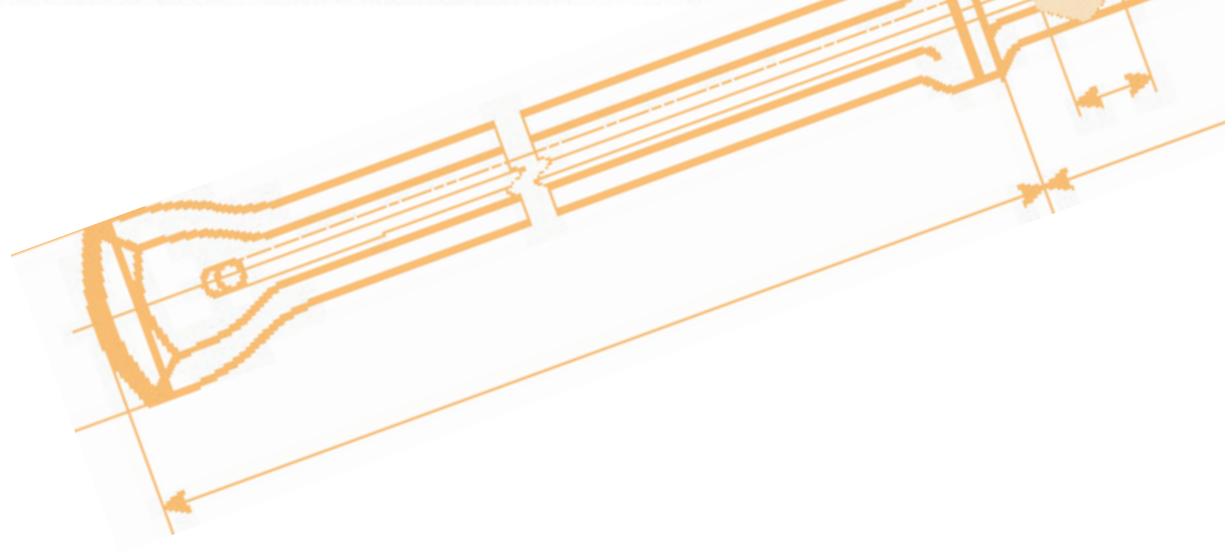
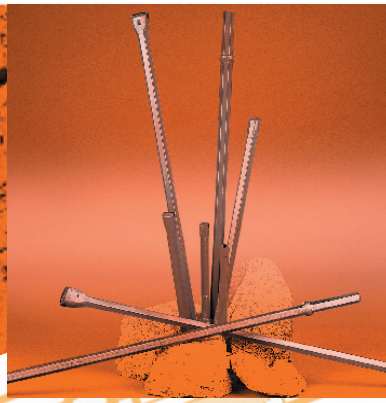


DRILLING TOOLS



CATALOGUE



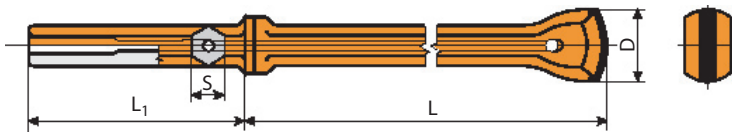


Integral drill steels for hand percussion

1 group

- HEX 19 x 108
- HEX 22 x 108
- HEX 25 x 108
- HEX 22 x 108 undertarning
- HEX 25 x 159
- with thread R32

The way of creating the catalogue number

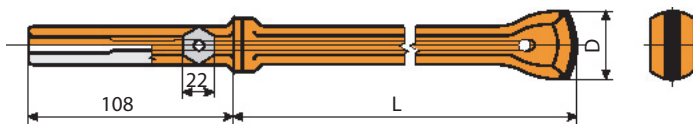


| 00 | 40 | 08 | 2 | |
|--|------------------------|------------------------|-----------------|--|
| Group of product | Bit diameter D (mm) | Working length L (dcm) | Sinter grade | Version |
| 00 ÷ 09 One-chisel drills | 22 ÷ 42 D = 22 ÷ 42 | 02 ÷ 48 L = 2 ÷ 48 | 02 grad. B 2 | ... without figure for basic versions |
| 93 Pillar shaped drills | | | 4 grad. B 40 | 0 ÷ 3 for group 09 |
| Differ depends on the type of bit and shank dimensions | | | | Differ depends on the shank size for group |

Example: hexagonal percussion drill, with diameter D=40mm with shank hex. 22x108, without seal, with length L=0,8m, with sinter grade B2, basic version.

| HEX 19 x 108 ($\frac{7}{8}$ x $4\frac{1}{4}$) | | Series | D | | L | | Catalogue no. |
|---|----|--------|---------|------|--------|---------|---------------|
| | | | mm | inch | mm | ft | |
| | 21 | 29 | 1 9/64 | 400 | 1' 4" | 0529042 | |
| | | 28 | 1 7/64 | 800 | 2' 7" | 0528082 | |
| | | 27 | 1 1/16 | 1600 | 5' 3" | 0527162 | |
| | | 26 | 1 1/32 | 2400 | 7' 10" | 0526242 | |
| | | 25 | 1 | 3200 | 10' 6" | 0525322 | |
| | 24 | 27 | 1 1/16 | 600 | 2' - | 0527062 | |
| | | 26 | 1 1/32 | 1200 | 3' 11" | 0526122 | |
| | 25 | 35 | 1 3/8 | 400 | 1' 4" | 0535042 | |
| | | 34 | 1 11/32 | 800 | 2' 7" | 0534082 | |

| HEX 22 x 108 ($\frac{7}{8}$ x $4\frac{1}{4}$) | | Series | D | | L | | Catalogue no. without seal | Catalogue no. with seal |
|---|--|--------|------|----|----|------|----------------------------|-------------------------|
| | | | inch | mm | ft | inch | | |

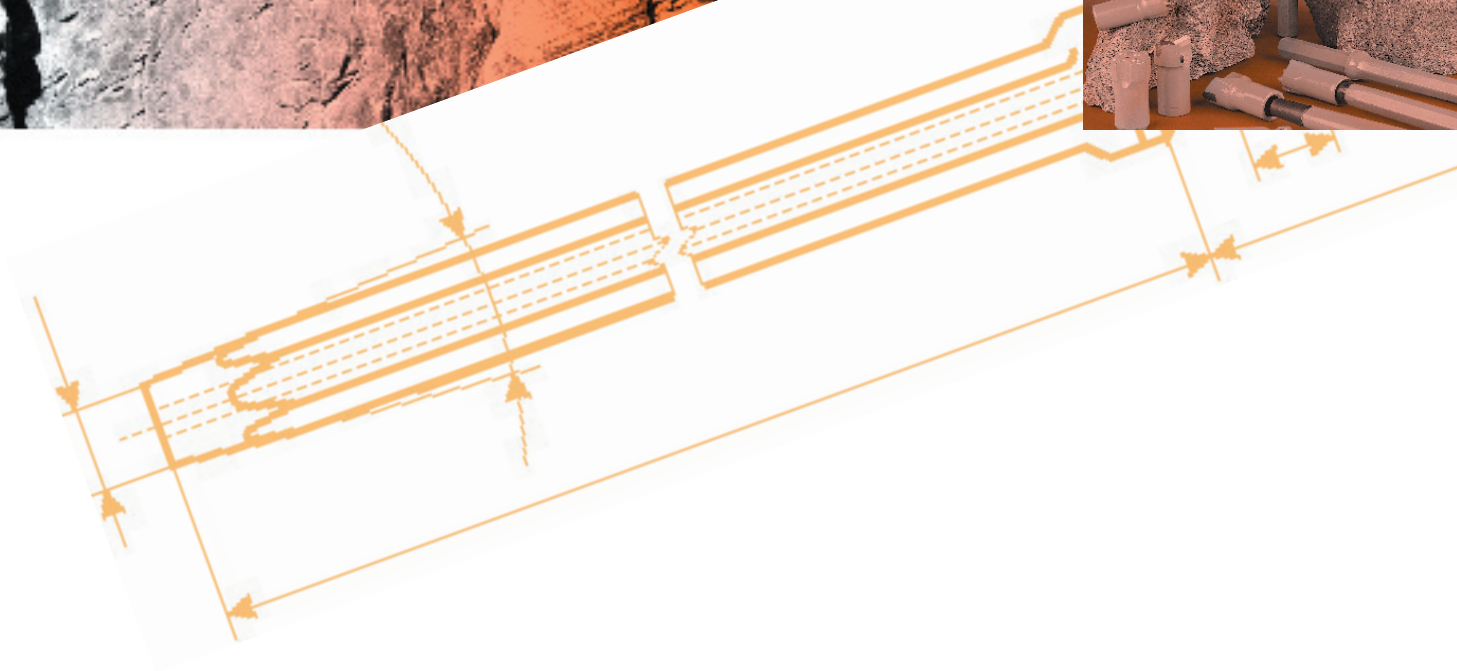
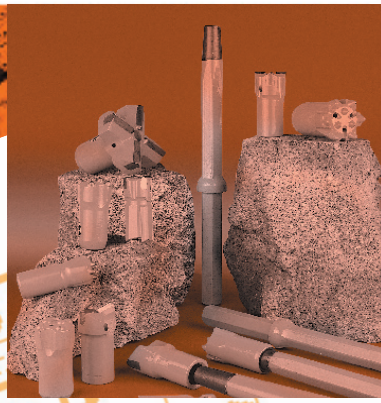
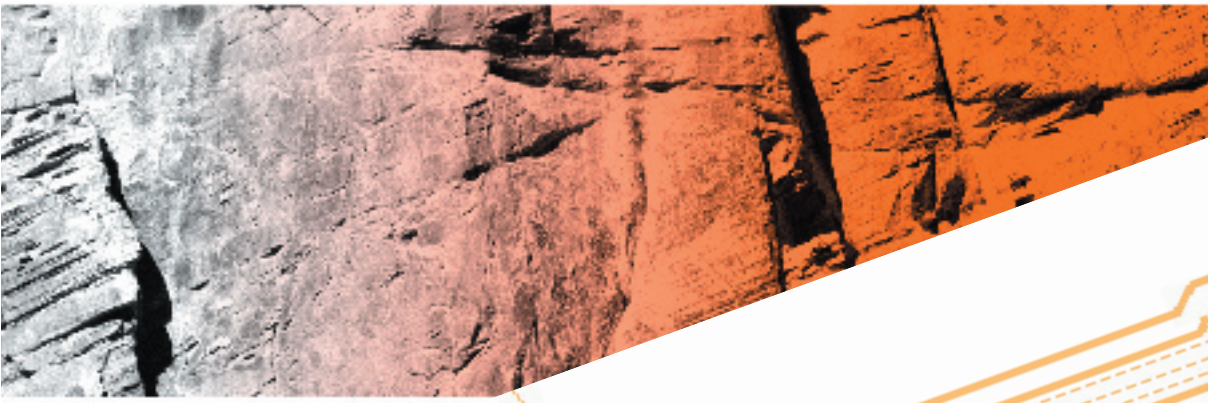


