

63

Cutting Tools

| | | |
|---|--|---|
| Drills  P. 63-1 ~ 4 | Ramers  P. 63-4 ~ 6 | Taps/Dies  P. 63-6 ~ 14 |
| Drill Machine Attachments  P. 63-14 ~ 16 | Screw Extractors  P. 63-16 | Carbide Rotary Burs  P. 63-16 ~ 17 |
| Tool Bits/Carbide Tips  P. 63-17 ~ 24 | Tool Bit Holders  P. 63-24 ~ 25 | Thread Restorers / Repair Tool  P. 63-25 ~ 26 |
| Valve Seat Cutters P. 63- 26 ~ 27 | Hole Saws  P. 63-27 ~ 28 | |

Straight Shank Twist Drills

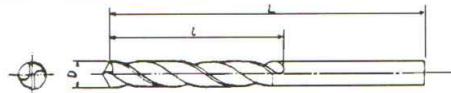
High Speed Steel

Brocas de Mango Cilindrico H.S.S.

ストレートシャンクドリル 直柄麻花钻

(Ref. JIS B 4301 – 88)

The drills are of the correctional two-flute design with helix angles, flute and point shapes selected for general purpose applications. They may be used very successfully in cast iron, steel forging and other materials.



Unit Per Pcs.

| CODE | Diameter mm | Length mm | |
|----------|-------------|-----------|---------|
| | | Flute | Overall |
| 63 01 01 | 0.3 | 3 | 19 |
| 02 | 0.4 | 5 | 20 |
| 03 | 0.5 | 6 | 22 |
| 04 | 0.6 | 7 | 24 |
| 05 | 0.7 | 9 | 28 |
| 63 01 06 | 0.8 | 10 | 30 |
| 07 | 0.9 | 11 | 32 |
| 08 | 1.0 | 12 | 34 |
| 09 | 1.1 | 14 | 36 |
| 10 | 1.2 | 16 | 38 |
| 63 01 11 | 1.3 | 16 | 38 |
| 12 | 1.4 | 18 | 40 |
| 13 | 1.5 | 18 | 40 |
| 14 | 1.6 | 20 | 43 |
| 15 | 1.7 | 20 | 43 |
| 63 01 16 | 1.8 | 22 | 46 |
| 17 | 1.9 | 22 | 46 |
| 18 | 2.0 | 29 | 55 |
| 19 | 2.1 | 29 | 55 |
| 20 | 2.2 | 33 | 58 |
| 63 01 21 | 2.3 | 33 | 58 |
| 22 | 2.4 | 35 | 61 |
| 23 | 2.5 | 35 | 61 |
| 24 | 2.6 | 37 | 64 |
| 25 | 2.7 | 37 | 64 |
| 63 01 26 | 2.8 | 39 | 67 |
| 27 | 2.9 | 42 | 71 |
| 28 | 3.0 | 42 | 71 |
| 29 | 3.1 | 42 | 71 |
| 30 | 3.2 | 42 | 71 |
| 63 01 31 | 3.3 | 45 | 73 |
| 32 | 3.4 | 45 | 73 |
| 33 | 3.5 | 45 | 73 |
| 34 | 3.6 | 48 | 76 |
| 35 | 3.7 | 48 | 76 |
| 63 01 36 | 3.8 | 48 | 76 |
| 37 | 3.9 | 51 | 79 |
| 38 | 4.0 | 54 | 83 |
| 39 | 4.1 | 54 | 83 |
| 40 | 4.2 | 54 | 83 |
| 63 01 41 | 4.3 | 54 | 83 |
| 42 | 4.4 | 56 | 86 |
| 43 | 4.5 | 56 | 86 |
| 44 | 4.6 | 56 | 86 |
| 45 | 4.7 | 59 | 89 |
| 63 01 46 | 4.8 | 59 | 89 |
| 47 | 4.9 | 62 | 92 |
| 48 | 5.0 | 62 | 92 |
| 49 | 5.1 | 62 | 92 |
| 50 | 5.2 | 64 | 95 |
| 63 01 51 | 5.3 | 64 | 95 |
| 52 | 5.4 | 64 | 95 |
| 53 | 5.5 | 64 | 95 |
| 54 | 5.6 | 67 | 98 |
| 55 | 5.7 | 67 | 98 |

(to be continued)

| CODE | Diameter mm | Length mm | |
|----------|-------------|-----------|---------|
| | | Flute | Overall |
| 63 01 56 | 5.8 | 67 | 98 |
| 57 | 5.9 | 67 | 98 |
| 58 | 6.0 | 70 | 102 |
| 59 | 6.1 | 70 | 102 |
| 60 | 6.2 | 70 | 102 |
| 63 01 61 | 6.3 | 70 | 102 |
| 62 | 6.4 | 73 | 105 |
| 63 | 6.5 | 73 | 105 |
| 64 | 6.6 | 73 | 105 |
| 65 | 6.7 | 73 | 105 |
| 63 01 66 | 6.8 | 73 | 105 |
| 67 | 6.9 | 73 | 105 |
| 68 | 7.0 | 73 | 105 |
| 69 | 7.1 | 75 | 108 |
| 70 | 7.2 | 75 | 108 |
| 63 01 71 | 7.3 | 75 | 108 |
| 72 | 7.4 | 78 | 111 |
| 73 | 7.5 | 78 | 111 |
| 74 | 7.6 | 78 | 111 |
| 75 | 7.7 | 81 | 114 |
| 63 01 76 | 7.8 | 81 | 114 |
| 77 | 7.9 | 81 | 114 |
| 78 | 8.0 | 81 | 114 |
| 79 | 8.1 | 84 | 117 |
| 80 | 8.2 | 84 | 117 |
| 63 01 81 | 8.3 | 84 | 117 |
| 82 | 8.4 | 87 | 121 |
| 83 | 8.5 | 87 | 121 |
| 84 | 8.6 | 87 | 121 |
| 85 | 8.7 | 87 | 121 |
| 63 01 86 | 8.8 | 89 | 124 |
| 87 | 8.9 | 89 | 124 |
| 88 | 9.0 | 89 | 124 |
| 89 | 9.1 | 89 | 124 |
| 90 | 9.2 | 92 | 127 |
| 63 01 91 | 9.3 | 92 | 127 |
| 92 | 9.4 | 92 | 127 |
| 93 | 9.5 | 92 | 127 |
| 94 | 9.6 | 95 | 130 |
| 95 | 9.7 | 95 | 130 |
| 63 01 96 | 9.8 | 95 | 130 |
| 97 | 9.9 | 95 | 130 |
| 98 | 10.0 | 95 | 130 |
| 99 | 10.5 | 100 | 137 |
| 63 02 01 | 11.0 | 103 | 140 |
| 63 02 02 | 11.5 | 106 | 143 |
| 03 | 12.0 | 111 | 149 |
| 04 | 12.5 | 114 | 152 |
| 05 | 13.0 | 114 | 152 |

Cobalt Straight Shank Twist Drills

Brocas espirales de cobalto de vástago recto

コバルトストレートドリル 含钴直柄麻花钻

Cobalt is harder and stronger than high speed steel and provides better wear resistance. Designed for machine and hand drilling tough materials such as stainless steel.

| CODE | Diameter mm | Length mm | |
|----------|-------------|-----------|---------|
| | | Flute | Overall |
| 63 02 06 | 1.0 | 10 | 40 |
| 07 | 1.5 | 14 | 48 |
| 08 | 2.0 | 19 | 55 |
| 09 | 2.5 | 24 | 61 |
| 10 | 3.0 | 36 | 71 |
| 63 02 11 | 3.5 | 31 | 73 |
| 12 | 4.0 | 34 | 83 |
| 13 | 4.5 | 38 | 86 |
| 14 | 5.0 | 42 | 92 |
| 15 | 5.5 | 46 | 95 |

(to be continued)

| CODE | Diameter mm | Length mm | | Unit Per Pc. |
|----------|-------------|-----------|---------|--------------|
| | | Flute | Overall | |
| 63 02 16 | 6.0 | 46 | 102 | |
| 17 | 6.5 | 50 | 105 | |
| 18 | 7.0 | 55 | 105 | |
| 19 | 7.5 | 55 | 111 | |
| 20 | 8.0 | 60 | 114 | |
| 63 02 21 | 8.5 | 60 | 121 | |
| 22 | 9.0 | 65 | 124 | |
| 23 | 9.5 | 65 | 127 | |
| 24 | 10.0 | 70 | 130 | |
| 25 | 10.5 | 70 | 137 | |
| 63 02 26 | 11.0 | 75 | 140 | |
| 27 | 11.5 | 75 | 143 | |
| 28 | 12.0 | 81 | 149 | |
| 29 | 12.5 | 81 | 152 | |
| 30 | 13.0 | 81 | 152 | |

Straight Shank Twist Drill Sets

High Speed Steel

Juegos de Brocas Mango Cilindrico H.S.S.

ドリルセット 直柄麻花钻组

The drills in these sets are high speed steel, general purpose, straight shank twist drills for portable or machine drilling in metric sizes. Sets are all furnished in polyethylene or steel folding cases.



How to order: CODE

Drill set, high speed steel, SIZE (MINIMUM – MAXIMUM) mm, NUMBERS/set

| CODE | Set Contents | Range of Size | | Container | Unit Per Set |
|----------|--------------|--|---------|------------|--------------|
| | | Flute | Overall | | |
| 63 02 51 | 8 s | 2.0, 3.0, 3.2, 4.0, 4.8, 5.0, 6.0, 6.5 mm | " | Poly Case | |
| 63 02 52 | 13 s | 1.5, 2.0, 2.5, 3.0, 3.2, 3.5, 4.0, 4.5, 4.8, 5.0, 5.5, 6.0, 6.5 mm | " | | |
| 63 02 53 | 13 s | 1.5, 2.0, 2.5, 3.0, 3.2, 3.5, 4.0, 4.5, 4.8, 5.0, 5.5, 6.0, 6.5 mm | " | Steel Case | |
| 63 02 54 | 19 s | 1 mm to 10 mm by 0.5 mm | " | | |
| 63 02 55 | 25 s | 1 mm to 13 mm by 0.5 mm | " | | |
| 63 02 56 | 41 s | 6 mm to 10 mm by 0.1 mm | " | | |
| 63 02 57 | 50 s | 1 mm to 5.9 mm by 0.1 mm | " | | |

Drill Stands

Soportes para Brocas ドリルスタンド 钻架

This drill stand is suitable for straight shank drills indicating each drill hole with the right size mark.

How to order: CODE

Drill stand, SIZE (MINIMUM – MAXIMUM) mm, NUMBER of HOLES



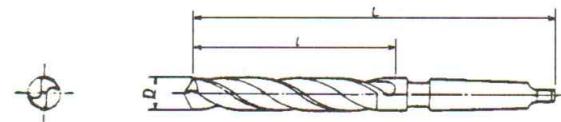
| CODE | Size | | Number of Holes | Unit Per Pc. |
|----------|----------------------------|---------|-----------------|--------------|
| | Flute | Overall | | |
| 63 02 71 | 1.0 mm - 6.5 mm by 0.1 mm | " | 56 | |
| 63 02 72 | 0.5 mm - 13.0 mm by 0.5 mm | " | 26 | |
| 63 02 73 | 6.6 mm - 13.0 mm by 0.1 mm | " | 65 | |

Morse Taper Shank Twist Drills High Speed Steel

Сверла с твистским хвостовиком Morse Taper

モールステーパシャンクドリル 莫氏锥柄麻花钻

(Ref. JIS B 4302 – 88)



| CODE | Diameter mm | Length mm | | Morse Taper No. | Unit Per Pc. |
|----------|-------------|-----------|---------|-----------------|--------------|
| | | Flute | Overall | | |
| 63 03 01 | 10.0 | 95 | 178 | 1 | |
| 02 | 10.5 | 98 | 182 | 1 | |
| 03 | 11.0 | 102 | 185 | 1 | |
| 04 | 11.5 | 105 | 188 | 1 | |
| 05 | 12.0 | 108 | 192 | 1 | |
| 63 03 06 | 12.5 | 112 | 195 | 1 | |
| 07 | 13.0 | 115 | 198 | 1 | |
| 08 | 13.5 | 118 | 202 | 1 | |
| 09 | 14.0 | 122 | 205 | 1 | |
| 10 | 14.5 | 122 | 222 | 1 | |
| 63 03 11 | 15.0 | 125 | 225 | 2 | |
| 12 | 15.5 | 128 | 228 | 2 | |
| 13 | 16.0 | 130 | 230 | 2 | |
| 14 | 16.5 | 132 | 232 | 2 | |
| 15 | 17.0 | 135 | 235 | 2 | |
| 63 03 16 | 17.5 | 140 | 240 | 2 | |
| 17 | 18.0 | 140 | 240 | 2 | |
| 18 | 18.5 | 145 | 245 | 2 | |
| 19 | 19.0 | 145 | 245 | 2 | |
| 20 | 19.5 | 150 | 250 | 2 | |
| 63 03 21 | 20.0 | 150 | 250 | 2 | |
| 22 | 20.5 | 155 | 255 | 2 | |
| 23 | 21.0 | 155 | 255 | 2 | |
| 24 | 21.5 | 160 | 260 | 2 | |
| 25 | 22.0 | 160 | 260 | 2 | |
| 63 03 26 | 22.5 | 165 | 265 | 2 | |
| 27 | 23.0 | 165 | 265 | 2 | |
| 28 | 23.5 | 165 | 285 | 2 | |
| 29 | 24.0 | 165 | 285 | 2 | |
| 30 | 24.5 | 165 | 285 | 2 | |
| 63 03 31 | 25.0 | 165 | 285 | 3 | |
| 32 | 25.5 | 165 | 285 | 3 | |
| 33 | 26.0 | 165 | 285 | 3 | |
| 34 | 26.5 | 170 | 290 | 3 | |
| 35 | 27.0 | 170 | 290 | 3 | |
| 63 03 36 | 27.5 | 175 | 295 | 3 | |
| 37 | 28.0 | 175 | 295 | 3 | |
| 38 | 28.5 | 180 | 300 | 3 | |
| 39 | 29.0 | 180 | 300 | 3 | |
| 40 | 29.5 | 185 | 305 | 3 | |
| 63 03 41 | 30.0 | 185 | 305 | 3 | |
| 42 | 30.5 | 190 | 310 | 3 | |
| 43 | 31.0 | 190 | 310 | 3 | |
| 44 | 31.5 | 195 | 315 | 3 | |
| 45 | 32 | 195 | 315 | 3 | |
| 63 03 46 | 33 | 200 | 345 | 4 | |
| 47 | 34 | 205 | 350 | 4 | |
| 48 | 35 | 205 | 350 | 4 | |
| 49 | 36 | 210 | 355 | 4 | |
| 50 | 37 | 210 | 355 | 4 | |

(to be continued)

| CODE | Diameter mm | Length mm | | Morse Taper No. | Unit Per Pcs. |
|----------|-------------|-----------|---------|--------------------|---------------|
| | | Flute | Overall | | |
| 63 03 51 | 38 | 215 | 360 | 4 | |
| | 52 | 39 | 215 | 4 | |
| | 53 | 40 | 220 | 4 | |
| | 54 | 41 | 220 | 4 | |
| | 55 | 42 | 225 | 4 | |
| 63 03 56 | 43 | 225 | 370 | 4 | |
| | 57 | 44 | 230 | 4 | |
| | 58 | 45 | 230 | 4 | |
| | 59 | 46 | 235 | 4 | |
| | 60 | 47 | 235 | 4 | |
| 63 03 61 | 48 | 240 | 385 | 4 | |
| | 62 | 49 | 240 | 4 | |
| | 63 | 50 | 245 | 4 | |
| | 64 | 51 | 245 | 5 | |
| | 65 | 52 | 250 | 5 | |
| 63 03 66 | 53 | 250 | 430 | 5 | |
| | 67 | 54 | 255 | 5 | |
| | 68 | 55 | 255 | 5 | |
| | 69 | 56 | 260 | 5 | |
| | 70 | 57 | 260 | 5 | |
| 63 03 71 | 58 | 265 | 445 | 5 | |
| | 72 | 59 | 265 | 5 | |
| | 73 | 60 | 270 | 5 | |
| | 74 | 61 | 270 | 5 | |
| | 75 | 62 | 275 | 5 | |
| 63 03 76 | 63 | 275 | 455 | 5 | |
| | 77 | 64 | 280 | 5 | |
| | 78 | 65 | 280 | 5 | |
| | 79 | 66 | 285 | 5 | |
| | 80 | 67 | 285 | 5 | |
| 63 03 81 | 68 | 290 | 470 | 5 | |
| | 82 | 69 | 290 | 5 | |
| | 83 | 70 | 295 | 5 | |
| | 84 | 71 | 295 | 5 | |
| | 85 | 72 | 300 | 5 | |
| 63 03 86 | 73 | 300 | 480 | 5 | |
| | 87 | 74 | 305 | 5 | |
| | 88 | 75 | 305 | 5 | |
| | 89 | 76 | 310 | 5 | |

Straight Shank Long Twist Drills

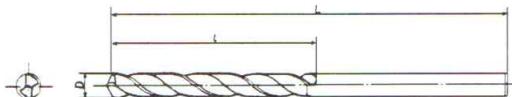
High Speed Steel

Rectas largas Brocas Vástago

ストレートシャンクロングドリル 直柄长麻花钻

(Ref. JIS B 4305 – 88)

These drills are designed for holes required several times deeper than the diameter. In addition to the sizes listed below, there are drills available in other lengths for the diameters shown.



| CODE | Diameter mm | Length mm | | Unit Per Pcs. |
|----------|-------------|-----------|---------|---------------|
| | | Flute | Overall | |
| 63 04 01 | 1.0 | 30 | 75 | |
| | 02 | 1.5 | 35 | |
| | 03 | 2.0 | 50 | |
| | 04 | 2.5 | 65 | |
| | 05 | 3.0 | 65 | |
| 63 04 06 | 3.5 | 75 | 150 | |
| | 07 | 4.0 | 100 | |
| | 08 | 4.5 | 100 | |
| | 09 | 5.0 | 100 | |
| | 10 | 5.5 | 100 | |

(to be continued)

| | | | |
|----------|------|-----|-----|
| 63 04 11 | 6.0 | 100 | 200 |
| 12 | 6.5 | 100 | 200 |
| 13 | 7.0 | 100 | 200 |
| 14 | 7.5 | 125 | 250 |
| 15 | 8.0 | 150 | 250 |
| 63 04 16 | 8.5 | 150 | 250 |
| 17 | 9.0 | 150 | 250 |
| 18 | 9.5 | 150 | 250 |
| 19 | 10.0 | 150 | 250 |
| 20 | 10.5 | 150 | 250 |
| 63 04 21 | 11.0 | 150 | 250 |
| 22 | 11.5 | 150 | 250 |
| 23 | 11.5 | 175 | 300 |
| 24 | 12.0 | 150 | 250 |
| 25 | 12.0 | 175 | 300 |
| 63 04 26 | 12.5 | 150 | 250 |
| 27 | 12.5 | 175 | 300 |
| 28 | 13.0 | 150 | 250 |
| 29 | 13.0 | 175 | 300 |

Morse Taper Shank Long Twist Drills

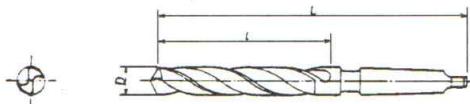
High Speed Steel

Сверла с твистским хвостовиком Morse Taper Largo

モールステーパシャンクロングドリル

莫氏锥柄麻花钻长

(Ref. JIS B 4306 – 88)



| CODE | Diameter mm | Length mm | | Morse Taper No. |
|----------|-------------|-----------|---------|--------------------|
| | | Flute | Overall | |
| 63 04 51 | 10.0 | 150 | 250 | 1 |
| | 11.0 | 150 | 250 | 1 |
| | 12.0 | 150 | 250 | 1 |
| | 13.0 | 200 | 300 | 1 |
| | 14.0 | 225 | 350 | 1 |
| 63 04 56 | 15.0 | 225 | 350 | 2 |
| | 16.0 | 225 | 350 | 2 |
| | 17.0 | 225 | 350 | 2 |
| | 18.0 | 225 | 350 | 2 |
| | 19.0 | 225 | 350 | 2 |
| 63 04 61 | 20.0 | 250 | 400 | 2 |
| | 21.0 | 250 | 400 | 2 |
| | 22.0 | 250 | 400 | 2 |
| | 23.0 | 300 | 450 | 2 |
| | 24.0 | 300 | 450 | 3 |
| 63 04 66 | 25.0 | 300 | 450 | 3 |
| | 26.0 | 350 | 500 | 3 |
| | 27.0 | 350 | 500 | 3 |
| | 28.0 | 350 | 500 | 3 |
| | 29.0 | 350 | 500 | 3 |
| 63 04 71 | 29.0 | 400 | 600 | 3 |
| | 30.0 | 350 | 500 | 3 |
| | 30.0 | 400 | 600 | 3 |
| | 31.0 | 350 | 500 | 3 |
| | 31.0 | 400 | 600 | 3 |
| 63 04 76 | 32.0 | 300 | 450 | 3 |
| | 32.0 | 350 | 500 | 3 |
| | 32.0 | 400 | 600 | 3 |

Center Drills for Center Holes

High Speed Steel

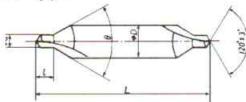
Борцы для центровых отверстий

センタ穴ドリル

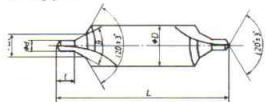
中心孔的中心钻

(Ref. JIS B 4304 – 88)

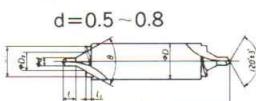
A Type



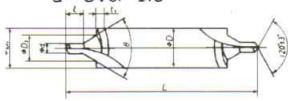
B Type



C Type



d=Over 1.0



R Type



Step Drills

Broca Escalonada

ステップビット

阶梯钻头

Made of heat treated steel and can create various hole sizes by single drill in steel, stainless steel, plastic or wood up to 6 mm depth.



