 18 | 48 | 8.5  | 6.5 | OH3   | 3     | 10.8                                                                                  |           | 715823 ○  |
| M12*1.5  | 82 | 18 | 48 | 8.5  | 6.5 | OH3   | 3     | 10.5                                                                                  |           | 715824 ○  |
| M12*1.75 | 82 | 18 | 48 | 8.5  | 6.5 | OH3   | 3     | 10.2                                                                                  |           | 715825 ●  |
| M14*1    | 88 | 20 | 48 | 10.5 | 8   | OH3   | 3     | 13                                                                                    |           | 715826 ○  |
| M14*1.25 | 88 | 20 | 48 | 10.5 | 8   | OH3   | 3     | 12.75                                                                                 |           | 715827 ○  |
| M14*1.5  | 88 | 20 | 48 | 10.5 | 8   | OH3   | 3     | 12.5                                                                                  |           | 715828 ○  |
| M14*2    | 88 | 20 | 48 | 10.5 | 8   | OH3   | 3     | 12                                                                                    |           | 715829 ●  |
| M16*1    | 95 | 20 | 52 | 12.5 | 10  | OH3   | 3     | 15                                                                                    |           | 715830 ○  |
| M16*1.5  | 95 | 20 | 52 | 12.5 | 10  | OH3   | 3     | 14.5                                                                                  |           | 715831 ○  |
| M16*2    | 95 | 20 | 52 | 12.5 | 10  | OH3   | 3     | 14                                                                                    |           | 715832 ●  |

★ Vc: 3-8m/min

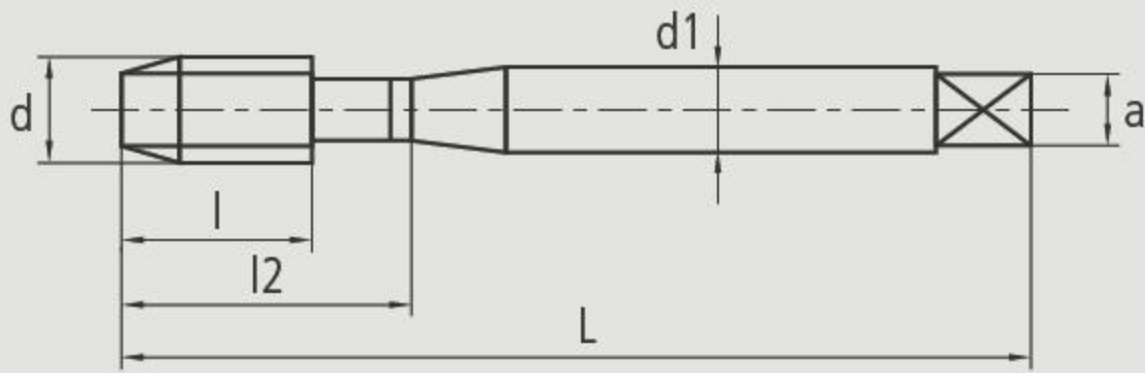
★ For Stainless steel, Low - medium carbon steel with hardness ≤ HRC25

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ○ | ⊙ | - | - | - | - |

JIS R Line

JR-MO-POT

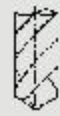
Suitable for Stainless steel & Low - medium carbon steel



Norm

Surface treatment



| Size     | L  | l  | l2 | d1   | a   | Limit | Flute |  |
|----------|----|----|----|------|-----|-------|-------|---------------------------------------------------------------------------------------|
| M3*0.5   | 46 | 11 | 19 | 4    | 3.2 | OH2   | 3     | 2.5                                                                                   |
| M3.5*0.6 | 48 | 13 | 20 | 4    | 3.2 | OH2   | 3     | 2.9                                                                                   |
| M4*0.7   | 52 | 13 | 21 | 5    | 4   | OH2   | 3     | 3.3                                                                                   |
| M5*0.8   | 60 | 16 | 24 | 5.5  | 4.5 | OH2   | 3     | 4.2                                                                                   |
| M6*0.75  | 62 | 19 | 29 | 6    | 4.5 | OH2   | 3     | 5.25                                                                                  |
| M6*1     | 62 | 19 | 29 | 6    | 4.5 | OH2   | 3     | 5                                                                                     |
| M8*0.75  | 70 | 22 | 37 | 6.2  | 5   | OH2   | 3     | 7.25                                                                                  |
| M8*1     | 70 | 22 | 37 | 6.2  | 5   | OH2   | 3     | 7                                                                                     |
| M8*1.25  | 70 | 22 | 37 | 6.2  | 5   | OH3   | 3     | 6.8                                                                                   |
| M10*0.75 | 75 | 24 | 41 | 7    | 5.5 | OH3   | 3     | 9.25                                                                                  |
| M10*1    | 75 | 24 | 41 | 7    | 5.5 | OH3   | 3     | 9                                                                                     |
| M10*1.25 | 75 | 24 | 41 | 7    | 5.5 | OH3   | 3     | 8.8                                                                                   |
| M10*1.5  | 75 | 24 | 41 | 7    | 5.5 | OH3   | 3     | 8.5                                                                                   |
| M12*1    | 82 | 29 | 48 | 8.5  | 6.5 | OH3   | 3     | 11                                                                                    |
| M12*1.25 | 82 | 29 | 48 | 8.5  | 6.5 | OH3   | 3     | 10.8                                                                                  |
| M12*1.5  | 82 | 29 | 48 | 8.5  | 6.5 | OH3   | 3     | 10.5                                                                                  |
| M12*1.75 | 82 | 29 | 48 | 8.5  | 6.5 | OH3   | 3     | 10.2                                                                                  |
| M14*1    | 88 | 30 | 48 | 10.5 | 8   | OH3   | 3     | 13                                                                                    |
| M14*1.25 | 88 | 30 | 48 | 10.5 | 8   | OH3   | 3     | 12.75                                                                                 |
| M14*1.5  | 88 | 30 | 48 | 10.5 | 8   | OH3   | 3     | 12.5                                                                                  |
| M14*2    | 88 | 30 | 48 | 10.5 | 8   | OH3   | 3     | 12                                                                                    |
| M16*1    | 95 | 32 | 52 | 12.5 | 10  | OH3   | 3     | 15                                                                                    |
| M16*1.5  | 95 | 32 | 52 | 12.5 | 10  | OH3   | 3     | 14.5                                                                                  |
| M16*2    | 95 | 32 | 52 | 12.5 | 10  | OH3   | 3     | 14                                                                                    |

HSSE



JIS

HOMO

B/5P

Art.Stock

725811 ●  
725812 ●  
725813 ●  
725814 ●  
725815 ○  
725816 ●

HSSE



JIS

HOMO

B/5P

Art.Stock

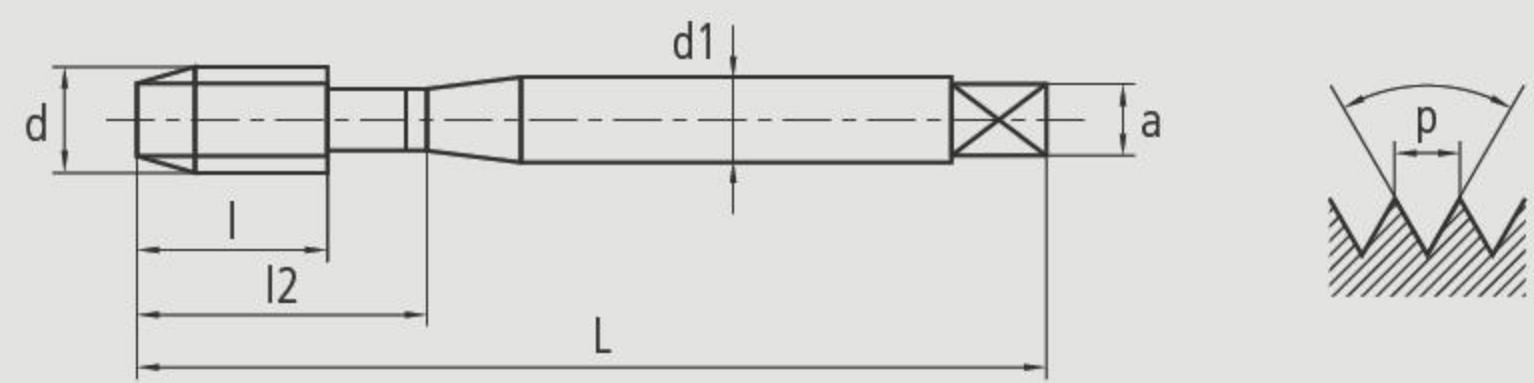
725833 ○  
725817 ○  
725818 ●  
725834 ○  
725819 ○  
725820 ○  
725821 ●  
725822 ○  
725823 ○  
725824 ○  
725825 ●  
725826 ○  
725827 ○  
725828 ○  
725829 ●  
725830 ○  
725831 ○  
725832 ●

★ Vc: 3-8m/min  
★ For Stainless steel, Low - medium carbon steel with hardness ≤ HRC25

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ○ | ⊙ | - | - | - | - |

JIS R Line

JR-GX-SFT  
General Purpose & Unstable Working Conditions

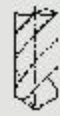


HSSE



HSSE



| Norm                                                                                 |    |     |    |     |     |       |       |                                                                                       | JIS       | JIS       |
|--------------------------------------------------------------------------------------|----|-----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|
| Coating                                                                              |    |     |    |     |     |       |       |                                                                                       | CrN+X     | CrN+X     |
|  |    |     |    |     |     |       |       |                                                                                       | C/2.5P    | C/2.5P    |
| Size                                                                                 | L  | l   | L2 | d1  | a   | Limit | Flute |  | Art.Stock | Art.Stock |
| M3*0.5                                                                               | 46 | 10  | 19 | 4   | 3.2 | 6H    | 3     | 2.5                                                                                   | 515811 ●  |           |
| M4*0.7                                                                               | 52 | 8.4 | 20 | 5   | 4   | 6H    | 3     | 3.3                                                                                   | 515812 ●  |           |
| M5*0.8                                                                               | 60 | 9.6 | 24 | 5.5 | 4.5 | 6H    | 3     | 4.2                                                                                   | 515813 ●  |           |
| M6*1                                                                                 | 62 | 12  | 29 | 6   | 4.5 | 6H    | 3     | 5                                                                                     | 515814 ●  |           |
| M8*1                                                                                 | 70 | 15  | 37 | 6.2 | 5   | 6HX   | 3     | 7                                                                                     |           | 515815 ●  |
| M8*1.25                                                                              | 70 | 15  | 37 | 6.2 | 5   | 6H    | 3     | 6.8                                                                                   |           | 515816 ●  |
| M10*1                                                                                | 75 | 18  | 41 | 7   | 5.5 | 6HX   | 3     | 9                                                                                     |           | 515817 ●  |
| M10*1.25                                                                             | 75 | 18  | 41 | 7   | 5.5 | 6HX   | 3     | 8.8                                                                                   |           | 515818 ●  |
| M10*1.5                                                                              | 75 | 18  | 41 | 7   | 5.5 | 6H    | 3     | 8.5                                                                                   |           | 515819 ●  |
| M12*1.25                                                                             | 82 | 18  | 48 | 8.5 | 6.5 | 6HX   | 3     | 10.8                                                                                  |           | 515820 ●  |
| M12*1.5                                                                              | 82 | 18  | 48 | 8.5 | 6.5 | 6HX   | 3     | 10.5                                                                                  |           | 515821 ●  |
| M12*1.75                                                                             | 82 | 18  | 48 | 8.5 | 6.5 | 6H    | 3     | 10.3                                                                                  |           | 515822 ●  |

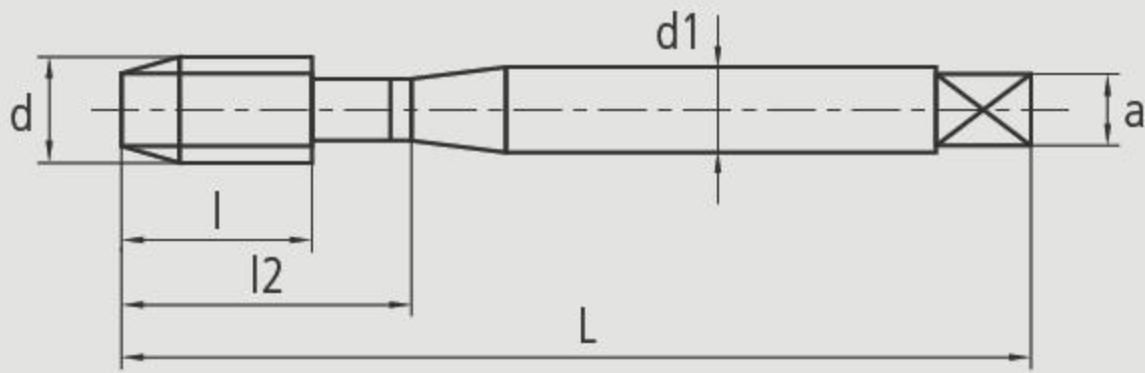
★ Vc 3-10m/min  
★ For Carbon Steel, Alloy Steel, Cast Iron, Stainless Steel, and Non-ferrous Alloys with a hardness of HRC 20-25.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ⊙ | ○ | ○ | ○ | - | - |

JIS R Line

JR-GX-POT

General Purpose & Unstable Working Conditions



HSSE



HSSE



Norm

JIS

JIS

Coating

CrN+X

CrN+X



B/5P

B/5P

| Size     | L  | l  | l2 | d1  | a   | Limit | Flute |      |
|----------|----|----|----|-----|-----|-------|-------|------|
| M3*0.5   | 46 | 10 | 19 | 4   | 3.2 | 6H    | 3     | 2.5  |
| M4*0.7   | 52 | 12 | 20 | 5   | 4   | 6H    | 3     | 3.3  |
| M5*0.8   | 60 | 14 | 24 | 5.5 | 4.5 | 6H    | 3     | 4.2  |
| M6*1     | 62 | 16 | 29 | 6   | 4.5 | 6H    | 3     | 5    |
| M8*1     | 70 | 21 | 37 | 6.2 | 5   | 6HX   | 3     | 7    |
| M8*1.25  | 70 | 21 | 37 | 6.2 | 5   | 6H    | 3     | 6.8  |
| M10*1    | 75 | 23 | 41 | 7   | 5.5 | 6HX   | 3     | 9    |
| M10*1.25 | 75 | 23 | 41 | 7   | 5.5 | 6HX   | 3     | 8.8  |
| M10*1.5  | 75 | 23 | 41 | 7   | 5.5 | 6H    | 3     | 8.5  |
| M12*1.25 | 82 | 24 | 48 | 8.5 | 6.5 | 6HX   | 3     | 10.8 |
| M12*1.5  | 82 | 24 | 48 | 8.5 | 6.5 | 6HX   | 3     | 10.5 |
| M12*1.75 | 82 | 24 | 48 | 8.5 | 6.5 | 6H    | 3     | 10.3 |

Art.Stock

Art.Stock

525811 ●

525812 ●

525813 ●

525814 ●

525815 ●

525816 ●

525817 ●

525818 ●

525819 ●

525820 ●

525821 ●

525822 ●

★ Vc: 3-10m/min

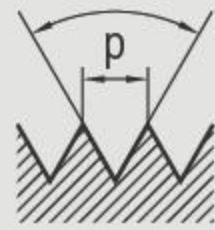
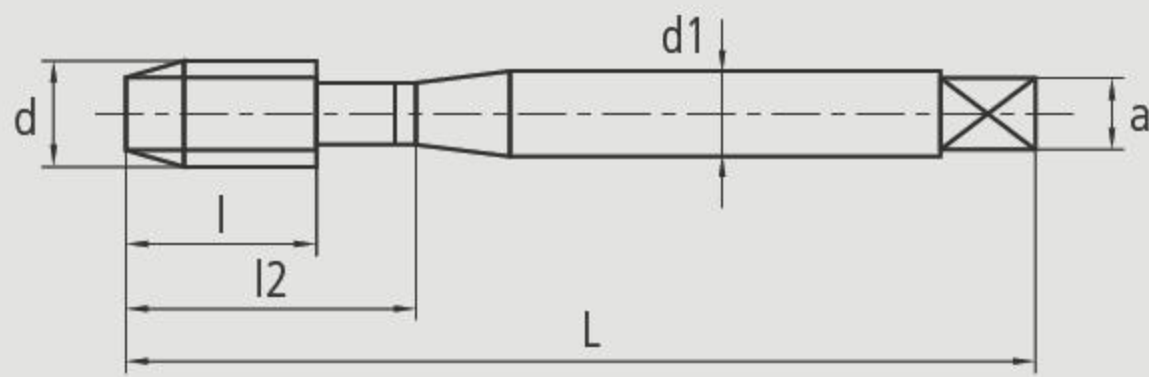
★ For Carbon Steel, Alloy Steel, Cast Iron, Stainless Steel, and Non-ferrous Alloys with a hardness of HRC 20-25.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ◎ | ○ | ○ | ○ | - | - |