| HEX 25 x 108 (1 x $4\frac{1}{4}$) | | Series | D | | L | | Catalogue no. without seal | Catalogue no. with seal |
|------------------------------------|----|--------|-------|-------|--------|---------|----------------------------|-------------------------|
| | | | inch | mm | ft | inch | | |
| | 31 | 36 | 1 | 800 | 2' 7" | 0236082 | 0736082 | |
| | | 35 | 27/64 | | 5' 3" | 0235162 | 0735162 | |
| | | 34 | 1 3/8 | | 7' 10" | 0234242 | 0734242 | |
| | | 33 | 1 | | 10' 6" | 0233322 | 0733322 | |
| | | | 11/32 | | | | | |
| | 32 | | 42 | - | 800 | 2' 7" | 0242082 | 0742082 |
| | | | 41 | 1 5/8 | | 5' 3" | 0241162 | 0741162 |
| | | | 40 | 1 | | 7' 10" | 0240242 | 0740242 |
| | | | 39 | 37/64 | | 10' 6" | 0239322 | 0739322 |
| | | | 38 | 1 | | 13' 1" | 0238402 | 0738402 |

| HEX 22 x 108 undertarning ($7/8 \times 4 1/4$) | | HEX S | | L ₁ | | L | | | Catalogue no. |
|--|-----|--------|----------|----------------|------|---------|----------|----------|---------------|
| | | | in | mm | inch | mm | ft | inch | |
| | 19 | 3/4 | 108 | 4 1/4 | 230 | - | 9 1/8" | 09222342 | |
| | | | | | 250 | - | 9 7/8" | 09222542 | |
| | | | | | 300 | - | 1 17/8" | 09223042 | |
| | | | | | 350 | 1' | 1 3/4" | 09223542 | |
| | | | | | 400 | 1' | 3 3/4" | 09224042 | |
| | 500 | 1' | 7 3/4" | 09225042 | | | | | |
| | 19 | 3/4 | 82,5 | 3 1/4 | 230 | - | 9 1/8" | 09222343 | |
| | | | | | 250 | - | 9 7/8" | 09222543 | |
| | | | | | 300 | - | 1 17/8" | 09223043 | |
| | | | | | 350 | 1' | 1 3/4" | 09223543 | |
| | | | | | 400 | 1' | 3 3/4" | 09224043 | |
| | 500 | 1' | 7 3/4" | 09225043 | | | | | |
| | 22 | 7/8 | 108 | 4 1/4 | 230 | - | 9 1/8" | 09222340 | |
| | | | | | 250 | - | 9 7/8" | 09222540 | |
| | | | | | 300 | - | 1 17/8" | 09223040 | |
| | | | | | 350 | 1' | 1 3/4" | 09223540 | |
| 400 | | | | | 1' | 3 3/4" | 09224040 | | |
| 500 | 1' | 7 3/4" | 09225040 | | | | | | |
| 22 | 7/8 | 82,5 | 3 1/4 | 230 | - | 9 1/8" | 09222341 | | |
| | | | | 250 | - | 9 7/8" | 09222541 | | |
| | | | | 300 | - | 1 17/8" | 09223041 | | |
| | | | | 350 | 1' | 1 3/4" | 09223541 | | |
| | | | | 400 | 1' | 3 3/4" | 09224041 | | |
| 500 | 1' | 7 3/4" | 09225041 | | | | | | |

| HEX 25 x 159 | | Se-ries | D | | L | | | Catalogue no. without seal | Catalogue no. with seal |
|--------------|----|---------|---------|------|----|-----|---------|----------------------------|-------------------------|
| | | | mm | inch | mm | ft | inch | | |
| | 32 | 42 | 1 21/32 | 800 | 2' | 7" | 0342082 | 0842082 | |
| | | 41 | 1 5/8 | 1600 | 5' | 3" | 0341162 | 0841162 | |
| | | 40 | 1 37/64 | 2400 | 7' | 10" | 0340242 | 0840242 | |
| | | 39 | 1 17/32 | 3200 | | 6" | 0339322 | 0839322 | |
| | | 38 | 1 1/2 | 4000 | | 1" | 0338402 | 0838402 | |

| Hexagonal drills with thread R32 | | D | | L | | | Catalogue no. |
|----------------------------------|----|--------|------|-----|------|----------|---------------|
| | | mm | ft | mm | ft | inch | |
| | 30 | 1 3/16 | 2530 | 8' | 3 | 92054911 | |
| | | | 2320 | 7' | 5/8" | 92054921 | |
| | | | 3320 | 10' | 7 | 92054931 | |
| | | | 2940 | 9' | 3/8" | 92054941 | |
| | | | 2100 | 6' | 10 | 92054951 | |
| | | | 2160 | 7' | 3/4" | 92054961 | |
| | | | 2200 | 7' | 7 | 92054971 | |
| | | | 1780 | 5' | 3/4" | 92054981 | |
| | | | 3150 | 10' | 10 | 92054991 | |
| | | | | | 3/4" | | |
| | | | | | 1" | | |
| | | | | | 2 | | |
| | | | | | 5/8" | | |
| | | 10 | | | | | |
| | | 1/8" | | | | | |
| | | 4" | | | | | |



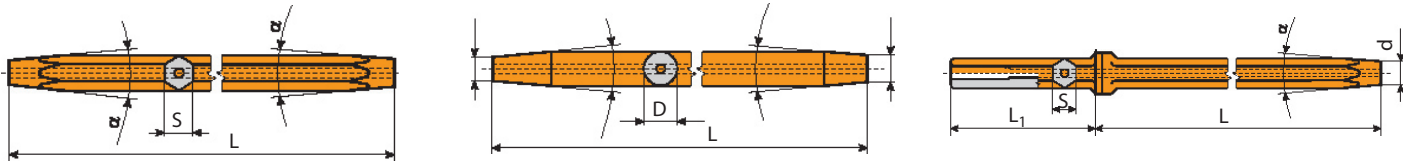
Tools for percussive drilling with taper connection

2 group

Bits and rods with taper

- tools with taper $4^{\circ}46'$
- tools with taper 7°
- tools with taper $7^{\circ}7'$

Rods with taper

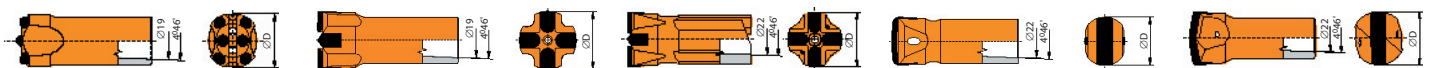


| 10 | 04 | 15 | 0 | |
|--|--|-----------------------|-------------------------------------|---|
| Group of product | Taper size | Length of rod L (dcm) | Shank characteristics | Version |
| 10 ÷ 17 Differ depends on the dimensions „S”, „L1”, „D” | 22 ÷ 42 D = 22 ÷ 42 Differ depends on the α angle | 08 ÷ 40 L = 8 ÷ 40 | 0 ÷ 1 Differ depends on the seal | ... Without figure for basic version |

For groups 28 i 92 - factory number

Example: hexagonal rod with shank hex 22x108, with taper 4°46', without seal, with length L=1500 mm, basic version.

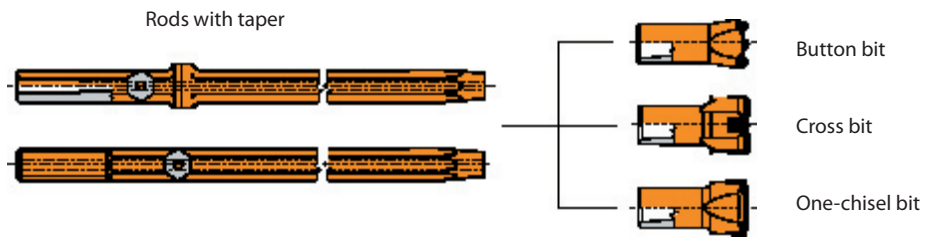
Bits with taper



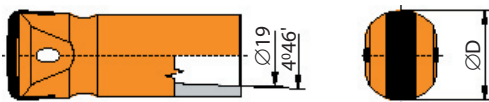
| 40 | 41 | 1 | 0 | 2 | |
|---|-------------------------|---|-------------------------|------------------------------|---|
| Group of product | Bit diameter D (mm) | Taper size | Connection type | Sinter grade | Version |
| Differ depends on the bit type: one-chisel, cross, (buttons number) | 27 ÷ 00 D = 27 ÷ 100 | 1 ÷ 6 Differ depends on the α angle | 0 Tapered connection | 2 - B2 4 - B45 5 - G10 | ... Without figure for basic version |

For group 59 - factory number

Example: one chisel bit with diameter \varnothing 41, with taper 4°46', with sinter grade B2.