Unit Per Pcs.

| CODE | Model | Size mm | Max. hole Depth |
|----------|--------|--|-----------------|
| 63 38 01 | ST - 1 | 4, 5, 6, 7, 8, 9, 10, 11, 12 | 3 mm |
| 02 | ST - 2 | 6, 8, 10, 12, 14, 16, 18 | 5 mm |
| 03 | ST - 3 | 6, 9, 11, 13, 15, 17, 19, 21, 24, 27, 30, 33 | 3 mm |
| 04 | ST - 4 | 6, 9, 12, 15, 18, 21, 24, 27, 30, 32, 34, 36, 38, 40, 42 | 3 mm |

Hand Reamers

High Speed Steel

Escariadores H.S.S. De Mano, Mango Cilindrico

ハンドリーマ 手动绞刀

(Ref. JIS B 4405 – 90)

These reamers are driven by hand to finish the inside walls of drilled holes. To achieve an improved starting performance, the cutting edge is slightly chamfered. The flutes are normally straight and helical. Spiral flutes are recommended for operations involving an interruption to the cut, such as a keyway.



Straight Flute



Helical Flute

Unit Per Pcs.

| Straight | Dimensions mm | | Helical |
|----------|---------------|-----------|----------|
| | CODE | Diameter | |
| | | Length mm | |
| 63 06 01 | 05 | 0.5 | 63 07 01 |
| 02 | 0.8 | 12 | 12 |
| 03 | 1.0 | 15 | 02 |
| 04 | 1.2 | 20 | 03 |
| 05 | 1.5 | 25 | 04 |
| 63 06 06 | 06 | 1.8 | 63 07 06 |
| 07 | 2.0 | 30 | 07 |
| 08 | 2.2 | 35 | 08 |
| 09 | 2.5 | 40 | 09 |
| 10 | 2.8 | 45 | 10 |
| 63 06 11 | 11 | 3.0 | 63 07 11 |
| 12 | 3.5 | 40 | 12 |
| 13 | 4.0 | 45 | 13 |
| 14 | 4.5 | 50 | 14 |
| 15 | 5.0 | 55 | 15 |
| 63 06 16 | 16 | 5.5 | 63 07 16 |
| 17 | 6.0 | 50 | 17 |
| 18 | 6.5 | 55 | 18 |
| 19 | 7.0 | 60 | 19 |
| 20 | 7.5 | 65 | 20 |
| 63 06 21 | 21 | 8.0 | 63 07 21 |
| 22 | 8.5 | 60 | 22 |
| 23 | 9.0 | 65 | 23 |
| 24 | 9.5 | 70 | 24 |
| 25 | 10.0 | 75 | 25 |
| 63 06 26 | 26 | 10.5 | 63 07 26 |
| 27 | 11.0 | 70 | 27 |
| 28 | 11.5 | 75 | 28 |
| 29 | 12.0 | 80 | 29 |
| 30 | 12.5 | 85 | 30 |
| 63 06 31 | 31 | 13.0 | 63 07 31 |
| 32 | 13.5 | 80 | 32 |
| 33 | 14.0 | 85 | 33 |
| 34 | 14.5 | 90 | 34 |
| 35 | 15.0 | 95 | 35 |

(to be continued)

| Straight CODE | Dimensions mm | | | Helical CODE | Unit Per Pcs. | | |
|------------------|---------------|-----------|---------|-----------------|---------------|--|--|
| | Diameter | Length mm | | | | | |
| | | Flute | Overall | | | | |
| 63 06 36 | 16.0 | 95 | 185 | 63 07 36 | | | |
| 37 | 17.0 | 100 | 190 | 37 | | | |
| 38 | 18.0 | 105 | 200 | 38 | | | |
| 39 | 19.0 | 105 | 210 | 39 | | | |
| 40 | 20.0 | 110 | 220 | 40 | | | |
| 63 06 41 | 21.0 | 120 | 230 | 63 07 41 | | | |
| 42 | 22.0 | 120 | 235 | 42 | | | |
| 43 | 23.0 | 130 | 250 | 43 | | | |
| 44 | 24.0 | 130 | 255 | 44 | | | |
| 45 | 25.0 | 130 | 260 | 45 | | | |
| 63 06 46 | 26.0 | 140 | 270 | 63 07 46 | | | |
| 47 | 28.0 | 140 | 290 | 47 | | | |
| 48 | 30.0 | 150 | 305 | 48 | | | |
| 49 | 32.0 | 160 | 315 | 49 | | | |
| 50 | 34.0 | 160 | 315 | 50 | | | |
| 63 06 51 | 36.0 | 165 | 320 | 63 07 51 | | | |
| 52 | 38.0 | 165 | 325 | 52 | | | |
| 53 | 40.0 | 165 | 330 | 53 | | | |
| 54 | 42.0 | 170 | 335 | 54 | | | |
| 55 | 44.0 | 170 | 340 | 55 | | | |
| 63 06 56 | 46.0 | 175 | 345 | 63 07 56 | | | |
| 57 | 48.0 | 180 | 350 | 57 | | | |
| 58 | 50.0 | 180 | 355 | 58 | | | |

Hand Taper Pin Reamers 1/48

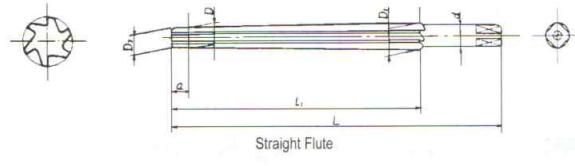
High Speed Steel

Escarriadores de Mano, v Pasador Cónico

ハンドテーパピンリーマ 1/50 直槽手用铰刀

(Ref. JIS B 4411 – 88)

This type of reamer is used in finishing taper pin holes. Straight Flutes are standard but Helical Flutes are also available.



Straight Flute



Helical Flute

Unit Per Pcs.

| Straight Flute CODE | Dimensions mm | | | | Helical Flute CODE |
|------------------------------|---|-----------------------------------|------------------------|-----|--------------------------|
| Nominal Size Diam D | Large Size Diam D ₁ | Flute Length L ₁ | Overall Length L | | |
| 63 08 01 | 0.6 | 0.90 | 20 | 38 | 63 08 31 |
| 02 | 0.8 | 1.18 | 24 | 42 | 32 |
| 03 | 1.0 | 1.46 | 28 | 46 | 33 |
| 04 | 1.2 | 1.74 | 32 | 50 | 34 |
| 05 | 1.6 | 2.24 | 37 | 57 | 35 |
| 63 08 06 | 2.0 | 2.86 | 48 | 68 | 63 08 36 |
| 07 | 2.5 | 3.36 | 48 | 68 | 37 |
| 08 | 3.0 | 4.16 | 63 | 85 | 38 |
| 09 | 4.0 | 5.42 | 76 | 100 | 39 |
| 10 | 5.0 | 6.56 | 83 | 110 | 40 |
| 63 08 11 | 6.0 | 8.00 | 105 | 135 | 63 08 41 |
| 12 | 8.0 | 10.80 | 145 | 180 | 42 |
| 13 | 10.0 | 13.40 | 175 | 215 | 43 |
| 14 | 13.0 | 17.00 | 210 | 255 | 44 |
| 15 | 16.0 | 20.40 | 230 | 280 | 45 |
| 63 08 16 | 20.0 | 24.80 | 250 | 310 | 63 08 46 |
| 17 | 25.0 | 30.70 | 300 | 370 | 47 |
| 18 | 30.0 | 36.10 | 320 | 400 | 48 |
| 19 | 40.0 | 46.50 | 340 | 430 | 49 |
| 20 | 50.0 | 56.90 | 360 | 460 | 50 |

Hand Taper Pin Reamers 1/48

Straight Flute, American Standard High Speed Steel

Escarriadores anuales Pasador Cónico 1/48 Flauta Recta, Estándar Americano

1/48 テーパピンリーマー アメリカ標準規格

直槽手用錐孔铰刀

1/48 Taper pins according to U.S. Standard have a taper of 6.35 mm per 25.4 mm. These reamers are designed in nominal numbers but since the standards are not unified, there are minor differences in tip diameter and small end diameter.



| CODE | Diameter mm | | | Length mm | |
|----------|-------------|-----------|-----------|-----------|---------|
| | Size No | Small End | Large End | Flute | Overall |
| 63 08 61 | 0000 | 2.21 | 2.90 | 33 | 59 |
| 62 | 000 | 2.61 | 3.30 | 33 | 59 |
| 63 | 00 | 2.89 | 3.72 | 40 | 65 |
| 64 | 0 | 3.27 | 4.17 | 43 | 75 |
| 65 | 1 | 3.68 | 4.58 | 43 | 75 |
| 63 08 66 | 2 | 4.08 | 5.10 | 49 | 81 |
| 67 | 3 | 4.61 | 5.84 | 59 | 94 |
| 68 | 4 | 5.26 | 6.61 | 65 | 103 |
| 69 | 5 | 6.12 | 7.60 | 71 | 110 |
| 70 | 6 | 7.04 | 9.00 | 94 | 138 |
| 63 08 71 | 7 | 8.37 | 10.72 | 113 | 160 |
| 72 | 8 | 10.09 | 12.84 | 132 | 183 |
| 73 | 9 | 12.21 | 15.42 | 154 | 211 |
| 74 | 10 | 14.73 | 18.33 | 173 | 237 |
| 75 | 11 | 17.93 | 22.31 | 210 | 285 |
| 63 08 76 | 12 | 21.38 | 26.69 | 255 | 340 |
| 77 | 13 | 25.93 | 31.98 | 305 | 405 |
| 78 | 14 | 31.75 | 39.15 | 355 | 465 |

Morse Taper Reamers 1/50

High Speed Steel

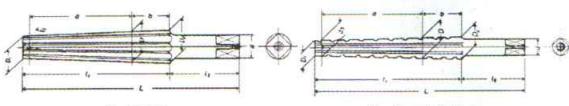
Escarriadores para Pasadores Cpónicos

モールステーパリーマ

莫氏锥度铰刀

(Ref. JIS B 4401 – 87)

Used for finishing Morse taper holes, these reamers come in finishing and rough-cutting grades. The rough cutting reamer has a helical arrangement of chip breakers at the cutting edges which fragment the chips for easy removal.



| CODE | Morse Taper No. | Diameter mm | | Length mm | |
|-----------|-----------------------|-----------------|-----------------|-------------|--------------|
| | | Small End D1 | Large End D2 | Flute L1 | Overall L |
| Finishing | | | | | |
| 63 09 01 | 0 | 6.547 | 9.930 | 65 | 95 |
| 02 | 1 | 9.571 | 12.963 | 68 | 100 |
| 03 | 2 | 14.733 | 18.729 | 80 | 125 |
| 04 | 3 | 20.010 | 24.929 | 98 | 150 |
| 05 | 4 | 26.229 | 32.462 | 120 | 180 |
| 63 09 06 | 5 | 37.873 | 45.767 | 150 | 230 |
| 07 | 6 | 54.388 | 65.069 | 205 | 310 |
| 08 | 7 | 70.578 | 84.878 | 275 | 400 |

(to be continued)

| CODE | Morse Taper No. | Unit Per Pc. | | | |
|----------------------|-----------------------|-----------------|-----------------|-------------|--------------|
| | | Diameter mm | | Length mm | |
| | | Small End D1 | Large End D2 | Flute L1 | Overall L |
| Rough Cutting | | | | | |
| 63 09 11 | 0 | 6.297 | 9.680 | 65 | 95 |
| 12 | 1 | 9.321 | 12.713 | 68 | 100 |
| 13 | 2 | 14.483 | 18.479 | 80 | 125 |
| 14 | 3 | 19.760 | 24.679 | 98 | 150 |
| 15 | 4 | 25.979 | 32.212 | 120 | 180 |
| 63 09 16 | 5 | 37.623 | 45.517 | 150 | 230 |
| 17 | 6 | 54.130 | 64.319 | 205 | 310 |
| 18 | 7 | 70.328 | 84.628 | 275 | 400 |

Adjustable Reamer Sets

Juegos de Escariadores Extensibles

アジャスター ブラリーマー セット 可调整绞刀组

Different sets of reamers in various size combinations are available to give maximum economy, and convenience of use for different requirements.



| CODE | Unit Per Set | | | |
|----------|--------------|---|-------------------|----|
| | Range mm | | Number of Reamers | |
| 63 09 51 | 4.5 | - | 6.35 | 5 |
| 52 | 6.35 | - | 9.5 | 4 |
| 53 | 9.5 | - | 12.0 | 3 |
| 54 | 12.0 | - | 27.0 | 8 |
| 55 | 12.0 | - | 38.0 | 11 |
| 63 09 56 | 15.0 | - | 27.0 | 6 |
| 57 | 15.0 | - | 38.0 | 9 |
| 58 | 9.5 | - | 56.0 | 16 |

Metric Coarse Thread Hand Taps 3's/Set

Carbon Steel or High Speed Steel

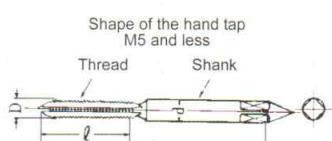
Machos de Mano para Rosca Métrica Gruesa

メートル並目ねじ用等径ハンドタップ 碳钢公制粗牙螺纹攻

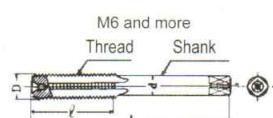
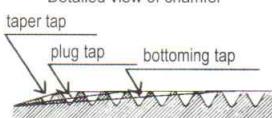
(Ref. JIS B 4430 – 87)

The hand taps most commonly employed today are used in conjunction with a machine, e.g. a tapping machine, rather than by hand. Thus, it is more common to employ a tap with a cutter shape most suitable for the conditions of use than using in sequence, three taps, i.e. the taper tap, plug tap and bottoming tap. Two kinds of materials of Carbon Steel and High Speed Steel are available. When ordering, please specify which one.

A set of 3 hand taps



Detailed view of chamfer



How to order: CODE

Hand tap, metric coarse, MATERIAL, DIAMETER, PITCH mm, 3's/set

| Carbon Steel | Designation Diameter mm D | Pitch mm | Length mm | | Unit Per Set |
|-----------------|---------------------------------|-------------|-----------|--------------|--------------|
| | | | Flute | Overall L | |
| 63 10 01 | M 1.0 | 0.25 | 8 | 30 | 63 10 51 |
| 02 | M 1.1 | 0.25 | 9 | 32 | 52 |
| 03 | M 1.2 | 0.25 | 9 | 32 | 53 |
| 04 | M 1.4 | 0.30 | 11 | 34 | 54 |
| 05 | M 1.6 | 0.35 | 13 | 36 | 55 |
| 63 10 06 | M 1.7 | 0.35 | 13 | 36 | 63 10 56 |
| 07 | M 1.8 | 0.35 | 13 | 36 | 57 |
| 08 | M 2.0 | 0.40 | 15 | 40 | 58 |
| 09 | M 2.2 | 0.45 | 15 | 42 | 59 |
| 10 | M 2.3 | 0.40 | 15 | 42 | 60 |
| 63 10 11 | M 2.5 | 0.45 | 16 | 44 | 63 10 61 |
| 12 | M 2.6 | 0.45 | 16 | 44 | 62 |
| 13 | M 3.0 | 0.50 | 18 | 46 | 63 |
| 14 | M 3.5 | 0.60 | 18 | 48 | 64 |
| 15 | M 4.0 | 0.70 | 20 | 52 | 65 |
| 63 10 16 | M 4.5 | 0.75 | 20 | 55 | 63 10 66 |
| 17 | M 5.0 | 0.80 | 22 | 60 | 67 |
| 18 | M 6.0 | 1.00 | 24 | 62 | 68 |
| 19 | M 7.0 | 1.00 | 26 | 65 | 69 |
| 20 | M 8.0 | 1.25 | 30 | 70 | 70 |
| 63 10 21 | M 9.0 | 1.25 | 30 | 72 | 63 10 71 |
| 22 | M 10 | 1.50 | 32 | 75 | 72 |
| 23 | M 11 | 1.50 | 38 | 80 | 73 |
| 24 | M 12 | 1.75 | 38 | 82 | 74 |
| 25 | M 14 | 2.0 | 42 | 88 | 75 |
| 63 10 26 | M 16 | 2.0 | 45 | 95 | 63 10 76 |
| 27 | M 18 | 2.5 | 48 | 100 | 77 |
| 28 | M 20 | 2.5 | 50 | 105 | 78 |
| 29 | M 22 | 2.5 | 55 | 115 | 79 |
| 30 | M 24 | 3.0 | 58 | 120 | 80 |
| 63 10 31 | M 27 | 3.0 | 62 | 130 | 63 10 81 |
| 32 | M 30 | 3.5 | 65 | 135 | 82 |
| 33 | M 33 | 3.5 | 70 | 145 | 83 |
| 34 | M 36 | 4.0 | 75 | 155 | 84 |
| 35 | M 39 | 4.0 | 80 | 165 | 85 |
| 63 10 36 | M 42 | 4.5 | 85 | 175 | 63 10 86 |
| 37 | M 45 | 4.5 | 85 | 180 | 87 |
| 38 | M 48 | 5.0 | 90 | 185 | 88 |

Metric Fine Thread Hand Taps 3's/Set

Carbon Steel or High Speed Steel

Machos de Mano para Rosca Fina Métrica 3's/Juego

メートル細目ねじ用等径ハンドタップ

碳钢公制细牙螺纹攻

How to order: CODE

Hand tap, metric fine, MATERIAL, DIAMETER, PITCH mm, 3's/set

| Carbon Steel | Designation Diameter mm D | Pitch mm | Length mm | | Unit Per Set |
|-----------------|---------------------------------|-------------|-----------|--------------|--------------|
| | | | Flute | Overall L | |
| 63 11 01 | M 1.0 | 0.2 | 6 | 30 | 63 12 01 |
| 02 | M 1.1 | 0.2 | 6 | 32 | 02 |
| 03 | M 1.2 | 0.2 | 6 | 32 | 03 |
| 04 | M 1.4 | 0.2 | 6 | 34 | 04 |
| 05 | M 1.6 | 0.2 | 6 | 36 | 05 |
| 63 11 06 | M 1.8 | 0.2 | 6 | 36 | 63 12 06 |
| 07 | M 2.0 | 0.25 | 8 | 40 | 07 |
| 08 | M 2.2 | 0.25 | 8 | 42 | 08 |
| 09 | M 2.5 | 0.35 | 10 | 44 | 09 |
| 10 | M 3.0 | 0.35 | 10 | 46 | 10 |
| 63 11 11 | M 3.5 | 0.5 | 10 | 48 | 63 12 11 |
| 12 | M 4.0 | 0.5 | 15 | 52 | 12 |
| 13 | M 4.5 | 0.5 | 15 | 52 | 13 |
| 14 | M 5.0 | 0.5 | 15 | 52 | 14 |
| 15 | M 5.5 | 0.5 | 15 | 52 | 15 |

(to be continued)

| Carbon Steel CODE | Designation Diameter mm D | Pitch mm | Unit Per Set | | |
|----------------------------------|---------------------------------|-------------|--------------|-----------|--------------------------|
| | | | Length mm | | High Speed Steel CODE |
| | | | Flute | Overall L | |
| 63 11 16 17 18 19 20 | M 6.0 | 0.75 | 20 | 62 | 63 12 16 |
| | M 7.0 | 0.75 | 20 | 62 | 17 |
| | M 8.0 | 1 | 30 | 70 | 18 |
| | M 8.0 | 0.75 | 20 | 62 | 19 |
| | M 9.0 | 1 | 30 | 70 | 20 |
| 63 11 21 22 23 24 25 | M 9.0 | 0.75 | 20 | 62 | 63 12 21 |
| | M 10 | 1.25 | 32 | 75 | 22 |
| | M 10 | 1 | 30 | 70 | 23 |
| | M 10 | 0.75 | 20 | 62 | 24 |
| | M 11 | 1 | 30 | 70 | 25 |
| 63 11 26 27 28 29 30 | M 11 | 0.75 | 20 | 62 | 63 12 26 |
| | M 12 | 1.5 | 38 | 82 | 27 |
| | M 12 | 1.25 | 38 | 80 | 28 |
| | M 12 | 1 | 30 | 70 | 29 |
| | M 14 | 1.5 | 42 | 88 | 30 |
| 63 11 31 32 33 34 35 | M 14 | 1 | 30 | 70 | 63 12 31 |
| | M 15 | 1.5 | 42 | 90 | 32 |
| | M 15 | 1 | 30 | 70 | 33 |
| | M 16 | 1.5 | 45 | 95 | 34 |
| | M 16 | 1 | 30 | 75 | 35 |
| 63 11 36 37 38 39 40 | M 17 | 1.5 | 45 | 95 | 63 12 36 |
| | M 17 | 1 | 30 | 80 | 37 |
| | M 18 | 2 | 45 | 95 | 38 |
| | M 18 | 1.5 | 45 | 95 | 39 |
| | M 18 | 1 | 30 | 80 | 40 |
| 63 11 41 42 43 44 45 | M 20 | 2 | 45 | 95 | 63 12 41 |
| | M 20 | 1.5 | 45 | 95 | 42 |
| | M 20 | 1 | 30 | 80 | 43 |
| | M 22 | 2 | 45 | 95 | 44 |
| | M 22 | 1.5 | 45 | 95 | 45 |
| 63 11 46 47 48 49 50 | M 22 | 1 | 30 | 85 | 63 12 46 |
| | M 24 | 2 | 45 | 95 | 47 |
| | M 24 | 1.5 | 45 | 95 | 48 |
| | M 24 | 1 | 30 | 90 | 49 |
| | M 25 | 2 | 45 | 95 | 50 |
| 63 11 51 52 53 54 55 | M 25 | 1.5 | 45 | 95 | 63 12 51 |
| | M 25 | 1 | 30 | 95 | 52 |
| | M 26 | 1.5 | 45 | 95 | 53 |
| | M 27 | 2 | 45 | 95 | 54 |
| | M 27 | 1.5 | 45 | 95 | 55 |
| 63 11 56 57 58 59 60 | M 27 | 1 | 30 | 95 | 63 12 56 |
| | M 28 | 2 | 45 | 105 | 57 |
| | M 28 | 1.5 | 45 | 105 | 58 |
| | M 28 | 1 | 30 | 105 | 59 |
| | M 30 | 3 | 65 | 135 | 60 |
| 63 11 61 62 63 64 65 | M 30 | 2 | 45 | 105 | 63 12 61 |
| | M 30 | 1.5 | 45 | 105 | 62 |
| | M 30 | 1 | 30 | 105 | 63 |
| | M 32 | 2 | 45 | 105 | 64 |
| | M 32 | 1.5 | 45 | 105 | 65 |
| 63 11 66 67 68 69 70 | M 33 | 3 | 70 | 145 | 63 12 66 |
| | M 33 | 2 | 45 | 110 | 67 |
| | M 33 | 1.5 | 45 | 110 | 68 |
| | M 35 | 1.5 | 45 | 110 | 69 |
| | M 36 | 3 | 75 | 155 | 70 |
| 63 11 71 72 73 74 75 | M 36 | 2 | 45 | 110 | 63 12 71 |
| | M 36 | 1.5 | 45 | 110 | 72 |
| | M 38 | 1.5 | 45 | 115 | 73 |
| | M 39 | 3 | 80 | 165 | 74 |
| | M 39 | 2 | 45 | 115 | 75 |
| 63 11 76 77 78 79 80 | M 39 | 1.5 | 45 | 115 | 63 12 76 |
| | M 40 | 3 | 80 | 165 | 77 |
| | M 40 | 2 | 45 | 115 | 78 |
| | M 40 | 1.5 | 45 | 115 | 79 |
| | M 42 | 4 | 80 | 175 | 80 |
| 63 11 81 82 83 84 85 | M 42 | 3 | 80 | 175 | 63 12 81 |
| | M 42 | 2 | 45 | 120 | 82 |
| | M 45 | 1.5 | 45 | 120 | 83 |
| | M 45 | 4 | 80 | 180 | 84 |
| | M 45 | 3 | 80 | 180 | 85 |