JIS R Line

JR-GZ-SFT

General Purpose & Stable/ Unstable Working Conditions



HSSE



HSSE



Norm

JIS

JIS

Coating

ZrN

ZrN



C/2.5P

C/2.5P

| Size     | L   | l   | L2 | d1   | a   | Limit | Flute |      |
|----------|-----|-----|----|------|-----|-------|-------|------|
| M3*0.5   | 46  | 10  | 19 | 4    | 3.2 | 6H    | 3     | 2.5  |
| M4*0.7   | 52  | 8.4 | 20 | 5    | 4   | 6H    | 3     | 3.3  |
| M5*0.8   | 60  | 9.6 | 24 | 5.5  | 4.5 | 6H    | 3     | 4.2  |
| M6*1     | 62  | 12  | 29 | 6    | 4.5 | 6H    | 3     | 5    |
| M8*1     | 70  | 15  | 37 | 6.2  | 5   | 6HX   | 3     | 7    |
| M8*1.25  | 70  | 15  | 37 | 6.2  | 5   | 6H    | 3     | 6.8  |
| M10*1    | 75  | 18  | 41 | 7    | 5.5 | 6HX   | 3     | 9    |
| M10*1.25 | 75  | 18  | 41 | 7    | 5.5 | 6HX   | 3     | 8.8  |
| M10*1.5  | 75  | 18  | 41 | 7    | 5.5 | 6H    | 3     | 8.5  |
| M12*1.25 | 82  | 18  | 48 | 8.5  | 6.5 | 6HX   | 3     | 10.8 |
| M12*1.5  | 82  | 18  | 48 | 8.5  | 6.5 | 6HX   | 3     | 10.5 |
| M12*1.75 | 82  | 18  | 48 | 8.5  | 6.5 | 6H    | 3     | 10.3 |
| M14*1.5  | 88  | 20  | 48 | 10.5 | 8   | 6HX   | 3     | 12.5 |
| M14*2    | 88  | 20  | 48 | 10.5 | 8   | 6HX   | 3     | 12   |
| M16*1.5  | 95  | 20  | 52 | 12.5 | 10  | 6HX   | 3     | 14.5 |
| M16*2    | 95  | 20  | 52 | 12.5 | 10  | 6HX   | 3     | 14   |
| M18*1.5  | 100 | 25  | 55 | 14   | 11  | 6HX   | 4     | 16.6 |
| M18*2.5  | 100 | 25  | 55 | 14   | 11  | 6HX   | 4     | 15.5 |
| M20*1.5  | 105 | 25  | 58 | 15   | 12  | 6HX   | 4     | 18.5 |
| M20*2.5  | 105 | 25  | 58 | 15   | 12  | 6HX   | 4     | 17.5 |

Art.Stock

Art.Stock

535811 ●

535812 ●

535813 ●

535832 ●

535815 ●

535816 ●

535817 ●

535818 ●

535819 ●

535820 ●

535821 ●

535822 ●

535823 ○

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535825 ○

535826 ○

535827 ○

535828 ○

535829 ○

535830 ○

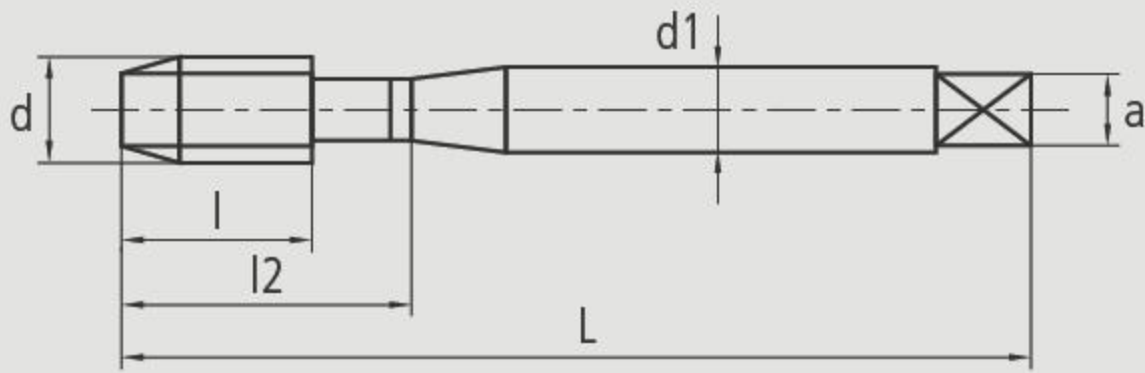
★ Vc: 5-10m/min

★ For Carbon Steel, Alloy Steel, Stainless Steel, and Cast Iron with a hardness of HRC 20-32.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ◎ | ○ | ○ | - | - | - |

JIS R Line

JR-GZ-POT  
General Purpose & Stable/ Unstable Working  
Conditions



HSSE



HSSE



Norm

JIS

JIS

Coating

ZrN

ZrN



B/5P

B/5P

| Size     | L  | l  | L2 | d1  | a   | Limit | Flute |      |
|----------|----|----|----|-----|-----|-------|-------|------|
| M3*0.5   | 46 | 10 | 19 | 4   | 3.2 | 6H    | 3     | 2.5  |
| M4*0.7   | 52 | 12 | 20 | 5   | 4   | 6H    | 3     | 3.3  |
| M5*0.8   | 60 | 14 | 24 | 5.5 | 4.5 | 6H    | 3     | 4.2  |
| M6*1     | 62 | 16 | 29 | 6   | 4.5 | 6H    | 3     | 5    |
| M8*1     | 70 | 21 | 37 | 6.2 | 5   | 6HX   | 3     | 7    |
| M8*1.25  | 70 | 21 | 37 | 6.2 | 5   | 6H    | 3     | 6.8  |
| M10*1    | 75 | 23 | 41 | 7   | 5.5 | 6HX   | 3     | 9    |
| M10*1.25 | 75 | 23 | 41 | 7   | 5.5 | 6HX   | 3     | 8.8  |
| M10*1.5  | 75 | 23 | 41 | 7   | 5.5 | 6H    | 3     | 8.5  |
| M12*1.25 | 82 | 24 | 48 | 8.5 | 6.5 | 6HX   | 3     | 10.8 |
| M12*1.5  | 82 | 24 | 48 | 8.5 | 6.5 | 6HX   | 3     | 10.5 |
| M12*1.75 | 82 | 24 | 48 | 8.5 | 6.5 | 6H    | 3     | 10.3 |

Art.Stock

Art.Stock

545811 ●

545812 ●

545813 ●

545814 ●

545815 ●

545816 ●

545817 ●

545818 ●

545819 ●

545820 ●

545821 ●

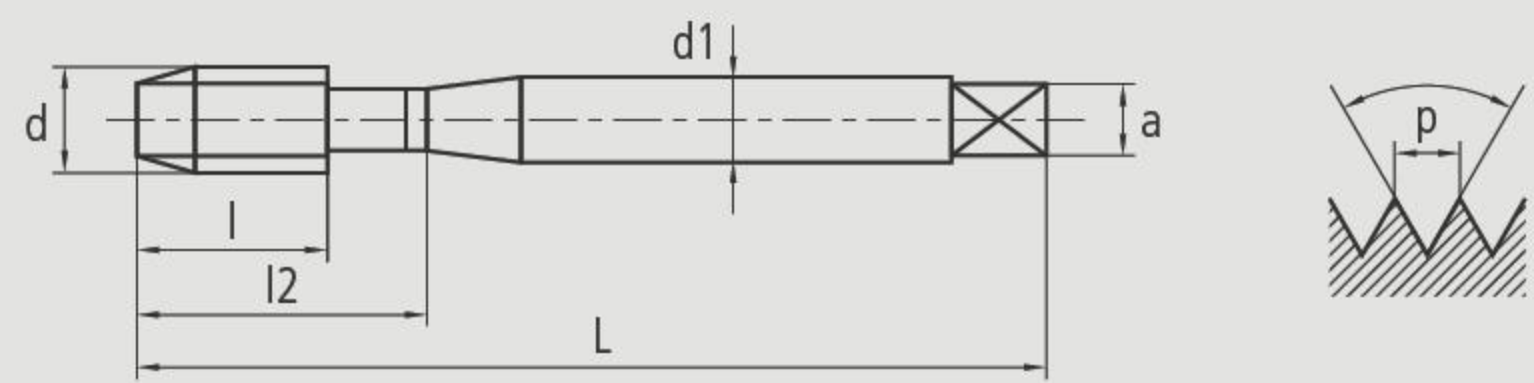
545822 ●

★ Vc: 3-15m/min  
★ For Carbon Steel, Alloy Steel, Stainless Steel, and Cast Iron with a hardness of HRC 20-25.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ◎ | ○ | ○ | - | - | - |

JIS R Line

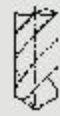
JR-GZ-STT  
General Purpose & Stable/ Unstable Working  
Conditions



HSSE



| Norm                                                                                 |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| Coating                                                                              |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

| Size     | L   | l  | L2 | d1   | a   | Limit | Flute |  |
|----------|-----|----|----|------|-----|-------|-------|---------------------------------------------------------------------------------------|
| M3*0.5   | 46  | 10 | 19 | 4    | 3.2 | 6HX   | 4     | 2.5                                                                                   |
| M4*0.7   | 52  | 12 | 20 | 5    | 4   | 6HX   | 4     | 3.3                                                                                   |
| M5*0.8   | 60  | 14 | 24 | 5.5  | 4.5 | 6HX   | 4     | 4.2                                                                                   |
| M6*1     | 62  | 16 | 29 | 6    | 4.5 | 6HX   | 4     | 5                                                                                     |
| M8*1     | 70  | 21 | 37 | 6.2  | 5   | 6HX   | 4     | 7                                                                                     |
| M8*1.25  | 70  | 21 | 37 | 6.2  | 5   | 6HX   | 4     | 6.8                                                                                   |
| M10*1    | 75  | 23 | 41 | 7    | 5.5 | 6HX   | 4     | 9                                                                                     |
| M10*1.25 | 75  | 23 | 41 | 7    | 5.5 | 6HX   | 4     | 8.8                                                                                   |
| M10*1.5  | 75  | 23 | 41 | 7    | 5.5 | 6HX   | 4     | 8.5                                                                                   |
| M12*1.25 | 82  | 24 | 48 | 8.5  | 6.5 | 6HX   | 4     | 10.8                                                                                  |
| M12*1.5  | 82  | 24 | 48 | 8.5  | 6.5 | 6HX   | 4     | 10.5                                                                                  |
| M12*1.75 | 82  | 24 | 48 | 8.5  | 6.5 | 6HX   | 4     | 10.3                                                                                  |
| M14*1.5  | 88  | 24 | 48 | 10.5 | 8   | 6HX   | 4     | 12.5                                                                                  |
| M14*2    | 88  | 24 | 48 | 10.5 | 8   | 6HX   | 4     | 12                                                                                    |
| M16*1.5  | 95  | 24 | 52 | 12.5 | 10  | 6HX   | 4     | 14.5                                                                                  |
| M16*2    | 95  | 24 | 52 | 12.5 | 10  | 6HX   | 4     | 14                                                                                    |
| M18*1.5  | 100 | 24 | 55 | 14   | 11  | 6HX   | 4     | 16.6                                                                                  |
| M18*2.5  | 100 | 24 | 55 | 14   | 11  | 6HX   | 4     | 15.5                                                                                  |
| M20*1.5  | 105 | 26 | 58 | 15   | 12  | 6HX   | 4     | 18.5                                                                                  |
| M20*2.5  | 105 | 26 | 58 | 15   | 12  | 6HX   | 4     | 17.5                                                                                  |

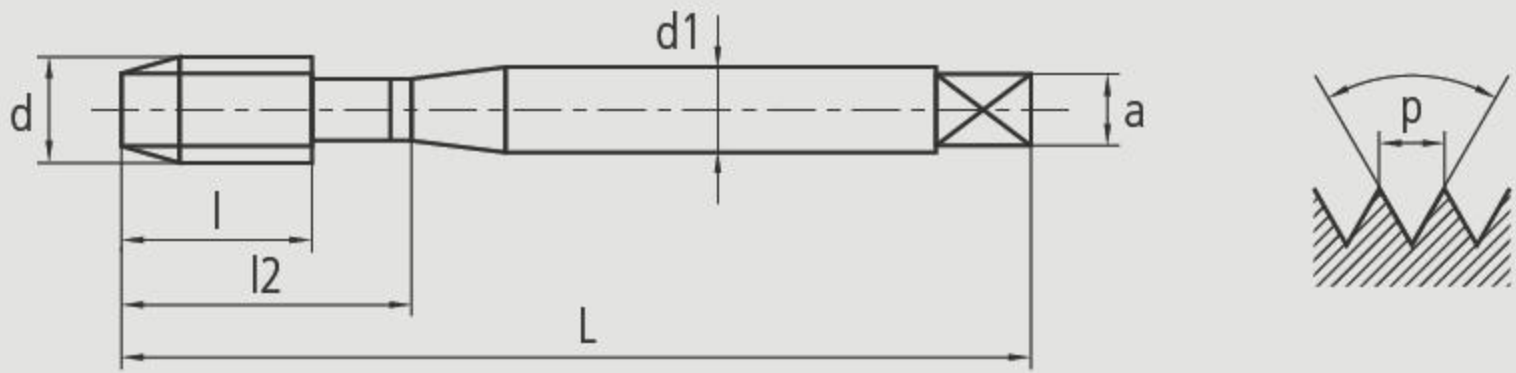
| JIS       |
|-----------|
| ZrN       |
| E/1.5P    |
| Art.Stock |
| 555811 ●  |
| 555812 ●  |
| 555813 ●  |
| 555814 ●  |
| 555815 ●  |
| 555816 ●  |
| 555817 ●  |
| 555818 ●  |
| 555819 ●  |
| 555820 ●  |
| 555821 ●  |
| 555822 ●  |
| 555823 ●  |
| 555824 ●  |
| 555825 ●  |
| 555826 ●  |
| 555827 ●  |
| 555828 ●  |
| 555829 ●  |
| 555830 ●  |

★ Cast Iron Vc: 15-25m/min ; Steel Vc: 5-8m/min  
★ Suitable for cast iron, steel, some cast aluminum, and manual tapping. HRC 20 to 32.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ○ | - | ⊙ | ○ | - | - |

JIS E Line

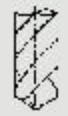
JE-G-SFT  
High Efficiency & Stable Working Conditions



Norm

Coating



| Size     | L   | l   | L2 | d1   | a   | Limit | Flute |  |
|----------|-----|-----|----|------|-----|-------|-------|---------------------------------------------------------------------------------------|
| M3*0.5   | 46  | 10  | 19 | 4    | 3.2 | 6H    | 3     | 2.5                                                                                   |
| M4*0.7   | 52  | 8.4 | 20 | 5    | 4   | 6H    | 3     | 3.3                                                                                   |
| M5*0.8   | 60  | 9.6 | 24 | 5.5  | 4.5 | 6H    | 3     | 4.2                                                                                   |
| M6*1     | 62  | 12  | 29 | 6    | 4.5 | 6H    | 3     | 5                                                                                     |
| M8*1     | 70  | 15  | 37 | 6.2  | 5   | 6HX   | 3     | 7                                                                                     |
| M8*1.25  | 70  | 15  | 37 | 6.2  | 5   | 6H    | 3     | 6.8                                                                                   |
| M10*1    | 75  | 18  | 41 | 7    | 5.5 | 6HX   | 3     | 9                                                                                     |
| M10*1.25 | 75  | 18  | 41 | 7    | 5.5 | 6HX   | 3     | 8.8                                                                                   |
| M10*1.5  | 75  | 18  | 41 | 7    | 5.5 | 6H    | 3     | 8.5                                                                                   |
| M12*1.25 | 82  | 18  | 48 | 8.5  | 6.5 | 6HX   | 3     | 10.8                                                                                  |
| M12*1.5  | 82  | 18  | 48 | 8.5  | 6.5 | 6HX   | 3     | 10.5                                                                                  |
| M12*1.75 | 82  | 18  | 48 | 8.5  | 6.5 | 6H    | 3     | 10.3                                                                                  |
| M14*1.5  | 88  | 20  | 48 | 10.5 | 8   | 6HX   | 3     | 12.5                                                                                  |
| M14*2    | 88  | 20  | 48 | 10.5 | 8   | 6HX   | 3     | 12                                                                                    |
| M16*1.5  | 95  | 20  | 52 | 12.5 | 10  | 6HX   | 3     | 14.5                                                                                  |
| M16*2    | 95  | 20  | 52 | 12.5 | 10  | 6HX   | 3     | 14                                                                                    |
| M18*1.5  | 100 | 25  | 55 | 14   | 11  | 6HX   | 4     | 16.6                                                                                  |
| M18*2.5  | 100 | 25  | 55 | 14   | 11  | 6HX   | 4     | 15.5                                                                                  |
| M20*1.5  | 105 | 25  | 58 | 15   | 12  | 6HX   | 4     | 18.5                                                                                  |
| M20*2.5  | 105 | 25  | 58 | 15   | 12  | 6HX   | 4     | 17.5                                                                                  |