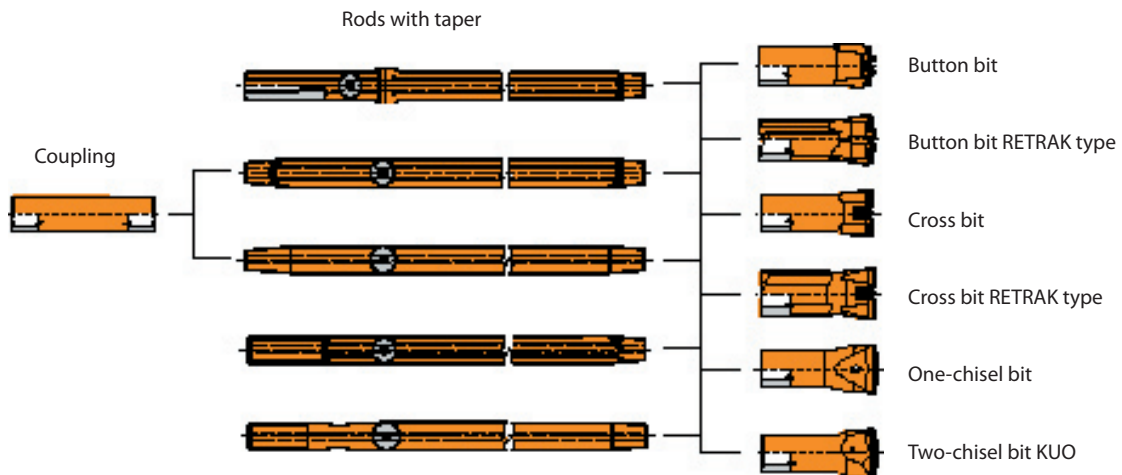
| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|------|----------|----------|----------------|-----------------|---------------------------|-----------------|--------------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| | 28 | 1 7/64 | 1x5 | 1x4 | 4x6 | 1x6 | 59280150 |
| | 30 | 1 3/16 | -- | 1x5 | 3x7 | 2x6 | 59308550 |
| | 28 30 | -- -- | 2x5 2x5 | 1x5 1x5 | -- -- | -- -- | 4128102 4130102 |



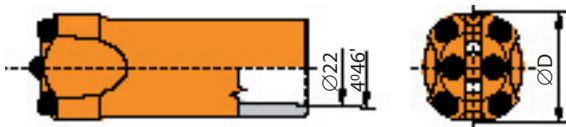
| Rod | L | | | Catalogue no. |
|----------------------------------|-----|----|------|---------------|
| | mm | ft | inch | |
| Taper rod hex chank 19 x 108 | 300 | 1' | -- | 2801403 |
| | 500 | 1' | 8" | 2801405 |
| | 600 | 2' | -- | 2801406 |

| Rod | L | | | Catalogue no. without seal | Catalogue no. with seal |
|----------------------------------|------|-----|------|----------------------------|-------------------------|
| | mm | ft | inch | | |
| Taper rod hex shank 22 x 108 | 800 | 2' | 7" | 1003080 | 1003081 |
| | 1600 | 5' | 3" | 1003160 | 1003161 |
| | 2400 | 7' | 10" | 1003240 | 1003241 |
| | 3200 | 10' | 6" | 1003320 | 1003321 |
| | 4000 | 13' | 1" | 1003400 | 1003401 |

| Rod | L | | | Catalogue no. | |
|--------------------------------------|------|-----|--------|---------------|--|
| | mm | ft | inch | | |
| Hex taper rod 25 with thread R32 | 2000 | 6' | 7" | 28017201 | |
| | 2160 | 7' | 1" | 28017211 | |
| | 2200 | 7' | 2" | 28017221 | |
| | 2300 | – | – | 28017231 | |
| | 2440 | 8' | – | 28017241 | |
| | 2500 | 8' | 2 1/2" | 28017251 | |
| | 2700 | 8' | 10 | 28017271 | |
| | 2900 | 9' | 2/8" | 28017291 | |
| | 3100 | 10' | 6 1/8" | 28017311 | |
| | 3300 | 10' | 2" | 28017331 | |
| | | | | 10" | |

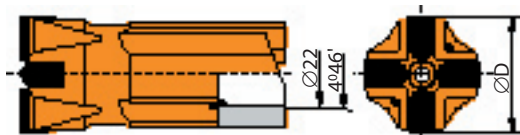


| Button bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|-------------|----|---------|----------------|-----------------|---------------------------|-----------------|---------------|
| | | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| | 32 | 1 1/4 | - - | 1x6 | 3x7 | 2x6 | 59320150 |
| | 34 | 1 11/32 | - - | 1x6 | 3x7 | 2x6 | 59348150 |



Tools with taper 4°46'

| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|----------------------------|---------|---------|----------------|-----------------|---------------------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| Button bit | 36 | 1 7/16 | 1x5 | 1x5 | 5x8 | 2x7 | 47361050 |
| | 38 | 1 1/2 | 1x5 | 1x5 | 5x8 | 2x7 | 47381050 |
| | 40 | 1 37/64 | 1x6 | 1x6 | 5x8 | 2x8 | 47401052 |
| | 41 | 1 5/8 | 1x6 | 1x6 | 5x8 | 2x8 | 47411052 |
| | 42 | 1 37/64 | 1x6 | 1x6 | 5x8 | 2x8 | 47421052 |
| | 44 | 1 47/64 | 1x6 | 1x6 | 5x8 | 2x8 | 47441052 |
| | 45 | 1 3/4 | 1x6 | 1x6 | 5x8 | 2x8 | 47451050 |
| | 43 | 1 11/16 | 1x5 | 1x5 | 6x8 | 2x8 | 59434150 |
| | 45 | 1 3/4 | 1x5 | 1x5 | 6x8 | 2x8 | 59458250 |
| Button bit | 51 | 2 | -- | 3x5 | 6x9 | 3x9 | 5951555 |
| Button bit PETRAK type | 51 | 2 | -- | 2x5 | 4x10 | 2x10 | 57511051 |
| Button bit RFTRAK type | 60 | 2 3/4 | -- | 3x5 | 6x9 | 3x9 | 57601052 |
| Button bit | 32 | 1 1/4 | 2x5 | 1x5 | -- | -- | 4132102 |
| | 34 | 1 11/32 | 2x5 | 1x5 | -- | -- | 4134102 |
| | 35 | 1 3/8 | 2x5 | 1x5 | -- | -- | 4135102 |
| | 36 | 1 27/64 | 2x5 | 1x5 | -- | -- | 4136102 |
| | 38 | 1 1/2 | 2x5 | 1x5 | -- | -- | 4138102 |
| | 40 | 1 37/64 | 2x5 | 1x5 | -- | -- | 4140102 |
| | 41 | 1 5/8 | 2x5 | 1x5 | -- | -- | 4141102 |
| | 42 | 1 37/64 | 2x5 | 1x5 | -- | -- | 4142102 |
| | 43 | 1 11/16 | 2x5 | 1x5 | -- | -- | 4143102 |
| | 45 | 1 3/4 | 2x5 | 1x5 | -- | -- | 4145102 |
| | 51 | 2 | 2x5 | 1x5 | -- | -- | 4151102 |
| | 57 | 2 1/4 | 2x5 | 1x5 | -- | -- | 4157102 |
| | 60 | 2 3/4 | 2x5 | 1x5 | -- | -- | 5960052 |
| | 65 | 2 1/2 | 2x5 | 1x5 | -- | -- | 5965052 |
| | 70 | 2 3/4 | 2x5 | 1x5 | -- | -- | 5970052 |
| | 80 | -- | 2x5 | 1x5 | -- | -- | 5980052 |
| | 85 | -- | 2x5 | 1x5 | -- | -- | 5985052 |
| 100 | 3 15/16 | 2x5 | 1x5 | -- | -- | 5900052 | |

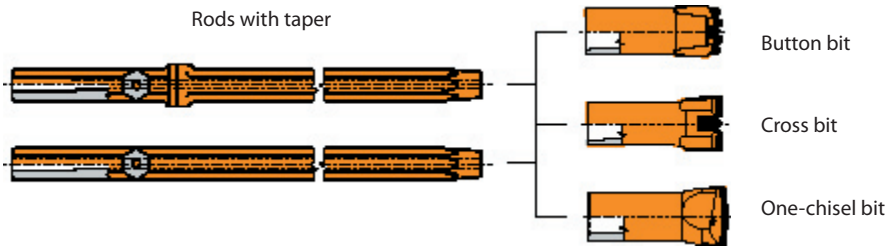


| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|-------------------------|----|---------|----------------|-----------------|---------------------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| | 32 | 1 1/4 | 2X5 | -- | -- | -- | 4032102 |
| | 33 | 1 9/64 | 2X5 | -- | -- | -- | 4033102 |
| | 34 | 1 11/32 | 2X5 | -- | -- | -- | 4034102 |
| | 35 | 1 3/8 | 2X5 | -- | -- | -- | 4035102 |
| | 36 | 1 27/64 | 2X5 | -- | -- | -- | 4036102 |
| | 37 | 1 29/64 | 5x5 | -- | -- | -- | 4037102 |
| | 38 | 1 1/2 | 2X5 | -- | -- | -- | 4038102 |
| | 39 | 1 17/32 | 2X5 | -- | -- | -- | 4039102 |
| | 40 | 1 37/64 | 2X5 | -- | -- | -- | 4040102 |
| | 41 | 1 5/8 | 2X5 | -- | -- | -- | 4041102 |
| | 42 | 1 20/32 | 2X5 | -- | -- | -- | 4042102 |
| | 43 | 1 11/16 | 2X5 | -- | -- | -- | 4043102 |
| | 45 | 1 3/4 | 2X5 | -- | -- | -- | 4045102 |
| Two-chisel bit K110 | 42 | | 2x5 | -- | -- | -- | 4542102 |

| Rods | L | | | Catalogue no. without seal | Catalogue no. with seal |
|----------------------------------|------|-----|------|----------------------------|-------------------------|
| | mm | ft | inch | | |
| Taper rod hex shank 22 x 108 | 800 | 2' | 7" | 1004080 | 1004081 |
| | 1600 | 5' | 3" | 1004160 | 1004161 |
| | 2400 | 7' | 10" | 1004240 | 1004241 |
| | 3200 | 10' | 6" | 1004320 | 1004321 |
| | 4000 | 13' | 1" | 1004400 | 1004400 |
| Taper rod hex shank 25 x 108 | 800 | 2' | 7" | 1304080 | 1304081 |
| | 1600 | 5' | 3" | 1304160 | 1304161 |
| | 2400 | 7' | 10" | 1304240 | 1304241 |
| | 3200 | 10' | 6" | 1304320 | 1304321 |
| | 4000 | 13' | 1" | 1304400 | 1304401 |
| Taper rod hex shank 25 x 159 | 800 | 2' | 7" | 1704080 | 1704081 |
| | 1600 | 5' | 3" | 1704160 | 1704161 |
| | 2400 | 7' | 10" | 1704240 | 1704241 |
| | 3200 | 10' | 6" | 1704320 | 1704321 |
| | 4000 | 13' | 1" | 1704400 | 1704401 |