(to be continued)

| Carbon Steel CODE | Designation Diameter mm D | Pitch mm | Unit Per Set | | |
|----------------------------------|---------------------------------|-------------|--------------|-----------|--------------------------|
| | | | Length mm | | High Speed Steel CODE |
| | | | Flute | Overall L | |
| 63 11 86 87 88 89 90 | M 45 | 2 | 45 | 120 | 63 12 86 |
| | M 45 | 1.5 | 45 | 120 | 87 |
| | M 48 | 4 | 80 | 180 | 88 |
| | M 48 | 3 | 80 | 180 | 89 |
| | M 48 | 2 | 45 | 125 | 90 |
| 63 11 91 92 93 94 | M 48 | 1.5 | 45 | 125 | 63 12 91 |
| | M 50 | 3 | 80 | 180 | 92 |
| | M 50 | 2 | 45 | 130 | 93 |
| | M 50 | 1.5 | 45 | 130 | 94 |

Whitworth Coarse Thread Hand Taps 3's/Set

Carbon Steel or High Speed Steel

Machos de Mano para Rosca Gruesa Whitworth 3's Juego

ウイット並目ねじ用等径ハンドタップ

碳钢惠氏英制粗牙螺丝攻

How to order: CODE

Hand tap, whitworth coarse, MATERIAL, DIAMETER, THREAD, 3's/set

| Carbon Steel CODE | Designation Diam. inch D | Threads Per Inch | Unit Per Set | | |
|----------------------------------|--------------------------------|---------------------|--------------|-----------|--------------------------|
| | | | Length mm | | High Speed Steel CODE |
| | | | Flute | Overall L | |
| 63 13 01 02 03 04 05 | 1/16 | 60 | 13 | 36 | 63 13 26 |
| | 3/32 | 48 | 15 | 42 | 27 |
| | 1/8 | 40 | 18 | 46 | 28 |
| | 5/32 | 32 | 20 | 52 | 29 |
| | 3/16 | 24 | 22 | 60 | 30 |
| 63 13 06 07 08 09 10 | 7/32 | 24 | 22 | 60 | 63 13 31 |
| | 1/4 | 20 | 24 | 62 | 32 |
| | 5/16 | 18 | 30 | 70 | 33 |
| | 3/8 | 16 | 35 | 75 | 34 |
| | 7/16 | 14 | 38 | 80 | 35 |
| 63 13 11 12 13 14 15 | 1/2 | 12 | 42 | 85 | 63 13 36 |
| | 9/16 | 12 | 42 | 90 | 37 |
| | 5/8 | 11 | 45 | 95 | 38 |
| | 3/4 | 10 | 50 | 105 | 39 |
| | 7/8 | 9 | 55 | 115 | 40 |
| 63 13 16 17 18 19 20 | 1 | 8 | 60 | 125 | 63 13 41 |
| | 1-1/8 | 7 | 65 | 135 | 42 |
| | 1-1/4 | 7 | 70 | 145 | 43 |
| | 1-3/8 | 6 | 75 | 155 | 44 |
| | 1-1/2 | 6 | 78 | 160 | 45 |
| 63 13 21 22 23 24 | 1-5/8 | 5 | 82 | 170 | 63 13 46 |
| | 1-3/4 | 5 | 85 | 175 | 47 |
| | 1-7/8 | 4-1/2 | 90 | 185 | 48 |
| | 2 | 4-1/2 | 92 | 195 | 49 |

Unified Coarse Thread Hand Taps 3's/Set

Carbon Steel or High Speed Steel

Machos de Mano para Rosc Gruesa Unificada 3's Juego

ユニファイ並目ねじ用等径ハンドタップ

碳钢统一标准粗牙螺丝攻

How to order : CODE

Hand tap, unified coarse, MATERIAL, NOMINAL SIZE, PITCH mm

| Carbon Steel | Nominal Size | Diam. mm D | Threads Per Inch | Unit Per Set | | | High Speed Steel | |
|--------------|---------------|------------|------------------|--------------|-----------|----------|------------------|--|
| | | | | Length mm | | CODE | | |
| | | | | Flute | Overall L | | | |
| 63 13 50 | No.1 - 64UNC | 1.854 | 64 | 13 | 36 | 63 13 75 | | |
| 51 | No.2 - 56UNC | 2.184 | 56 | 15 | 42 | 76 | | |
| 52 | No.3 - 48UNC | 2.515 | 48 | 16 | 44 | 77 | | |
| 53 | No.4 - 40UNC | 2.845 | 40 | 16 | 44 | 78 | | |
| 54 | No.5 - 40UNC | 3.175 | 40 | 18 | 46 | 79 | | |
| 63 13 55 | No.6 - 32UNC | 3.505 | 32 | 18 | 48 | 63 13 80 | | |
| 56 | No.8 - 32UNC | 4.166 | 32 | 20 | 52 | 81 | | |
| 57 | No.10 - 24UNC | 4.826 | 24 | 22 | 60 | 82 | | |
| 58 | No.12 - 24UNC | 5.486 | 24 | 22 | 60 | 83 | | |
| 59 | 1/4 - 20UNC | 6.350 | 20 | 24 | 62 | 84 | | |
| 63 13 60 | 5/16 - 18UNC | 7.938 | 18 | 30 | 70 | 63 13 85 | | |
| 61 | 3/8 - 16UNC | 9.525 | 16 | 35 | 75 | 86 | | |
| 62 | 7/16 - 14UNC | 11.112 | 14 | 38 | 80 | 87 | | |
| 63 | 1/2 - 13UNC | 12.700 | 13 | 42 | 85 | 88 | | |
| 64 | 9/16 - 12UNC | 14.288 | 12 | 42 | 90 | 89 | | |
| 63 13 65 | 5/8 - 11UNC | 15.875 | 11 | 45 | 95 | 63 13 90 | | |
| 66 | 3/4 - 10UNC | 19.050 | 10 | 50 | 105 | 91 | | |
| 67 | 7/8 - 9UNC | 22.225 | 9 | 55 | 115 | 92 | | |
| 68 | 1 - 8UNC | 25.400 | 8 | 60 | 125 | 93 | | |
| 69 | 1-1/8 - 7UNC | 28.575 | 7 | 65 | 135 | 94 | | |
| 63 13 70 | 1-1/4 - 7UNC | 31.750 | 7 | 70 | 145 | 63 13 95 | | |
| 71 | 1-3/8 - 6UNC | 34.925 | 6 | 75 | 155 | 96 | | |
| 72 | 1-1/2 - 6UNC | 38.100 | 6 | 78 | 160 | 97 | | |
| 73 | 1-3/4 - 5UNC | 44.450 | 5 | 85 | 175 | 98 | | |
| 74 | 2 - 4-1/2UNC | 50.800 | 4-1/2 | 92 | 195 | 99 | | |

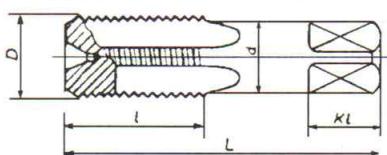
Pipe Tap Combination

| Standard | Straight of Taper | Thread | | Combination |
|------------|----------------------|---------|---------|--|
| | | Male | Female | |
| JIS B 4445 | Straight Pipe Thread | PF (G) | PF (G) | Combination of straight male threads for pipes (PF) with straight female thread for pipe (PF) |
| ISO 2284 | | | | |
| JIS B 4446 | Taper Pipe Threads | PT (RC) | PT (RC) | Combination of taper male threads for pipe taper threads (PT) with taper female threads for pipe taper threads |
| ISO 2284 | | | | |
| | | PS (RP) | | Combination of taper male threads for pipe taper threads (PT) with straight female threads for pipe taper threads (PS) |

Straight Pipe Taps for Straight Pipe Thread
G (ISO) or PF TypeMachos para Roscar a Máquina
管用並行ねじ用タップ

直式管用丝锥

(Ref. JIS B 4445 – 88)



How to order: CODE

Straight pipe tap for straight pipe thread, MATERIAL, TYPE of THREAD, NOMINAL SIZE, PITCH mm

Carbon Steel

| CODE | Nominal Size | Thread Per 25.4 mm | Overall Length mm | Unit Per Pcs. | |
|--------------|--------------|--------------------|-------------------|---------------|--------------|
| | | | | CODE | Nominal Size |
| G (ISO) TYPE | | | | | PF TYPE |
| 63 14 01 | G 1/16 | 28 | 52 | 63 14 26 | PF 1/8 |
| 02 | " 1/8 | 28 | 59 | 27 | " 1/4 |
| 03 | " 1/4 | 19 | 67 | 28 | " 3/8 |
| 04 | " 3/8 | 19 | 75 | 29 | " 1/2 |
| 05 | " 1/2 | 14 | 87 | | |
| 63 14 06 | G 5/8 | 14 | 91 | 63 14 30 | PF 5/8 |
| 07 | " 3/4 | 14 | 96 | 31 | " 3/4 |
| 08 | " 7/8 | 14 | 102 | 32 | " 7/8 |
| 09 | " 1 | 11 | 109 | 33 | " 1 |
| 10 | " 1-1/8 | 11 | 115 | 34 | " 1-1/8 |
| 63 14 11 | G 1-1/4 | 11 | 119 | 63 14 35 | PF 1-1/4 |
| 12 | " 1-1/2 | 11 | 125 | 36 | " 1-1/2 |
| 13 | " 1-3/4 | 11 | 132 | 37 | " 1-3/4 |
| 14 | " 2 | 11 | 140 | 38 | " 2 |
| 15 | " 2-1/4 | 11 | 142 | | |
| 63 14 16 | G 2-1/2 | 11 | 153 | | |
| 17 | " 2-3/4 | 11 | 160 | | |
| 18 | " 3 | 11 | 164 | | |
| 19 | " 3-1/2 | 11 | 173 | | |
| 20 | " 4 | 11 | 185 | | |

High Speed Steel

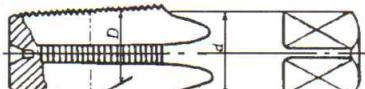
| CODE | Nominal Size | Thread Per 25.4 mm | Overall Length mm | Unit Per Pcs. | |
|--------------|--------------|--------------------|-------------------|---------------|--------------|
| | | | | CODE | Nominal Size |
| G (ISO) TYPE | | | | | PF TYPE |
| 63 14 51 | G 1/16 | 28 | 52 | 63 14 76 | PF 1/8 |
| 52 | " 1/8 | 28 | 59 | 77 | " 1/4 |
| 53 | " 1/4 | 19 | 67 | 78 | " 3/8 |
| 54 | " 3/8 | 19 | 75 | 79 | " 1/2 |
| 55 | " 1/2 | 14 | 87 | | |
| 63 14 56 | G 5/8 | 14 | 91 | 63 14 80 | PF 5/8 |
| 57 | " 3/4 | 14 | 96 | 81 | " 3/4 |
| 58 | " 7/8 | 14 | 102 | 82 | " 7/8 |
| 59 | " 1 | 11 | 109 | 83 | " 1 |
| 60 | " 1-1/8 | 11 | 115 | 84 | " 1-1/8 |
| 63 14 61 | G 1-1/4 | 11 | 119 | 63 14 85 | PF 1-1/4 |
| 62 | " 1-1/2 | 11 | 125 | 86 | " 1-1/2 |
| 63 | " 1-3/4 | 11 | 132 | 87 | " 1-3/4 |
| 64 | " 2 | 11 | 140 | 88 | " 2 |
| 65 | " 2-1/4 | 11 | 142 | | |
| 63 14 66 | G 2-1/2 | 11 | 153 | | |
| 67 | " 2-3/4 | 11 | 160 | | |
| 68 | " 3 | 11 | 164 | | |
| 69 | " 3-1/2 | 11 | 173 | | |
| 70 | " 4 | 11 | 185 | | |

Taper Pipe Taps for Taper Pipe Thread

Rc (ISO) and PT Type

Machos para Roscar a Máquina para Rosca Cónica
管用テーパーねじ用テーパータップ
锥形管子丝锥

(Ref. JIS B 4446 – 88)



How to order : CODE

Taper pipe tap for taper pipe thread, MATERIAL, TYPE of THREAD, NOMINAL SIZE, PITCH mm

Carbon Steel

| Carbon Steel | | | | | | |
|----------------------|--------------|--------------------|-------------------|----------------|--------------|--------------------|
| Unit Per Pcs. | | | | | | |
| CODE | Nominal Size | Thread Per 25.4 mm | Overall Length mm | CODE | Nominal Size | Thread Per 25.4 mm |
| Rc (ISO) TYPE | | | | PT TYPE | | |
| 63 15 01 | Rc 1/16 | 28 | 52 | 63 15 16 | PT 1/8 | 28 |
| 02 | " 1/8 | 28 | 59 | 17 | " 1/4 | 19 |
| 03 | " 1/4 | 19 | 67 | 18 | " 3/8 | 19 |
| 04 | " 3/8 | 19 | 75 | 19 | " 1/2 | 14 |
| 05 | " 1/2 | 14 | 87 | | | 80 |
| 63 15 06 | Rc 3/4 | 14 | 96 | 63 15 20 | PT 3/4 | 14 |
| 07 | " 1 | 11 | 109 | 21 | " 1 | 11 |
| 08 | " 1-1/4 | 11 | 119 | 22 | " 1-1/4 | 11 |
| 09 | " 1-1/2 | 11 | 125 | 23 | " 1-1/2 | 11 |
| 10 | " 2 | 11 | 140 | 24 | " 2 | 11 |
| 63 15 11 | Rc 2-1/2 | 11 | 153 | | | |
| 12 | " 3 | 11 | 164 | | | |
| 13 | " 3-1/2 | 11 | 173 | | | |
| 14 | " 4 | 11 | 185 | | | |

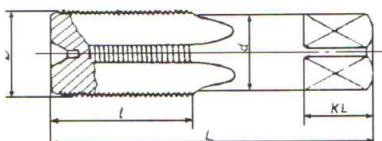
High Speed Steel

| High Speed Steel | | | | | | |
|----------------------|--------------|--------------------|-------------------|----------------|--------------|--------------------|
| Unit Per Pcs. | | | | | | |
| CODE | Nominal Size | Thread Per 25.4 mm | Overall Length mm | CODE | Nominal Size | Thread Per 25.4 mm |
| Rc (ISO) TYPE | | | | PT TYPE | | |
| 63 15 26 | Rc 1/16 | 28 | 52 | 63 15 41 | PT 1/8 | 28 |
| 27 | " 1/8 | 28 | 59 | 42 | " 1/4 | 19 |
| 28 | " 1/4 | 19 | 67 | 43 | " 3/8 | 19 |
| 29 | " 3/8 | 19 | 75 | 44 | " 1/2 | 14 |
| 30 | " 1/2 | 14 | 87 | | | 80 |
| 63 15 31 | Rc 3/4 | 14 | 96 | 63 15 45 | PT 3/4 | 14 |
| 32 | " 1 | 11 | 109 | 46 | " 1 | 11 |
| 33 | " 1-1/4 | 11 | 119 | 47 | " 1-1/4 | 11 |
| 34 | " 1-1/2 | 11 | 125 | 48 | " 1-1/2 | 11 |
| 35 | " 2 | 11 | 140 | 49 | " 2 | 11 |
| 63 15 36 | Rc 2-1/2 | 11 | 153 | | | |
| 37 | " 3 | 11 | 164 | | | |
| 38 | " 3-1/2 | 11 | 173 | | | |
| 39 | " 4 | 11 | 185 | | | |

Straight Pipe Taps for Taper Pipe Thread**Rp (ISO) and PS Type**

Machos para Roscar a Máquina para Rosca ISO y Ps
管用テーパーねじ用平行タップ 直式管用丝锥

(Ref. JIS B 4446 – 88)

**How to order: CODE**

Straight pipe tap for taper pipe thread, MATERIAL, TYPE of THREAD, NOMINAL SIZE, PITCH mm

Carbon Steel

| Carbon Steel | | | | | | |
|----------------------|--------------|--------------------|-------------------|----------------|--------------|--------------------|
| Unit Per Pcs. | | | | | | |
| CODE | Nominal Size | Thread Per 25.4 mm | Overall Length mm | CODE | Nominal Size | Thread Per 25.4 mm |
| Rp (ISO) TYPE | | | | PS TYPE | | |
| 63 15 51 | Rp 1/16 | 28 | 52 | 63 15 66 | PS 1/8 | 28 |
| 52 | " 1/8 | 28 | 59 | 67 | " 1/4 | 19 |
| 53 | " 1/4 | 19 | 67 | 68 | " 3/8 | 19 |
| 54 | " 3/8 | 19 | 75 | 69 | " 1/2 | 14 |
| 55 | " 1/2 | 14 | 87 | | | 80 |
| 63 15 56 | Rp 3/4 | 14 | 96 | 63 15 70 | PS 3/4 | 14 |
| 57 | " 1 | 11 | 109 | 71 | " 1 | 11 |
| 58 | " 1-1/4 | 11 | 119 | 72 | " 1-1/4 | 11 |
| 59 | " 1-1/2 | 11 | 125 | 73 | " 1-1/2 | 11 |
| 60 | " 2 | 11 | 140 | 74 | " 2 | 11 |
| 63 15 61 | Rp 2-1/2 | 11 | 153 | | | |
| 62 | " 3 | 11 | 164 | | | |
| 63 | " 3-1/2 | 11 | 173 | | | |
| 64 | " 4 | 11 | 185 | | | |

High Speed Steel

| High Speed Steel | | | | | | |
|----------------------|--------------|--------------------|-------------------|----------------|--------------|--------------------|
| Unit Per Pcs. | | | | | | |
| CODE | Nominal Size | Thread Per 25.4 mm | Overall Length mm | CODE | Nominal Size | Thread Per 25.4 mm |
| Rp (ISO) TYPE | | | | PS TYPE | | |
| 63 15 76 | Rp 1/16 | 28 | 52 | 63 15 91 | PS 1/8 | 28 |
| 77 | " 1/8 | 28 | 59 | 92 | " 1/4 | 19 |
| 78 | " 1/4 | 19 | 67 | 93 | " 3/8 | 19 |
| 79 | " 3/8 | 19 | 75 | 94 | " 1/2 | 14 |
| 80 | " 1/2 | 14 | 87 | | | 80 |
| 63 15 81 | Rp 3/4 | 14 | 96 | 63 15 95 | PS 3/4 | 14 |
| 82 | " 1 | 11 | 109 | 96 | " 1 | 11 |
| 83 | " 1-1/4 | 11 | 119 | 97 | " 1-1/4 | 11 |
| 84 | " 1-1/2 | 11 | 125 | 98 | " 1-1/2 | 11 |
| 85 | " 2 | 11 | 140 | 99 | " 2 | 11 |
| 63 15 86 | Rp 2-1/2 | 11 | 153 | | | |
| 87 | " 3 | 11 | 164 | | | |
| 88 | " 3-1/2 | 11 | 173 | | | |
| 89 | " 4 | 11 | 185 | | | |

Straight Pipe Taps for Straight American Pipe Thread**Carbon Steel**

Machos para Roscar Máquina para Rosca Americana
アメリカ管用平行ねじ用タップ

碳钢美标直管牙直管用螺纹攻

| Unit Per Pcs. | | | | | | |
|---------------|--------------|------------|-----------------|-----------|-----------|--|
| CODE | Nominal Size | Diam. mm D | Thread Per Inch | Length mm | | |
| | | | | Flute | Overall L | |
| 63 16 01 | NPS 1/8 | 10.117 | 27 | 19 | 55 | |
| 02 | " 1/4 | 13.426 | 18 | 28 | 62 | |
| 03 | " 3/8 | 16.866 | 18 | 28 | 65 | |
| 04 | " 1/2 | 20.980 | 14 | 35 | 80 | |
| 05 | " 3/4 | 26.325 | 14 | 35 | 85 | |
| 63 16 06 | NPS 1/8 | 32.934 | 11-1/2 | 45 | 95 | |

Taper Pipe Taps for Taper American Pipe Thread**Carbon Steel**

Machos para Roscar Máquina para Rosca Cónica-Americana

アメリカ管用テーパーねじ用タップ

碳钢美标锥形管牙锥攻

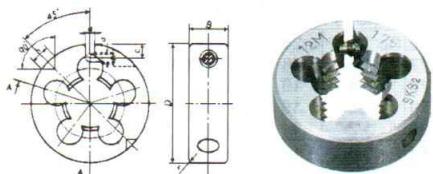
| CODE | Nominal Size | Diam. mm D | Thread Per Inch | Length mm | | Unit Per Pcs. |
|----------|--------------|------------|-----------------|-----------|-----------|---------------|
| | | | | Flute | Overall L | |
| 63 16 11 | NPT 1/16 | 7.770 | 27 | 18 | 55 | |
| 12 | " 1/8 | 10.117 | 27 | 19 | 55 | |
| 13 | " 1/4 | 13.426 | 18 | 28 | 62 | |
| 14 | " 3/8 | 16.866 | 18 | 28 | 65 | |
| 15 | " 1/2 | 20.980 | 14 | 35 | 80 | |
| 63 16 16 | NPT 3/4 | 26.325 | 14 | 35 | 85 | |
| 17 | " 1 | 32.934 | 11-1/2 | 45 | 95 | |
| 18 | " 1-1/4 | 41.689 | 11-1/2 | 45 | 105 | |
| 19 | " 1-1/2 | 47.760 | 11-1/2 | 45 | 110 | |
| 20 | " 2 | 59.797 | 11-1/2 | 50 | 120 | |
| 63 16 21 | NPT 2-1/2 | 72.273 | 8 | 65 | 145 | |
| 22 | " 3 | 88.184 | 8 | 65 | 155 | |

| CODE | Nominal Size | Pitch mm | Unit Per Pcs. | |
|----------|--------------|----------|---------------|-----------|
| | | | O.D. mm D | Thk' mm B |
| 63 17 26 | M 16 | 2 | | |
| 27 | M 18 | 2.5 | | |
| 28 | M 20 | 2.5 | | |
| 29 | M 22 | 2.5 | | |
| 30 | M 24 | 3 | | |
| 63 17 31 | M 27 | 3 | | |
| 32 | M 30 | 3.5 | | |
| 33 | M 33 | 3.5 | | |
| 34 | M 36 | 4 | | |
| 35 | M 39 | 4 | | |
| 63 17 36 | M 42 | 4.5 | | |

Round Dies, Adjustable

Cojinetes 丸駒ダイス調整式 圆框骰子调整类型

These round adjustable dies are used in either hand stock holders or machine holders. These dies can be adjusted by turning a small set screw which will change the nominal size of the dies giving them a tight or loose fit to the threads. Most commonly made of carbon steel, but high speed steel threads are also available.