HSSE



JIS

AlCrN

C/2.5P

Art.Stock

565811 ●  
565812 ●  
565813 ●  
565814 ●

HSSE



JIS

AlCrN

C/2.5P

Art.Stock

565815 ●  
565816 ●  
565817 ●  
565818 ●  
565819 ●  
565820 ●  
565821 ●  
565822 ●  
565823 ●  
565824 ●  
565825 ●  
565826 ●  
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565828 ●  
565829 ●  
565830 ●

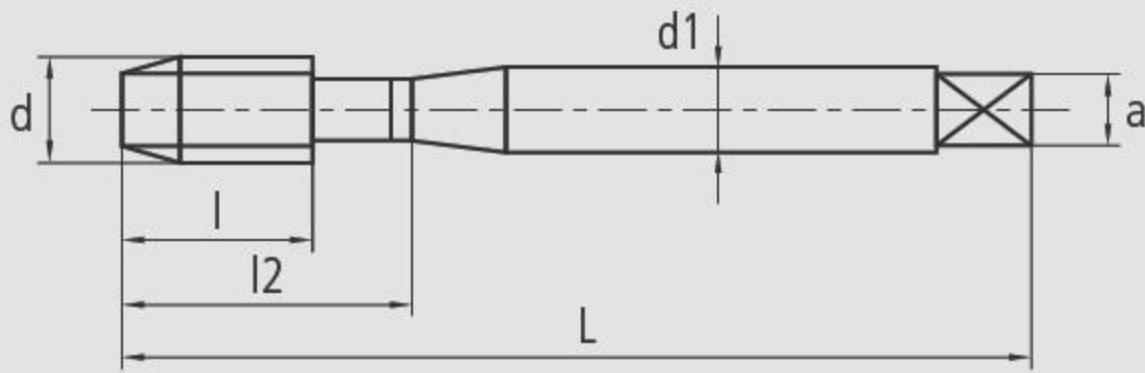
★ Vc: 10-15m/min  
★ Steel, Alloy Steel and Cast Iron ; HRC 20 to 32

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ⊙ | - | ○ | - | - | - |

JIS E Line

JE-G-POT

High Efficiency & Stable Working Conditions



HSSE



HSSE



Norm

JIS

JIS

Coating

AlCrN

AlCrN



B/5P

B/5P

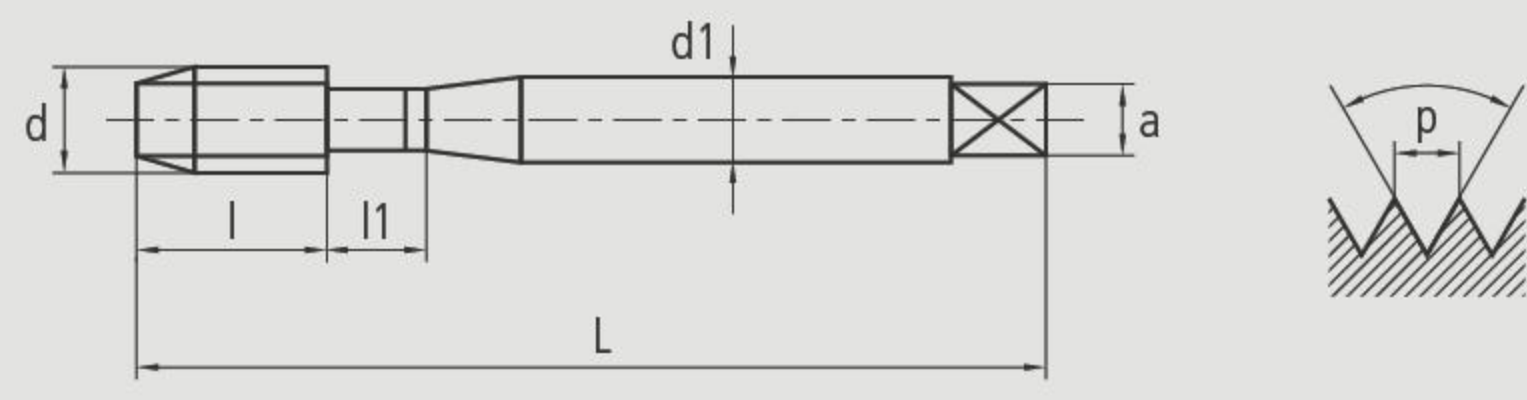
| Size     | L   | l  | L2 | d1   | a   | Limit | Flute |      | Art.Stock | Art.Stock |
|----------|-----|----|----|------|-----|-------|-------|------|-----------|-----------|
| M3*0.5   | 46  | 10 | 19 | 4    | 3.2 | 6H    | 3     | 2.5  | 575811 ●  |           |
| M4*0.7   | 52  | 12 | 20 | 5    | 4   | 6H    | 3     | 3.3  | 575812 ●  |           |
| M5*0.8   | 60  | 14 | 24 | 5.5  | 4.5 | 6H    | 3     | 4.2  | 575813 ●  |           |
| M6*1     | 62  | 16 | 29 | 6    | 4.5 | 6H    | 3     | 5    | 575814 ●  |           |
| M8*1     | 70  | 21 | 37 | 6.2  | 5   | 6HX   | 3     | 7    |           | 575815 ●  |
| M8*1.25  | 70  | 21 | 37 | 6.2  | 5   | 6H    | 3     | 6.8  |           | 575816 ●  |
| M10*1    | 75  | 23 | 41 | 7    | 5.5 | 6HX   | 3     | 9    |           | 575817 ●  |
| M10*1.25 | 75  | 23 | 41 | 7    | 5.5 | 6HX   | 3     | 8.8  |           | 575818 ●  |
| M10*1.5  | 75  | 23 | 41 | 7    | 5.5 | 6H    | 3     | 8.5  |           | 575819 ●  |
| M12*1.25 | 82  | 24 | 48 | 8.5  | 6.5 | 6HX   | 3     | 10.8 |           | 575820 ●  |
| M12*1.5  | 82  | 24 | 48 | 8.5  | 6.5 | 6HX   | 3     | 10.5 |           | 575821 ●  |
| M12*1.75 | 82  | 24 | 48 | 8.5  | 6.5 | 6H    | 3     | 10.3 |           | 575822 ●  |
| M14*1.5  | 88  | 24 | 48 | 10.5 | 8   | 6HX   | 4     | 12.5 |           | 575823 ●  |
| M14*2    | 88  | 24 | 48 | 10.5 | 8   | 6HX   | 4     | 12   |           | 575824 ●  |
| M16*1.5  | 95  | 24 | 52 | 12.5 | 10  | 6HX   | 4     | 14.5 |           | 575825 ●  |
| M16*2    | 95  | 24 | 52 | 12.5 | 10  | 6HX   | 4     | 14   |           | 575826 ●  |
| M18*1.5  | 100 | 24 | 55 | 14   | 11  | 6HX   | 4     | 16.6 |           | 575827 ●  |
| M18*2.5  | 100 | 24 | 55 | 14   | 11  | 6HX   | 4     | 15.5 |           | 575828 ●  |
| M20*1.5  | 105 | 26 | 58 | 15   | 12  | 6HX   | 4     | 18.5 |           | 575829 ●  |
| M20*2.5  | 105 | 26 | 58 | 15   | 12  | 6HX   | 4     | 17.5 |           | 575830 ●  |

★ Vc: 10-20m/min  
★ Steel, Alloy Steel and Cast Iron ; HRC 20 to 32

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ◎ | - | ○ | - | - | - |

JIS P Line

JP-G-SFT  
High Performance & General Purpose



HSS-PM      HSS-PM      HSS-PM      HSS-PM



Norm

JIS      JIS      JIS      JIS

Coating

TiCN      TiCN      TiCN      TiCN



E/1.5      C/2.5P      C/2.5P      C/2.5P

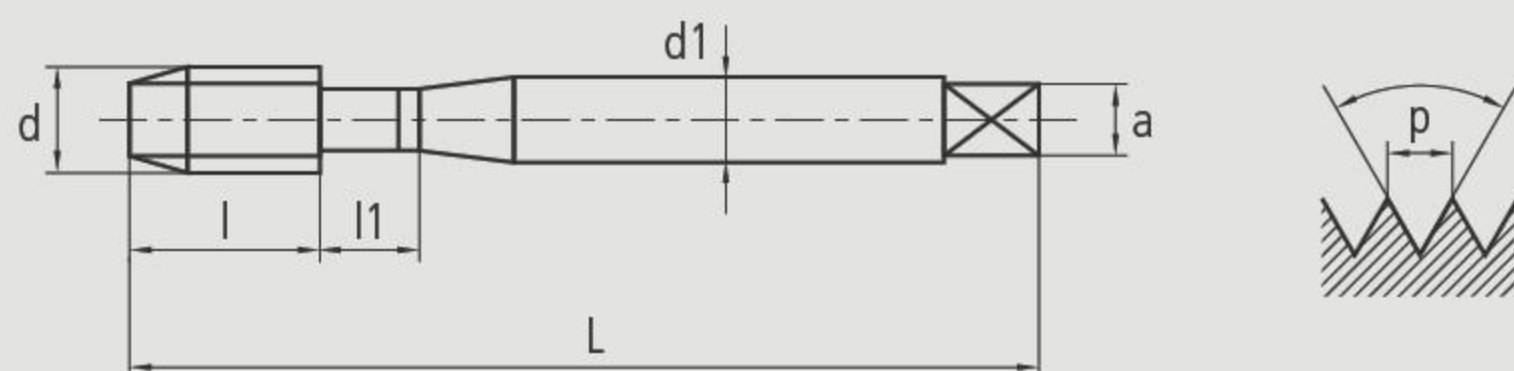
| Size      | L  | l   | l1 | d1   | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock | Art.Stock |
|-----------|----|-----|----|------|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| M1*0.25   | 37 | 4.5 | -  | 3    | 2.5 | OH1   | 2     | 0.75                                                                                  | 585811 ●  |           |           |           |
| M1.2*0.25 | 37 | 4.5 | -  | 3    | 2.5 | OH1   | 2     | 0.95                                                                                  | 585812 ●  |           |           |           |
| M1.4*0.3  | 37 | 6.5 | -  | 3    | 2.5 | OH1   | 2     | 1.1                                                                                   | 585813 ●  |           |           |           |
| M1.6*0.35 | 37 | 8   | -  | 3    | 2.5 | OH2   | 2     | 1.25                                                                                  | 585814 ●  |           |           |           |
| M2*0.4    | 45 | 11  | -  | 3    | 2.5 | OH2   | 2     | 1.6                                                                                   |           | 585815 ●  |           |           |
| M2.5*0.45 | 45 | 12  | -  | 3    | 2.5 | OH2   | 2     | 2.1                                                                                   |           | 585816 ●  |           |           |
| M3*0.5    | 50 | 5   | 13 | 4    | 3.2 | OH2   | 3     | 2.5                                                                                   |           |           | 585817 ●  |           |
| M3.5*0.6  | 50 | 6   | 13 | 4    | 3.2 | OH2   | 3     | 2.9                                                                                   |           |           | 585818 ●  |           |
| M4*0.7    | 57 | 9   | 11 | 5    | 4   | OH2   | 3     | 3.3                                                                                   |           |           | 585819 ●  |           |
| M5*0.8    | 66 | 8   | 17 | 5.5  | 4.5 | OH2   | 3     | 4.2                                                                                   |           |           | 585820 ●  |           |
| M6*1      | 69 | 12  | 12 | 6    | 4.5 | OH2   | 3     | 5                                                                                     |           |           | 585821 ●  |           |
| M7*1      | 78 | 13  | 10 | 6.2  | 5   | OH3   | 3     | 6                                                                                     |           |           | 585822 ○  |           |
| M8*1      | 70 | 13  | 23 | 6.2  | 5   | OH3   | 3     | 7                                                                                     |           |           |           | 585823 ●  |
| M8*1.25   | 70 | 13  | 23 | 6.2  | 5   | OH3   | 3     | 6.8                                                                                   |           |           |           | 585824 ●  |
| M10*1     | 75 | 13  | 30 | 7    | 5.5 | OH3   | 3     | 9                                                                                     |           |           |           | 585825 ●  |
| M10*1.25  | 75 | 13  | 30 | 7    | 5.5 | OH3   | 3     | 8.8                                                                                   |           |           |           | 585826 ●  |
| M10*1.5   | 75 | 15  | 28 | 7    | 5.5 | OH4   | 3     | 8.5                                                                                   |           |           |           | 585827 ●  |
| M12*1     | 82 | 13  | 29 | 8.5  | 6.5 | OH3   | 3     | 11                                                                                    |           |           |           | 585828 ●  |
| M12*1.25  | 82 | 13  | 29 | 8.5  | 6.5 | OH4   | 3     | 10.8                                                                                  |           |           |           | 585829 ●  |
| M12*1.5   | 82 | 17  | 25 | 8.5  | 6.5 | OH4   | 3     | 10.5                                                                                  |           |           |           | 585830 ●  |
| M12*1.75  | 82 | 17  | 25 | 8.5  | 6.5 | OH4   | 3     | 10.3                                                                                  |           |           |           | 585831 ●  |
| M14*1     | 88 | 20  | 31 | 10.5 | 8   | OH3   | 3     | 13                                                                                    |           |           |           | 585832 ●  |
| M14*1.25  | 88 | 20  | 31 | 10.5 | 8   | OH4   | 3     | 12.75                                                                                 |           |           |           | 585833 ●  |
| M14*1.5   | 88 | 20  | 31 | 10.5 | 8   | OH4   | 3     | 12.5                                                                                  |           |           |           | 585834 ●  |
| M14*2     | 88 | 20  | 31 | 10.5 | 8   | OH5   | 3     | 12                                                                                    |           |           |           | 585835 ●  |
| M16*1     | 95 | 20  | 32 | 12.5 | 10  | OH3   | 3     | 15                                                                                    |           |           |           | 585836 ●  |
| M16*1.25  | 95 | 20  | 32 | 12.5 | 10  | OH4   | 3     | 14.75                                                                                 |           |           |           | 585837 ●  |
| M16*1.5   | 95 | 20  | 32 | 12.5 | 10  | OH4   | 3     | 14.5                                                                                  |           |           |           | 585838 ●  |
| M16*2     | 95 | 20  | 32 | 12.5 | 10  | OH5   | 3     | 14                                                                                    |           |           |           | 585839 ●  |

★ TiCN coating provides excellent wear resistance and smooth chip removal  
★ For Carbon Steel, Alloy Steel with a hardness of below 30 HRC, Stainless Steel, Cast Iron, and Non-ferrous Alloys.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ◎ | ○ | ○ | ○ | - | - |