| Rods | L | | | Catalogue no. |
|--|------------------------------|------------------------|-----------------------|--|
| | mm | ft | inch | |
| <p>Tw Ø19.1 4°46' 22 L 4°46' Ø19.1</p> | 1600 2400 3200 4000 | 5' 7' 10' 13' | 3" 10" 6" 1" | 2862116 2862124 2862132 2862140 |
| <p>Tw Ø25 4°46' 32 L 4°46' Ø19.1</p> | 3100 3700 4000 | 10' 12' 13' | 2" 11/2" 1" | 1504310 1504370 1504400 |
| <p>Taj R22 4°46' 22 L 4°46' Ø19.1</p> | 1800 2400 | 6' 7' | - 10" | 9260431 9260432 |
| <p>Tw Ø25 4°46' 32 L 4°46' Ø19.1</p> | 3100 3700 4000 | 10' 12' 13' | 2" 1 1/2" 1" | 1604310 1604370 1604400 |
| <p>Tw R32 4°46' 32 L 4°46' Ø19.1</p> | 2750 3050 | 9' 10' | - - | 9260362 9260361 |

| Coupling | Catalogue no. |
|--|---------------|
| <p>4°46' Ø22 L Ø22 4°46'</p> | 3979700 |



| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|------------------|--|--|--|--|--|--|---|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| | 30 | 1 3/16 | -- | 1x5 | 3x7 | 2x6 | 59300250 |
| <p>Cross bit</p> | 30 32 33 34 35 36 38 40 41 42 43 45 | 1 3/16 1 1/4 1 9/16 1 11/32 1 3/8 1 27/64 1 1/2 1 37/64 2x5 2x5 2x5 2x5 | 2x5 2x5 2x5 2x5 2x5 2x5 2x5 2x5 2x5 2x5 2x5 2x5 | 1x5 1x5 1x5 1x5 1x5 1x5 1x5 1x5 1x5 1x5 1x5 1x5 | -- -- -- -- -- -- -- -- -- -- -- -- | -- -- -- -- -- -- -- -- -- -- -- -- | 4130702 4132702 4133702 4134702 4135702 4136702 41387020 4140702 4141702 4142702 4143702 4145702 |
| | 27 | 1 1/16 | 2x4 | -- | -- | -- | 4027702 |

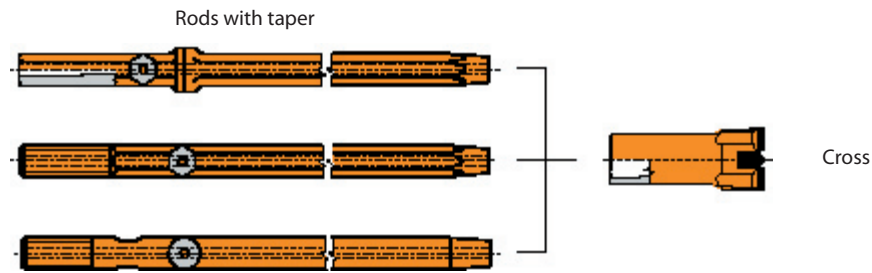
| Rods | L | | | Catalogue no. without seal | Catalogue no. with seal |
|-------------------------------------|-------------------------------------|------------------------------|-----------------------------|---|---|
| | mm | ft | inch | | |
| <p>Taper rod hex shank 22 x 82</p> | 800 1600 2400 3200 4000 | 2' 5' 7' 10' 13' | 7" 3" 10" 6" 1" | 1270080 1270160 1270240 1270320 1270400 | - - - - - |
| <p>Taper rod hex shank 22 x 108</p> | 800 1600 2400 3200 4000 | 2' 5' 7' 10' 13' | 7" 3" 10" 6" 1" | 1070080 1070160 1070240 1070320 1070400 | 1070081 1070161 1070241 1070321 1070401 |

| Bits | D | | Flushing holes | | Catalogue no. |
|--------------------|----|-------|----------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | |
| One-chisel bit | 38 | 1 1/2 | 2x5 | - - | 40387021 |
| | 42 | - | 2x5 | - - | 4042702 |

| Hexagonal rods for hand percussive drilling | L | | | Catalogue no. |
|---|------|-----|------|---------------|
| | mm | ft | inch | |
| 1 | 800 | 2' | 7" | 1070086 |
| | 1600 | 5' | 3" | 1070166 |
| | 2400 | 7' | 10" | 1070246 |
| | 3200 | 10' | 6" | 1070326 |
| | 4000 | 13' | 1" | 1070406 |
| Taper rod without collar | 800 | 2' | 7" | 2803908 |
| | 1600 | 5' | 3" | 2803916 |
| | 2400 | 7' | 10" | 2803924 |
| | 3200 | 10' | 6" | 2803932 |
| | 4000 | 13' | 1" | 2803940 |

| Bits | D | | Flushing holes | | Catalogue no. |
|--------------------|----|---------|----------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | |
| Cross bit | 38 | 1 1/2 | 2x5 | 1x5 | 4138702 |
| | 60 | 2 3/4 | 2x5 | 1x6 | 4160702 |
| One-chisel bit | 42 | 1 21/32 | 2x5 | - - | 40427029 |

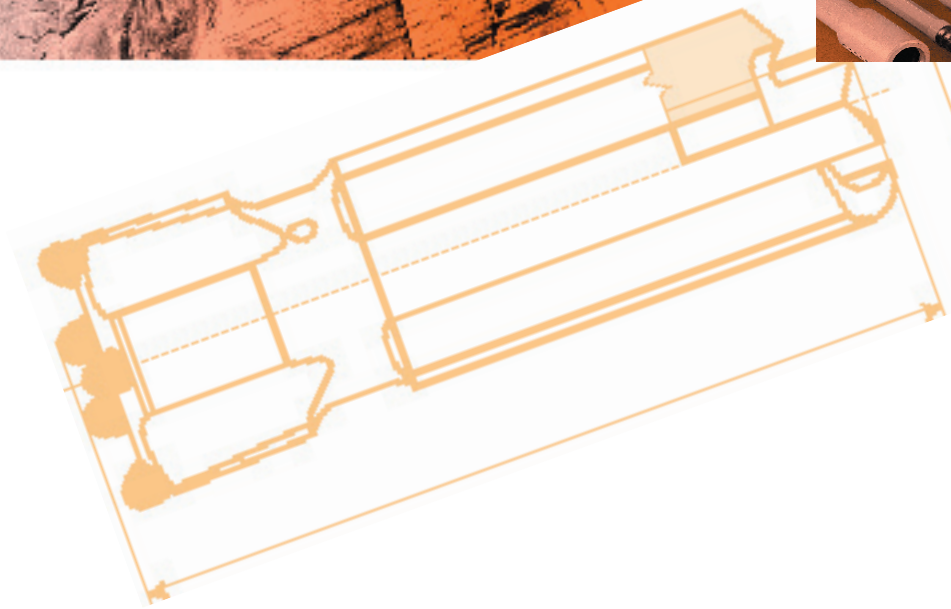
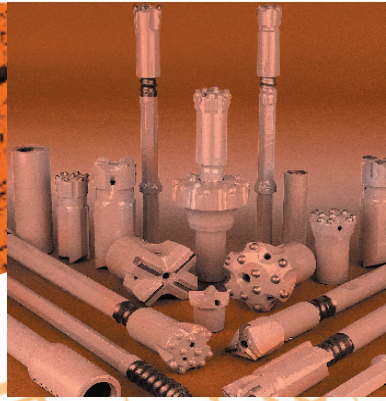
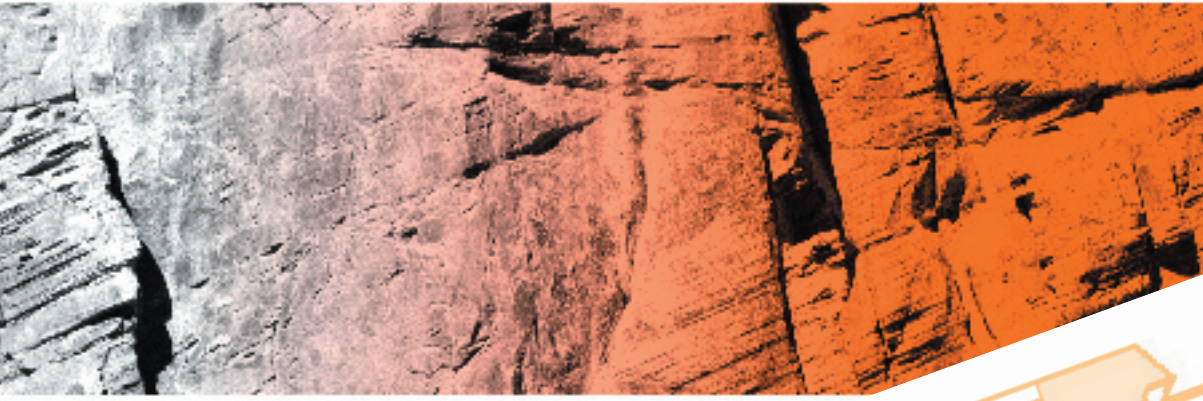
| Rods | L | | | Catalogue no. |
|----------------------------------|------|-----|------|---------------|
| | mm | ft | inch | |
| Taper rod hex shank 25 x 108 | 800 | 2' | 7" | 1370080 |
| | 1600 | 5' | 3" | 1370160 |
| | 2400 | 7' | 10" | 1370240 |
| | 3200 | 10' | 6" | 1370320 |
| | 4000 | 13' | 1" | 1370400 |
| Taper rod hex shank 25 x 108 | 800 | 2' | 7" | 13700802 |
| | 1600 | 5' | 3" | 13701602 |
| | 2400 | 7' | 10" | 13702402 |
| | 3200 | 10' | 6" | 13703202 |
| | 4000 | 13' | 1" | 13704002 |