Metric Coarse Thread Dies Carbon Steel

Cojinetes Rosca Ordinaria Mpétrica
メートル並目ねじ用ダイス 可调式圆板牙

(Ref. JIS B 4451 – 88)

How to order : CODE

Round die, adjustable, metric coarse thread, carbon steel, NOMINAL SIZE, PITCH, DIAM mm

| CODE | Nominal Size | Pitch mm | Unit Per Pcs. | |
|----------|--------------|----------|---------------|-----------|
| | | | O.D. mm D | Thk' mm B |
| 63 17 01 | M 1.0 | 0.25 | 16 | 5 |
| | M 1.1 | 0.25 | | |
| | M 1.2 | 0.25 | | |
| | M 1.4 | 0.3 | | |
| | M 1.6 | 0.35 | | |
| 63 17 06 | M 1.7 | 0.35 | 20 | 7 |
| | M 1.8 | 0.35 | | |
| | M 2.0 | 0.4 | | |
| | M 2.2 | 0.45 | | |
| | M 2.3 | 0.4 | | |
| 63 17 11 | M 2.5 | 0.45 | 25 | 9 |
| | M 2.6 | 0.45 | | |
| | M 3.0 | 0.5 | | |
| | M 3.5 | 0.6 | | |
| | M 4.0 | 0.7 | | |
| 63 17 16 | M 4.5 | 0.75 | 38 | 13 |
| | M 5.0 | 0.8 | | |
| | M 6.0 | 1 | | |
| | M 7.0 | 1 | | |
| | M 8.0 | 1.25 | | |
| 63 17 21 | M 9.0 | 1.25 | 38 | 13 |
| | M 10 | 1.5 | | |
| | M 11 | 1.5 | | |
| | M 12 | 1.75 | | |
| | M 14 | 2 | | |

Metric Fine Thread Dies

Carbon Steel

Cojinetes Rosca Fina Métrica

メートル細目ねじ用ダイス

可调式公制细牙圆板牙

(Ref. JIS B 4451 – 88)

How to order: CODE

Round die, adjustable, metric fine thread, carbon steel, NOMINAL SIZE, PITCH, DIAM mm

| CODE | Nominal Size | O.D. mm D | Thk' mm B | Unit Per Pcs. | |
|----------|--------------|-----------|-----------|---------------|--|
| | | | | | |
| 63 17 26 | M 16 | 2 | | | |
| 27 | M 18 | 2.5 | | | |
| 28 | M 20 | 2.5 | | | |
| 29 | M 22 | 2.5 | | | |
| 30 | M 24 | 3 | | | |
| 63 17 31 | M 27 | 3 | | | |
| 32 | M 30 | 3.5 | | | |
| 33 | M 33 | 3.5 | | | |
| 34 | M 36 | 4 | | | |
| 35 | M 39 | 4 | | | |
| 63 17 36 | M 42 | 4.5 | | | |

| CODE | Nominal Size | Unit Per Pcs. | |
|----------|--------------|---------------|-------------|
| | | O.D. mm D | Thk mm B |
| 63 18 46 | M 22 × 1 | 50 | 16 |
| 47 | M 24 × 2 | | |
| 48 | M 24 × 1.5 | | |
| 49 | M 24 × 1 | | |
| 50 | M 25 × 2 | | |
| 63 18 51 | M 25 × 1.5 | | |
| 52 | M 25 × 1 | | |
| 53 | M 26 × 1.5 | | |
| 54 | M 27 × 2 | | |
| 55 | M 27 × 1.5 | | |
| 63 18 56 | M 27 × 1 | 63 | 20 |
| 57 | M 28 × 2 | | |
| 58 | M 28 × 1.5 | | |
| 59 | M 28 × 1 | | |
| 60 | M 30 × 3 | | |
| 63 18 61 | M 30 × 2 | | |
| 62 | M 30 × 1.5 | | |
| 63 | M 30 × 1 | | |
| 64 | M 32 × 2 | | |
| 65 | M 32 × 1.5 | | |
| 63 18 66 | M 33 × 3 | 75 | 25 |
| 67 | M 33 × 2 | | |
| 68 | M 33 × 1.5 | | |
| 69 | M 35 × 1.5 | | |
| 70 | M 36 × 3 | | |
| 63 18 71 | M 36 × 2 | | |
| 72 | M 36 × 1.5 | | |
| 73 | M 38 × 1.5 | | |
| 74 | M 39 × 3 | | |
| 75 | M 39 × 2 | | |
| 63 18 76 | M 39 × 1.5 | 75 | 25 |
| 77 | M 40 × 3 | | |
| 78 | M 40 × 2 | | |
| 79 | M 40 × 1.5 | | |
| 80 | M 42 × 4 | | |
| 63 18 81 | M 42 × 3 | | |
| 82 | M 42 × 2 | | |
| 83 | M 42 × 1.5 | | |

Unified Coarse Thread Dies Carbon Steel

Cojinetes Rosca Ordinaria Unificada

ユニファイ並目ねじ用ダイス 可调式统一标准粗圆板牙 (碳钢)

(Ref. JIS B 4451 - 88)

How to order: CODE

Round die, adjustable, unified coarse thread, carbon steel,
MATERIAL, NOMINAL SIZE, DIAM mm

| CODE | Nominal Size | Unit Per Pcs. | |
|----------|----------------|---------------|-------------|
| | | O.D. mm D | Thk mm B |
| 63 19 01 | No. 1 - 64UNC | 16 | 5 |
| 02 | No. 2 - 56UNC | | |
| 03 | No. 3 - 48UNC | | |
| 04 | No. 4 - 40UNC | | |
| 05 | No. 5 - 40UNC | | |
| 63 19 06 | No. 6 - 32UNC | | |
| 07 | No. 8 - 32UNC | | |
| 08 | No. 10 - 24UNC | | |
| 09 | No. 12 - 24UNC | | |
| 10 | 1/4 - 20UNC | | |
| 63 19 11 | 5/16 - 18UNC | 25 | 9 |
| 12 | 3/8 - 16UNC | | |
| 13 | 7/16 - 14UNC | | |
| 14 | 1/2 - 13UNC | | |
| 15 | 9/16 - 12UNC | | |

(to be continued)

| CODE | Nominal Size | Unit Per Pcs. | |
|----------|--------------|---------------|-------------|
| | | O.D. mm D | Thk mm B |
| 63 19 16 | 5/8 - 11UNC | 50 | 16 |
| 17 | 3/4 - 10UNC | | |
| 18 | 7/8 - 9UNC | | |
| 19 | 1 - 8UNC | | |
| 20 | 1-1/8 - 7UNC | | |
| 63 19 21 | 1 1/4 - 7UNC | 75 | 25 |
| 22 | 1 3/8 - 6UNC | | |
| 23 | 1 1/2 - 6UNC | | |

Whitworth Coarse Thread Dies

Carbon Steel

Cojinetes Rosca Ordinaria Whitworth

ウェット並目ねじ用ダイス 可调式惠氏粗圆板牙 (碳钢)

How to order: CODE

Round die, adjustable, whitworth coarse thread, carbon steel,
NOMINAL SIZE, THREAD, DIAM mm

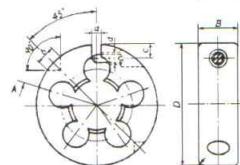
| CODE | Nominal Size | Thread Per Inch | Unit Per Pcs. | |
|----------|--------------|-----------------|---------------|-------------|
| | | | O.D. mm D | Thk mm B |
| 63 19 31 | W 1/16 | 60 | 16 | 5 |
| 32 | W 3/32 | | | |
| 33 | W 1/8 | | | |
| 34 | W 5/32 | | | |
| 35 | W 3/16 | | | |
| 63 19 36 | W 7/32 | 24 | 20 | 7 |
| 37 | W 1/4 | | | |
| 38 | W 5/16 | | | |
| 39 | W 3/8 | | | |
| 40 | W 7/16 | | | |
| 63 19 41 | W 1/2 | 12 | 38 | 13 |
| 42 | W 9/16 | | | |
| 43 | W 5/8 | | | |
| 44 | W 3/4 | | | |
| 45 | W 7/8 | | | |
| 63 19 46 | W 1 | 8 | 63 | 20 |

Adjustable Round Dies for Pipe Threads

Cojinetes Redondos Ajustables para Roscas de Tubería

管用ねじ用丸駒ダイス調整式 管用可调式螺模

Designed to cut pipe threads, these dies are made for one type of cut either for taper threads or straight threads just as in the case of taps.



Straight Pipe Thread Dies Carbon Steel

Cojinetes Rosca de tubería Recta

管用平行ねじ用丸駒ダイス 可调式直管螺纹圆板牙 (碳钢)

(Ref. JIS B 4455 - 88)

How to order: CODE

Round die, adjustable, straight pipe thread, carbon steel,
NOMINAL SIZE, THREAD, DIAM mm

| CODE | Nominal Size | Thread Per 25.4 mm | Unit Per Pcs. | |
|----------|--------------|-----------------------|---------------|---------|
| | | | O.D. mm | Thk' mm |
| 63 20 01 | PF 1/16 | 28 | 38 | 13 |
| | PF 1/8 | 28 | | |
| | PF 1/4 | 19 | | |
| | PF 3/8 | 19 | 50 | 16 |
| | PF 1/2 | 14 | | |
| 63 20 06 | PF 5/8 | 14 | 63 | 20 |
| | PF 3/4 | 14 | | |
| | PF 7/8 | 14 | | |
| | PF 1 | 11 | 75 | 25 |
| | PF 1 - 1/8 | 11 | | |
| 63 20 11 | PF 1 - 1/4 | 11 | 90 | 30 |
| | PF 1 - 1/2 | 11 | | |
| | PF 1 - 3/4 | 11 | | |
| | PF 2 | 11 | 105 | 30 |
| | PF 2 - 1/4 | 11 | | |

Taper Pipe American Thread Dies Carbon Steel

Cojinetes Rosca de Tubería Americana

アメリカ管用テーパねじ用ダイス

美标可调式锥形螺纹圆板牙 (碳钢)

How to order: CODE

*Round die, adjustable, taper pipe American thread, carbon steel,
NOMINAL SIZE, THREAD, DIAM mm*

| | | Unit Per Pcs. | | |
|----------|--------------|-----------------|---------|--------|
| CODE | Nominal Size | Thread Per Inch | O.D. mm | Thk mm |
| | | | D | B |
| 63 20 51 | NPT 1/8 | 27 | 38 | 13 |
| | NPT 1/4 | 18 | | |
| | NPT 3/8 | 18 | 50 | 16 |
| | NPT 1/2 | 14 | | |
| | NPT 3/4 | 14 | 63 | 20 |
| 63 20 56 | NPT 1 | 11-1/2 | 75 | 25 |
| | NPT 1-1/4 | 11-1/2 | | |

Hexagon Rethreading Dies

Carbon Steel

Cojinetes “Rethreading” Hexagonales

六角サラエダイス 六角螺模



For dressing over bruised or rusty threads, or for cutting occasional new threads. No special holder required for these dies, simply use the appropriate sized wrench.

Metric Coarse Thread

Rosc Ordinaria Métrica メートル並目ねじ 公制粗牙螺纹

How to order: CODE

Hexagon rethreading die, metric coarse, carbon steel, NOMINAL SIZE PITCH mm

| CODE | Nominal Size | Pitch mm | Across Flat mm |
|----------|--------------|----------|----------------|
| 63 21 01 | M 3 | 0.5 | 14 |
| | 02 | 0.6 | 14 |
| | 03 | 0.6 | 14 |
| | 04 | 0.7 | 14 |
| | 05 | 0.75 | 14 |
| 63 21 06 | M 4.5 | 0.75 | 14 |
| | 07 | 0.8 | 17 |
| | 08 | 0.9 | 17 |
| | 09 | 0.9 | 17 |
| | 10 | 1.0 | 19 |
| 63 21 11 | M 7 | 1.0 | 19 |
| | 12 | 1.25 | 21 |
| | 13 | 1.25 | 21 |
| | 14 | 1.5 | 26 |
| | 15 | 1.5 | 26 |
| 63 21 16 | M 12 | 1.75 | 32 |
| | 17 | 2.0 | 35 |
| | 18 | 2.0 | 35 |
| | 19 | 2.5 | 41 |
| | 20 | 2.5 | 46 |
| 63 21 21 | M 22 | 2.5 | 46 |
| | 22 | 3.0 | 50 |
| | 23 | 3.0 | 54 |
| | 24 | 3.5 | 54 |

Whitworth Coarse Thread

Whitworth Coarse

Rosca Ordinaria Whitworth ウイット並目ねに トト氏粗牙螺紋

How to order: **CODE**

How to order. CODE
Hexagon rethreading die, whitworth coarse thread, carbon steel,
NOMINAL SIZE THREAD

| | | Unit Per Pcs. | | |
|----------|--------------|-----------------------|---------|---------|
| CODE | Nominal Size | Thread Per 25.4 mm | O.D. mm | Thk' mm |
| | | | D | B |
| 63 20 41 | NPS 1/8 | 27 | 38 | 13 |
| | NPS 1/4 | 18 | | |
| | NPS 3/8 | 18 | 50 | 16 |
| | NPS 1/2 | 14 | | |
| | NPS 3/4 | 14 | 63 | 20 |
| 63 20 46 | NPS 1 | 11-1/2 | 75 | 25 |
| | NPS 1-1/4 | 11-1/2 | | |

| CODE | Nominal Size | Thread Per inch | Across Flat mm | Unit Per Pcs. |
|----------|--------------|-----------------|----------------|---------------|
| 63 21 31 | W 1/8 | 40 | 17 | |
| 32 | W 3/16 | 24 | 17 | |
| 33 | W 1/4 | 20 | 19 | |
| 34 | W 5/16 | 18 | 21 | |
| 35 | W 3/8 | 16 | 26 | |
| 63 21 36 | W 7/16 | 14 | 26 | |
| 37 | W 1/2 | 12 | 32 | |
| 38 | W 9/16 | 12 | 35 | |
| 39 | W 5/8 | 11 | 35 | |
| 40 | W 3/4 | 10 | 41 | |
| 63 21 41 | W 7/8 | 9 | 46 | |
| 42 | W 1 | 8 | 50 | |
| 43 | W 1-1/8 | 7 | 54 | |
| 44 | W 1-1/4 | 7 | 58 | |
| 45 | W 1-3/8 | 6 | 63 | |
| 63 21 46 | W 1-1/2 | 6 | 71 | |
| 47 | W 1-5/8 | 5 | 77 | |
| 48 | W 1-3/4 | 5 | 85 | |
| 49 | W 1-7/8 | 4-1/2 | 85 | |
| 50 | W 2 | 4-1/2 | 90 | |

Straight or Taper Pipe Thread

Rosca para Tubería Recta o Cónica

管用平行及テーバねじ 圆柱管螺纹六角校牙板牙

How to order: CODE

Hexagon rethreading die, TYPE of PIPE THREAD, NOMINAL SIZE, THREAD

Unit Per Pcs.

| CODE | Nominal Size | Thread Per 25.4 mm | Across Flat mm | Unit Per Pcs. |
|-----------------|--------------|--------------------|----------------|---------------|
| Straight | | | | |
| 63 21 61 | PF 1/8 | 28 | 38 | |
| 62 | PF 1/4 | 19 | 38 | |
| 63 | PF 3/8 | 19 | 50 | |
| 64 | PF 1/2 | 14 | 50 | |
| 65 | PF 3/4 | 14 | 63 | |
| 63 21 66 | PF 1 | 11 | 75 | |
| 67 | PF 1-1/4 | 11 | 75 | |
| 68 | PF 1-3/8 | 11 | 75 | |
| 69 | PF 1-1/2 | 11 | 75 | |
| 70 | PF 1-3/4 | 11 | 90 | |
| 63 21 71 | PF 2 | 11 | 90 | |
| Taper | | | | |
| 63 21 76 | PT 1/8 | 28 | 38 | |
| 77 | PT 1/4 | 19 | 38 | |
| 78 | PT 3/8 | 19 | 50 | |
| 79 | PT 1/2 | 14 | 50 | |
| 80 | PT 3/4 | 14 | 63 | |
| 63 21 81 | PT 1 | 11 | 75 | |
| 82 | PT 1-1/4 | 11 | 75 | |
| 83 | PT 1-3/8 | 11 | 75 | |
| 84 | PT 1-1/2 | 11 | 75 | |
| 85 | PT 1-3/4 | 11 | 90 | |
| 63 21 86 | PT 2 | 11 | 90 | |

Screw Plate Sets (Stocks & Dies)

Juegos de Machos y Cojinetes

丸駒式タップ、ダイスセット 搪丝板组



These sets are designed for cutting threads of a variety of sizes, easily, and all with one set. Suitable for jobs involving a wide range of on site threading work. There are single tap or three tap sets available in the same thread cutting range. When ordering, please specify the set number, thread cutting range, and thread type, (whitworth, metric, etc.), by indicating the exact code number.