**JIS P Line****JP-G-POT**

High Performance &amp; General Purpose

**HSS-PM****HSS-PM****HSS-PM****Norm****JIS****JIS****JIS****Coating****TiCN****TiCN****TiCN****B/5P****B/5P****B/5P**

| Size      | L  | l    | l1  | d1   | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock |
|-----------|----|------|-----|------|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|
| M1*0.25   | 37 | 4.5  | -   | 3    | 2.5 | OH1   | 2     | 0.75                                                                                  | 595811 ●  |           |           |
| M1.2*0.25 | 37 | 5.5  | -   | 3    | 2.5 | OH1   | 2     | 0.95                                                                                  | 595812 ●  |           |           |
| M1.4*0.3  | 37 | 9    | -   | 3    | 2.5 | OH1   | 2     | 1.1                                                                                   | 595813 ●  |           |           |
| M1.6*0.35 | 37 | 8    | -   | 3    | 2.5 | OH2   | 2     | 1.25                                                                                  | 595814 ●  |           |           |
| M2*0.4    | 45 | 11   | -   | 3    | 2.5 | OH2   | 2     | 1.6                                                                                   | 595815 ●  |           |           |
| M2.5*0.45 | 45 | 12   | -   | 3    | 2.5 | OH2   | 2     | 2.1                                                                                   | 595816 ●  |           |           |
| M3*0.5    | 50 | 12   | 7   | 4    | 3.2 | OH2   | 3     | 2.5                                                                                   |           | 595817 ●  |           |
| M3.5*0.6  | 50 | 13   | 7   | 4    | 3.2 | OH2   | 3     | 2.9                                                                                   |           | 595818 ●  |           |
| M4*0.7    | 57 | 14   | 7   | 5    | 4   | OH2   | 3     | 3.3                                                                                   |           | 595819 ●  |           |
| M5*0.8    | 66 | 16   | 9   | 5.5  | 4.5 | OH2   | 3     | 4.2                                                                                   |           | 595820 ●  |           |
| M6*1      | 69 | 19.5 | 9.5 | 6    | 4.5 | OH2   | 3     | 5                                                                                     |           | 595821 ●  |           |
| M7*1      | 78 | 13   | 10  | 6.2  | 5   | OH3   | 3     | 6                                                                                     |           | 595822 ○  |           |
| M8*1      | 70 | 22   | 15  | 6.2  | 5   | OH3   | 3     | 7                                                                                     |           |           | 595823 ●  |
| M8*1.25   | 70 | 22   | 15  | 6.2  | 5   | OH3   | 3     | 6.8                                                                                   |           |           | 595824 ●  |
| M10*1     | 75 | 24   | 19  | 7    | 5   | OH3   | 3     | 9                                                                                     |           |           | 595825 ●  |
| M10*1.25  | 75 | 24   | 19  | 7    | 5   | OH3   | 3     | 8.8                                                                                   |           |           | 595826 ●  |
| M10*1.5   | 75 | 24   | 19  | 7    | 5.5 | OH4   | 3     | 8.5                                                                                   |           |           | 595827 ●  |
| M12*1     | 82 | 29   | 17  | 8.5  | 6.5 | OH3   | 3     | 11                                                                                    |           |           | 595828 ●  |
| M12*1.25  | 82 | 29   | 17  | 8.5  | 6.5 | OH4   | 3     | 10.8                                                                                  |           |           | 595829 ●  |
| M12*1.5   | 82 | 29   | 17  | 8.5  | 6.5 | OH4   | 3     | 10.5                                                                                  |           |           | 595830 ●  |
| M12*1.75  | 82 | 29   | 17  | 8.5  | 6.5 | OH4   | 3     | 10.3                                                                                  |           |           | 595831 ●  |
| M14*1     | 88 | 20   | 31  | 10.5 | 8   | OH3   | 3     | 13                                                                                    |           |           | 595832 ●  |
| M14*1.25  | 88 | 20   | 31  | 10.5 | 8   | OH4   | 3     | 12.75                                                                                 |           |           | 595833 ●  |
| M14*1.5   | 88 | 20   | 31  | 10.5 | 8   | OH4   | 3     | 12.5                                                                                  |           |           | 595834 ●  |
| M14*2     | 88 | 20   | 31  | 10.5 | 8   | OH5   | 3     | 12                                                                                    |           |           | 595835 ●  |
| M16*1     | 95 | 20   | 32  | 12.5 | 10  | OH3   | 3     | 15                                                                                    |           |           | 595836 ●  |
| M16*1.25  | 95 | 20   | 32  | 12.5 | 10  | OH4   | 3     | 14.75                                                                                 |           |           | 595837 ●  |
| M16*1.5   | 95 | 20   | 32  | 12.5 | 10  | OH4   | 3     | 14.5                                                                                  |           |           | 595838 ●  |
| M16*2     | 95 | 20   | 32  | 12.5 | 10  | OH5   | 3     | 14                                                                                    |           |           | 595839 ●  |

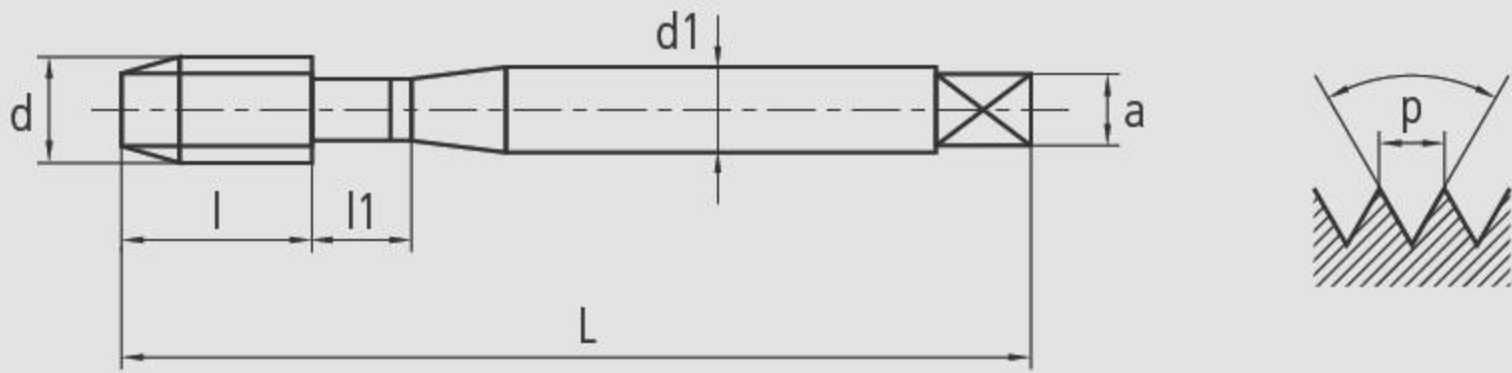
★ TiCN coating provides excellent wear resistance and smooth chip removal

★ For Carbon Steel, Alloy Steel with a hardness of below 30 HRc, Stainless Steel, Cast Iron, and Non-ferrous Alloys.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ◎ | ○ | ○ | ○ | - | - |

JIS P Line

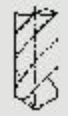
JP-G-STT  
High Performance for cast iron



Norm

Coating



| Size     | L  | l    | l1  | d1   | a   | Limit | Flute |  |
|----------|----|------|-----|------|-----|-------|-------|---------------------------------------------------------------------------------------|
| M3*0.5   | 66 | 16   | 9   | 5.5  | 3.2 | OH2   | 3     | 2.5                                                                                   |
| M4*0.7   | 66 | 16   | 9   | 5.5  | 4   | OH3   | 3     | 3.3                                                                                   |
| M5*0.8   | 66 | 16   | 9   | 5.5  | 4.5 | OH3   | 3     | 4.2                                                                                   |
| M6*1     | 69 | 19.5 | 9.5 | 6    | 4.5 | OH3   | 3     | 5                                                                                     |
| M7*1     | 78 | 13   | 10  | 6.2  | 5   | OH3   | 3     | 6                                                                                     |
| M8*1     | 70 | 22   | 15  | 6.2  | 5   | OH4   | 3     | 7                                                                                     |
| M8*1.25  | 70 | 22   | 15  | 6.2  | 5   | OH4   | 3     | 6.8                                                                                   |
| M10*1    | 75 | 24   | 19  | 7    | 5.5 | OH4   | 4     | 9                                                                                     |
| M10*1.25 | 75 | 24   | 19  | 7    | 5.5 | OH4   | 4     | 8.8                                                                                   |
| M10*1.5  | 75 | 24   | 19  | 7    | 5.5 | OH5   | 4     | 8.5                                                                                   |
| M12*1    | 82 | 29   | 17  | 8.5  | 6.5 | OH4   | 4     | 11                                                                                    |
| M12*1.25 | 82 | 29   | 17  | 8.5  | 6.5 | OH5   | 4     | 10.8                                                                                  |
| M12*1.5  | 82 | 29   | 17  | 8.5  | 6.5 | OH5   | 4     | 10.5                                                                                  |
| M12*1.75 | 82 | 29   | 17  | 8.5  | 6.5 | OH5   | 4     | 10.3                                                                                  |
| M14*1    | 88 | 20   | 31  | 10.5 | 8   | OH4   | 4     | 13                                                                                    |
| M14*1.25 | 88 | 20   | 31  | 10.5 | 8   | OH5   | 4     | 12.75                                                                                 |
| M14*1.5  | 88 | 20   | 31  | 10.5 | 8   | OH5   | 4     | 12.5                                                                                  |
| M14*2    | 88 | 20   | 31  | 10.5 | 8   | OH6   | 4     | 12                                                                                    |
| M16*1    | 90 | 20   | 32  | 12.5 | 10  | OH4   | 4     | 15                                                                                    |
| M16*1.25 | 90 | 20   | 32  | 12.5 | 10  | OH5   | 4     | 14.75                                                                                 |
| M16*1.5  | 90 | 20   | 32  | 12.5 | 10  | OH5   | 4     | 14.5                                                                                  |
| M16*2    | 90 | 20   | 32  | 12.5 | 10  | OH6   | 4     | 14                                                                                    |

HSS-PM



JIS

AlTiN(Si)

C/3P

Art.Stock

605831 ○  
605832 ○  
605811 ○  
605812 ○  
605813 ○

HSS-PM



JIS

AlTiN(Si)

C/3P

Art.Stock

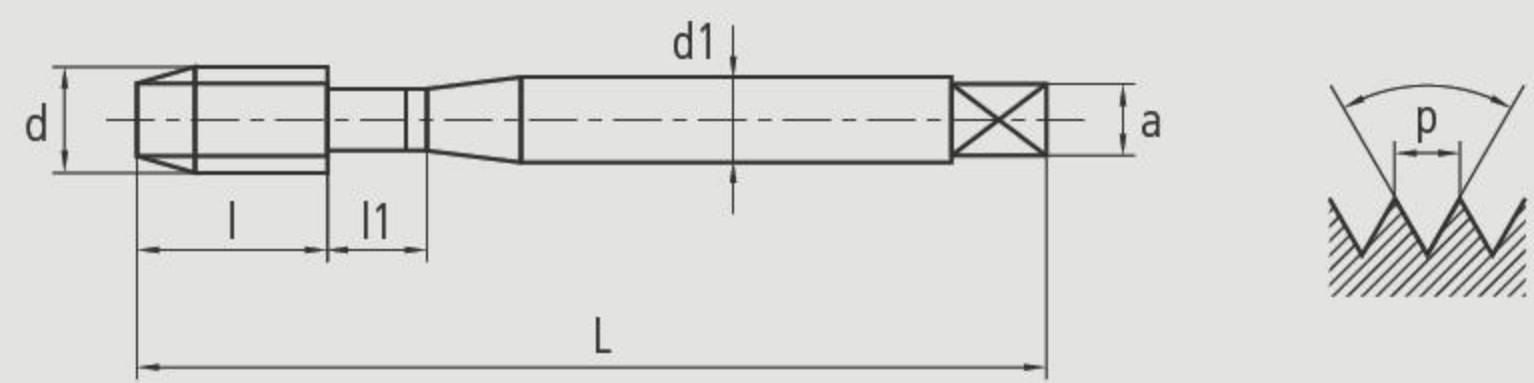
605814 ○  
605815 ○  
605816 ○  
605817 ○  
605818 ○  
605819 ○  
605820 ○  
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605822 ○  
605823 ○  
605824 ○  
605825 ○  
605826 ○  
605827 ○  
605828 ○  
605829 ○  
605830 ○

★ AlTiN(Si) coating provides excellent wear resistance.  
★ Suitable for cast iron, steel, some cast aluminum, and manual tapping. HRC 20 to 32.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ○ | - | ⊙ | ○ | - | - |

JIS P Line

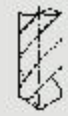
JP-P-NRT  
High Performance for steel



Norm

Coating



| Size      | L    | l   | l1 | d1  | a   | Limit | Flute |  |
|-----------|------|-----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|
| M1*0.2    | 31   | 3   | -  | 3   | 2.5 | RH4   | -     | 0.9-0.92                                                                              |
| M1*0.25   | 31   | 3.5 | -  | 3   | 2.5 | RH4   | -     | 0.9-0.92                                                                              |
| M1.2*0.2  | 31   | 3   | -  | 3   | 2.5 | RH4   | -     | 1.1-1.15                                                                              |
| M1.2*0.25 | 31   | 3.5 | -  | 3   | 2.5 | RH4   | -     | 1.1-1.12                                                                              |
| M1.4*0.2  | 36   | 3   | -  | 3   | 2.5 | RH4   | -     | 1.3-1.32                                                                              |
| M1.4*0.3  | 36   | 6.5 | -  | 3   | 2.5 | RH4   | -     | 1.27-1.29                                                                             |
| M1.6*0.2  | 36   | 3   | -  | 3   | 2.5 | RH4   | -     | 1.5-1.52                                                                              |
| M1.6*0.35 | 35.5 | 8   | -  | 3   | 2.5 | RH4   | -     | 1.44-1.48                                                                             |
| M1.7*0.35 | 35.5 | 8   | -  | 3   | 2.5 | RH4   | -     | 1.54-1.58                                                                             |
| M2*0.25   | 43.5 | 4   | -  | 3   | 2.5 | RH4   | -     | 1.87-1.9                                                                              |
| M2*0.4    | 43.5 | 10  | -  | 3   | 2.5 | RH5   | -     | 1.81-1.85                                                                             |
| M2.3*0.4  | 43.5 | 10  | -  | 3   | 2.5 | RH5   | -     | 2.11-2.15                                                                             |
| M2.5*0.45 | 43.5 | 13  | -  | 3   | 2.5 | RH5   | -     | 2.28-2.33                                                                             |
| M2.6*0.45 | 43.5 | 13  | -  | 3   | 2.5 | RH5   | -     | 2.38-2.43                                                                             |
| M3*0.35   | 48   | 6   | 8  | 4   | 3.2 | RH4   | -     | 2.82-2.87                                                                             |
| M3*0.5    | 48   | 16  | -  | 4   | 3.2 | RH7   | -     | 2.76-2.81                                                                             |
| M3.5*0.6  | 48   | 16  | -  | 4   | 3.2 | RH7   | -     | 3.2-3.26                                                                              |
| M4*0.5    | 55   | 8   | 8  | 5   | 4   | RH7   | -     | 3.75-3.78                                                                             |
| M4*0.7    | 55   | 18  | -  | 5   | 4   | RH7   | -     | 3.65-3.7                                                                              |
| M5*0.5    | 64   | 8   | 8  | 5.5 | 4.5 | RH7   | -     | 4.75-4.8                                                                              |
| M5*0.8    | 63.5 | 20  | -  | 5.5 | 4.5 | RH7   | -     | 4.59-4.66                                                                             |
| M6*0.5    | 66   | 12  | 12 | 6   | 4.5 | RH7   | 2     | 5.57-5.8                                                                              |
| M6*0.75   | 66   | 12  | 12 | 6   | 4.5 | RH7   | 2     | 5.62-5.7                                                                              |
| M6*1      | 66.5 | 27  | -  | 6   | 4.5 | RH7   | 2     | 5.48-5.57                                                                             |
| M7*1      | 70   | 13  | 10 | 6.2 | 5   | RH7   | 2     | 6.48-6.57                                                                             |
| M8*0.75   | 70   | 13  | 23 | 6.2 | 5   | RH7   | 3     | 7.62-7.71                                                                             |
| M8*1      | 70   | 13  | 23 | 6.2 | 5   | RH7   | 3     | 7.48-7.57                                                                             |
| M8*1.25   | 70   | 13  | 23 | 6.2 | 5   | RH7   | 3     | 7.34-7.41                                                                             |
| M10*0.75  | 75   | 13  | 30 | 7   | 5.5 | RH7   | 6     | 9.62-9.71                                                                             |