| Bits | D | | Flushing holes | | Catalogue no. |
|---------------|----|------------|----------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | |
| Cross bit | 36 | 1 | 2x5 | 1x5 | 4036202 |
| | 38 | 27/64 | 2x5 | 1x5 | 4038202 |
| | 41 | 1 1/2 | 2x5 | 1x5 | 4041202 |
| | 45 | 1 5/8 | 2x5 | 1x5 | 4045202 |
| | 48 | 3/4 | 2x5 | 1x5 | 4048202 |
| | 51 | 1 7/8 | 2x5 | 1x5 | 4051202 |
| | 57 | 2 2 1/4 | 2x5 | 1x5 | 4057202 |

| Rods | L | | | Catalogue no. without seal | Catalogue no. with seal |
|--------------------|------|-----|------|----------------------------|-------------------------|
| | mm | ft | inch | | |
| T _ε | 800 | 2' | 7" | 1007080 | 1007081 |
| | 1600 | 5' | 3" | 1007160 | 1007161 |
| | 2400 | 7' | 10" | 1007240 | 1007241 |
| | 3200 | 10' | 6" | 1007320 | 1007321 |
| | 4000 | 13' | 1" | 1007400 | 1007401 |
| T _a | 800 | 2' | 7" | 1307080 | 1307081 |
| | 1600 | 5' | 3" | 1307160 | 1307161 |
| | 2400 | 7' | 10" | 1307240 | 1307241 |
| | 3200 | 10' | 6" | 1307320 | 1307321 |
| | 4000 | 13' | 1" | 1307400 | 1307401 |
| T _a | 800 | 2' | 7" | 1707080 | 1707081 |
| | 1600 | 5' | 3" | 1707160 | 1707161 |
| | 2400 | 7' | 10" | 1707240 | 1707241 |
| | 3200 | 10' | 6" | 1707320 | 1707321 |
| | 4000 | 13' | 1" | 1707400 | 1707401 |

| Rods | L | | | Catalogue no. with seal |
|--------------------|------|-----|------|-------------------------|
| | mm | ft | inch | |
| T _ε | 800 | 2' | 7" | 2803608 |
| | 1600 | 5' | 3" | 2803616 |
| | 2400 | 7' | 10" | 2803624 |
| | 3200 | 10' | 6" | 2803632 |
| | 4000 | 13' | 1" | 2803640 |
| T _a | 2750 | - | - | 9206712 |
| | 3050 | 10' | - | 9206711 |



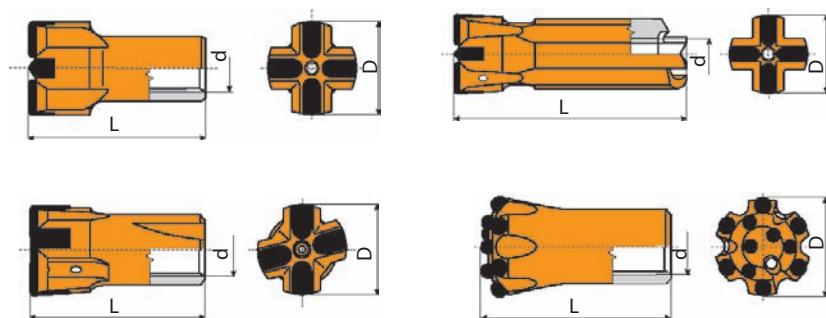
Tools for percussive drilling with thread connection

3 group

Bits and rods with threads

- tools connected by thread R22
- tools connected by thread R25
- tools connected by thread R28
- tools connected by thread R32
- tools connected by thread R38
- tools connected by thread T38
- tools connected by thread T45
- tools connected by thread T51

Button bits

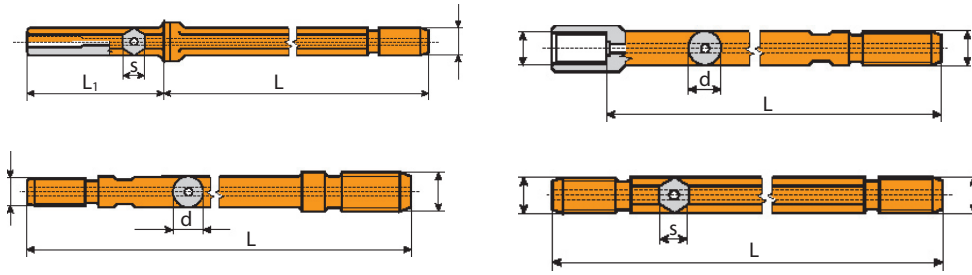


| 42 | 41 | 1 | 1 | 2 | |
|--|--------------------------|--|--|------------------------------|---|
| Group of product | Bit diameter D [mm] | Connection size | Connection type | Sinter grade | Version |
| Differ depends on the type of bit (cross X-type, button, retrak type) and buttons number | 35 ÷ 02 D = 35 to 102 | 1 ÷ 9 Differ depends on the thread size | 1 ÷ 9 Differ depends on the thread type (rope, trapezoidal, metric, inch et.) | 9 - B2 4 - B40 5 - G10 | ... Without figure for basic version |

For group 59 - factory number

Example: cross bit with diameter $\varnothing 41$, with rope thread R25, with sinter grade B2.

Rods with threads

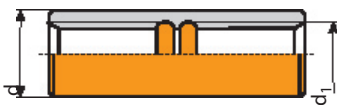


| 20 | 1 | 1 | 1 | 30 | 0 |
|--|--|--|--|------------------------|---|
| Group of product | Under group | Thread type | Rod characteristics | Length of rod L (dcm) | Version |
| 20 ÷ 26 Differ depends on the rods type | 0 ÷ 9 Differ depends on thread or shank dimensions (one side) | 1 ÷ 9 Differ depends on the thread type (rope, trapezoidal) | 0 ÷ 9 Differ depends on the thread dimensions (second side) | 03 ÷ 43 L = 3 do 43 | ... Without figure for basic version |

For group 28 - factory number

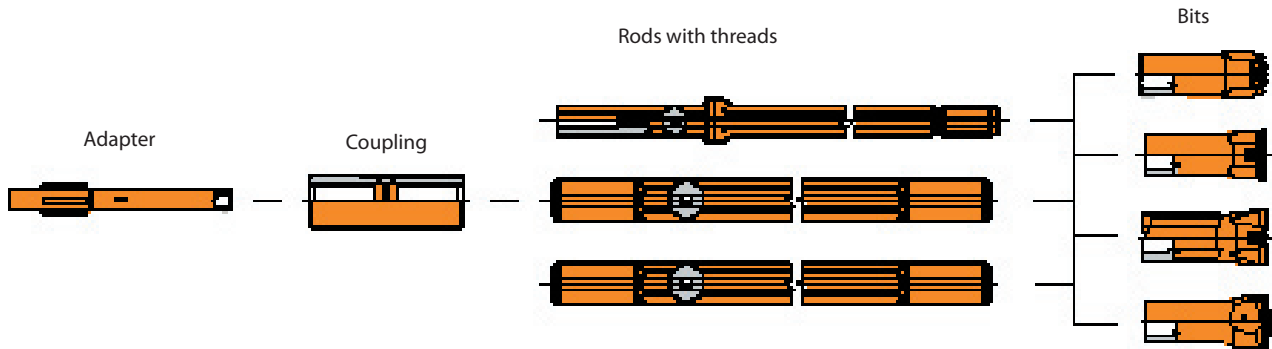
Example: hexagonal rod with rope threads R25, with length L=3000 mm

Couplings

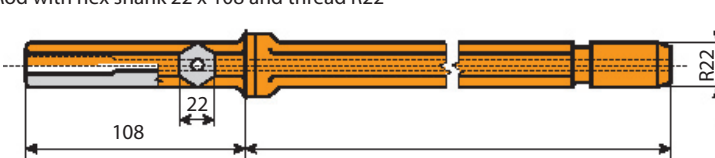
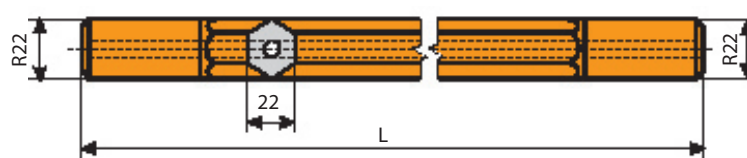
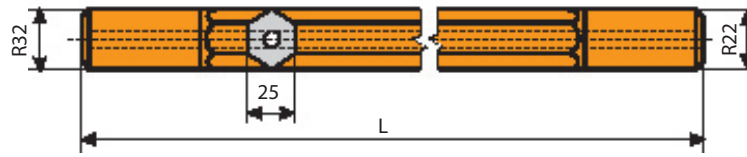


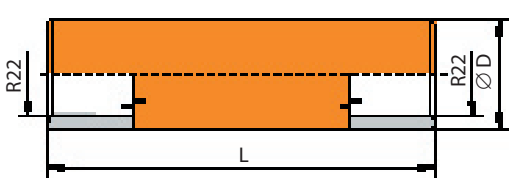
| 39 | 1 | 1 | 1 | 00 |
|------------------|---|--|--|---|
| Group of product | Connection dimension (one side) | Thread type | Connection dimension (second side) | Version |
| 39 | 1 ÷ 9 Differ depends on the thread dimensions (one side) | 1 ÷ 9 Differ depends on the thread type (rope, trapezoidal) | 1 ÷ 9 Differ depends on the thread dimensions (second side) | 00 ÷ 99 Differ depends on the length and relief's type under spanner |