For Metric Coarse Threading with One Tap & One Round Split Die for each size

Para Rosca Ordinaria Métrica con 1 Macho y Cojinete de cada Medida
一本タップメートル並目ねじ用 公制粗牙螺纹丝攻组

How to order: CODE

Screw plate set, metric coarse thread, CAPACITY of THREAD CUTTING (MINIMUM – MAXIMUM in mm), NUMBERS/set

| CODE | Model | Thread Cutting Size | Diam of Die mm | Pcs/ Set |
|----------|---------|---|----------------|----------|
| 63 22 01 | OK41 | M - 6, 7, 8, 10, 12 | 38 | 12 |
| 63 22 02 | OK45 | M - 6, 8, 10, 12, 14, 16, 18 | 50 | 16 |
| 63 22 03 | OK47 | M - 6, 8, 10, 12, 14, 16, 18, 20, 22, 24 | 50 | 22 |
| 63 22 04 | OK100 | M - 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30 | 50 | 28 |
| 63 22 05 | D413 | M - 1.0, 1.2, 1.4, 1.7, 2.0, 2.3, 2.6, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5 | 20 | 28 |
| 63 22 06 | D47 | M - 2.0, 2.5, 3.0, 3.5, 4.0, 5.0, 6.0 | 20 | 16 |
| 63 22 07 | D47-1/2 | M - 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0 | 20 | 16 |
| 63 22 08 | D48 | M - 2.0, 2.5, 3.0, 3.5, 4.0, 5.0, 6.0, 7.0 | 20 | 18 |
| 63 22 09 | F46 | M - 4, 5, 6, 8, 10, 12 | 25 | 14 |
| 63 22 10 | F48 | M - 3, 4, 5, 6, 7, 8, 9, 10 | 25 | 18 |
| 63 22 11 | M10 | M - 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0 | 20 | 20 |
| 63 22 12 | M11 | M - 5.0, 5.5, 6.0, 7.0, 8.0, 9.0, 10.0 | 25 | 16 |
| 63 22 13 | M12 | M - 6, 7, 8, 9, 10, 11, 12, 14, 16 | 38 | 20 |
| 63 22 14 | M13 | M - 6, 7, 8, 10, 11, 12, 14, 16, 18, 20 | 50 | 22 |
| 63 22 15 | M14 | M - 10, 11, 12, 14, 16, 18, 20, 22, 24, 26 | 50 | 22 |
| 63 22 16 | M15 | M - 6, 7, 8, 10, 11, 12, 14, 16, 18, 20, 22, 24 | 50 | 26 |

For Unified Coarse Threading with One Tap & One Round Split Die for each size

Para Rosca Ordinaria Unifacada con 1 Macho y Cojinete de cada Medida
一本タップユニファイ並目ねじ用 公制粗牙螺纹丝攻组

How to order: CODE

Screw plate set, unified coarse thread, CAPACITY of THREAD CUTTING(MINIMUM – MAXIMUM in mm), NUMBERS/set

| CODE | Model | Thread Cutting Size | Diam of Die mm | Pcs/ Set |
|----------|----------|---|----------------|----------|
| 63 22 21 | OK31 | 1/4, 5/16, 3/8, 7/16, 1/2 | 38 | 12 |
| 63 22 22 | OK35 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4 | 50 | 16 |
| 63 22 23 | OK35-1/2 | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4 | 50 | 18 |
| 63 22 24 | OK37 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1 | 50 | 20 |
| 63 22 25 | OK37-1/2 | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1 | 50 | 22 |

For Whitworth Coarse Threading with One Tap & One Round Split Die for each size

Para Rosca Ordinaria Whitworth con 1 Macho y Cojinete de cada Medida

一本タップウェット並目ねじ用

惠氏英制粗牙单头螺纹丝攻组

How to order: CODE

Screw plate set, whitworth coarse thread, CAPACITY of THREAD CUTTING (MINIMUM – MAXIMUM in mm), NUMBERS/set

| Unit Per Set | | | | |
|--------------|----------|---|-----------------|----------|
| CODE | Model | Thread Cutting Size | Diam. of Die mm | Pcs/ Set |
| 63 22 31 | OK 1 | 1/4, 5/16, 3/8, 7/16, 1/2 | 38 | 12 |
| 63 22 32 | OK 2 | 1/4, 3/8, 1/2, 5/8, 3/4 | 50 | 12 |
| 63 22 33 | OK 5 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4 | 50 | 16 |
| 63 22 35 | OK 7 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1 | 50 | 20 |
| 63 22 36 | OK 7-1/2 | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1 | 50 | 22 |
| 63 22 37 | OK 40 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4 | 50 | 11 |
| 63 22 38 | OK 50 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2 | 75 | 28 |

**For Whitworth Coarse Threading
with 3 Taps & One Round Split Die for each size**

Para Rosca Ordinaria Whitworth con 3 Macho y Cojinete de cada Medida
三本タップ ウィット 並目ねじ用

惠氏英制粗牙单头螺丝攻组

How to order: CODE

Screw plate set, whitworth coarse thread with 3 taps, CAPACITY of THREAD CUTTING (MINIMUM – MAXIMUM in mm), NUMBERS/set

| Unit Per Set | | | | |
|--------------|------------|---|-----------------|----------|
| CODE | Model | Thread Cutting Size | Diam. of Die mm | Pcs/ Set |
| 63 22 41 | OK 101 | 1/4, 5/16, 3/8, 7/16, 1/2 | 38 | 22 |
| 63 22 42 | OK 102 | 1/4, 3/8, 1/2, 5/8, 3/4 | 50 | 22 |
| 63 22 43 | OK 105 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4 | 50 | 30 |
| 63 22 45 | OK 107 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1 | 50 | 38 |
| 63 22 46 | OK 107-1/2 | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1 | 50 | 42 |
| 63 22 47 | OK 140 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4 | 50 | 46 |
| 63 22 48 | OK 150 | 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2 | 75 | 54 |

**For Straight Pipe Threading (PS)
with One Tap & One Round Split Die for each size**

Para Rosca de Tubería Recta con 1 Macho y Cojinete de cada Medida
一本タップ管用ねじ用

管螺纹丝锥和板牙全套

How to order: CODE

Screw plate set, straight pipe threading, CAPACITY of THREAD CUTTING (MINIMUM – MAXIMUM in mm), NUMBERS/set

| Unit Per Set | | | | |
|--------------|-------|--|-----------------|----------|
| CODE | Model | Thread Cutting Size | Diam. of Die mm | Pcs/ Set |
| 63 22 51 | R1 | 1/8, 1/4, 3/8, 1/2 | 50 | 10 |
| 63 22 52 | R2 | 1/8, 1/4, 3/8, 1/2, 5/8, 3/4 | 50 | 14 |
| 63 22 53 | R3 | 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1 | 50 | 18 |
| 63 22 54 | R4 | 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4 | 63 | 22 |

Remarks: Arrangement of Taper or straight thread for above sizes is according to users selection.

Tap Wrenches

Giramachos タップハンドル 丝锥扳手

The jaws are made of tool steel, carefully hardened and tempered for perfect performance. The handle is knurled for safe, easy operation.



Straight Type



Unit Per Pcs.

| CODE | Nominal Size | Applicable Size | Overall Length mm |
|----------------------|--------------|-----------------|-------------------|
| Straight Type | | | |
| 63 34 01 | 6.0 | M 1- 6 | 170 |
| 02 | 10.0 | M 1-10 | 200 |
| 03 | 13.0 | M 4-13 | 255 |
| 04 | 20.0 | M 6-20 | 350 |
| 05 | 25.0 | M 10-25 | 450 |
| 06 | 32.0 | M 19-32 | 780 |
| 07 | 38.0 | M 19-38 | 900 |
| 08 | 50.0 | M 25-50 | 1,000 |
| T Type | | | |
| 63 34 11 | 5.0 | M 3- 5 | 80 |
| 12 | 6.0 | M 3- 6 | 90 |
| 13 | 10.0 | M 5-10 | 115 |
| 14 | 13.0 | M 10-13 | 125 |

Round Die Stocks

Volvedor para Cojinetes
丸駒ダイス用ハンドル 圆形螺纹扳手

Adjustable round die stocks. Made of steel. Select suitable diameter of stock to fit your round dies.



Unit Per Pcs.

| CODE | Round Die O.D. mm | CODE | Round Die O.D. mm |
|----------|-------------------|----------|-------------------|
| 63 34 21 | 16 | 63 34 27 | 63 |
| 22 | 20 | 28 | 70 |
| 23 | 25 | 29 | 75 |
| 24 | 38 | 30 | 100 |
| 25 | 50 | 31 | 115 |
| 63 34 26 | 57 | 63 34 32 | 125 |

Drill Chucks with Key

Portabrocas con Llave
ドリルチャックドリルチャック
带钥匙的钻头夹盘

These drill chucks are offered for light-duty and heavy-duty portable, bench, or floor type power tools in a wide range of capacities for either threaded or tapered mounting spindles.



| CODE | Capacity mm | Dimensions | | Jacobs Taper Hole No. | Unit Per Pcs. |
|----------|-------------|------------|---------|-----------------------|---------------|
| | | Length mm | Diam mm | | |
| 63 23 31 | 4.0 | 40 | 26 | J#D | |
| 32 | 5.0 | 40 | 26 | " | |
| 33 | 5.0 | 50 | 33 | J#1 | |
| 34 | 6.5 | 50 | 33 | " | |
| 35 | 6.5 | 58 | 38 | " | |
| 63 23 36 | 8.0 | 58 | 38 | J#1 | |
| 37 | 10.0 | 70 | 46 | J#2 Short | |
| 38 | 13.0 | 90 | 55 | J#6 | |
| 39 | 14.0 | 98 | 60 | J#3 | |
| 40 | 16.0 | 98 | 60 | J#3 | |
| 63 23 41 | 19.0 | 125 | 75 | J#4 | |
| 42 | 22.0 | 125 | 75 | " | |
| 43 | 25.0 | 142 | 80 | J#5 | |

Keyless Drill Chucks

Portabrocas de Cierre Rápido

キーレスドリルチャック 无钥匙的钻头夹盘



The keyless drill chuck is usually used on precision drilling machinery where close tolerance drilling is essential. Designed for both toolroom and production machinery where accuracy, gripping power and keyless features are desired.

| Size mm Capacity | Dimensions mm | | Taper No. | Unit Per Pcs. |
|---------------------|---------------------------|--------|-----------------------|---------------|
| | Diam. | Length | | |
| 13 | 50 | 103 | JT No.6 or (JT No.25) | |
| 63 23 46 | Keyless drill chuck 13 mm | | | Pcs. |

Drill Sleeves

Casquillos Reductor Cono Morse

ドリルスリーブ 短钻头套筒



Designed for drilling with Morse taper shanks. The smaller Morse taper number is for the hole size of the drill insertion and the larger Morse taper number for the outside socket fitting.

| CODE | Size MT No. | For MT No. | | Overall Length mm | Unit Per Pcs. |
|----------|-------------|------------|-------|-------------------|---------------|
| | | Hole | Shank | | |
| 63 23 51 | MT 1 x 2 | 1 | 2 | 92 | |
| 52 | MT 1 x 3 | 1 | 3 | 99 | |
| 53 | MT 2 x 3 | 2 | 3 | 112 | |
| 54 | MT 2 x 4 | 2 | 4 | 124 | |
| 55 | MT 3 x 4 | 3 | 4 | 140 | |
| 63 23 56 | MT 3 x 5 | 3 | 5 | 156 | |
| 57 | MT 3 x 6 | 3 | 6 | 218 | |
| 58 | MT 4 x 5 | 4 | 5 | 171 | |
| 59 | MT 4 x 6 | 4 | 6 | 218 | |
| 60 | MT 5 x 6 | 5 | 6 | 218 | |

Morse Taper Shank Drill Sockets

Alargaderas para Cono Morse

MT用ドリルソケット 莫氏锥柄钻承口

Designed to be used with drill, reamer and other shanks which have a morse taper shank.



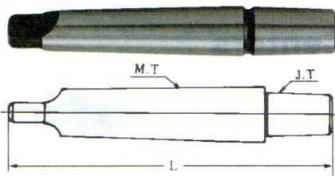
| CODE | Size MT No. | For MT No. | | Overall Length mm |
|----------|-------------|------------|-------|-------------------|
| | | Hole | Shank | |
| 63 23 61 | MT 1 x 1 | 1 | 1 | 145 |
| 62 | MT 1 x 2 | 1 | 2 | 160 |
| 63 | MT 2 x 2 | 2 | 2 | 175 |
| 64 | MT 1 x 3 | 1 | 3 | 175 |
| 65 | MT 2 x 3 | 2 | 3 | 194 |
| 63 23 66 | MT 3 x 3 | 3 | 3 | 215 |
| 67 | MT 2 x 4 | 2 | 4 | 215 |
| 68 | MT 3 x 4 | 3 | 4 | 240 |
| 69 | MT 4 x 4 | 4 | 4 | 265 |
| 70 | MT 3 x 5 | 3 | 5 | 268 |
| 63 23 71 | MT 4 x 5 | 4 | 5 | 300 |
| 72 | MT 5 x 5 | 5 | 5 | 335 |
| 73 | MT 4 x 6 | 4 | 6 | 355 |
| 74 | MT 5 x 6 | 5 | 6 | 390 |

Drill Chuck Arbors

Espigas de Asiento para Mandriles Portabrocas

ドリルチャックアーバー 钻头夹头刀杆

For use with drilling machines, lathes, etc. When ordering, please specify nominal numbers.



| CODE | Nominal No. | J.T. No. | M.T. No. | Overall Length mm | Unit Per Pcs. |
|----------|-------------|----------|----------|-------------------|---------------|
| | | | | | |
| 63 23 76 | 1 x 1 | 1 | 1 | 88 | |
| 77 | 1 x 2 | 1 | 2 | 100 | |
| 78 | 1 x 3 | 1 | 3 | 108 | |
| 79 | 2 x 1 | 2 | 1 | 92 | |
| 80 | 2 x 2 | 2 | 2 | 110 | |
| 63 23 81 | 2 x 3 | 2 | 3 | 130 | |
| 82 | 2-1/2 x 2 | 2-1/2 | 2 | 110 | |
| 83 | 2-1/2 x 3 | 2-1/2 | 3 | 130 | |
| 84 | 3 x 2 | 3 | 2 | 120 | |
| 85 | 3 x 3 | 3 | 3 | 140 | |
| 63 23 86 | 3 x 4 | 3 | 4 | 160 | |
| 87 | 4 x 3 | 4 | 3 | 150 | |
| 88 | 4 x 4 | 4 | 4 | 175 | |
| 89 | 5 x 4 | 5 | 4 | 185 | |

Drifts (Center Keys), Drill for Sockets & Sleeves

Expulsores para Cono Morse

ドリルドリフト 冲头锥形销 (中心键拆锥楔套), 钻头

For removing taper shanks without any damage from drill sockets or drilling machines. This improved type works more efficiently and is safer.



Ordinary Type

Improved Type

| CODE | No. | For | Unit Per Pcs. |
|----------|-------------|----------------|---------------|
| | | | |
| 63 23 91 | 1 | For Sleeve #1 | |
| 92 | 2 | " #2 | |
| 93 | 3 | " #3 | |
| 94 | 4 | " #4, 5 & 6 | |
| 63 23 95 | Improve - 2 | For MT. #1 ~ 2 | |
| 96 | " - 3 | " #3 ~ 4 | |

Lathe Centers

Contrapuntos Fijos "Cono Morse" para Torno
旋盤用センター 车床顶尖

Body is made of tool steel with a high speed steel tip or a carbide tip. Both types of tip ends are properly hardened. The shank is ground to morse tapers and the included angle of the point is 60°.



High Speed Steel Tipped



Carbide Tipped

| High Speed Steel CODE | Morse Taper No. | Overall Length mm | Unit Per Pcs. | |
|--------------------------|-----------------|-------------------|------------------------|--|
| | | | Carbide Tipped CODE | |
| 63 24 01 | 0 | 72 | 63 24 11 | |
| 02 | 1 | 82 | 12 | |
| 03 | 2 | 100 | 13 | |
| 04 | 3 | 125 | 14 | |
| 05 | 4 | 155 | 15 | |
| 63 24 06 | 5 | 200 | 63 24 16 | |
| 07 | 6 | 270 | 17 | |

Rolling Centers

Contrapuntos Giratorios "Cono Morse"
回転センター 回转中心顶 (活络顶)

Specially designed to withstand high-speed heavy-duty operations. Incorporated are a taper roller bearing, thrust ball bearing, ball bearing and other special bearings.



Unit Per Pcs.

| CODE | MT No. | Center Angle |
|----------|--------|--------------|
| 63 24 21 | 1 | 60° |
| 22 | 2 | 60° |
| 23 | 3 | 60° |
| 24 | 4 | 60° |
| 25 | 5 | 60° |
| 63 24 26 | 6 | 75° |
| 27 | 7 | 75° |

Live Centers

Contrapuntos Giratorios
回転センター 回转中心顶 (活络顶)

This S type is recommended for use on precision finishing work with high speed revolution.



Unit Per Pcs.

| CODE | MT No. | Overall Length mm |
|----------|--------|-------------------|
| 63 24 31 | 2 | 121 |
| 32 | 3 | 146 |
| 33 | 4 | 195 |
| 34 | 5 | 245 |
| 35 | 6 | 340 |

Bevel Rolling Centers

Contrapuntos Biselados
傘型回転センター 伞形回转中心顶

Used in combination with a lathe or an external grinding machine, the bevel rolling center serves as a center pusher for steel pipe or a workpiece with a large central opening and without a centering hole.



| CODE | MT No. | Hand Angle A | Unit Per Pcs. | |
|----------|--------|--------------|---------------|---------|
| | | | Small d | Large D |
| 63 24 41 | 2 | 70° | 12 | 62 |
| 42 | 3A | 70° | 19 | 75 |
| 43 | 3B | 75° | 30 | 105 |
| 44 | 4 | 75° | 30 | 130 |
| 45 | 4B | 75° | 32 | 150 |
| 63 24 46 | 5 | 75° | 32 | 150 |
| 47 | 5B | 75° | 90 | 200 |
| 48 | 6 | 75° | 90 | 200 |
| 49 | 6B | 75° | 120 | 250 |
| 50 | 7 | 75° | 120 | 250 |

Screw Extractors

Extractores de Tornillo/Espárragos

スクリューエキストラクター 螺栓拆卸器

With the screw extractor, the broken bolt or screw in a threaded hole can be easily removed without injuring the threads.



| CODE | Applicable Drill Size mm | Overall Length mm | Applicable | |
|----------|--------------------------|-------------------|------------|---------|
| | | | Bolt mm | Pipe mm |
| 63 24 71 | 2.0 | 50 | 4.8 ~ 6.4 | |
| 72 | 2.7 | 60 | 6.8 ~ 8 | |
| 73 | 4.0 | 68 | 8 ~ 11 | |
| 74 | 6.4 | 76 | 11 ~ 14.3 | |
| 75 | 7.2 | 86 | 14.3 ~ 19 | 3.2 |
| 63 24 76 | 9.1 | 86 | 17.5 ~ 24 | 6.5 |
| 77 | 10.3 | 95 | 19 ~ 25 | |
| 78 | 12.3 | 95 | 24 ~ 28 | 10.0 |
| 79 | 13.5 | 105 | 25 ~ 35 | |
| 80 | 15.5 | 105 | 28 ~ 38 | 13.0 |
| 63 24 81 | 20.5 | 111 | 35 ~ 44 | 19.0 |
| 82 | 27 | 118 | 44 ~ 54 | 25.0 |
| 83 | 33 | 127 | 54 ~ 64 | |
| 84 | 40 | 143 | 64 ~ 76 | |
| 85 | 49 | 159 | 76 ~ 90 | |

Screw Extractor Set

Juego de Extracores para Tomillos/Espárragos

スクリューエキストラクターセット 启螺栓器组件

How to order: CODE

Screw extractor set, APPLICABLE SIZE (MINIMUM – MAXIMUM in mm), NUMBERS/set



| CODE | Applicable Drill Size mm | No. of pieces |
|----------|-------------------------------|---------------|
| 63 24 86 | 2.0, 2.7, 4.0, 6.4, 7.2 | 5 |
| 87 | 2.0, 2.7, 4.0, 6.4, 7.2, 10.3 | 6 |
| 88 | 6.4, 7.2, 10.3 | 3 |

Carbide Rotary Burs

Fresas Rotativa de Metal Duro

超硬ロータリーバー

硬质合金回转磨削杆

Designed for the efficient bevelling of gears, burring, planing, shaping, and milling. These rotary burs are advantageous for use with portable grinding tools of 10,000 R.P.M. or more. Please specify the type, size of the blade and the shank when ordering.



How to order: CODE

Rotary bur, carbide, TYPE, DIAM of SHANK mm, DIAM of BLADE mm

| CODE | Type | Figure | Diameter | | Overall Length mm | Unit Per Pcs. |
|--|----------------------------|--------|----------|----------|-------------------|---------------|
| | | | Shank mm | Blade mm | | |
| 63 25 01 02 03 04 05 06 | Cylindrical Flat End (A) | | 3 | 3 | 38 | |
| | | | 6 | 4 | 60 | |
| | | | 6 | 6 | 55 | |
| | | | 6 | 8 | 55 | |
| | | | 6 | 9 | 55 | |
| | | | 6 | 13 | 70 | |
| 63 25 11 12 13 14 15 16 17 | Cylindrical Radius End (B) | | 3 | 3 | 38 | |
| | | | 6 | 4 | 60 | |
| | | | 6 | 6 | 55 | |
| | | | 6 | 8 | 55 | |
| | | | 6 | 9 | 58 | |
| | | | 6 | 13 | 70H | |
| | | | 6 | 13 | 70 | |
| 63 25 21 22 23 24 25 | Ball Shape (C) | | 3 | 3 | 38 | |
| | | | 6 | 4 | 60 | |
| | | | 6 | 8 | 50 | |
| | | | 6 | 9 | 50 | |
| | | | 6 | 13 | 60 | |
| 63 25 31 32 33 34 35 | Tree Shape Radius End (D) | | 6 | 4 | 60 | |
| | | | 6 | 6 | 55 | |
| | | | 6 | 8 | 55 | |
| | | | 6 | 9 | 55 | |
| | | | 6 | 13 | 70 | |
| 63 25 41 42 43 44 45 46 47 | Cone Shape Radius End (E) | | 3 | 3 | 38 | |
| | | | 6 | 4 | 60 | |
| | | | 6 | 6 | 57 | |
| | | | 6 | 8 | 57 | |
| | | | 6 | 9 | 70 | |
| | | | 6 | 13 | 84H | |
| | | | 6 | 13 | 84 | |
| 63 25 51 52 53 | Tree Shape Pointed End (F) | | 3 | 3 | 38 | |
| | | | 6 | 4 | 60 | |
| | | | 6 | 8 | 50 | |
| 63 25 56 57 58 59 | Flame Shape (G) | | 6 | 8 | 50 | |
| | | | 6 | 9 | 50 | |
| | | | 6 | 13 | 75H | |
| | | | 6 | 13 | 75 | |
| | | | | | | |
| 63 25 61 62 | Cone Shape (H) | | 6 | 8 | 50 | |
| | | | 6 | 9 | 55 | |

High Speed Steel Tool Bits

Herramientas Torneado H.S.S.

高速度鋼付刃バイト

高速钢刀具

(Ref. JIS B 4151 – 87)

For use in cutting hard materials like heat-treated alloy steels, die steels, bronze, stainless steels, etc. Ground on all 4 sides. Cut to standard tool holder lengths with a standard bevel on each end. Bits require grinding only to make them ready for use in tool holders.

**Square Tool Bits**

Cuchillas Cuadradas 方形バイト 高速钢方形车刀



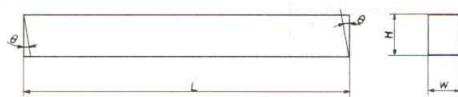
For turning, boring, threading tool holders.

Unit Per Pcs.

| CODE | Size mm | | CODE | Size mm | |
|----------------------------------|--------------|----------|----------------------------------|--------------|----------|
| | Square H & W | Length L | | Square H & W | Length L |
| 63 26 01 02 03 04 05 | 5 | 50 | 63 26 08 09 10 11 12 | 25 | 200 |
| | 6 | 63 | | 5 | 80 |
| | 8 | 63 | | 6 | 160 |
| | 10 | 80 | | 8 | 160 |
| | 12 | 100 | | 10 | 160 |
| 63 26 06 07 | 16 | 125 | 63 26 13 | 12 | 160 |
| | 20 | 160 | | | |

Rectangular Flat Tool Bits

Cuchilla Rectangular 長方形バイト 高速钢矩形车刀



For planing tool holders.