HSS-PM



JIS

TiCN+Al

C/2P

Art.Stock

615811 ○

615812 ●

615813 ○

615814 ●

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615823 ●

615824 ●

615826 ●

615827 ●

615829 ●

615831 ●

615834 ●

HSS-PM



JIS

TiCN+Al

C/2P

Art.Stock

615825 ○

615828 ○

615830 ○

615832 ○

615833 ○

HSS-PM



JIS

TiCN+Al

C/2P

Art.Stock

615835 ●

615836 ○

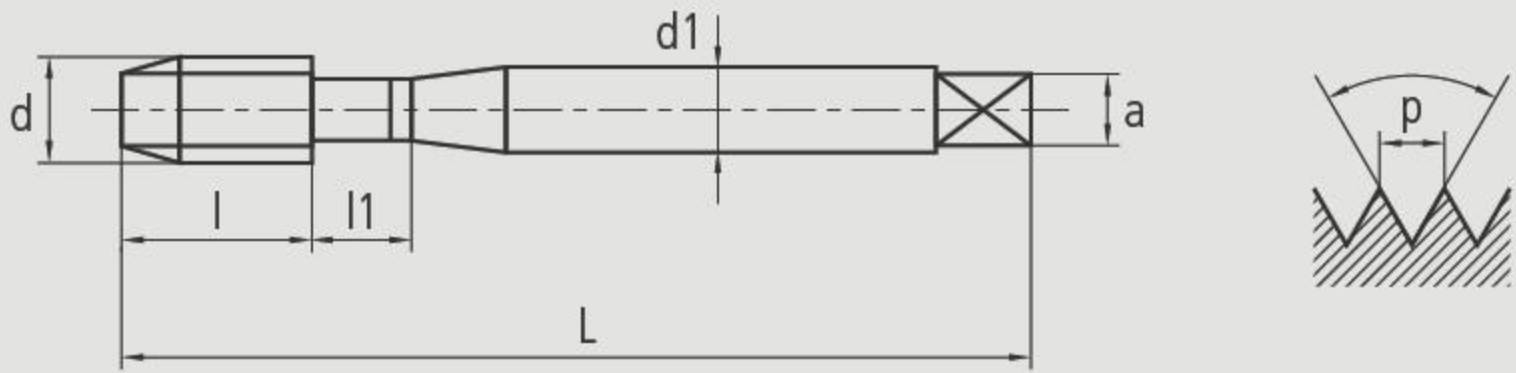
615837 ●

615838 ●

615839 ○

JIS P Line

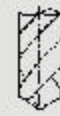
JP-P-NRT  
High Performance for steel



Norm

Coating



| Size     | L  | l  | l1 | d1   | a   | Limit | Flute |  |
|----------|----|----|----|------|-----|-------|-------|---------------------------------------------------------------------------------------|
| M10*1    | 75 | 13 | 30 | 7    | 5.5 | RH7   | 6     | 9.48-9.57                                                                             |
| M10*1.25 | 75 | 13 | 30 | 7    | 5.5 | RH7   | 6     | 9.34-9.41                                                                             |
| M10*1.5  | 75 | 15 | 28 | 7    | 5.5 | RH8   | 6     | 9.18-9.28                                                                             |
| M12*1    | 82 | 13 | 29 | 8.5  | 6.5 | RH7   | 6     | 11.52-11.6                                                                            |
| M12*1.25 | 82 | 13 | 29 | 8.5  | 6.5 | RH7   | 6     | 11.4--11.49                                                                           |
| M12*1.5  | 82 | 17 | 25 | 8.5  | 6.5 | RH8   | 6     | 11.26-11.36                                                                           |
| M12*1.75 | 82 | 17 | 25 | 8.5  | 6.5 | RH9   | 6     | 11.05-11.15                                                                           |
| M14*1    | 88 | 20 | 31 | 10.5 | 8   | RH7   | 6     | 13.5-13.6                                                                             |
| M14*1.25 | 88 | 20 | 31 | 10.5 | 8   | RH7   | 6     | 13.38-13.45                                                                           |
| M14*1.5  | 88 | 20 | 31 | 10.5 | 8   | RH8   | 6     | 13.21-13.30                                                                           |
| M14*2    | 88 | 20 | 31 | 10.5 | 8   | RH10  | 6     | 12.92-13.04                                                                           |
| M16*1    | 95 | 20 | 32 | 12.5 | 10  | RH7   | 6     | 15.5-15.6                                                                             |
| M16*1.25 | 95 | 20 | 32 | 12.5 | 10  | RH7   | 6     | 15.38-15.48                                                                           |
| M16*1.5  | 95 | 20 | 32 | 12.5 | 10  | RH8   | 6     | 15.21-15.3                                                                            |
| M16*2    | 95 | 20 | 32 | 12.5 | 10  | RH10  | 6     | 14.92-15.04                                                                           |

HSS-PM



JIS

TiCN+Al

C/2P

Art.Stock

HSS-PM



JIS

TiCN+Al

C/2P

Art.Stock

HSS-PM



JIS

TiCN+Al

C/2P

Art.Stock

615840 ●

615841 ●

615842 ●

615843 ●

615844 ●

615845 ●

615846 ●

615847 ●

615848 ●

615849 ●

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615853 ●

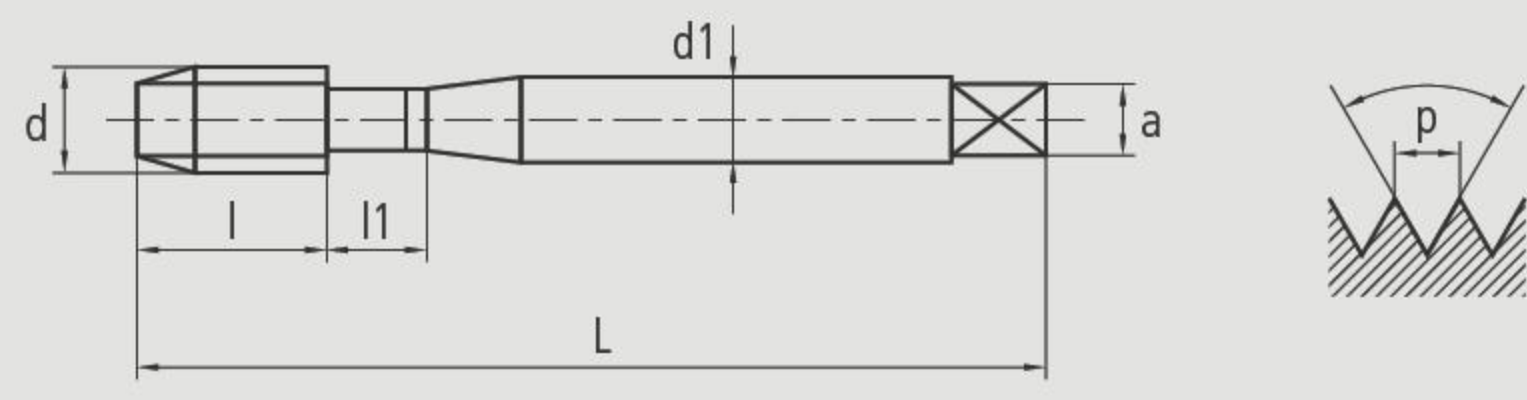
615854 ●

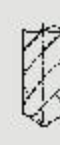
★ TiCN-AL provides excellent wear resistance.  
★ For Carbon Steel and Alloy Steel with a hardness of below 30 HRC.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ⊙ | - | - | - | - | - |

JIS P Line

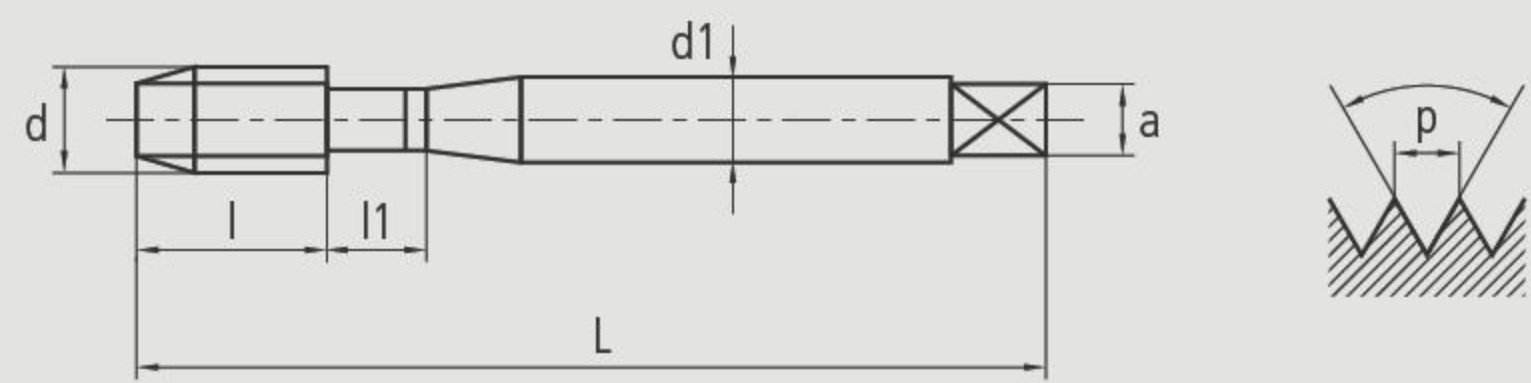
JP-M-NRT  
High Performance for stainless steel



| Norm                                                                                 |      |     |    |     |     |       |       |                                                                                       | HSS-PM    | HSS-PM    | HSS-PM    |
|--------------------------------------------------------------------------------------|------|-----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Coating                                                                              |      |     |    |     |     |       |       |                                                                                       | JIS       | JIS       | JIS       |
|  |      |     |    |     |     |       |       |                                                                                       | TiN(Si)   | TiN(Si)   | TiN(Si)   |
|                                                                                      |      |     |    |     |     |       |       |                                                                                       | C/2P      | C/2P      | C/2P      |
| Size                                                                                 | L    | l   | l1 | d1  | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock |
| M1*0.2                                                                               | 31   | 3   | -  | 3   | 2.5 | RH4   | -     | 0.9-0.92                                                                              | 625811 ○  |           |           |
| M1*0.25                                                                              | 31   | 3.5 | -  | 3   | 2.5 | RH4   | -     | 0.9-0.92                                                                              | 625812 ●  |           |           |
| M1.2*0.2                                                                             | 31   | 3   | -  | 3   | 2.5 | RH4   | -     | 1.1-1.15                                                                              | 625813 ○  |           |           |
| M1.2*0.25                                                                            | 31   | 3.5 | -  | 3   | 2.5 | RH4   | -     | 1.1-1.12                                                                              | 625814 ●  |           |           |
| M1.4*0.2                                                                             | 36   | 3   | -  | 3   | 2.5 | RH4   | -     | 1.3-1.32                                                                              | 625815 ○  |           |           |
| M1.4*0.3                                                                             | 36   | 6.5 | -  | 3   | 2.5 | RH4   | -     | 1.27-1.29                                                                             | 625816 ●  |           |           |
| M1.6*0.2                                                                             | 36   | 3   | -  | 3   | 2.5 | RH4   | -     | 1.5-1.52                                                                              | 625817 ○  |           |           |
| M1.6*0.35                                                                            | 35.5 | 8   | -  | 3   | 2.5 | RH4   | -     | 1.44-1.48                                                                             | 625818 ●  |           |           |
| M1.7*0.35                                                                            | 35.5 | 8   | -  | 3   | 2.5 | RH4   | -     | 1.54-1.58                                                                             | 625819 ●  |           |           |
| M2*0.25                                                                              | 43.5 | 4   | -  | 3   | 2.5 | RH4   | -     | 1.87-1.9                                                                              | 625820 ○  |           |           |
| M2*0.4                                                                               | 43.5 | 10  | -  | 3   | 2.5 | RH5   | -     | 1.81-1.85                                                                             | 625821 ●  |           |           |
| M2.3*0.4                                                                             | 43.5 | 10  | -  | 3   | 2.5 | RH5   | -     | 2.11-2.15                                                                             | 625822 ●  |           |           |
| M2.5*0.45                                                                            | 43.5 | 13  | -  | 3   | 2.5 | RH5   | -     | 2.28-2.33                                                                             | 625823 ●  |           |           |
| M2.6*0.45                                                                            | 43.5 | 13  | -  | 3   | 2.5 | RH5   | -     | 2.38-2.43                                                                             | 625824 ●  |           |           |
| M3*0.35                                                                              | 48   | 6   | 8  | 4   | 3.2 | RH4   | -     | 2.82-2.87                                                                             |           | 625825 ○  |           |
| M3*0.5                                                                               | 48   | 16  | -  | 4   | 3.2 | RH7   | -     | 2.76-2.81                                                                             | 625826 ●  |           |           |
| M3.5*0.6                                                                             | 48   | 16  | -  | 4   | 3.2 | RH7   | -     | 3.2-3.26                                                                              | 625827 ●  |           |           |
| M4*0.5                                                                               | 55   | 8   | 8  | 5   | 4   | RH7   | -     | 3.75-3.78                                                                             |           | 625828 ○  |           |
| M4*0.7                                                                               | 55   | 18  | -  | 5   | 4   | RH7   | -     | 3.65-3.7                                                                              | 625829 ●  |           |           |
| M5*0.5                                                                               | 64   | 8   | 8  | 5.5 | 4.5 | RH7   | -     | 4.75-4.8                                                                              |           | 625830 ○  |           |
| M5*0.8                                                                               | 63.5 | 20  | -  | 5.5 | 4.5 | RH7   | -     | 4.59-4.66                                                                             | 625831 ●  |           |           |
| M6*0.5                                                                               | 66   | 12  | 12 | 6   | 4.5 | RH7   | 2     | 5.57-5.8                                                                              |           | 625832 ○  |           |
| M6*0.75                                                                              | 66   | 12  | 12 | 6   | 4.5 | RH7   | 2     | 5.62-5.7                                                                              |           | 625833 ○  |           |
| M6*1                                                                                 | 66.5 | 27  | -  | 6   | 4.5 | RH7   | 2     | 5.48-5.57                                                                             | 625834 ●  |           |           |
| M7*1                                                                                 | 70   | 13  | 10 | 6.2 | 5   | RH7   | 2     | 6.48-6.57                                                                             |           |           | 625835 ●  |
| M8*0.75                                                                              | 70   | 13  | 23 | 6.2 | 5   | RH7   | 3     | 7.62-7.71                                                                             |           |           | 625836 ○  |
| M8*1                                                                                 | 70   | 13  | 23 | 6.2 | 5   | RH7   | 3     | 7.48-7.57                                                                             |           |           | 625837 ●  |
| M8*1.25                                                                              | 70   | 13  | 23 | 6.2 | 5   | RH7   | 3     | 7.34-7.41                                                                             |           |           | 625838 ●  |
| M10*0.75                                                                             | 75   | 13  | 30 | 7   | 5.5 | RH7   | 6     | 9.62-9.71                                                                             |           |           | 625839 ○  |

JIS P Line

JP-M-NRT  
High Performance for stainless steel



HSS-PM



HSS-PM



HSS-PM



Norm

JIS

JIS

JIS

Coating

TiN(Si)

TiN(Si)

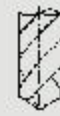
TiN(Si)



C/2P

C/2P

C/2P

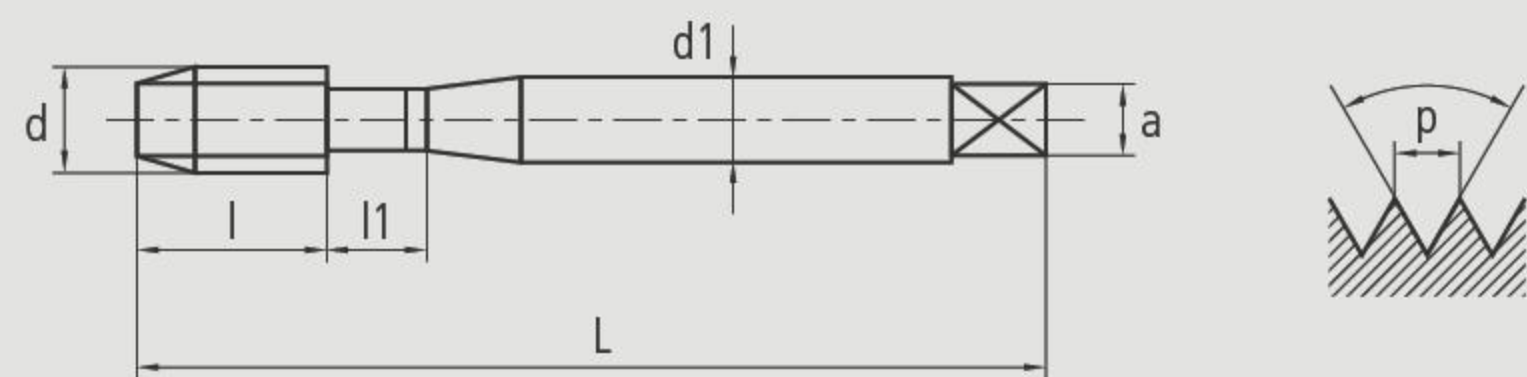
| Size     | L  | l  | l1 | d1   | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock |
|----------|----|----|----|------|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|
| M10*1    | 75 | 13 | 30 | 7    | 5.5 | RH7   | 6     | 9.48-9.57                                                                             |           |           | 625840 ●  |
| M10*1.25 | 75 | 13 | 30 | 7    | 5.5 | RH7   | 6     | 9.34-9.41                                                                             |           |           | 625841 ●  |
| M10*1.5  | 75 | 15 | 28 | 7    | 5.5 | RH8   | 6     | 9.18-9.28                                                                             |           |           | 625842 ●  |
| M12*1    | 82 | 13 | 29 | 8.5  | 6.5 | RH7   | 6     | 11.52-11.6                                                                            |           |           | 625843 ●  |
| M12*1.25 | 82 | 13 | 29 | 8.5  | 6.5 | RH7   | 6     | 11.4--11.49                                                                           |           |           | 625844 ●  |
| M12*1.5  | 82 | 17 | 25 | 8.5  | 6.5 | RH8   | 6     | 11.26-11.36                                                                           |           |           | 625845 ●  |
| M12*1.75 | 82 | 17 | 25 | 8.5  | 6.5 | RH9   | 6     | 11.05-11.15                                                                           |           |           | 625846 ●  |
| M14*1    | 88 | 20 | 31 | 10.5 | 8   | RH7   | 6     | 13.5-13.6                                                                             |           |           | 625847 ●  |
| M14*1.25 | 88 | 20 | 31 | 10.5 | 8   | RH7   | 6     | 13.38-13.45                                                                           |           |           | 625848 ●  |
| M14*1.5  | 88 | 20 | 31 | 10.5 | 8   | RH8   | 6     | 13.21-13.30                                                                           |           |           | 625849 ●  |
| M14*2    | 88 | 20 | 31 | 10.5 | 8   | RH10  | 6     | 12.92-13.04                                                                           |           |           | 625850 ●  |
| M16*1    | 95 | 20 | 32 | 12.5 | 10  | RH7   | 6     | 15.5-15.6                                                                             |           |           | 625851 ●  |
| M16*1.25 | 95 | 20 | 32 | 12.5 | 10  | RH7   | 6     | 15.38-15.48                                                                           |           |           | 625852 ●  |
| M16*1.5  | 95 | 20 | 32 | 12.5 | 10  | RH8   | 6     | 15.21-15.3                                                                            |           |           | 625853 ●  |
| M16*2    | 95 | 20 | 32 | 12.5 | 10  | RH10  | 6     | 14.92-15.04                                                                           |           |           | 625854 ●  |