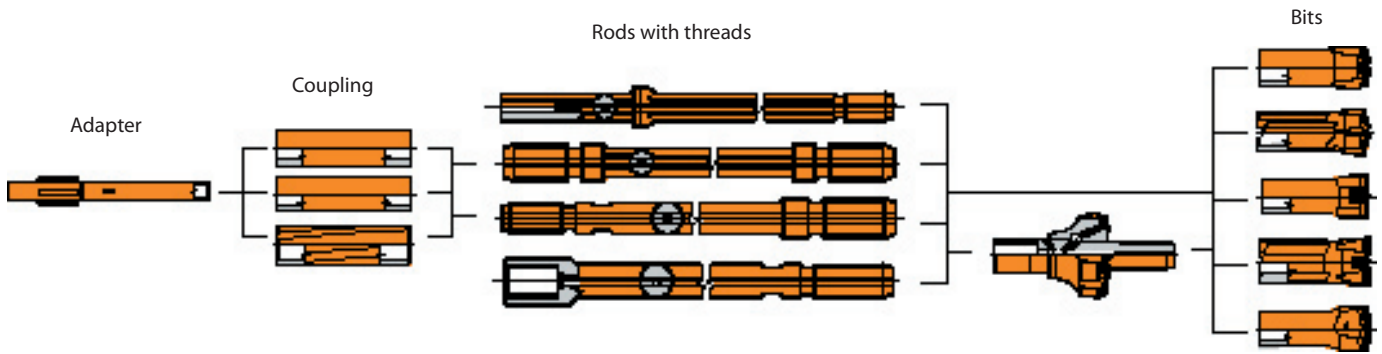
Example: coupling with double-sided rope thread R25 - basic version

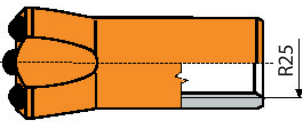
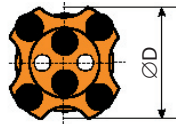
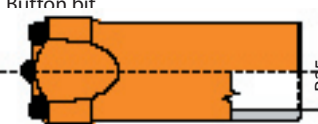

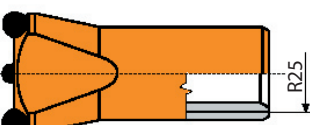
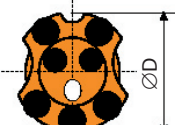
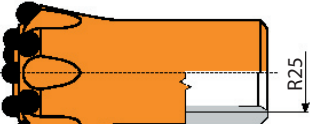

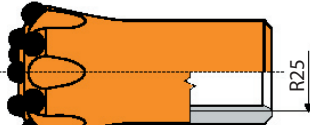

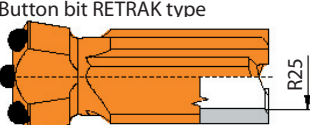



| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|---------------------------|----|---------|----------------|-----------------|---------------------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| Button bit | 32 | 1 1/4 | -- | 1x5 | 3x7 | 2x6 | 59320150 |
| | 34 | 1 11/32 | -- | 1x5 | 3x7 | 2x6 | 59340150 |
| Button bit | 38 | 1 1/2 | 1x5 | 1x5 | 4x8 | 2x8 | 483871150 |
| Cross bit | 38 | 1 1/2 | 2x5 | 1x4.5 | -- | -- | 4238712 |
| | 41 | 1 5/8 | 2x5 | 1x4.5 | -- | -- | 4241712 |
| | 44 | 1 47/64 | 2x5 | 1x4.5 | -- | -- | 4244712 |
| | 45 | 1 3/4 | 2x5 | 1x4.5 | -- | -- | 4245712 |
| Cross bit RETRAK type | 38 | 1 1/2 | 2x4 | 1x4 | -- | -- | 5738712 |
| Two-chisel bit KUO | 48 | 1 7/8 | 2x6 | -- | -- | -- | 4548712 |

| Rods | L | | | Catalogue no. |
|--|---|----------------------------------|------------------------------------|--|
| | mm | ft | inch | |
| Rod with hex shank 22 x 108 and thread R22  | 255 500 800 1000 1200 | 10' 1' 2' 3' 3' | 3/64" 8" 7" 3/8" 11" | 2511703 2511705 2511708 2511710 2511712 |
| Hex rod 22 with thread R22/R22  | 400 600 800 1000 1200 1600 | 1' 2' 2' 3' 3' 5' | 4" - 7" 3/8" 11" 3" | 2471704 2471706 2471708 2471710 2471712 2471716 |
| Hex rod 25 with thread R22/R32  | 2000 2100 2620 | 6' 6' 8' | 7" 10 3/4" 7 1/8" | 2041720 2041721 2041726 |

| Coupling | D | | L | | Catalogue no. |
|---|----|-------|-----|--------|---------------|
| | mm | inch | mm | inch | |
|  | 32 | 1 1/4 | 140 | 5 1/2" | 3971700 |



| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|---|----|---------|----------------|-----------------|---------------------------|-----------------|---------------|
| | mm | inch | Size Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
|   | 38 | 1 1/2 | -- | 2x5 | 4x8 | 2x8 | 48381151 |
| | 40 | 1 37/64 | -- | 2x5 | 4x8 | 2x8 | 48401150 |
| | 42 | 1 21/32 | -- | 2x5 | 4x8 | 2x8 | 48421151 |
|   | 38 | 1 1/2 | -- | 2x5 | 4x8 | 2x8 | 48381152 |
| | 45 | 1 3/4 | -- | 2x5 | 4x10 | 2x8 | 48451151 |
|   | 33 | 1 19/64 | 1x5 | 1x5 | 5x7 | 2x7 | 49331151 |
| | 41 | 1 5/8 | 1x5 | 1x5 | 5x9 | 2x8 | 49411150 |
| | 45 | 1 3/4 | 1x5 | 1x5 | 5x8 | 2x8 | 49451150 |
| | 48 | 1 7/8 | 1x5 | 1x5 | 5x10 | 2x8 | 49481150 |
|   | 51 | 2 | -- | 3x5 | 6x9 | 3x9 | 50511150 |
| | 55 | 2 5/32 | -- | 3x5 | 6x10 | 3x8 | 50551150 |
|   | 68 | 2 43/64 | 2x6 | 1x8 | 9x10 | 2x10 | 51681150 |
|   | 45 | 1 3/4 | -- | 2x5 | 4x9 | 2x9 | 57451151 |

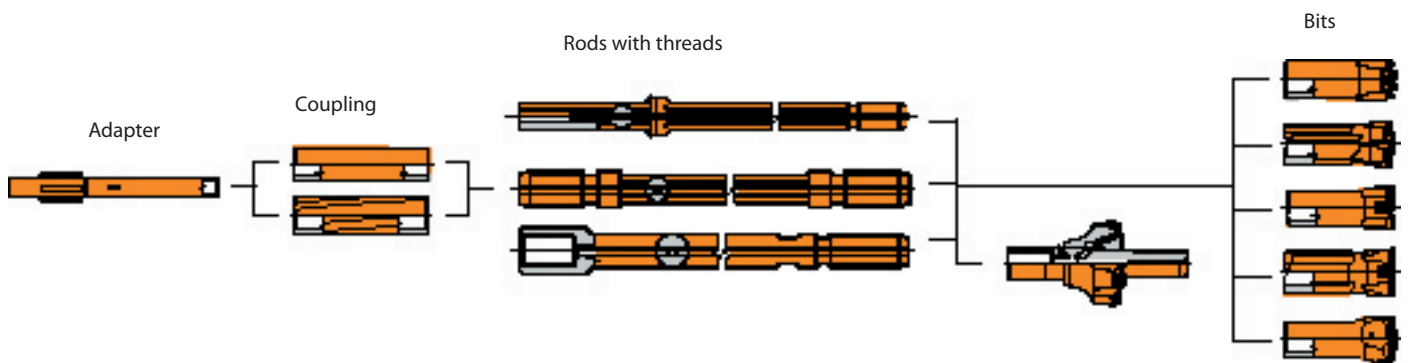
| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|--------------------------|--|---|---|---|--|--|---|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| Button bit broaching | 105 | 4 9/64 | 2x8 | -- | 8x12 | 5x10 | 59050450 |
| Cross bit | 35 38 40 41 42 45 48 51 68 | 1 3/8 1 1/2 1 37/64 1 5/8 1 21/32 1 3/4 1 7/8 2 2 43/64 | 2x5 2x5 2x5 2x5 2x5 2x5 2x5 2x5 2x5 | 1x4.5 1x4.5 1x4.5 1x4.5 1x4.5 1x4.5 1x6 1x6 1x6 | -- -- -- -- -- -- -- -- -- | -- -- -- -- -- -- -- -- -- | 4235112 4238112 4240112 4241112 4242112 4245112 4248112 4251112 4268112 |
| Cross bit RETRAK | 42 43 45 48 51 | 1 20/32 1 11/16 1 3/4 1 7/8 2 | 2x5 2x5 2x5 2x5 2x5 | 1x5 1x5 1x5 1x5 1x5 | -- -- -- -- -- | -- -- -- -- -- | 57421120 57431120 47451120 57481128 5751112 |
| Tool bit for R25 | 42 51 | 1 21/32 2 | 2x6 2x6 | -- -- | -- -- | -- -- | 4542112 4551112 |