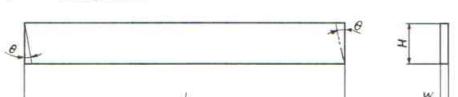
Unit Per Pcs.

| CODE | Size mm W x H x L | | CODE | Size mm W x H x L | |
|----------------------------------|----------------------|----|----------------------------------|----------------------|----------|
| | W | H | | L | |
| 63 26 16 17 18 19 20 | 6 | 10 | 63 26 22 23 24 25 26 | 6 | 10 x 200 |
| | 6 | 12 | | 6 | 12 x 200 |
| | 8 | 12 | | 8 | 12 x 200 |
| | 8 | 16 | | 8 | 16 x 200 |
| | 10 | 12 | | 10 | 12 x 200 |
| 63 26 21 | 10 | 16 | 63 26 27 | 10 | 16 x 200 |
| | | | | | |

Rectangular Plate Tool Bits

Cuchillas para Lámina Rectangular

板バイト 高速钢割刀



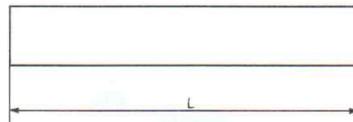
For cutting off and side tool holders.

Unit Per Pcs.

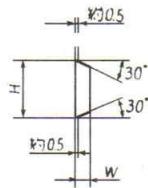
| CODE | Size mm W x H x L | | CODE | Size mm W x H x L | |
|----------------------|----------------------|----|----------------|----------------------|----------|
| | W | H | | L | |
| 63 26 31 32 33 | 3 | 12 | 63 26 34 35 | 4 | 19 x 200 |
| | 3 | 16 | | 5 | 19 x 200 |
| | 4 | 16 | | | |

Plate Cutting-off Tool Bits

Cuchilla Plana de Corte ステッキバイト 高速钢梯形割刀



For cutting off and side tool holders.

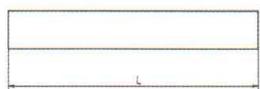


Unit Per Pcs.

| CODE | Size mm W x H x L | CODE | Size mm W x H x L |
|----------|----------------------|----------|----------------------|
| 63 26 51 | 3.2 x 12.7 x 90 | 63 26 53 | 4.8 x 19.0 x 140 |
| 52 | 3.2 x 15.9 x 115 | 54 | 6.4 x 25.4 x 165 |

Round Bar Tool Bits

Cuchilla Redonda 丸棒バイト 圆棒形车刀



For old style boring tool holders.

Unit Per Pcs.

| CODE | Size mm Dia x L | CODE | Size mm Dia x L |
|----------|--------------------|----------|--------------------|
| 63 26 61 | 4 x 40 | 63 26 65 | 10 x 80 |
| 62 | 5 x 50 | 66 | 12 x 100 |
| 63 | 6 x 63 | 67 | 16 x 125 |
| 64 | 8 x 63 | 68 | 20 x 160 |

Tool Bit Material**High Speed Steel**

Cuchillas H.S.S. 高速度鋼バイト材 高速刚车刀原料

High speed, steel tool bit material is not hardened as it is made for general use. The material is available in two types, square and rectangular, to suit the users requirements. These plates are supplied in 300 mm length pieces.



Square



Rectangular

Unit Per Pcs.

| CODE | Size mm W x H x L | CODE | Size mm W x H x L |
|-------------|----------------------|----------|----------------------|
| Square | | | |
| 63 26 71 | 6 x 6 x 300 | 63 26 75 | 16 x 16 x 300 |
| 72 | 8 x 8 x 300 | 76 | 19 x 19 x 300 |
| 73 | 10 x 10 x 300 | 77 | 25 x 25 x 300 |
| 74 | 13 x 13 x 300 | | |
| Rectangular | | | |
| 63 26 81 | 3 x 13 x 300 | 63 26 89 | 6 x 13 x 300 |
| 82 | 3 x 16 x 300 | 90 | 6 x 16 x 300 |
| 83 | 3 x 19 x 300 | 91 | 6 x 19 x 300 |
| 84 | 3 x 25 x 300 | 92 | 6 x 25 x 300 |
| 85 | 5 x 13 x 300 | 93 | 8 x 13 x 300 |
| 63 26 86 | 5 x 16 x 300 | 63 26 94 | 8 x 16 x 300 |
| 87 | 5 x 19 x 300 | 95 | 8 x 19 x 300 |
| 88 | 5 x 25 x 300 | 96 | 8 x 25 x 300 |

**Single Point Tools
with Cemented Carbide Tip**

Herramientas para Tornear con Plaquitas de Metal Duro (Carburo Cementado)

超硬バイト 硬质合金头车刀

Ref. JIS B 4105 – 91

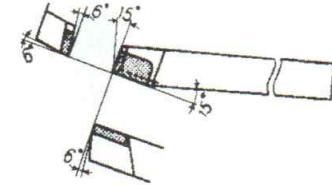
For square shank holders. The carbide tips are finely ground to be ready for use and are covered with an easy to remove cellulose sheath. Choose the cutter most suitable for the work you are doing from the examples below. Please specify whether you require left or right hand tips.

**How to order: CODE**

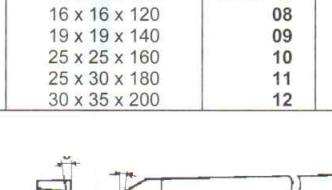
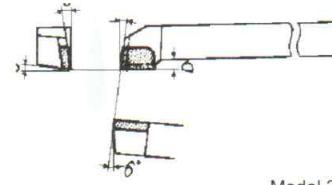
Tool, single point with cemented carbide tip, RIGHT or LEFT HAND, MODEL NO. SHANK SIZE mm

Unit Per Pcs.

| Right Hand | | Shank Size W x H x L mm | Left Hand | |
|------------|-----------|----------------------------|-----------|-----------|
| CODE | Model No. | | CODE | Model No. |

Model 31 Right**32 Left**

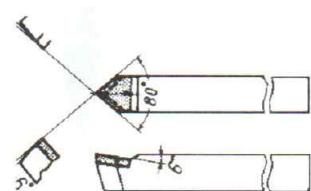
Model 32 Left

Model 31 Right**32 Left****Model 33 Right****34 Left**

Model 34 Left

Model 33 Right**34 Left**

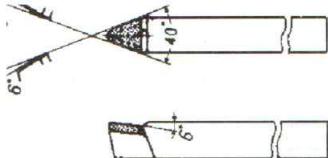
| 63 27 13 | 33-0 | 10 x 10 x 80 | 63 27 20 | 34-0 |
|----------|------|---------------|----------|------|
| 14 | 1 | 13 x 13 x 100 | 21 | 1 |
| 15 | 2 | 16 x 16 x 120 | 22 | 2 |
| 16 | 3 | 19 x 19 x 140 | 23 | 3 |
| 17 | 4 | 25 x 25 x 160 | 24 | 4 |
| 18 | 5 | 25 x 30 x 180 | 25 | 5 |
| 19 | 6 | 30 x 35 x 200 | 26 | 6 |

Model 35**Straight**

| | | | |
|----------|------|---------------|--|
| 63 27 27 | 35-0 | 10 x 10 x 80 | |
| 28 | 1 | 13 x 13 x 100 | |
| 29 | 2 | 16 x 16 x 120 | |
| 30 | 3 | 19 x 19 x 140 | |
| 31 | 4 | 25 x 25 x 160 | |
| 32 | 5 | 25 x 30 x 180 | |
| 33 | 6 | 30 x 35 x 200 | |

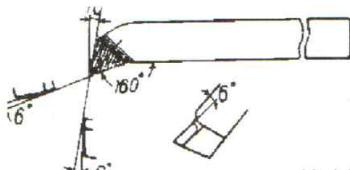
Remark :
No Right or Left Hand.
Straight Type only.

| Right Hand | | Left Hand | | Unit Per Pcs. |
|------------|-----------|-------------------------|------|---------------|
| Code | Model No. | Shank Size W x H x L mm | Code | Model No. |

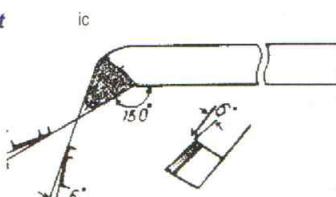
Model 36**Straight**

| | | | | |
|----------|------|---------------|--|--|
| 63 27 34 | 36-0 | 10 x 10 x 80 | | |
| 35 | 1 | 13 x 13 x 100 | | |
| 36 | 2 | 16 x 16 x 120 | | |
| 37 | 3 | 19 x 19 x 140 | | |
| 38 | 4 | 25 x 25 x 160 | | |
| 39 | 5 | 25 x 30 x 180 | | |
| 40 | 6 | 30 x 35 x 200 | | |

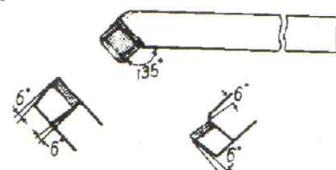
Remark :
No Right or Left
Hand.
Straight Type only.

Model 37 Right**38 Left**

| Model 37 Right | | Model 38 Left | | |
|----------------|------|---------------|----------|------|
| 63 27 41 | 37-1 | 13 x 13 x 100 | 63 27 47 | 38-1 |
| 42 | 2 | 16 x 16 x 120 | 48 | 2 |
| 43 | 3 | 19 x 19 x 140 | 49 | 3 |
| 44 | 4 | 25 x 25 x 160 | 50 | 4 |
| 45 | 5 | 25 x 30 x 180 | 51 | 5 |
| 46 | 6 | 30 x 35 x 200 | 52 | 6 |

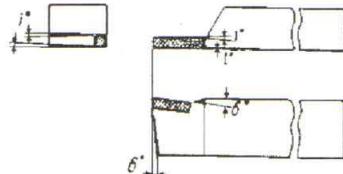
Model 39 Right**40 Left**

| Model 39 Right | | Model 40 Left | | |
|----------------|------|---------------|----------|------|
| 63 27 53 | 39-0 | 10 x 10 x 80 | 63 27 60 | 40-0 |
| 54 | 1 | 13 x 13 x 100 | 61 | 1 |
| 55 | 2 | 16 x 16 x 120 | 62 | 2 |
| 56 | 3 | 19 x 19 x 140 | 63 | 3 |
| 57 | 4 | 25 x 25 x 160 | 64 | 4 |
| 58 | 5 | 25 x 30 x 180 | 65 | 5 |
| 59 | 6 | 30 x 35 x 200 | 66 | 6 |

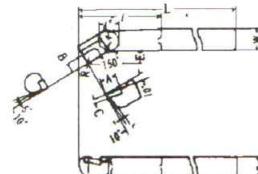
Model 41 Right**42 Left**

| Model 41 Right | | Model 42 Left | | |
|----------------|------|---------------|----------|------|
| 63 27 67 | 41-1 | 13 x 13 x 100 | 63 27 73 | 42-1 |
| 68 | 2 | 16 x 16 x 120 | 74 | 2 |
| 69 | 3 | 19 x 19 x 140 | 75 | 3 |
| 70 | 4 | 25 x 25 x 160 | 76 | 4 |
| 71 | 5 | 25 x 30 x 180 | 77 | 5 |
| 72 | 6 | 30 x 35 x 200 | 78 | 6 |

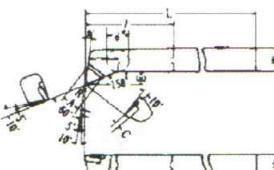
| Right Hand | | Left Hand | | Unit Per Pcs. |
|------------|-----------|-------------------------|------|---------------|
| Code | Model No. | Shank Size W x H x L mm | Code | Model No. |

Model 43
Straight

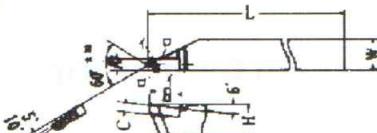
| | | | | |
|----------|------|---------------|--|------------------|
| 63 27 79 | 43-1 | 10 x 16 x 100 | | Remark : |
| 80 | 2 | 13 x 19 x 120 | | No Right or Left |
| 81 | 3 | 16 x 22 x 140 | | Hand. |
| 82 | 4 | 19 x 25 x 160 | | Straight Type |
| 83 | 5 | 22 x 32 x 180 | | only. |
| 84 | 6 | 25 x 38 x 200 | | |

Model 45 Right**46 Left**

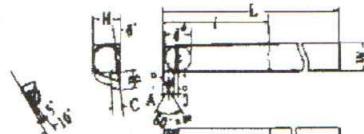
| Model 45 Right | | Model 46 Left | | |
|----------------|------|---------------|----------|------|
| 63 27 85 | 45-1 | 13 x 13 x 140 | 63 27 90 | 46-1 |
| 86 | 2 | 16 x 16 x 160 | 91 | 2 |
| 87 | 3 | 19 x 19 x 190 | 92 | 3 |
| 88 | 4 | 25 x 25 x 230 | 93 | 4 |

Model 47 Right**48 Left**

| Model 47 Right | | Model 48 Left | | |
|----------------|------|---------------|----------|------|
| 63 27 94 | 47-1 | 13 x 13 x 100 | 63 27 98 | 48-1 |
| 95 | 2 | 16 x 16 x 160 | 99 | 2 |
| 96 | 3 | 19 x 19 x 190 | 63 28 01 | 3 |
| 97 | 4 | 25 x 25 x 230 | 02 | 4 |

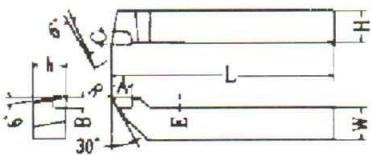
Model 49 Right**50 Left**

| Model 49 Right | | Model 50 Left | | |
|----------------|------|---------------|----------|------|
| 63 28 03 | 49-1 | 13 x 13 x 100 | 63 28 07 | 50-1 |
| 04 | 2 | 16 x 16 x 120 | 08 | 2 |
| 05 | 3 | 19 x 19 x 140 | 09 | 3 |
| 06 | 4 | 25 x 25 x 160 | 10 | 4 |

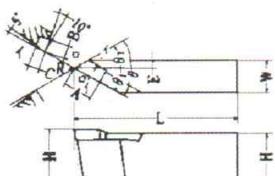
Model 51 Right**52 Left**

Unit Per Pc.

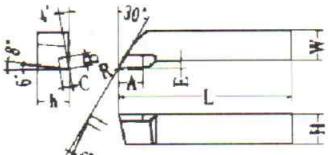
| Right Hand | | Shank Size W x H x L mm | Left Hand | |
|----------------|-----------|----------------------------|---------------|-----------|
| CODE | Model No. | | CODE | Model No. |
| Model 51 Right | | | Model 52 Left | |
| 63 28 11 | 51-1 | 13 x 13 x 140 | 63 28 15 | 52-1 |
| 12 | 2 | 16 x 16 x 160 | 16 | 2 |
| 13 | 3 | 19 x 19 x 190 | 17 | 3 |
| 14 | 4 | 25 x 25 x 230 | 18 | 4 |

Model 91 Right
92 Left

| Model 91 Right | | | Model 92 Left | |
|----------------|------|---------------|---------------|------|
| 63 28 19 | 91-1 | 19 x 25 x 160 | 63 28 22 | 92-1 |
| 20 | 2 | 25 x 25 x 160 | 23 | 2 |
| 21 | 3 | 25 x 32 x 160 | 24 | 3 |

Model 93 Right
94 Left

| Model 93 Right | | | Model 94 Left | |
|----------------|------|--------------------|---------------|------|
| 63 28 25 | 93-1 | 25 x 38 x 150 050° | 63 28 29 | 94-1 |
| 26 | 2 | 25 x 38 x 150 058° | 30 | 2 |
| 27 | 3 | 34 x 47 x 150 050° | 31 | 3 |
| 28 | 4 | 34 x 47 x 150 058° | 32 | 4 |

Model 95
Straight

| | | | |
|----------|------|---------------|----------------|
| 63 28 33 | 95-1 | 25 x 25 x 160 | Straight only. |
|----------|------|---------------|----------------|

Cemented Carbide Tips

Plaquetas de Metal Duro 超硬チップ 硬质合金刀头

(Ref. JIS B 4104 – 89)

These carbide tips are used with carbide tipped turning cutters. Tips are fitted with cement.

Unit Per Pc.

| Sketch | CODE | Model No. | Dimensions mm | | | |
|----------|----------|-----------|---------------|----|----|---|
| | | | A | B | C | R |
| MODEL 01 | 63 29 01 | 01-0 | 10 | 6 | 3 | 4 |
| | | 02 | 1 | 13 | 9 | 5 |
| | | 03 | 2 | 16 | 11 | 4 |
| | | 04 | 3 | 19 | 13 | 5 |
| | | 05 | 4 | 22 | 15 | 8 |
| | | 06 | 5 | 25 | 17 | 8 |
| | | 07 | 6 | 30 | 20 | 8 |

(to be continued)

| Sketch | CODE | Model No. | Dimensions mm | | | |
|------------|----------|--------------------------------|---------------|----|----|-----|
| | | | A | B | C | R |
| MODEL 02 | 63 29 08 | 02-0 | 10 | 6 | 3 | |
| | | 09 | 1 | 13 | 9 | 3 |
| | | 10 | 2 | 16 | 11 | 4 |
| | | 11 | 3 | 19 | 13 | 5 |
| | | 12 | 4 | 22 | 15 | 6 |
| | | 13 | 5 | 25 | 17 | 7 |
| | | 14 | 6 | 30 | 20 | 8 |
| | | MODEL 03 | 10 | | | |
| | | | 12 | | | |
| | | | 15 | | | |
| | | | 18 | | | |
| | | | 24 | | | |
| | | | 26 | | | |
| | | | 28 | | | |
| MODEL 04 | 63 29 22 | 04-0 | 10 | 6 | 3 | 4 |
| | | 23 | 1 | 13 | 9 | 3 |
| | | 24 | 2 | 16 | 11 | 4 |
| | | 25 | 3 | 19 | 13 | 5 |
| | | 26 | 4 | 22 | 15 | 6 |
| | | 27 | 5 | 25 | 17 | 8 |
| | | 28 | 6 | 30 | 20 | 8 |
| | | MODEL 05 | 5 | 8 | 3 | |
| | | | 6 | 10 | 4 | |
| | | | 12 | 5 | | |
| | | | 16 | 6 | | |
| | | | 18 | 7 | | |
| | | | 20 | 8 | | |
| | | | 28 | | | |
| MODEL 06 | 63 29 36 | 06-0 | 10 | 10 | 3 | 2 |
| | | 37 | 1 | 13 | 13 | 2.5 |
| | | 38 | 2 | 16 | 16 | 3 |
| | | 39 | 3 | 19 | 19 | 4 |
| | | 40 | 4 | 22 | 22 | 4 |
| | | 41 | 5 | 25 | 25 | 5 |
| | | 42 | 6 | 30 | 30 | 6 |
| | | MODEL 07 | 10 | 10 | 3 | |
| | | | 13 | 13 | 3 | |
| | | | 16 | 16 | 4 | |
| | | | 19 | 19 | 5 | |
| | | | 20 | 20 | 6 | |
| | | | 22 | 22 | 7 | |
| | | | 25 | 25 | 8 | |
| MODEL 08 | 63 29 50 | 08-1 | 3 | 8 | 3 | |
| | | 51 | 4 | 13 | 4 | |
| | | 52 | 5 | 15 | 5 | |
| | | 53 | 6 | 17 | 6 | |
| | | 54 | 8 | 20 | 8 | |
| | | MODEL 09-J RIGHT OR LEFT | | | | (a) |
| | | | 25 | 12 | 8 | 40° |
| | | | 25 | 12 | 8 | 32° |
| | | | 25 | 14 | 10 | 40° |
| | | | 25 | 14 | 10 | 32° |
| | | | 25 | 12 | 8 | 40° |
| | | | 25 | 12 | 8 | 32° |
| | | | 25 | 14 | 10 | 40° |
| | | | 25 | 14 | 10 | 32° |
| | | | 25 | 12 | 8 | 40° |
| | | | 25 | 12 | 8 | 32° |
| | | | 25 | 14 | 10 | 40° |
| | | | 25 | 14 | 10 | 32° |
| | | | 25 | 14 | 10 | 40° |
| MODEL 09-C | 63 29 63 | 09-C-1R | 16 | 8 | 10 | 6 |
| | | 09-C-1L | 16 | 8 | 10 | 6 |
| | | MODEL 09-E | | | | |
| | | | 20 | 10 | 7 | |
| | | | 20 | 10 | 7 | |
| | | | 20 | 10 | 7 | |
| | | | 20 | 10 | 7 | |

Cemented Carbide Throw-away Inserts

Plaquitas de Metal Duro Desechable

超硬スローアウエイチップ 超硬多刃车刀

(Ref. JIS B 4120 – B 4123-85)

When ordering, cemented carbide throw-away inserts, please specify the following points

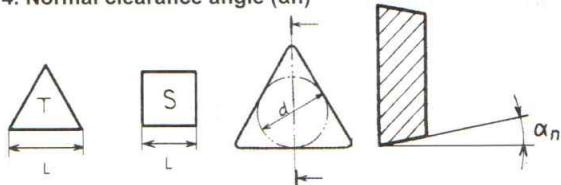
1. Shape

| Shape | Included Angle | Figure |
|----------------------|--|--------|
| Regular Hexagon | 120° | |
| Regular Octagon | 135° | |
| Regular Pentagon | 108° | |
| Square | 90° | |
| Equilateral Triangle | 60° | |
| Rhombus | 80° 55° 75° 50° 86° 35° | |
| Rhombic Hexagon | 80° | |
| Rectangle | 90° | |
| Parallelogram | 85° 82° 55° | |
| Circle | - | |

2. Basic size (L)

3. Basic inscribed circle (d)

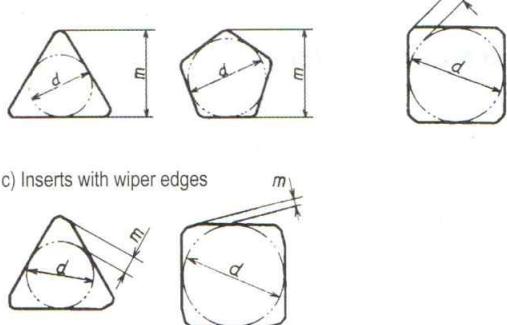
4. Normal clearance angle (α_n)



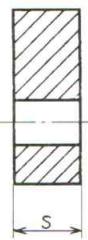
5. Height of corner (m)

a) Inserts with odd number of sides and corners

b) Inserts with even number



6. Thickness of the insert (s)



7. With or without hole

8. With or without chip breaker

| Hole | Chip breaker | Shape |
|---------|--------------|-------|
| Without | Without | |
| | One side | |
| | Both side | |
| With | Without | |
| | One side | |
| | Both side | |

How to order: 63 - 29 - 71

Throw-away insert, cemented carbide, SHAPE, BASIC SIZE, BASIC INSCRIBED CIRCLE, NORMAL CLEARANCE ANGLE, HEIGHT OF CORNER, THICKNESS OF THE INSERT, WITH or WITHOUT HOLE, WITH or WITHOUT CHIP BREAKER

High Speed Steel Tip Welded Tool Bits

Herramientas Torneado H.S.S. 高速度鋼付刃バイト 高速鋼尖端車刀

(Ref. JIS B 4152 – 88)

These tool bits are supplied in a variety of shapes and sizes depending upon the type of work they are used for. The tips are made of hardened high speed steel welded to the shanks and covered in cellulose for protection. Please specify the model number you require and whether the bits should be for left or right hand use from the information provided below.