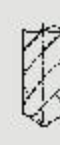
★ TiN(Si) coating is designed for challenging machining of stainless steel, offering excellent machining characteristics and outstanding wear resistance  
★ For Stainless Steel, including the 200 series and 300 series.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| - | ⊙ | - | - | - | - |

JIS P Line

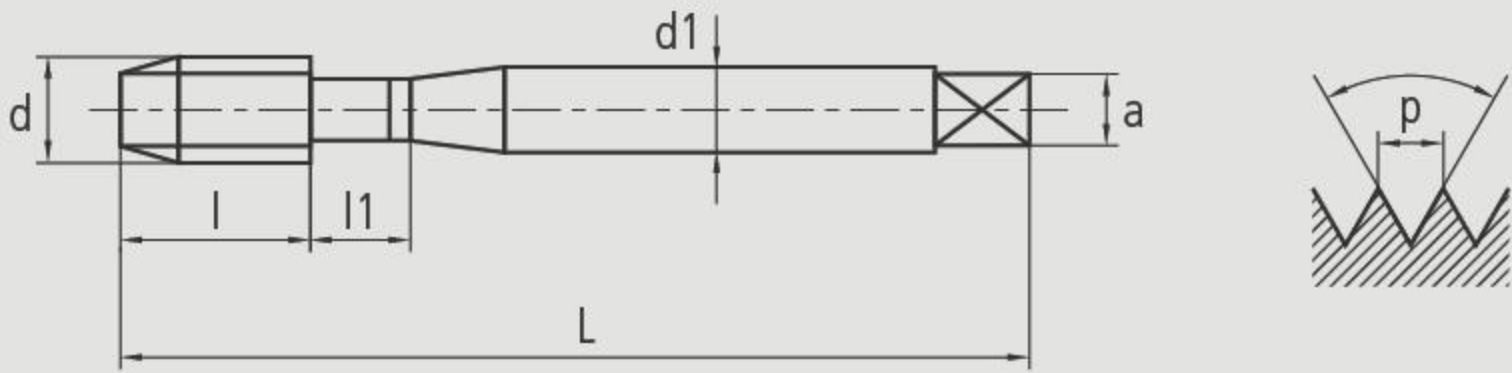
JP-N-NRT  
High Performance for non ferrous alloy steel



| Norm                                                                                 |      |     |    |     |     |       |       |                                                                                       | HSS-PM    | HSS-PM    | HSS-PM    |
|--------------------------------------------------------------------------------------|------|-----|----|-----|-----|-------|-------|---------------------------------------------------------------------------------------|-----------|-----------|-----------|
| Coating                                                                              |      |     |    |     |     |       |       |                                                                                       | JIS       | JIS       | JIS       |
|  |      |     |    |     |     |       |       |                                                                                       | DLC       | DLC       | DLC       |
|  |      |     |    |     |     |       |       |                                                                                       | C/2P      | C/2P      | C/2P      |
| Size                                                                                 | L    | l   | L1 | d1  | a   | Limit | Flute |  | Art.Stock | Art.Stock | Art.Stock |
| M1*0.2                                                                               | 31   | 3   | -  | 3   | 2.5 | RH4   | -     | 0.9-0.92                                                                              | 635811 ○  |           |           |
| M1*0.25                                                                              | 31   | 3.5 | -  | 3   | 2.5 | RH4   | -     | 0.9-0.92                                                                              | 635812 ●  |           |           |
| M1.2*0.2                                                                             | 31   | 3   | -  | 3   | 2.5 | RH4   | -     | 1.1-1.15                                                                              | 635813 ○  |           |           |
| M1.2*0.25                                                                            | 31   | 3.5 | -  | 3   | 2.5 | RH4   | -     | 1.1-1.12                                                                              | 635814 ●  |           |           |
| M1.4*0.2                                                                             | 36   | 3   | -  | 3   | 2.5 | RH4   | -     | 1.3-1.32                                                                              | 635815 ○  |           |           |
| M1.4*0.3                                                                             | 36   | 6.5 | -  | 3   | 2.5 | RH4   | -     | 1.27-1.29                                                                             | 635816 ●  |           |           |
| M1.6*0.2                                                                             | 36   | 3   | -  | 3   | 2.5 | RH4   | -     | 1.5-1.52                                                                              | 635817 ○  |           |           |
| M1.6*0.35                                                                            | 35.5 | 8   | -  | 3   | 2.5 | RH4   | -     | 1.44-1.48                                                                             | 635818 ●  |           |           |
| M1.7*0.35                                                                            | 35.5 | 8   | -  | 3   | 2.5 | RH4   | -     | 1.54-1.58                                                                             | 635819 ●  |           |           |
| M2*0.25                                                                              | 43.5 | 4   | -  | 3   | 2.5 | RH4   | -     | 1.87-1.9                                                                              | 635820 ○  |           |           |
| M2*0.4                                                                               | 43.5 | 10  | -  | 3   | 2.5 | RH5   | -     | 1.81-1.85                                                                             | 635821 ●  |           |           |
| M2.3*0.4                                                                             | 43.5 | 10  | -  | 3   | 2.5 | RH5   | -     | 2.11-2.15                                                                             | 635822 ●  |           |           |
| M2.5*0.45                                                                            | 43.5 | 13  | -  | 3   | 2.5 | RH5   | -     | 2.28-2.33                                                                             | 635823 ●  |           |           |
| M2.6*0.45                                                                            | 43.5 | 13  | -  | 3   | 2.5 | RH5   | -     | 2.38-2.43                                                                             | 635824 ●  |           |           |
| M3*0.35                                                                              | 48   | 6   | 8  | 4   | 3.2 | RH4   | -     | 2.82-2.87                                                                             |           | 635825 ○  |           |
| M3*0.5                                                                               | 48   | 16  | -  | 4   | 3.2 | RH7   | -     | 2.76-2.81                                                                             | 635826 ●  |           |           |
| M3.5*0.6                                                                             | 48   | 16  | -  | 4   | 3.2 | RH7   | -     | 3.2-3.26                                                                              | 635827 ●  |           |           |
| M4*0.5                                                                               | 55   | 8   | 8  | 5   | 4   | RH7   | -     | 3.75-3.78                                                                             |           | 635828 ○  |           |
| M4*0.7                                                                               | 55   | 18  | -  | 5   | 4   | RH7   | -     | 3.65-3.7                                                                              | 635829 ●  |           |           |
| M5*0.5                                                                               | 64   | 8   | 8  | 5.5 | 4.5 | RH7   | -     | 4.75-4.8                                                                              |           | 635830 ○  |           |
| M5*0.8                                                                               | 63.5 | 20  | -  | 5.5 | 4.5 | RH7   | -     | 4.59-4.66                                                                             | 635831 ●  |           |           |
| M6*0.5                                                                               | 66   | 12  | 12 | 6   | 4.5 | RH7   | 2     | 5.57-5.8                                                                              |           | 635832 ○  |           |
| M6*0.75                                                                              | 66   | 12  | 12 | 6   | 4.5 | RH7   | 2     | 5.62-5.7                                                                              |           | 635833 ○  |           |
| M6*1                                                                                 | 66.5 | 27  | -  | 6   | 4.5 | RH7   | 2     | 5.48-5.57                                                                             | 635834 ●  |           |           |
| M7*1                                                                                 | 70   | 13  | 10 | 6.2 | 5   | RH7   | 2     | 6.48-6.57                                                                             |           |           | 635835 ●  |
| M8*0.75                                                                              | 70   | 13  | 23 | 6.2 | 5   | RH7   | 3     | 7.62-7.71                                                                             |           |           | 635836 ○  |
| M8*1                                                                                 | 70   | 13  | 23 | 6.2 | 5   | RH7   | 3     | 7.48-7.57                                                                             |           |           | 635837 ●  |
| M8*1.25                                                                              | 70   | 13  | 23 | 6.2 | 5   | RH7   | 3     | 7.34-7.41                                                                             |           |           | 635838 ●  |
| M10*0.75                                                                             | 75   | 13  | 30 | 7   | 5.5 | RH7   | 6     | 9.62-9.71                                                                             |           |           | 635839 ○  |

JIS P Line

JP-N-NRT  
High Performance for non ferrous alloy steel



HSS-PM



HSS-PM



HSS-PM



Norm

JIS

JIS

JIS

Coating

DLC

DLC

DLC



C/2P

C/2P

C/2P

| Size     | L  | l  | L1 | d1   | a   | Limit | Flute |             | Art.Stock | Art.Stock | Art.Stock |
|----------|----|----|----|------|-----|-------|-------|-------------|-----------|-----------|-----------|
| M10*1    | 75 | 13 | 30 | 7    | 5.5 | RH7   | 6     | 9.48-9.57   |           |           | 635840 ●  |
| M10*1.25 | 75 | 13 | 30 | 7    | 5.5 | RH7   | 6     | 9.34-9.41   |           |           | 635841 ●  |
| M10*1.5  | 75 | 15 | 28 | 7    | 5.5 | RH8   | 6     | 9.18-9.28   |           |           | 635842 ●  |
| M12*1    | 82 | 13 | 29 | 8.5  | 6.5 | RH7   | 6     | 11.52-11.6  |           |           | 635843 ●  |
| M12*1.25 | 82 | 13 | 29 | 8.5  | 6.5 | RH7   | 6     | 11.4--11.49 |           |           | 635844 ●  |
| M12*1.5  | 82 | 17 | 25 | 8.5  | 6.5 | RH8   | 6     | 11.26-11.36 |           |           | 635845 ●  |
| M12*1.75 | 82 | 17 | 25 | 8.5  | 6.5 | RH9   | 6     | 11.05-11.15 |           |           | 635846 ●  |
| M14*1    | 88 | 20 | 31 | 10.5 | 8   | RH7   | 6     | 13.5-13.6   |           |           | 635847 ●  |
| M14*1.25 | 88 | 20 | 31 | 10.5 | 8   | RH7   | 6     | 13.38-13.45 |           |           | 635848 ●  |
| M14*1.5  | 88 | 20 | 31 | 10.5 | 8   | RH8   | 6     | 13.21-13.30 |           |           | 635849    |
| M14*2    | 88 | 20 | 31 | 10.5 | 8   | RH10  | 6     | 12.92-13.04 |           |           | 635850 ●  |
| M16*1    | 95 | 20 | 32 | 12.5 | 10  | RH7   | 6     | 15.5-15.6   |           |           | 635851 ●  |
| M16*1.25 | 95 | 20 | 32 | 12.5 | 10  | RH7   | 6     | 15.38-15.48 |           |           | 635852 ●  |
| M16*1.5  | 95 | 20 | 32 | 12.5 | 10  | RH8   | 6     | 15.21-15.3  |           |           | 635853 ●  |
| M16*2    | 95 | 20 | 32 | 12.5 | 10  | RH10  | 6     | 14.92-15.04 |           |           | 635854 ●  |

★ DLC coating offers excellent wear resistance and minimizes chip adhesion.  
★ For processing non-ferrous metals, including ADC, AC, ZDC, MC, Cu, BSC and others.

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| - | - | - | ⊙ | - | - |

## Requirements Communication



1



## Solution Confirmation

2



## Samples Test

3



## On-site Technical Service

4



## Solution Improving

5



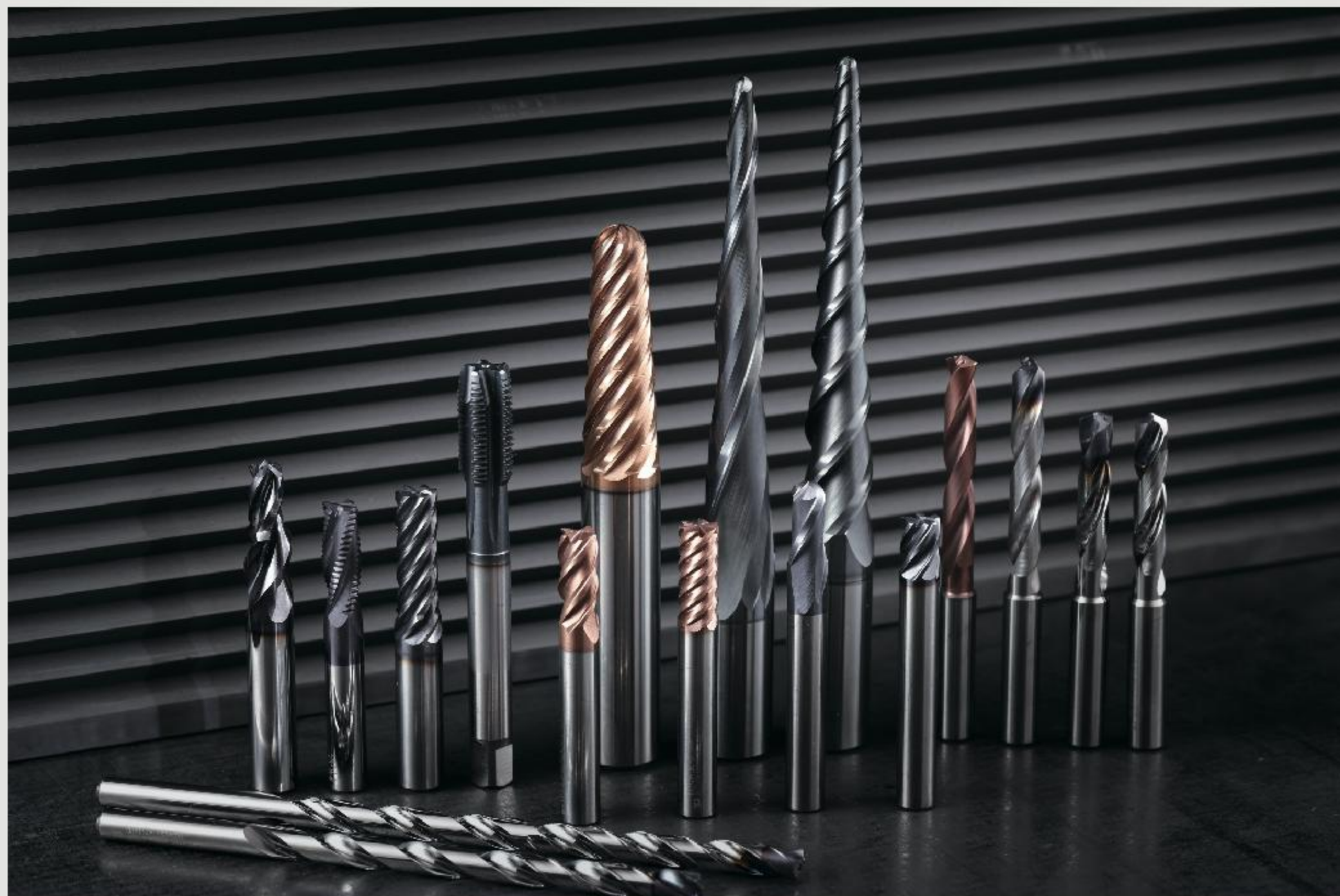
## Meet Requirements

6

## Constant Optimization

7





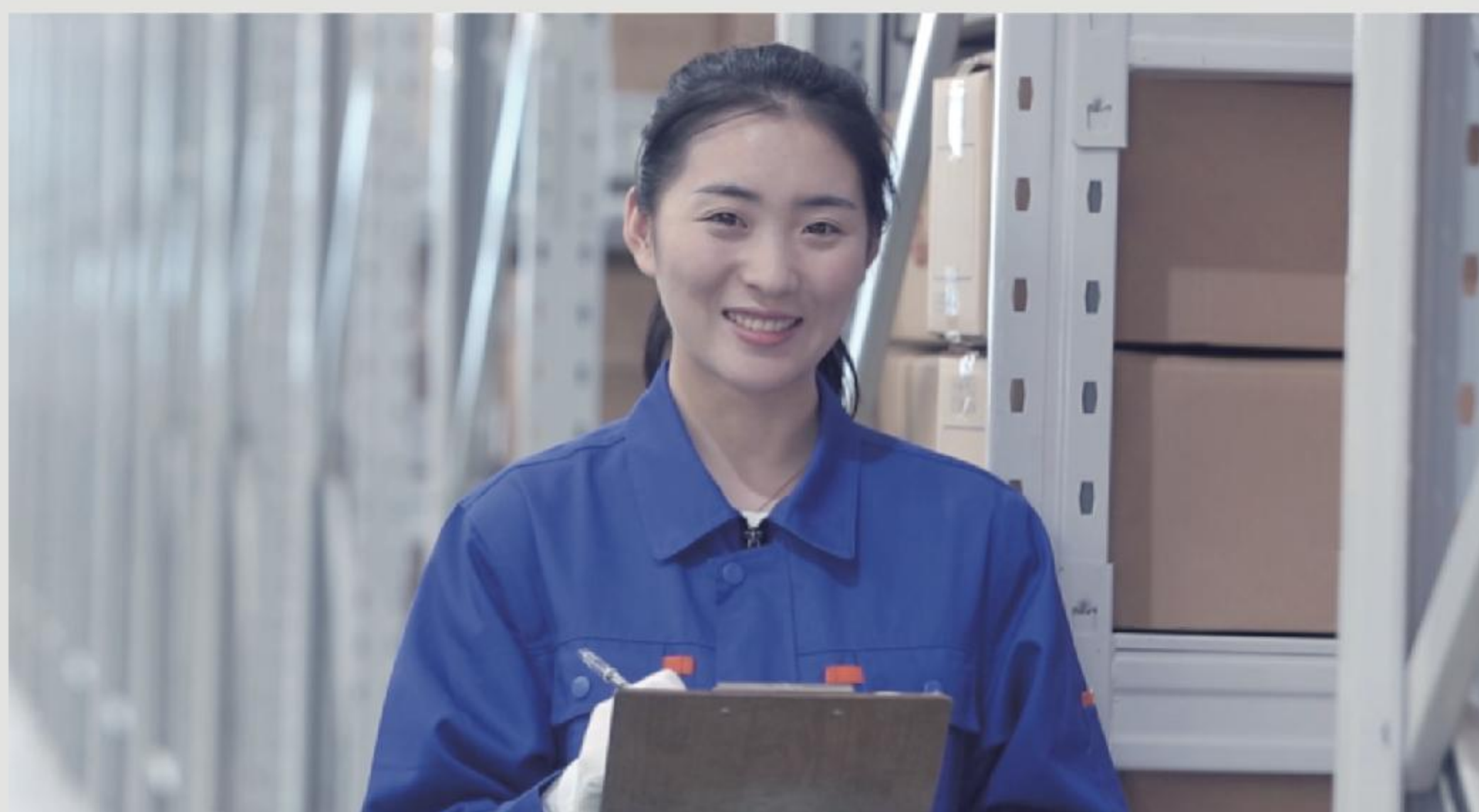
### 1.Available for all kinds of metal cutting tools

Our customized special tool service covers all ranges of metal cutting tools such as drilling, milling, turning. Therefore in this service, customers come up with machining requirements and we are responsible for the ideal results.



### 2.Provide total machining solutions

Based on customer's machining conditions, workpiece materials and specific needs, we solve machining problems by one-stop service from providing total machining solutions made to achieve excellent machining effect to designing and manufacturing whole set of cutting tools.



### 3.Constant optimization and improvement

We do our best to constantly help customers improving and optimizing machining process, reducing costs, raising productivity and competitiveness.

**In order to provide customized solution, we require some more detailed information as follows:**

Drawing of the workpiece

Material of the Workpiece

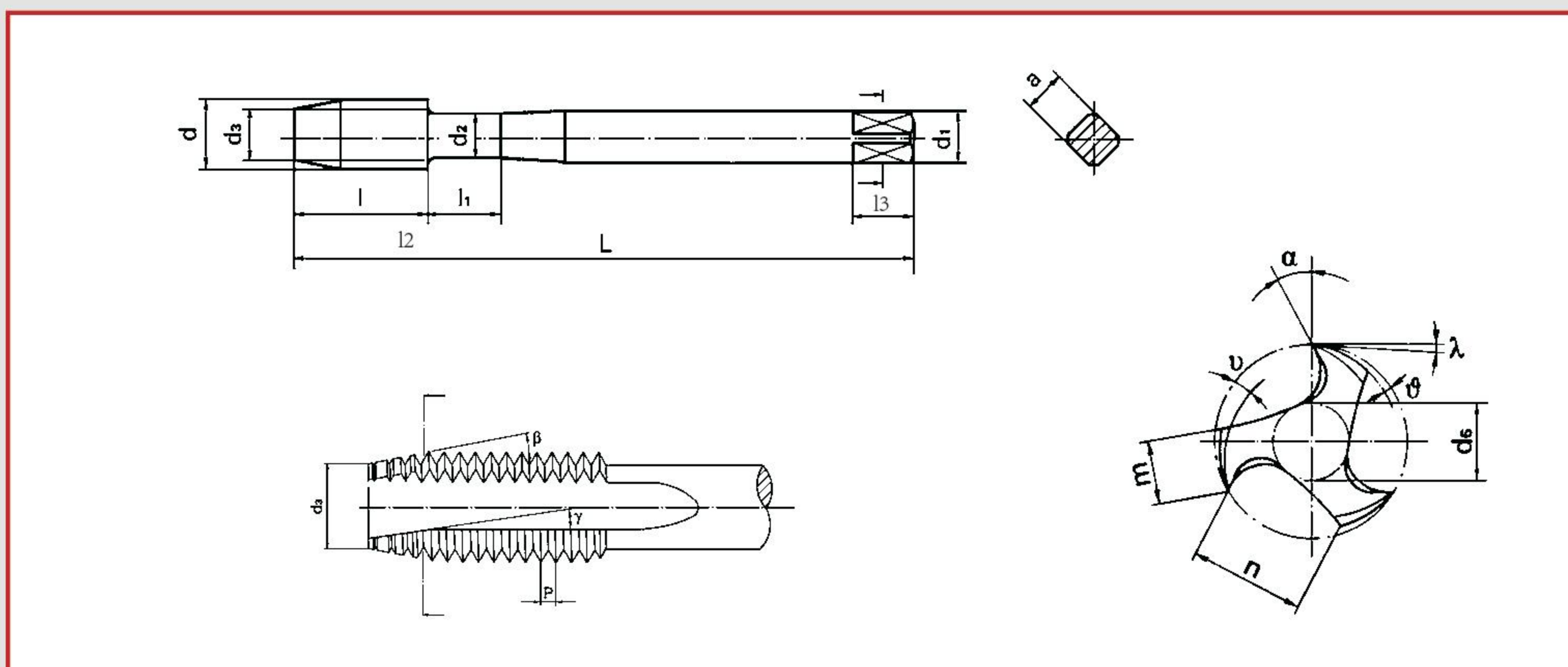
Clamping Situation

Machine Data

Purchasing Requirement

# Technical information

## Symboles



## Taps

### Structural dimensions:

|                              |                     |
|------------------------------|---------------------|
| L = total length             | d1 = shank diameter |
| l = thread length            | d2 = neck diameter  |
| l1 = neck length             | m = web thickness   |
| l2 = length of thread & neck | n = pitch of thread |
| l3 = square length           |                     |
| a = square                   |                     |

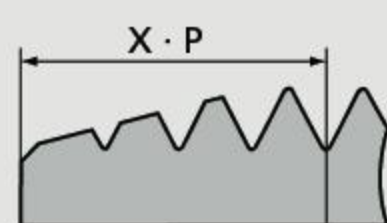
### Thread:

|                         |
|-------------------------|
| d = nominal diameter    |
| d3 = chamfer diameter   |
| d6 = épaisseur de l'âme |
| P = pas                 |

### Geometry:

|                                   |
|-----------------------------------|
| a = chip angle                    |
| b = angel of chamfer              |
| g = angle of spiral point         |
| J = radial relief of thread       |
| l = radial relief angle of thread |
| u = relief angle of chamfer       |

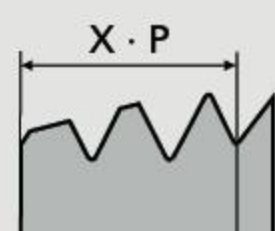
## Chamfer form



X 3.5 – 5

### Form(e) B

Chamfer form for taps as per DIN. The length of the chamfer is between 3,5 and 5 threads.



X 2 – 3

### Form(e) C

Chamfer form for taps as per DIN. The length of the chamfer is between 2 and 3 threads.



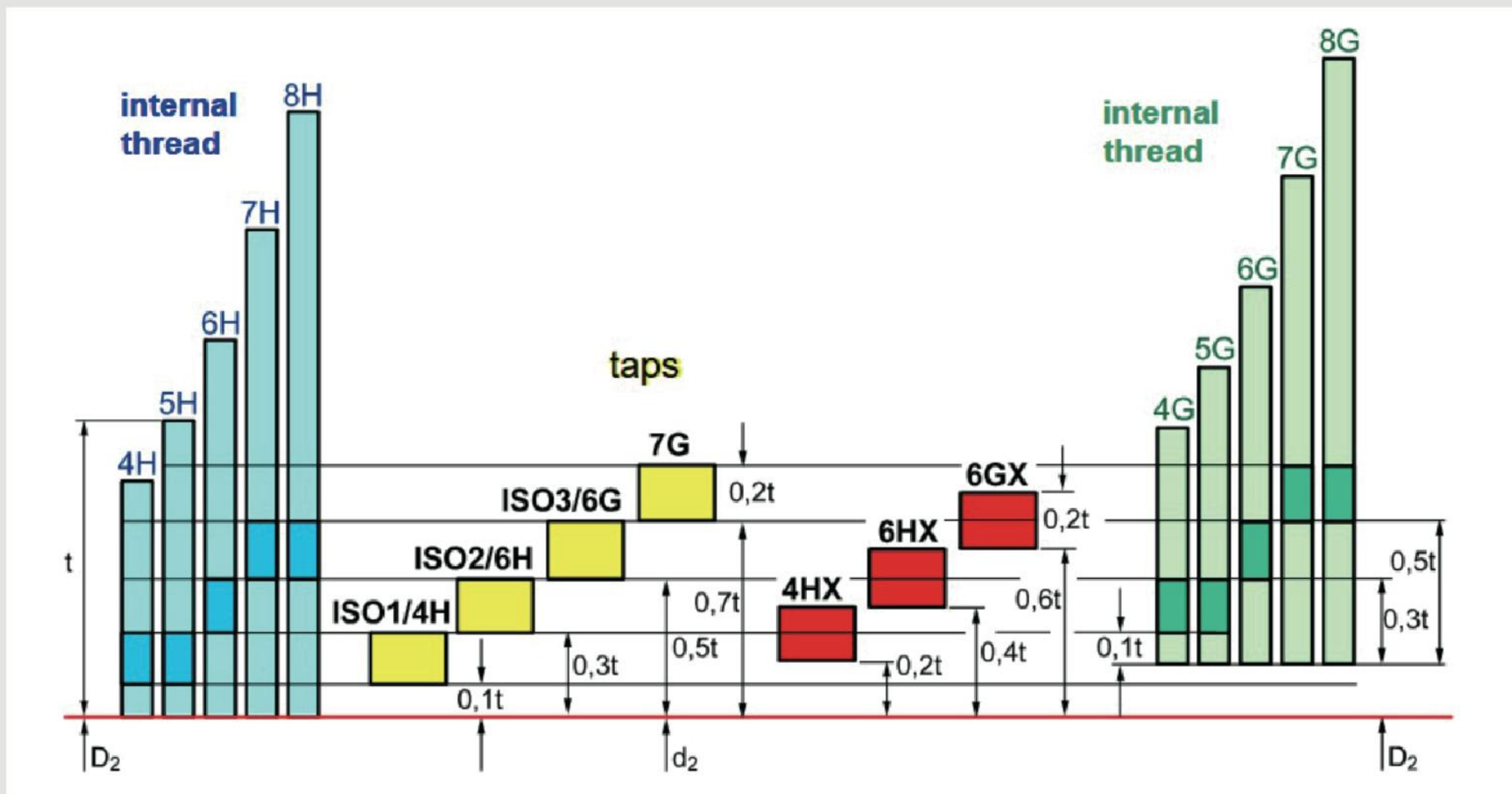
X 1.5 – 2

### Form(e) E

Chamfer form for taps as per DIN. The length of the chamfer is between 1,5 and 2 threads.