How to order: CODE

Tool bit, tip welded, high speed steel, TYPE of SHAPE, RIGHT or LEFT HAND, NOMINAL SHANK SIZE

| CODE | Nominal Shank Size | Unit Per Pc. | | | | | |
|------|--------------------|--------------|---|---|---------------|--|--|
| | | Tip Size mm | | | Shank Size mm | | |
| A | B | C | W | H | L | | |

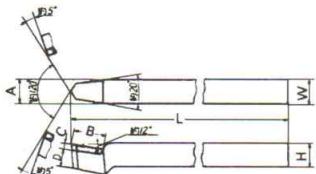
Pointed Nose Straight Tool

Herramienta recta con punta

真剣バイト

尖嘴直工具

(Model No. 10)



| | | | | | | | |
|----------|----|----|----|----|----|----|-----|
| 63 30 01 | 12 | 12 | 16 | 4 | 12 | 12 | 125 |
| 02 | 16 | 16 | 20 | 5 | 16 | 16 | 140 |
| 03 | 20 | 20 | 25 | 6 | 20 | 20 | 160 |
| 04 | 25 | 25 | 32 | 8 | 25 | 25 | 200 |
| 05 | 32 | 32 | 40 | 10 | 32 | 32 | 250 |

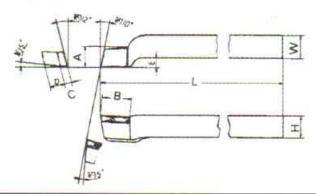
Right Hand or Left Hand Knife Tool

Cuchillo para mano derecha o izquierda

右、左勝手片刃バイト

右手或左手持刀工具

(Model No. 13)



| | | | | | | | |
|----------|----------|----|----|----|----|----|-----|
| 63 30 06 | Right 12 | 12 | 16 | 4 | 12 | 12 | 125 |
| 07 | 16 | 15 | 20 | 5 | 16 | 16 | 140 |
| 08 | 20 | 17 | 25 | 6 | 20 | 20 | 160 |
| 09 | 25 | 23 | 32 | 8 | 25 | 25 | 200 |
| 10 | 32 | 29 | 40 | 10 | 32 | 32 | 250 |
| 63 30 11 | Left 12 | 12 | 16 | 4 | 12 | 12 | 125 |
| 12 | 16 | 15 | 20 | 5 | 16 | 16 | 140 |
| 13 | 20 | 17 | 25 | 6 | 20 | 20 | 160 |
| 14 | 25 | 23 | 32 | 8 | 25 | 25 | 200 |
| 15 | 32 | 29 | 40 | 10 | 32 | 32 | 250 |

Right Hand or Left Hand Bent Tool

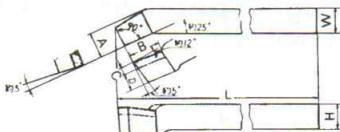
Herramienta doblada a la derecha o a la izquierda

右、左勝手

横刃バイト

右手或左手弯曲工具

(Model No. 14)



| | | | | | | | |
|----------|----------|----|----|----|----|----|-----|
| 63 30 16 | Right 12 | 12 | 16 | 4 | 12 | 12 | 125 |
| 17 | 16 | 16 | 20 | 5 | 16 | 16 | 140 |
| 18 | 20 | 20 | 25 | 6 | 20 | 20 | 160 |
| 19 | 25 | 25 | 32 | 8 | 25 | 25 | 200 |
| 20 | 32 | 32 | 40 | 10 | 32 | 32 | 250 |
| 63 30 21 | Left 12 | 12 | 16 | 4 | 12 | 12 | 125 |
| 22 | 16 | 16 | 20 | 5 | 16 | 16 | 140 |
| 23 | 20 | 20 | 25 | 6 | 20 | 20 | 160 |
| 24 | 25 | 25 | 32 | 8 | 25 | 25 | 200 |
| 25 | 32 | 32 | 40 | 10 | 32 | 32 | 250 |

Right Hand or Left Hand Bent Finishing Tool

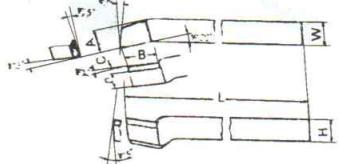
Herramienta de acabado curvada a derechas o izquierdas

右、左勝手

右、左剣バイト

右手或左手弯曲整理工具

(Model No. 15)



| CODE | Nominal Shank Size | Unit Per Pc. | | | | | |
|----------|--------------------|--------------|----|----|---------------|----|-----|
| | | Tip Size mm | | | Shank Size mm | | |
| A | B | C | W | H | L | | |
| 63 30 26 | Right 12 | 12 | 16 | 4 | 12 | 12 | 125 |
| 27 | 16 | 16 | 20 | 5 | 16 | 16 | 140 |
| 28 | 20 | 20 | 25 | 6 | 20 | 20 | 160 |
| 29 | 25 | 25 | 32 | 8 | 25 | 25 | 200 |
| 30 | 32 | 32 | 40 | 10 | 32 | 32 | 250 |
| 63 30 31 | Left 12 | 12 | 16 | 4 | 12 | 12 | 125 |
| 32 | 16 | 16 | 20 | 5 | 16 | 16 | 140 |
| 33 | 20 | 20 | 25 | 6 | 20 | 20 | 160 |
| 34 | 25 | 25 | 32 | 8 | 25 | 25 | 200 |
| 35 | 32 | 32 | 40 | 10 | 32 | 32 | 250 |

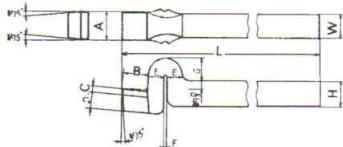
Spring Finishing Tool

Herramienta de acabado de muelles

ヘルス上昇バイト

弹簧整理工具

(Model No. 22)



| | | | | | | | |
|----------|----|----|----|----|----|----|-----|
| 63 30 36 | 12 | 15 | 13 | 4 | 12 | 12 | 125 |
| 37 | 16 | 19 | 16 | 5 | 16 | 16 | 140 |
| 38 | 20 | 22 | 19 | 6 | 20 | 20 | 160 |
| 39 | 25 | 30 | 25 | 8 | 25 | 25 | 200 |
| 40 | 32 | 38 | 32 | 10 | 32 | 32 | 250 |

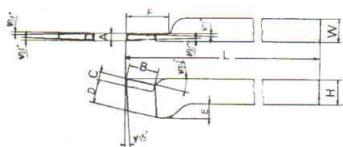
Parting Tool

Herramienta de separación

突切りバイト

分型工具

(Model No. 31)



| | | | | | | | |
|----------|----|----|----|----|----|----|-----|
| 63 30 41 | 12 | 4 | 16 | 4 | 12 | 12 | 125 |
| 42 | 16 | 5 | 20 | 5 | 16 | 16 | 140 |
| 43 | 20 | 6 | 25 | 6 | 20 | 20 | 160 |
| 44 | 25 | 8 | 32 | 8 | 25 | 25 | 200 |
| 45 | 32 | 10 | 40 | 10 | 32 | 32 | 250 |

Spring Parting Tool

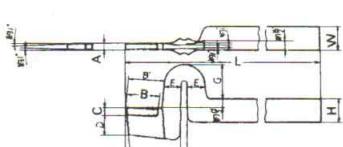
Herramienta de separación de

muelles

ヘルス突切バイト

弹簧分割工具

(Model No. 32)



| | | | | | | | |
|----------|----|----|----|----|----|----|-----|
| 63 30 46 | 12 | 4 | 16 | 4 | 12 | 12 | 140 |
| 47 | 16 | 5 | 20 | 5 | 16 | 16 | 160 |
| 48 | 20 | 6 | 25 | 6 | 20 | 20 | 180 |
| 49 | 25 | 8 | 32 | 8 | 25 | 25 | 220 |
| 50 | 32 | 10 | 40 | 10 | 32 | 32 | 280 |

Round Nose Boring Tool

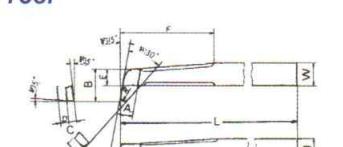
Herramienta de mandrinar de

punta redonda

先丸穴ぐりバイト

圆头镗刀

(Model No. 40)



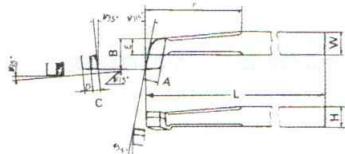
| CODE | Nominal Shank Size | Tip Size mm | | | Shank Size mm | | | Unit Per Pcs. |
|----------|-----------------------|-------------|----|-----|---------------|----|-----|---------------|
| | | A | B | C | W | H | L | |
| 63 30 51 | 12 | 8 | 16 | 4 | 12 | 12 | 160 | |
| 52 | 16 | 10 | 20 | 4.5 | 16 | 16 | 180 | |
| 53 | 20 | 12 | 25 | 5 | 20 | 20 | 200 | |
| 54 | 25 | 16 | 32 | 6 | 25 | 25 | 250 | |
| 55 | 32 | 20 | 40 | 8 | 32 | 32 | 315 | |

Boring Tool

Herramienta de mandrinar

穴ぐり荒バイト

鐘孔工具



(Model No. 41)

| CODE | Nominal Shank Size | A | B | C | W | H | L | Unit Per Pcs. |
|----------|-----------------------|----|----|-----|----|----|-----|---------------|
| | | | | | | | | |
| 63 30 56 | 12 | 8 | 16 | 4 | 12 | 12 | 160 | |
| 57 | 16 | 10 | 20 | 4.5 | 16 | 16 | 180 | |
| 58 | 20 | 12 | 25 | 5 | 20 | 20 | 200 | |
| 59 | 25 | 16 | 32 | 6 | 25 | 25 | 250 | |
| 60 | 32 | 20 | 40 | 8 | 32 | 32 | 315 | |

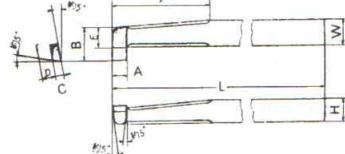
Bore Finishing Tool

Herramienta de acabado de

orificios

穴仕上げバイト

内孔精整工具



(Model No. 42)

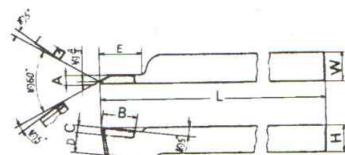
| CODE | Nominal Shank Size | A | B | C | W | H | L | Unit Per Pcs. |
|----------|-----------------------|----|----|-----|----|----|-----|---------------|
| | | | | | | | | |
| 63 30 61 | 12 | 8 | 16 | 4 | 12 | 12 | 160 | |
| 62 | 16 | 10 | 20 | 4.5 | 16 | 16 | 180 | |
| 63 | 20 | 12 | 25 | 5 | 20 | 20 | 200 | |
| 64 | 25 | 16 | 32 | 6 | 25 | 25 | 250 | |
| 65 | 32 | 20 | 40 | 8 | 32 | 32 | 315 | |

External Threading Tool

Herramienta de roscado exterior

おねじ切りバイト

外螺纹工具



(Model No. 51)

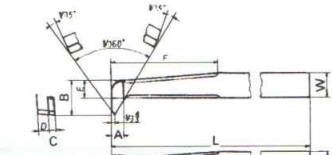
| CODE | Nominal Shank Size | A | B | C | W | H | L | Unit Per Pcs. |
|----------|-----------------------|----|----|----|----|----|-----|---------------|
| | | | | | | | | |
| 63 30 66 | 12 | 6 | 16 | 4 | 12 | 12 | 125 | |
| 67 | 16 | 8 | 20 | 5 | 16 | 16 | 140 | |
| 68 | 20 | 10 | 25 | 6 | 20 | 20 | 160 | |
| 69 | 25 | 12 | 32 | 8 | 25 | 25 | 200 | |
| 70 | 32 | 16 | 40 | 10 | 32 | 32 | 250 | |

Internal Threading Tool

Herramienta de roscado interior

めねじ切りバイト

内螺纹工具



(Model No. 52)

| CODE | Nominal Shank Size | A | B | C | W | H | L | Unit Per Pcs. |
|----------|-----------------------|----|----|-----|----|----|-----|---------------|
| | | | | | | | | |
| 63 30 71 | 12 | 8 | 16 | 4 | 12 | 12 | 160 | |
| 72 | 16 | 9 | 20 | 4.5 | 16 | 16 | 180 | |
| 73 | 20 | 10 | 25 | 5 | 20 | 20 | 200 | |
| 74 | 25 | 12 | 32 | 6 | 25 | 25 | 250 | |
| 75 | 32 | 14 | 40 | 8 | 32 | 32 | 315 | |

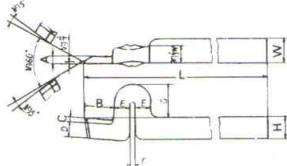
Spring Threading Tool

Herramienta de roscado de

muelles

ヘルルねじ切りバイト

弹簧穿线工具



(Model No. 53)

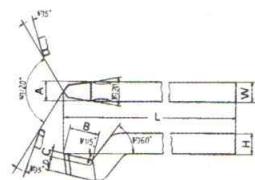
| CODE | Nominal Shank Size | A | B | C | W | H | L | Unit Per Pcs. |
|----------|-----------------------|----|----|----|----|----|-----|---------------|
| | | | | | | | | |
| 63 30 76 | 12 | 6 | 16 | 4 | 12 | 12 | 140 | |
| 77 | 16 | 8 | 20 | 5 | 16 | 16 | 160 | |
| 78 | 20 | 10 | 25 | 6 | 20 | 20 | 180 | |
| 79 | 25 | 12 | 32 | 8 | 25 | 25 | 220 | |
| 80 | 32 | 16 | 40 | 10 | 32 | 32 | 280 | |

Pointed Nose Straight Tool

Herramienta recta con punta

平削り用真剣バイト

尖嘴直工具



(Model No. 60)

| CODE | Nominal Shank Size | A | B | C | W | H | L | Unit Per Pcs. |
|----------|-----------------------|----|----|----|----|----|-----|---------------|
| | | | | | | | | |
| 63 30 81 | 16 | 16 | 20 | 5 | 16 | 16 | 180 | |
| 82 | 20 | 20 | 25 | 6 | 20 | 20 | 220 | |
| 83 | 20 x 25 | 20 | 28 | 8 | 20 | 20 | 250 | |
| 84 | 25 | 25 | 32 | 8 | 25 | 25 | 280 | |
| 85 | 32 | 32 | 40 | 10 | 32 | 32 | 355 | |
| 86 | 40 | 40 | 45 | 12 | 40 | 40 | 425 | |

Right Hand or Left Hand Knife Tool

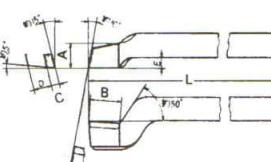
Cuchillo para mano derecha o

izquierda

平削り用右、左

片刃バイト

右手或左手持刀工具



(Model No. 62)

| CODE | Nominal Shank Size | A | B | C | W | H | L | Unit Per Pcs. |
|----------|-----------------------|----|----|----|----|----|-----|---------------|
| | | | | | | | | |
| 63 30 87 | Right 16 | 15 | 20 | 5 | 16 | 16 | 180 | |
| 88 | 20 | 17 | 25 | 6 | 20 | 20 | 220 | |
| 89 | 20 x 25 | 17 | 28 | 8 | 20 | 25 | 250 | |
| 90 | 25 | 23 | 32 | 8 | 25 | 25 | 280 | |
| 91 | 32 | 29 | 40 | 10 | 32 | 32 | 355 | |
| 92 | 40 | 35 | 45 | 12 | 40 | 40 | 425 | |

| CODE | Nominal Shank Size | A | B | C | W | H | L | Unit Per Pcs. |
|----------|-----------------------|----|----|----|----|----|-----|---------------|
| | | | | | | | | |
| 63 30 93 | Left 16 | 15 | 20 | 5 | 16 | 16 | 180 | |
| 94 | 20 | 17 | 25 | 6 | 20 | 20 | 220 | |
| 95 | 20 x 25 | 17 | 28 | 8 | 20 | 25 | 250 | |
| 96 | 25 | 23 | 32 | 8 | 25 | 25 | 280 | |
| 97 | 32 | 29 | 40 | 10 | 32 | 32 | 355 | |
| 98 | 40 | 35 | 45 | 12 | 40 | 40 | 425 | |

| CODE | Nominal Shank Size | Unit Per Pc. | | | | | |
|------|-----------------------|--------------|---|---|---------------|--|--|
| | | Tip Size mm | | | Shank Size mm | | |
| A | B | C | W | H | L | | |

Right Hand or Left Hand Bent Tool

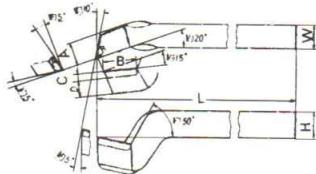
Herramienta doblada a la derecha

o a la izquierda

平削り用右、左

剣バイト

右手或左手弯曲工具



(Model No. 63)

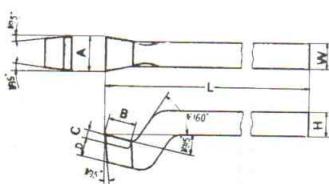
| | | | | | | | |
|----------|----------|----|----|----|----|----|-----|
| 63 31 01 | Right 16 | 16 | 20 | 5 | 16 | 16 | 180 |
| 02 | 20 | 20 | 25 | 6 | 20 | 20 | 220 |
| 03 | 20 x 25 | 20 | 28 | 8 | 20 | 25 | 250 |
| 04 | 25 | 25 | 32 | 8 | 25 | 25 | 280 |
| 05 | 32 | 32 | 40 | 10 | 32 | 32 | 355 |
| 06 | 40 | 40 | 45 | 12 | 40 | 40 | 425 |
| 63 31 07 | Left 16 | 16 | 20 | 5 | 16 | 16 | 180 |
| 08 | 20 | 20 | 25 | 6 | 20 | 20 | 220 |
| 09 | 20 x 25 | 20 | 28 | 8 | 20 | 25 | 250 |
| 10 | 25 | 25 | 32 | 8 | 25 | 25 | 280 |
| 11 | 32 | 32 | 40 | 10 | 32 | 32 | 355 |
| 12 | 40 | 40 | 45 | 12 | 40 | 40 | 425 |

Square Nose Straight Tool

Herramienta recta de punta cuadrada

平削り用平剣バイト

方头直工具



(Model No. 64)

| | | | | | | | |
|----------|---------|----|----|----|----|----|-----|
| 63 31 13 | 16 | 19 | 16 | 5 | 16 | 16 | 180 |
| 14 | 20 | 22 | 19 | 6 | 20 | 20 | 220 |
| 15 | 20 x 25 | 22 | 22 | 8 | 25 | 25 | 250 |
| 16 | 25 | 30 | 25 | 8 | 25 | 25 | 280 |
| 17 | 32 | 38 | 32 | 10 | 32 | 32 | 355 |
| 18 | 40 | 45 | 40 | 12 | 40 | 40 | 425 |

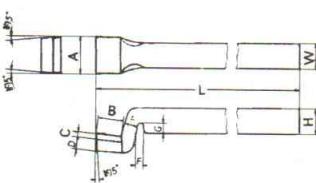
Spring Finishing Tool

Herramienta de acabado de muelles

平削り用ヘール仕上げ

バイト

弹簧整理工具



(Model No. 65)

| | | | | | | | |
|----------|----|----|----|----|----|----|-----|
| 63 31 19 | 16 | 19 | 16 | 5 | 16 | 16 | 180 |
| 20 | 20 | 22 | 19 | 6 | 20 | 20 | 220 |
| 21 | 25 | 30 | 25 | 8 | 25 | 25 | 280 |
| 22 | 32 | 38 | 32 | 10 | 32 | 32 | 355 |
| 23 | 40 | 45 | 38 | 12 | 40 | 40 | 425 |

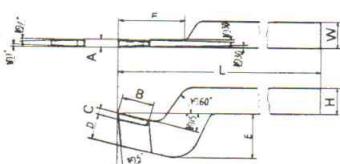
Parting Tool

Herramienta de separación

平削り用

突切りバイト

分型工具



(Model No. 66)

| CODE | Nominal Shank Size | Unit Per Pc. | | | | | |
|----------|-----------------------|--------------|----|----|---------------|----|-----|
| | | Tip Size mm | | | Shank Size mm | | |
| A | B | C | W | H | L | | |
| 63 31 24 | 16 | 5 | 20 | 5 | 16 | 16 | 180 |
| 25 | 20 | 6 | 25 | 6 | 20 | 20 | 220 |
| 26 | 20 x 25 | 6 | 28 | 8 | 20 | 25 | 250 |
| 27 | 25 | 8 | 32 | 8 | 25 | 25 | 280 |
| 28 | 32 | 10 | 40 | 10 | 32 | 32 | 355 |
| 29 | 40 | 13 | 45 | 12 | 40 | 40 | 425 |

Tool Bit Holders

3-Way Insertion

Portaherramientas/Cuchilla Cuadrada

三方バイトホルダー

方杆车刀三向刀柄

A tool for holding square tool bits in three ways. Furnished with an Allen hexagon key.