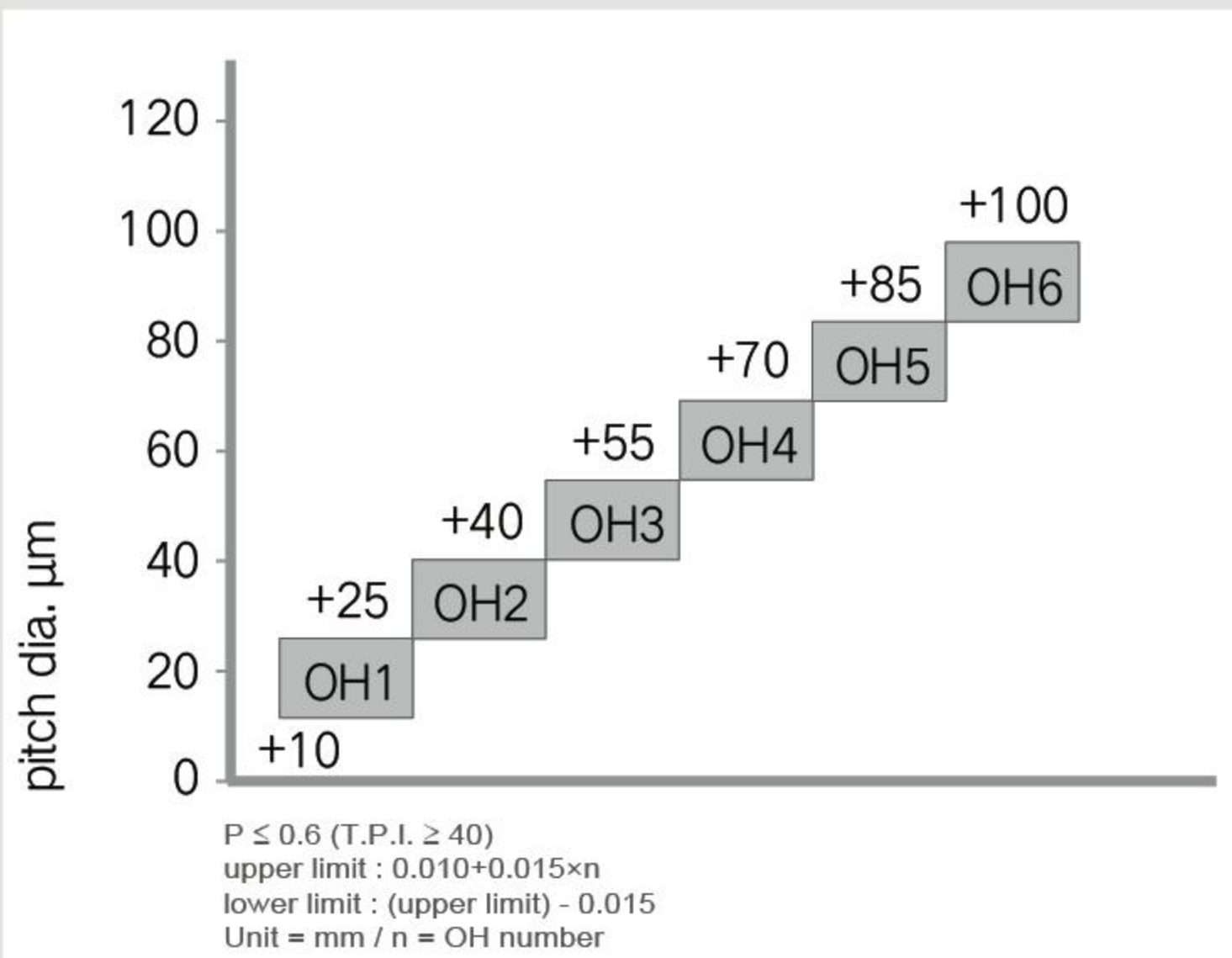
# Tolerance of Cutting Tap Thread

ISO limit



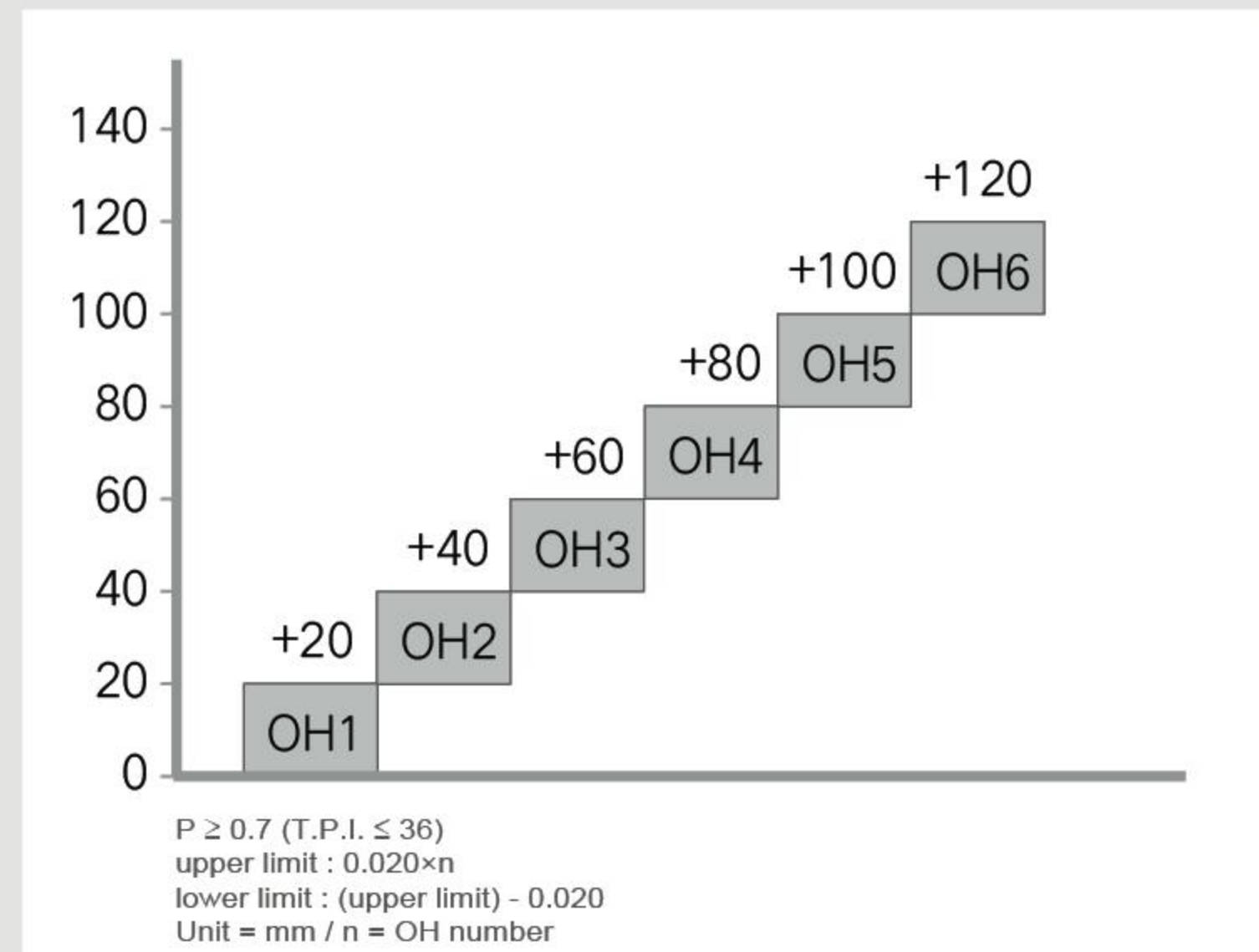
Pitch  $\leq 0.6$

OH limits



Pitch  $\leq 0.7$

OH limits



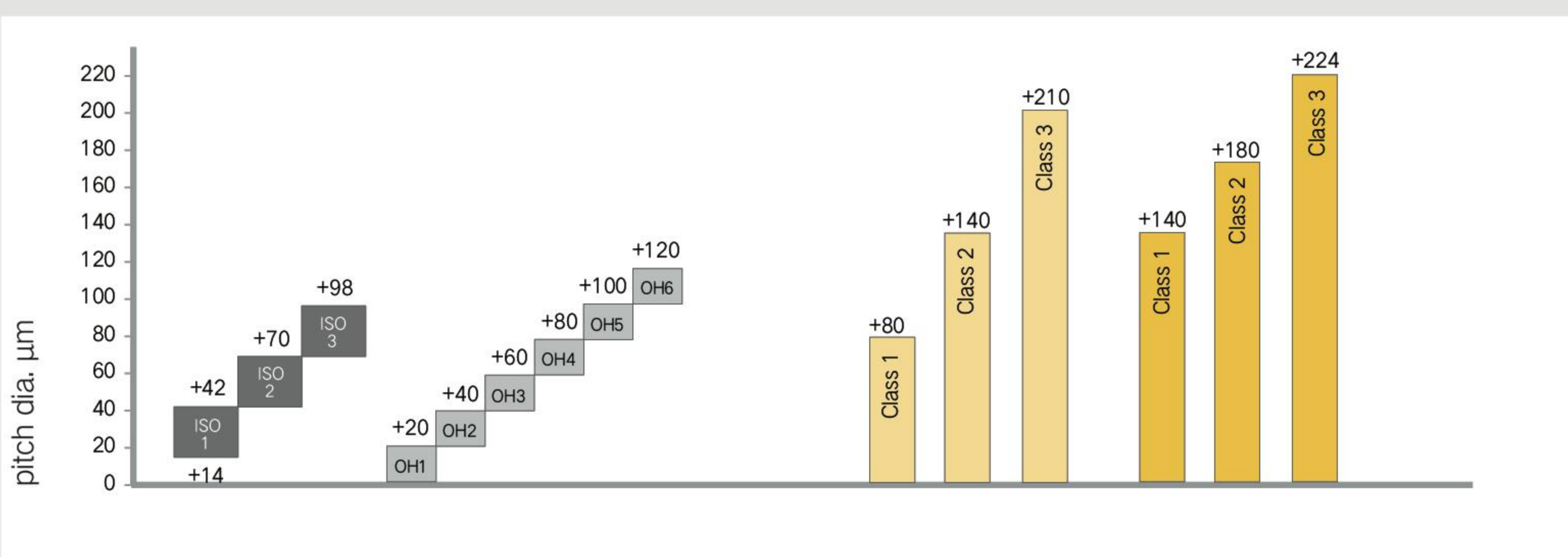
Example M10 (x 1.5)

ISO limits

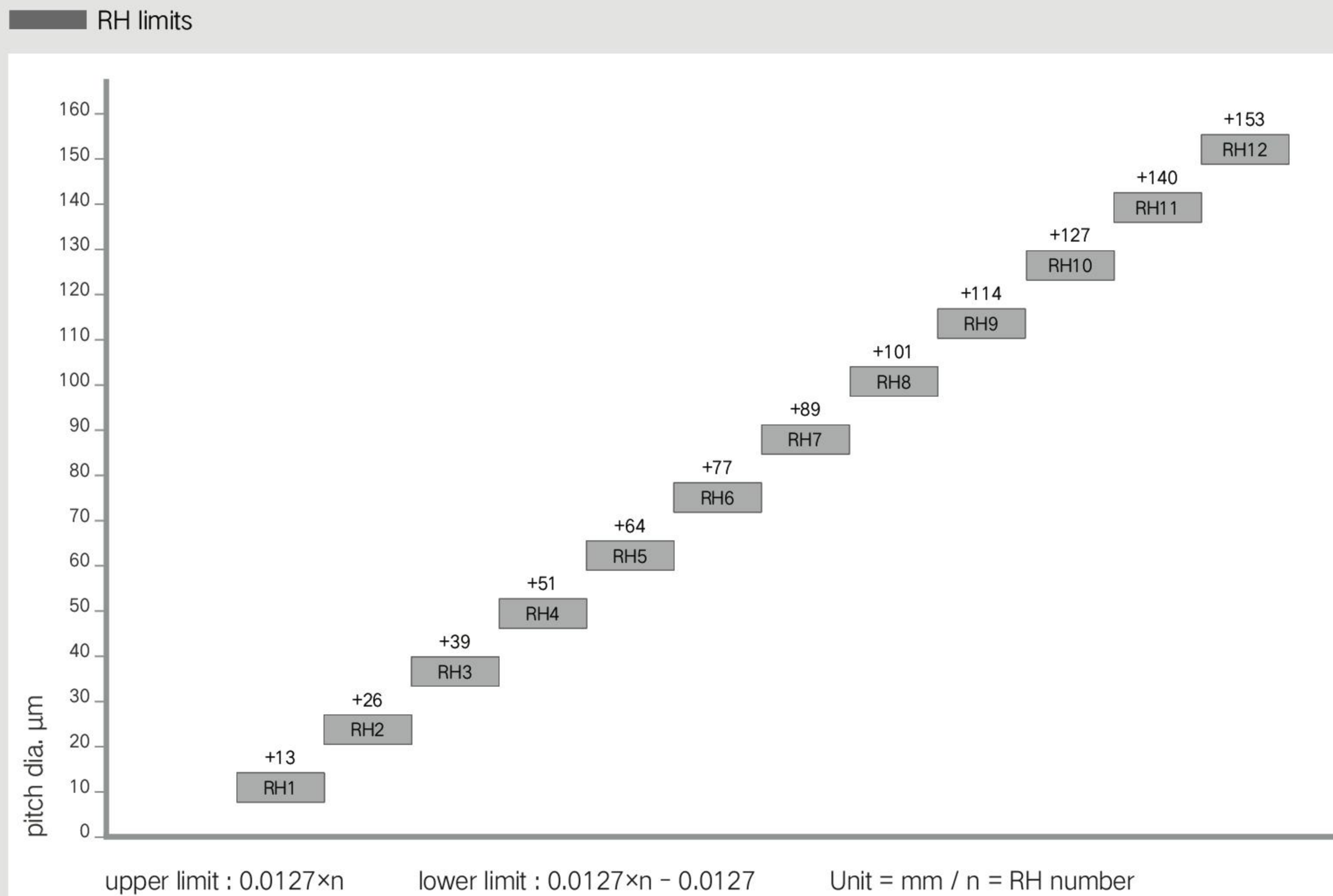
OH limits

JIS internal thread

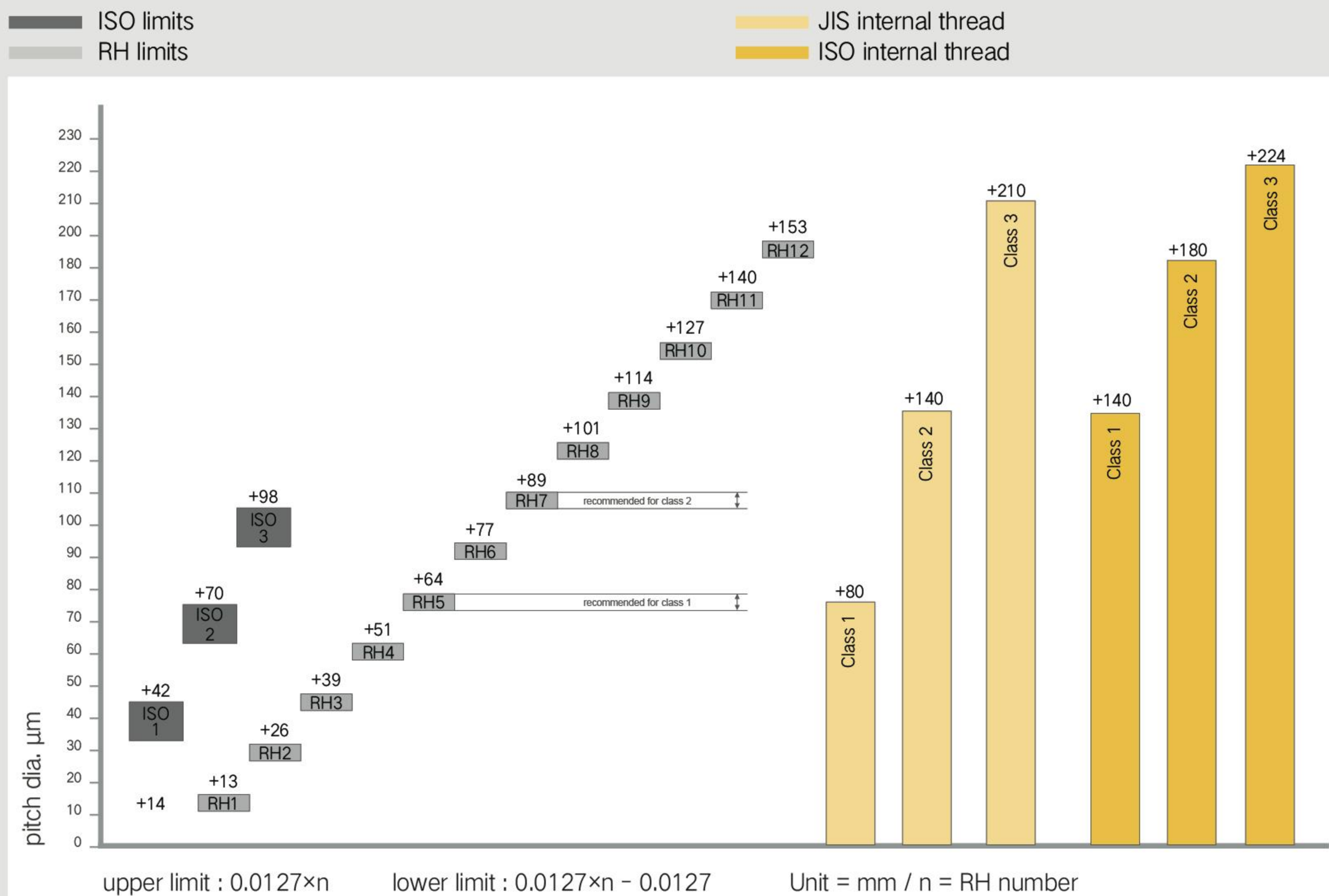
ISO internal thread



## RH limits for forming taps



### Example M10 (x 1.5)



## Process optimization

| Problem             | Causes                                                                                                                                                                                                                                                                                                                                                                                   | Solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oversize thread     | <p>Improper selection of tap<br/>Angle or position error<br/>Countersink is missing</p> <p>Core hole drill too small</p> <p>Tap is damaged or has cold welding</p> <p>Cutting speed too high or too low</p> <p>Machine spindle or compensation chuck do not function axially</p> <p>Chip packing in tap flutes</p> <p>Tap has the wrong tolerance class</p> <p>Tap has been reground</p> | <p>Select a suitable tap as per application chart</p> <p>Correct alignment of tap and drilled hole</p> <p>Provide the core hole, before cutting the thread, with a countersink 90°</p> <p>Choose the core hole as per chart, for hard materials aim for the upper tolerance limit</p> <p>Use a new tap, evaluate coolant being used, possibly use a tap with surface treatment</p> <p>Choose the correct speed as per chart, according to the working material</p> <p>Check the function of the spindle and the compensation chuck, if possible use a smaller machine</p> <p>Avoid chip packing in the flutes or under the work piece</p> <p>Use a gauge and a tap with the same tolerance class</p> <p>Tap has the wrong geometry or a burred edge. Regrind the tool, possibly choose a new tap</p> |
| Undersize thread    | <p>Working piece thin walled and/or material with high expansion</p> <p>Wrong choice of tap (geometry not adapted)</p> <p>Tap has the wrong tolerance class</p> <p>Axial pitch error</p>                                                                                                                                                                                                 | <p>Use a tap with a higher tolerance class respectively with oversize</p> <p>Select a suitable tap as per application chart</p> <p>Use a gauge and a tap with the same tolerance class</p> <p>See under «axial pitch error»</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Axial pitch error   | <p>Wrong choice of tap (geometry not adapted)</p> <p>The countersink is missing</p> <p>The cutting force is too high (feed)</p> <p>The cutting force is too low (feed)</p> <p>Spindle and feed are not synchronised</p>                                                                                                                                                                  | <p>Use a tap with a higher tolerance class respectively with oversize</p> <p>Provide the core hole, before cutting the thread, with a countersink 90°</p> <p>With a manual feed reduce the pressure, use a compensation chuck/tap holder. Verify the adjusted feed on the machine, possibly reduce the feed (only possible with a compensation chuck)</p> <p>Verify the adjusted feed on the machine. With manual feed increase the pressure</p> <p>The adjustment of the machine is not correct. Use a compensation chuck. Verify the machine settings</p>                                                                                                                                                                                                                                          |
| Widening in a curve | <p>Wrong choice of tap (geometry not adapted)</p> <p>Angle or position error</p> <p>Countersink is missing</p> <p>The cutting force is too high (feed)</p> <p>The cutting force is too low (feed)</p> <p>Tap has been reground</p> <p>Machine spindle and compensation chuck do not function axially</p>                                                                                 | <p>Select a suitable tap as per application chart</p> <p>Correct alignment of tap and drilled hole</p> <p>Provide the core hole, before cutting the thread, with a countersink 90°</p> <p>With a manual feed reduce the pressure, use a compensation chuck/tap holder. Verify the adjusted feed on the machine, possibly reduce the feed (only possible with a compensation chuck)</p> <p>Verify the adjusted feed on the machine. With manual feed increase the pressure</p> <p>Tap has the wrong geometry or a burred edge. Regrind the tool again, eventually choose a new tap</p> <p>Check the function of the spindle and the compensation chuck, if possible use a smaller machine</p>                                                                                                         |