Unit Per Pc.

| CODE | No. | Tool Bit Size mm | Holder Size mm |
|----------|-----|------------------|----------------|
| | | | T x H x L |
| 63 32 01 | 1 | 6 | 12 x 16 x 110 |
| 02 | 2 | 10 | 14 x 17 x 120 |
| 03 | 3 | 13 | 18 x 20 x 145 |
| 04 | 4 | 16 | 20 x 25 x 175 |
| 05 | 5 | 19 | 25 x 32 x 250 |
| 63 32 06 | 6 | 22 | 29 x 35 x 270 |
| 07 | 7 | 25 | 32 x 38 x 300 |

Spring Cut-off Tool Holders

Portaherramientas/Cuchilla Trapezoidal

突切ヘールホルダー

鹅头型车刀架

This design relieves the cutter blade from excessive pressure, avoiding chattering and climbing of the blade during cutting operation. For holding plate tool bits.



Unit Per Pc.

| CODE | No. | Tool Bit Size mm | Holder Size mm |
|----------|-----|------------------|----------------|
| | | | T x H x L |
| 63 32 16 | 1 | 3.2 x 12.7 x 90 | 13 x 17 x 110 |
| 17 | 2 | 4.0 x 15.9 x 115 | 15 x 20 x 135 |
| 18 | 3 | 4.8 x 19.0 x 140 | 17 x 25 x 160 |
| 19 | 4 | 6.4 x 25.4 x 165 | 22 x 32 x 200 |

Boring Tool Holders

for Square Shank Tool Bit

Portacuchillas para Barrenar

ボーリングツールホルダー

方杆搪刀架

Quickly exchangeable caps, straight (90°) or angular (30°).



Unit Per Pc.

| CODE | No. | Tool Bit Size mm | Sleeve Bar Size mm | Holder Size mm |
|----------|-----|------------------|--------------------|----------------|
| | | | | |
| 63 32 21 | 1 | 5 | 13ø x 210 | 16 x 18 x 100 |
| 22 | 2 | 6 | 16ø x 250 | 22 x 24 x 120 |
| 23 | 3 | 8 | 19ø x 300 | 25 x 28 x 140 |
| 24 | 4 | 10 | 22ø x 400 | 30 x 33 x 180 |

Plain Boring Bars for Square Shank Tool Bit

Barras para Portacuchillas

プレーンボーリングバー 平挖槽杆



This plain bar boring tool has square holes at each end allowing for the use of straight or angular cutters.

Unit Per Pcs.

| CODE | No. | Tool Bit Size mm | Plain Bar Size mm |
|----------|-----|------------------|-------------------|
| 63 32 31 | 1 | 5 | 13ø x 200 |
| 32 | 2 | 6 | 16ø x 250 |
| 33 | 3 | 8 | 19ø x 300 |
| 34 | 4 | 10 | 22ø x 400 |

Knurling Tool Holders

Moleteador ローレットホルダー 滚花刀柄

Self centering knuckle or joint has ample bearings to resist the severe strains of both end and side thrust. Two types, A & B are available. Please specify which type is required when ordering.

1. Type - A

Fitted with 1 pair of knurls for fine, medium, or coarse work.



2. Type - B

Carries three pairs of knurls for fine, medium and coarse work.



| CODE | No. | Holder Size mm | Knurl Size mm |
|----------|-----|----------------|---------------|
| 63 32 41 | A-1 | 9.5 x 22 x 140 | 16 diam. |
| 42 | A-2 | 13 x 29 x 165 | 19 " |
| 43 | A-3 | 16 x 35 x 191 | 19 " |

Knurls for Knurling Holders

Moletas ローレット駒 滚花刀轮

Individually hob-cut from extra high carbon tool steel, heat treated, tempered and tested to obtain sharp, perfectly formed teeth in every knurl. Can be furnished in coarse, medium or fine grade and in either straight line or diamond pattern.



Straight Line



Diamond

How to order: CODE

Knurl, TYPE of THREAD, PITCH, SIZE mm, APPLICABLE TYPE of HOLDER

| CODE | Type | Pitch | Size (mm) | | | Applicable Holder |
|----------|---------------|-------|-----------|----|-----|-------------------|
| | | | OD | BD | HD | |
| 63 32 51 | Straight Line | 14 | | | | |
| | | 21 | | | | |
| | | 33 | 16 | 5 | 5.5 | A-1 B-1 |
| 63 32 54 | Diamond | 14 | | | | |
| | | 21 | | | | |
| | | 33 | | | | |
| 63 32 57 | Straight Line | 14 | | | | |
| | | 21 | | | | |
| | | 33 | 19 | 6 | 6 | A-2 A-3 |
| 63 32 60 | Diamond | 14 | | | | |
| | | 21 | | | | B-2 |
| | | 33 | | | | B-3 |

Thread Restorers

(File Type)

Limas para Roscas ねじ山サラエヤスリ 螺纹修复器



A square bar type restorer with 8 different lands. Where a die cannot be used, a few easy passes with the appropriate land of the restorer over the damaged face of a bolt or a pipe will restore the thread without reducing the diameter. As only the displaced metal is removed, the original fit is preserved.

| Unit Per Pcs. | | | |
|---------------|----------|--|--|
| CODE | Thread | Thread Size on Each Restorer | |
| 63 33 01 | Metric | 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00 | |
| 02 | PF, BSP | 11, 12, 14, 16, 19, 20, 22, 28 | |
| 03 | SAE, UN | 12, 13, 14, 16, 18, 20, 24, 28 | |
| 04 | BSW, BSF | 11, 12, 14, 16, 18, 20, 22, 26 | |

Universal Thread Repair Tools

Herramientas universales para la reparación de roscas

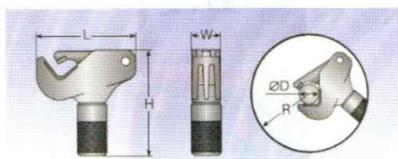
万能ねじ山修正工具

万能螺纹修复成套工具

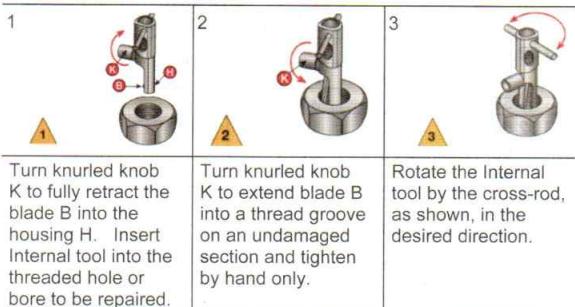
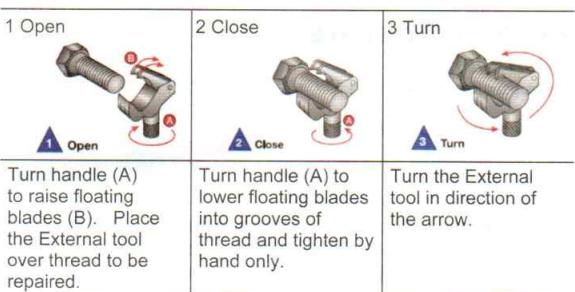
Thread repair tools automatically adjust to any thread diameter and pitch, can be used on left hand or right hand threads, both inch and metric and need no prior measurement of the thread. Often the thread of a component is damaged at the end of the thread eliminating the use of taps or dies for carrying out the repair. These thread restorers have the capability to enter below the damaged area and work outwards to complete the repair. The blades are made of high quality hardened tool steel. The blades are guided by the existing undamaged section of thread, in order to regroove the damaged section.



For Internal Thread



For External Thread

Internal Thread Repair**External Thread Repair****Internal Tools**

| CODE | Size | | Size mm | | | | | | Weight grm | Unit Per Pc. |
|----------|-------|--------------|---------|----|----|-----|----|----|---------------|--------------|
| | øD | Pipes | L | B | H | Rod | øR | øR | | |
| 63 33 11 | 8-11 | 1/16"- 3/16" | 109 | 18 | 45 | 116 | 16 | 38 | 160 | |
| 12 | 12-16 | 1/4"- 3/8" | 109 | 18 | 45 | 116 | 17 | 39 | 170 | |
| 13 | 16-20 | 3/8"- 1/2" | 111 | 21 | 53 | 130 | 20 | 45 | 250 | |
| 14 | 22-32 | 1/2"- 7/8" | 136 | 27 | 64 | 161 | 27 | 54 | 450 | |
| 15 | 32-54 | 7/8"- 1-3/4" | 163 | 38 | 81 | 192 | 35 | 62 | 950 | |
| 63 33 16 | 32-68 | 7/8"-2-1/4" | 163 | 50 | 92 | 192 | 41 | 70 | 1,100 | |

Name of Mfr.: Nes Thread Repair Experts

External Tools

| CODE | Size | | Size mm | | | | Weight grm | Unit Per Pc. |
|----------|----------|---------------|---------|----|-----|-----|---------------|--------------|
| | øD | Pipes | L | W | H | R | | |
| 63 33 21 | 4 - 18 | Up to 7/16" | 61 | 23 | 62 | 68 | 225 | |
| 22 | 17 - 38 | 3/8" - 1-1/8" | 105 | 32 | 110 | 117 | 550 | |
| 23 | 35 - 152 | 1-3/8" - 6" | 305 | 44 | 130 | 254 | 1,800 | |

Name of Mfr.: Nes Thread Repair Experts

Universal Thread Repair Tool Sets

Juego de herramientas universales para la reparación de roscas

万能ねじ山修正工具セット

万能螺紋修复成套工具组套

Thread repair tool set contain different models of thread repair tools.



| CODE | Contain Tools | Model |
|----------|---|-------|
| 63 33 31 | Internal 8-11, 12-16 & 16-20 | 1007 |
| 32 | Internal 8-11, 12-16, 16-20 & 22-32 | 1008 |
| 33 | Internal 22-32, 32-54 & 32-68 | 1036 |
| 34 | External 4-18 & 17-38 | 1000 |
| 35 | External 4-18, 17-38 & 35-152 | 1300 |
| 36 | Internal 8-11, 12-16 External 4-18 | 1015 |
| 37 | Internal 8-11, 12-16, 16-20 External 4-18 | 1017 |
| 38 | Internal 8-11, 12-16, 16-20, 22-32 External 4-18 & 17-38 | 1025 |

Name of Mfr.: Nes Thread Repair Experts

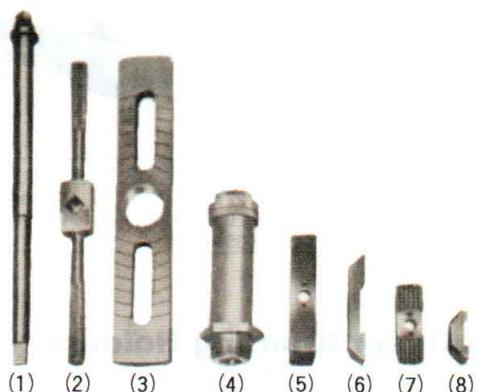
Valve Seat Cutters

Rectificador Asiento Válvulas

バルブシートカッター 气门座绞刀

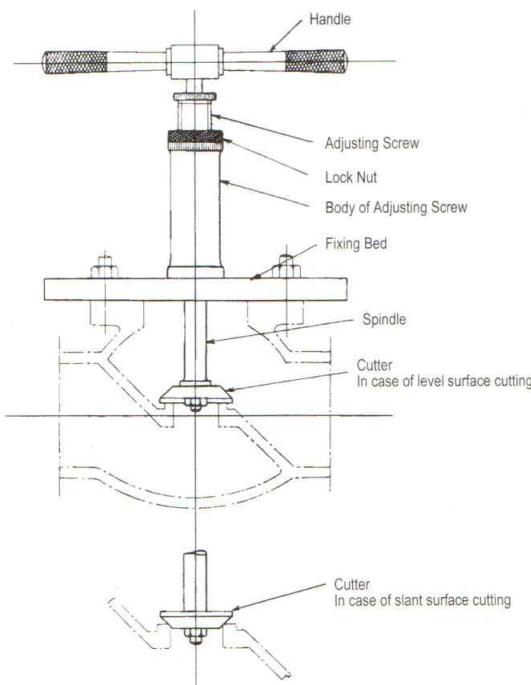
A set is comprised as follows:

- | | |
|----------------|--------------------------------|
| (1) Spindle | (2) Handle |
| (3) Fixing Bed | (4) Lock Nut & Adjusting Screw |
| (5) 4" cutter | (6) 3" cutter |
| (7) 2" cutter | (8) 1" cutter |



These valve seat cutting tools are easier than ordinary type cutters in assembly and handling for precision cutting work. Remove the valve cap or flange and fit the suitable cutter to the spindle. Then, set the fixing bed using a tightening bolt for the cap or flange. Check that the cutter fits horizontally with the valve seat and is in the center position. At this point you set the adjustable screw to find the best position of the cutter. After adjustment, begin the cutting operation by turning the handle clockwise. In case of slant surface cutting, please refer to the following drawing.

A standard set contains 1", 2", 3", and 4" cutters, but other sized cutters, 1/2", 3/4", 1-1/4", 1-1/2", 2-1/2", 5", and 6" are also available upon request.



63 34 51 Valve seat cutter, 1"-4" complete Set

Hole Saws

Sierras Circulares ホールソー 高速钢孔锯

Made of a selected high speed steel or tungsten carbide tipped for cutting smooth and accurate hole. Available cutting depth is 5 mm for standard type hole saw and 36 mm for deep cut type hole saw.



Standard Type



Deep Cut Type

High Speed Steel for Sheet Metal Standard Type

Unit Per Pcs.

| CODE | Hole Diam | Arbor Diam | CODE | Hole Diam | Arbor Diam |
|----------|-----------|------------|----------|-----------|------------|
| 63 35 01 | 12 mm | 6 mm | 63 35 46 | 57 mm | 6 mm |
| 02 | 13 | " | 47 | 58 | " |
| 03 | 14 | " | 48 | 59 | " |
| 04 | 15 | " | 49 | 60 | 8 mm |
| 05 | 16 | " | 50 | 61 | " |
| 63 35 06 | 17 mm | 6 mm | 63 35 51 | 62 mm | 8 mm |
| 07 | 18 | " | 52 | 63 | " |
| 08 | 19 | " | 53 | 64 | " |
| 09 | 20 | " | 54 | 65 | " |
| 10 | 21 | " | 55 | 66 | " |
| 63 35 11 | 22 mm | 6 mm | 63 35 56 | 67 mm | 8 mm |
| 12 | 23 | " | 57 | 68 | " |
| 13 | 24 | " | 58 | 69 | " |
| 14 | 25 | " | 59 | 70 | " |
| 15 | 26 | " | 60 | 71 | " |
| 63 35 16 | 27 mm | 6 mm | 63 35 61 | 72 mm | 8 mm |
| 17 | 28 | " | 62 | 73 | " |
| 18 | 29 | " | 63 | 74 | " |
| 19 | 30 | " | 64 | 75 | " |
| 20 | 31 | " | 65 | 76 | " |
| 63 35 21 | 32 mm | 6 mm | 63 35 66 | 77 mm | 8 mm |
| 22 | 33 | " | 67 | 78 | " |
| 23 | 34 | " | 68 | 79 | " |
| 24 | 35 | " | 69 | 80 | " |
| 25 | 36 | " | 70 | 81 | " |
| 63 35 26 | 37 mm | 6 mm | 63 35 71 | 82 mm | 8 mm |
| 27 | 38 | " | 72 | 83 | " |
| 28 | 39 | " | 73 | 84 | " |
| 29 | 40 | " | 74 | 85 | " |
| 30 | 41 | " | 75 | 86 | " |
| 63 35 31 | 42 mm | 6 mm | 63 35 76 | 87 mm | 8 mm |
| 32 | 43 | " | 77 | 88 | " |
| 33 | 44 | " | 78 | 89 | " |
| 34 | 45 | " | 79 | 90 | " |
| 35 | 46 | " | 80 | 91 | " |
| 63 35 36 | 47 mm | 6 mm | 63 35 81 | 92 mm | 8 mm |
| 37 | 48 | " | 82 | 93 | " |
| 38 | 49 | " | 83 | 94 | " |
| 39 | 50 | " | 84 | 95 | " |
| 40 | 51 | " | 85 | 96 | " |
| 63 35 41 | 52 mm | 6 mm | 63 35 86 | 97 mm | 8 mm |
| 42 | 53 | " | 87 | 98 | " |
| 43 | 54 | " | 88 | 99 | " |
| 44 | 55 | " | 89 | 100 | " |
| 45 | 56 | " | | | |

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**Carbide Tipped for Stainless steel
Standard Type**

Unit Per Pc.

| CODE | Hole Diam | Arbor Diam | CODE | Hole Diam | Arbor Diam |
|----------|-----------|------------|----------|-----------|------------|
| 63 36 01 | 15 mm | 6 mm | 63 36 44 | 58 mm | 6 mm |
| 02 | 16 | " | 45 | 59 | " |
| 03 | 17 | " | 46 | 60 | 8 mm |
| 04 | 18 | " | 47 | 61 | " |
| 05 | 19 | " | 48 | 62 | " |
| 63 36 06 | 20 mm | 6 mm | 63 36 49 | 63 mm | 8 mm |
| 07 | 21 | " | 50 | 64 | " |
| 08 | 22 | " | 51 | 65 | " |
| 09 | 23 | " | 52 | 66 | " |
| 10 | 24 | " | 53 | 67 | " |
| 63 36 11 | 25 mm | 6 mm | 63 36 54 | 68 mm | 8 mm |
| 12 | 26 | " | 55 | 69 | " |
| 13 | 27 | " | 56 | 70 | " |
| 14 | 28 | " | 57 | 71 | " |
| 15 | 29 | " | 58 | 72 | " |
| 63 36 16 | 30 mm | 6 mm | 63 36 59 | 73 mm | 8 mm |
| 17 | 31 | " | 60 | 74 | " |
| 18 | 32 | " | 61 | 75 | " |
| 19 | 33 | " | 62 | 76 | " |
| 20 | 34 | " | 63 | 77 | " |
| 63 36 21 | 35 mm | 6 mm | 63 36 64 | 78 mm | 8 mm |
| 22 | 36 | " | 65 | 79 | " |
| 23 | 37 | " | 66 | 80 | " |
| 24 | 38 | " | 67 | 81 | " |
| 25 | 39 | " | 68 | 82 | " |
| 63 36 26 | 40 mm | 6 mm | 63 36 69 | 83 mm | 8 mm |
| 27 | 41 | " | 70 | 84 | " |
| 28 | 42 | " | 71 | 85 | " |
| 29 | 43 | " | 72 | 86 | " |
| 30 | 44 | " | 73 | 87 | " |
| 63 36 31 | 45 mm | 6 mm | 63 36 74 | 88 mm | 8 mm |
| 32 | 46 | " | 75 | 89 | " |
| 33 | 47 | " | 76 | 90 | " |
| 34 | 48 | " | 77 | 91 | " |
| 35 | 49 | " | 78 | 92 | " |
| 63 36 36 | 50 mm | 6 mm | 63 36 79 | 93 mm | 8 mm |
| 37 | 51 | " | 80 | 94 | " |
| 38 | 52 | " | 81 | 95 | " |
| 39 | 53 | " | 82 | 96 | " |
| 40 | 54 | " | 83 | 97 | " |
| 63 36 41 | 55 mm | 6 mm | 63 36 84 | 98 mm | 8 mm |
| 42 | 56 | " | 85 | 99 | " |
| 43 | 57 | " | 86 | 100 | " |

**Tungsten Carbide Tipped for Stainless Steel
Deep Cut Type**

Unit Per Pc.

| CODE | Hole Diam | Arbor Diam | CODE | Hole Diam | Arbor Diam |
|----------|-----------|------------|----------|-----------|------------|
| 63 37 01 | 15 mm | 10 mm | 63 37 44 | 58 mm | 10 mm |
| 02 | 16 | " | 45 | 59 | " |
| 03 | 17 | " | 46 | 60 | 12 mm |
| 04 | 18 | " | 47 | 61 | " |
| 05 | 19 | " | 48 | 62 | " |
| 63 37 06 | 20 mm | 10 mm | 63 37 49 | 63 mm | 12 mm |
| 07 | 21 | " | 50 | 64 | " |
| 08 | 22 | " | 51 | 65 | " |
| 09 | 23 | " | 52 | 66 | " |
| 10 | 24 | " | 53 | 67 | " |
| 63 37 11 | 25 mm | 10 mm | 63 37 54 | 68 mm | 12 mm |
| 12 | 26 | " | 55 | 69 | " |
| 13 | 27 | " | 56 | 70 | " |
| 14 | 28 | " | 57 | 71 | " |
| 15 | 29 | " | 58 | 72 | " |
| 63 37 16 | 30 mm | 10 mm | 63 37 59 | 73 mm | 12 mm |
| 17 | 31 | " | 60 | 74 | " |
| 18 | 32 | " | 61 | 75 | " |
| 19 | 33 | " | 62 | 76 | " |
| 20 | 34 | " | 63 | 77 | " |
| 63 37 21 | 35 mm | 10 mm | 63 37 64 | 78 mm | 12 mm |
| 22 | 36 | " | 65 | 79 | " |
| 23 | 37 | " | 66 | 80 | " |
| 24 | 38 | " | 67 | 81 | " |
| 25 | 39 | " | 68 | 82 | " |
| 63 37 26 | 40 mm | 10 mm | 63 37 69 | 83 mm | 12 mm |
| 27 | 41 | " | 70 | 84 | " |
| 28 | 42 | " | 71 | 85 | " |
| 29 | 43 | " | 72 | 86 | " |
| 30 | 44 | " | 73 | 87 | " |
| 63 37 31 | 45 mm | 10 mm | 63 37 74 | 88 mm | 12 mm |
| 32 | 46 | " | 75 | 89 | " |
| 33 | 47 | " | 76 | 90 | " |
| 34 | 48 | " | 77 | 91 | " |
| 35 | 49 | " | 78 | 92 | " |
| 63 37 36 | 50 mm | 10 mm | 63 37 79 | 93 mm | 12 mm |
| 37 | 51 | " | 80 | 94 | " |
| 38 | 52 | " | 81 | 95 | " |
| 39 | 53 | " | 82 | 96 | " |
| 40 | 54 | " | 83 | 97 | " |
| 63 37 41 | 55 mm | 10 mm | 63 37 84 | 98 mm | 12 mm |
| 42 | 56 | " | 85 | 99 | " |
| 43 | 57 | " | 86 | 100 | " |