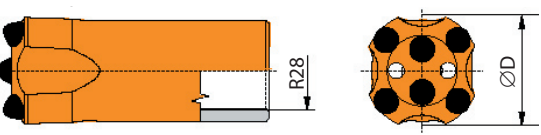
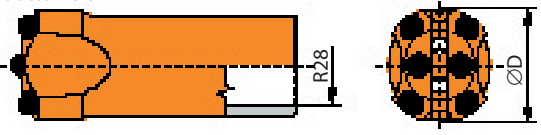
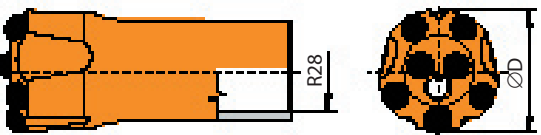
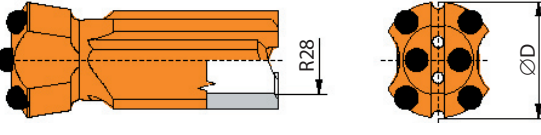
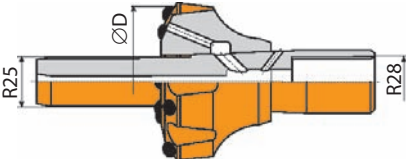
| Rods | L | | | Catalogue no. without seal | Catalogue no. with seal |
|---|--|------------------------------------|--|--|--|
| | mm | ft | inch | | |
| Rod with hex shank 22 x 108 with thread R25 | 250 1500 2400 3200 4000 | -- 4' 7' 10' 13' | 10" 11" 10" 6" 1" | 2511102 2511115 2511124 2511132 2511140 | 2521102 2521115 2521124 2521132 2521140 |
| Rod with hex shank 25 x 108 with thread R25 | 250 500 1500 2400 3200 4000 | -- 1' 4' 7' 10' 13' | 10" 8" 11" 10" 6" 1" | 2531102 2531105 2531115 2531124 2531132 2531140 | 2541102 2541105 2541115 2541124 2541132 2541140 |
| Rod with hex shank 25 x 159 with thread R25 | 2300 2600 2800 3200 3600 4000 | 7' 8' 9' 10' 11' | 6" 6 3/8" 2 1/4" 6" 3/4" | 2551123 2551126 2551128 2551132 2551136 2551140 | 2561123 2561126 2561128 2561132 2561136 2561140 |

| Rods | L | | | Catalogue no. |
|-------------------------------------|--|--|---|--|
| | mm | ft | inch | |
| Hex rod 22 with threads R25/R25 | 1525 | 5' | - | 2411115 |
| Hex rod 22 with threads R25/R28 | 2165 2435 2740 3050 3660 | 7' 8' 8' 10' 12' | 1 1/4" - 11 7/8" - | 2411822 2411824 2411827 2411830 2411837 |
| Hex rod 25 with threads R25/R25 | 1525 1830 | 5' 6' | - - | 2671715 2671718 |
| Hex rod 25 with threads R25/R25 | 500 1220 1525 1830 2435 3050 | 1' 4' 5' 6' 8' 10' | 8" - - - - - | 2011105 2011112 2011115 2011118 2011124 2011130 |
| Hex rod 25 with threads R25/R28 | 1740 1940 2090 2540 2700 2940 3090 3660 | 5' 6' 6' 8' 8' 9' 10' 12' | 8 1/12" 4 6/16" 10 1/6" 4" 10 1/4" 7 5/8" 1 1/2" - | 2011817 2011819 2011821 2011825 2011827 2011829 2011830 2011837 |
| Hex rod 25 with threads R25/R32 | 1830 2165 2435 2950 3050 3660 4000 | 6' 7' 8' 9' 10' 12' 13' | - 1 1/4" - 7 5/8" - - 1 3/8" | 2011418 2011421 2011424 2011429 2011430 2011436 2011440 |
| Hex rod 28 with threads R25/R25 | 1340 | 4' | 4 6/8" | 2801513 |
| Hex rod 28 with threads R25/R28 | 2090 2545 2940 | 6' 8' 9' | 10 1/4" 4 1/4" 7 5/8" | 2802621 2802625 2802629 |

| Rods | L | | | Catalogue no. |
|-------------------------------------|--|--|---|---|
| | mm | ft | inch | |
| Hex rod 28 with threads R25/R32 | 2145 2435 | 7' 8' | 1/2" - | 2802221 2802224 |
| Hex rod 28 with threads R25/R38 | 2840 | 9' | 3 3/4" | 2808728 |
| Hex rod 32 with threads R25/R32 | 1500 1830 2165 2435 2700 3050 3660 | 5' 6' 7' 8' 8' 10' 12' | - - 1" - 10 1/4" 1 1/2" | 2111415 2111418 2111421 2111424 2111427 2111430 2111436 |
| Hex rod 32 with threads R25/R38 | 3660 | 12' | - | 2121136 |
| Rod Ø32 with threads R25/R32 | 1830 2165 2435 2700 2950 3050 3660 | 6' 7' 8' 8' 9' 10' 12' | - 1" - 10 1/4" 7 5/8" - | 2211418 2211421 2211424 2211427 2211429 2211430 2211436 |
| Rod Ø32 with threads R25/R38 | 1830 2165 2435 2700 2950 3050 3660 | 6' 7' 8' 8' 9' 10' 12' | - 1" - 10 1/4" 7 5/8" - | 2211218 2211221 2211224 2211227 2211229 2211230 2211236 |

| Couplings | D | | L | | | Catalogue no. |
|---------------------------|----|---------|-----|----|--------|---------------|
| | mm | inch | mm | ft | inch | |
| | 32 | 1 1/4 | 150 | 5' | 7/8" | 3911100 |
| | 38 | 1 1/2 | 200 | 7' | 7/8" | 3911103 |
| | 44 | 1 47/64 | 150 | 5' | 7/8" | 3911400 |
| | 44 | 1 47/64 | 200 | - | - | 3911402 |
| | 44 | 1 47/64 | 200 | 7' | 7/8" | 3911404 |
| | 55 | 2 5/32 | 180 | - | - | 3911201 |
| | 55 | 2 5/32 | 200 | 7' | 7 7/8" | 3911204 |
| | 55 | 2 5/32 | 168 | - | - | 3917205 |
| | 55 | 2 5/32 | 180 | - | - | 3917201 |
| Couplings RETRAK type | 38 | 1 1/2 | 150 | 5' | 7/8" | 3911809 |



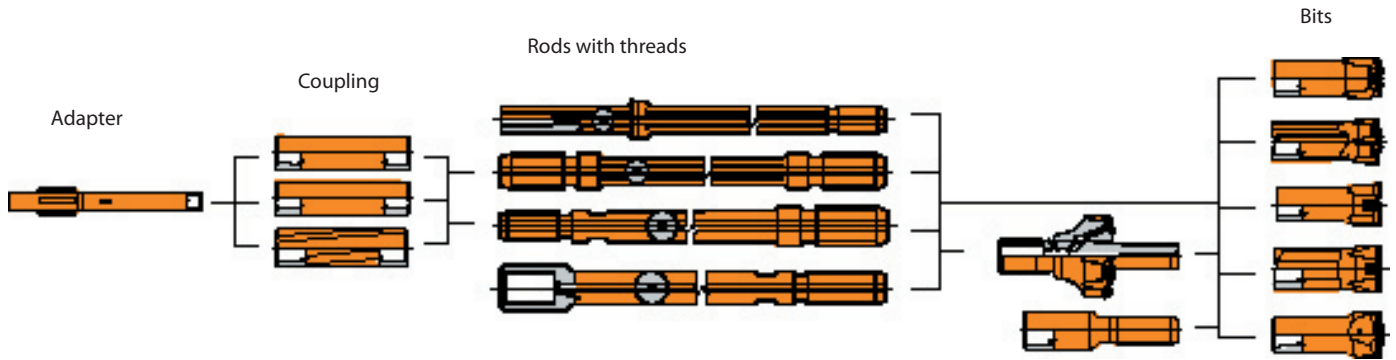
| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|---|----------|------------------|----------------|-----------------|---------------------------|-----------------|----------------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
|  | 40 | 1 37/64 | - - | 2x5 | 4x8 | 2x7 | 48408150 |
| Button bit  | 36 38 | 1 27/64 1 1/2 | 1x5 - - | 1x5 2x5 | 4x8 4x8 | 2x6 2x8 | 48368150 48388150 |
|  | 38 45 | 1 1/2 1 3/4 | 1x6 - - | 1x5 2x5 | 5x9 5x10 | 2x7 2x8 | 49388150 49458150 |
| Button bit RETRAK type  | 40 | 1 37/64 | 2x4 | 2x4 | 4x8 | 2x8 | 57408152 |
| Button bit - broaching  | 150 | 5 7/8 | 2x8 | - - | 8x12 | 5x10 | 59050350 |

| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|--------------------------------|----|-------|----------------|-----------------|---------------------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| <p>Cross bit</p> | 38 | 1 1/2 | -- | 2x5 | 1x4.5 | -- | 4238812 |
| | 38 | 1 1/2 | 4x4 | 1x5 | -- | -- | 57388121 |
| <p>Two-chisel bit KUO type</p> | 45 | 1 3/4 | 2x6 | -- | -- | -- | 4545812 |

| Rods | L | | | Catalogue no. |
|---|--------------------------------------|------------------------|----------------------------------|---|
| | mm | ft | inch | |
| <p>Rod hex 22 x 108 with thread R28</p> | 800 | 2' | 7" | 2511808 |
| <p>Rod hex 25 with thread R28/R28</p> | 1000 2740 | 3' 8' | 3/8" 11 7/8" | 2081810 2081827 |
| <p>Rod hex 28 with thread R28/R28</p> | 1830 2435 3050 3660 | 6' 8' 10' 12' | -- -- -- 1 1/2" | 2869818 2869824 2869830 2869836 |
| <p>Rod hex 28 with thread R28/R32</p> | 2165 2435 3050 3660 4300 | 7' 9' 10' 12' | 1 1/4" 7 5/8" -- 1 1/2" | 2869121 2869124 2869130 2869136 2869143 |
| <p>Rod hex 28 with thread R28/R38</p> | 1830 2435 3050 3660 | 6' 8' 10' 12' | -- -- -- 1 1/2" | 2868318 2868324 2868330 2868336 |

| Rods | L | | | Catalogue no. |
|------------------------------------|------|-----|--------|---------------|
| | mm | ft | inch | |
| Rod hex 28 with thread R28/R28 | 1830 | 6' | – | 2681818 |
| | 2435 | 8' | – | 2681824 |
| | 3050 | 10' | – | 2681830 |
| | 3660 | 12' | 1 1/2" | 2681836 |
| Rod hex 32 with thread R28/T38 | 2435 | 8' | – | 2187224 |
| | 3000 | – | – | 2187230 |
| | 3050 | 10' | – | 2187231 |
| | 3660 | 12' | 1 1/2" | 2187236 |
| | 3960 | – | – | 2187239 |

| Couplings | D | | L | | | Catalogue no. |
|---------------------------|----|---------|-----|----|------|---------------|
| | mm | inch | mm | ft | inch | |
| | 38 | 1 1/2 | 155 | – | – | 3981800 |
| | 44 | 1 47/64 | 150 | 5' | 7/8" | 3981400 |
| | 55 | 2 5/32 | 160 | 6' | 1/4" | 3981200 |
| Couplings RETRAK type | 38 | 1 1/2 | 150 | 5' | 7/8" | 3981809 |



| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|------|-------|-------|----------------|-----------------|---------------------------|-----------------|---------------|
| | | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| | 42 | 1 | - - | 2x5 | 4x8 | 2x8 | 48424150 |
| | 45 | 21/32 | - - | 2x5 | 4x10 | 2x8 | 48454151 |
| | 45 | 1 3/4 | - - | 2x6 | 4x9 | 2x9 | 48454152 |
| | 47 | 1 3/4 | - - | 2x5 | 4x10 | 2x10 | 48474150 |
| | 51 | 1 7/8 | - - | 2x5 | 4x10 | 2x10 | 48514150 |
| | 41 | 1 5/8 | 1x4 | 2x6 | 5x9 | 2x8 | 49414150 |
| | 42 | 1 | 1x6 | 1x6 | 5x8 | 2x8 | 49424150 |
| | 43 | 21/32 | 1x5 | 2x6 | 5x9 | 2x9 | 49434151 |
| | 43 | 1 | 1x6 | 2x6 | 5x10 | 2x8 | 49434152 |
| | 44 | 11/16 | 1x6 | 2x7 | 5x10 | 2x8 | 49444150 |
| | 45 | 1 | 1x6 | 2x6 | 5x10 | 2x9 | 49454151 |
| | 48 | 11/16 | 1x6 | 2x6 | 5x10 | 2x10 | 49484151 |
| | 49 | 1 | 2x6 | 1x6 | 5x10 | 2x9 | 49494150 |
| | 51 | 47/64 | 1x6 | 2x6 | 5x12 | 2x10 | 49514151 |
| | 2 | 1 7/8 | - - | - - | - - | - - | - - |
| | 47 | 1 7/8 | - - | 2x7 | 6x10 | 2x10 | 58514111 |
| | 51 | 2 | - - | 2x7 | 6x10 | 2x10 | 58514111 |
| | 43 | 1 | 1x5 | 3x5 | 6x9 | 3x8 | 50434150 |
| | 45 | 11/16 | 1x5 | 3x5 | 6x9 | 3x8 | 50454151 |
| | 48 | 1 3/4 | 1x5 | 3x5 | 6x9 | 3x8 | 50484151 |
| | 49 | 1 7/8 | - - | 3x5 | 6x10 | 3x8 | 50494150 |
| | 51 | - | 1x5 | 3x5 | 6x10 | 3x9 | 50514143 |
| | 57 | 2 | - - | 3x5 | 6x10 | 3x8 | 50574150 |
| 2 | 1 1/4 | - - | - - | - - | - - | - - | |

| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|----------------------------|----------------|---------------------|----------------|-------------------|---------------------------|-------------------|----------------------------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| Button bit | 76 102 | 3 4 | 2x10 2x10 | 1x12 1x12 | 9x10 9x12 | 2x10 2x12 | 51764150 51024150 |
| Button bit | 64 | 2 1/2 | 2x6 | 2x6 | 8x12 | 4x10 | 52644152 |
| | 90 | 3 35/64 | 2x7 | 2x8 | 14x12 | 1x12 | 59900650 |
| Button bit RETRAK type | 45 51 | 1 3/4 2 | -- -- | 2x5 2x5 | 4x9 4x10 | 2x9 2x10 | 57454150 57514154 |
| Button bit RETRAK type | 48 51 57 | 1 7/8 2 2 1/4 | -- -- -- | 3x5 3x5 3x5 | 6x8 6x10 6x10 | 3x8 3x8 3x8 | 57484150 57514152 57574150 |
| Button bit RETRAK type | 64 | 2 1/2 | -- | 3x6 | 8x10 | 4x10 | 57644152 |
| Button bit RETRAK type | 76 | 3 | -- | 2x10 | 6x12 | 5x10 | 57764151 |
| Button bit - broaching | 105 127 | 5 | 2x8 2x9 | -- -- | 8x12 8x12 | 5x10 6x12 | 59057650 59270050 |

| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|-------------------------------|----------------------------------|---------|----------------|-----------------|---------------------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| Cross bit | 41 | 1 5/8 | 2x6 | 1x6 | -- | -- | 4241412 |
| | 42 | 1 21/32 | 2x6 | 1x6 | -- | -- | 4242412 |
| | 43 | 1 11/16 | 2x6 | 1x6 | -- | -- | 4243412 |
| | 45 | 1 3/4 | 2x6 | 1x6 | -- | -- | 4245412 |
| | 48 | 1 7/8 | 2x6 | 1x6 | -- | -- | 4248412 |
| | 51 | 2 | 2x6 | 1x6 | -- | -- | 4251412 |
| | 57 | 2 1/4 | 2x6 | 1x6 | -- | -- | 4257412 |
| | 64 | 2 1/2 | 2x6 | 1x8 | -- | -- | 4264412 |
| | 76 | 3 | 2x6 | 1x8 | -- | -- | 4276412 |
| | Cross bit RETRAK type | 48 | 1 3/4 | 2x5 | 1x6 | -- | -- |
| 51 | | 2 | 2x5 | 1x6 | -- | -- | 5751412 |
| 57 | | 2 1/4 | 2x6 | 1x8 | -- | -- | 5757412 |
| 60 | | 2 23/64 | 2x6 | 1x8 | -- | -- | 5760412 |
| 64 | | 2 1/2 | 2x8 | 1x8 | -- | -- | 5764412 |
| 66 | | 2 19/32 | 2x8 | 1x8 | -- | -- | 5766412 |
| 68 | | 2 43/64 | 2x8 | 1x8 | -- | -- | 5768412 |
| 70 | | 2 3/4 | 2x8 | 1x8 | -- | -- | 5770412 |
| 71 | | 2 51/64 | 2x8 | 1x8 | -- | -- | 4771412 |
| 76 | | 3 | 2x8 | 1x8 | -- | -- | 5776412 |
| 89 | | 3 1/2 | 2x8 | 1x8 | -- | -- | 5789412 |
| 102 | | 4 | 2x8 | 1x8 | -- | -- | 5702412 |
| Two-chisel bit KUO | | 45 | 1 3/4 | 2x6 | -- | -- | -- |
| | 51 | 2 | 2x6 | -- | -- | -- | 4551412 |

| Rod | L | | | Catalogue no. without seal | Catalogue no. with seal |
|-----|------|----|--------|----------------------------|-------------------------|
| | mm | ft | inch | | |
| | 460 | 1' | 6 1/8" | 2531404 | 2541404 |
| | 800 | 2' | 7" | 2531408 | 2541408 |
| | 1200 | 3' | 11" | 2531412 | 2541412 |
| | 1600 | 5' | 3" | 2531416 | 2541416 |
| | 2350 | 7' | 8 1/2" | 2531423 | 2541423 |

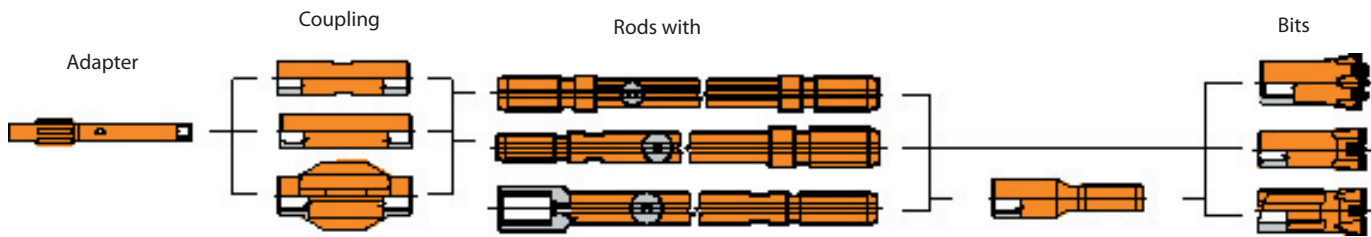
| Hexagonal rods | L | | | Catalogue no. |
|-------------------------------------|--|--|---|---|
| | mm | ft | inch | |
| Hex rod 25 with threads R32/R32 | 1830 2165 2435 2500 2730 3050 | 6' 7' 8' 8' 8' | – 1 1/4" – 2 3/8" 11 1/2" | 2041418 2041421 2041424 2041425 2041427 2041430 |
| Hex rod 28 with threads R32/R32 | 3050 | 10 | – | 2802530 |
| Hex rod 32 with threads R32/R32 | 1220 1500 1830 2165 2435 2700 3050 3660 3850 3965 4270 | 4' 4' 6' 7' 8' 8' 8' 12' 12' 13' 14' | – 11" – 1 1/4" – 10 1/4" 11 1/2" – – – | 2141412 2141415 2141418 2141421 2141424 2141427 2141430 2141436 2141438 2141439 2141442 |
| | 3660 4300 4915 | 12' 14' 16' | – 1" 1 1/2" | 21412369 21412439 21412499 |
| | 2435 3050 3660 3960 4000 4270 4610 | 8' 10' 12' 13' 13' 14' 15' | – – – – 1 3/8" – 1 1/2" | 2141224 2141230 2141236 2141239 2141240 2141242 2141246 |
| | 2435 3050 3660 4000 | 8' 10' 12' 13' | – – – 1 3/8" | 2147224 2147230 2147236 2147240 |
| | 4300 | 14' | 1" | 1941443 |
| Hex rod 35 with threads R32/R32 | 4915 | 16' | 1 1/2" | 1941249 |

| Rods | L | | | Catalogue no. |
|---|------|-----|--------|---------------|
| | mm | ft | inch | |
| Rod $\varnothing 32$ with threads R32/R32 | 1220 | 4' | - | 2241412 |
| | 1500 | 4' | 11" | 2241415 |
| | 1830 | 6' | - | 2241418 |
| | 2165 | 7' | 1 1/4" | 2241421 |
| | 2435 | 8' | - | 2241424 |
| | 2730 | 8' | 11 | 2241427 |
| | 3050 | 10' | 7/8" | 2241430 |
| | 3965 | 13' | - | 2241439 |
| | 4270 | 14' | - | 2241442 |
| Rod $\varnothing 32$ with threads R32/R38 | 1220 | 4' | - | 2241212 |
| | 2435 | 6' | - | 2241224 |
| | 2750 | 9' | - | 2241227 |
| | 3050 | 10' | - | 2241230 |
| | 3500 | 11' | 5 6/8" | 2241235 |
| | 3660 | 12' | - | 2241236 |
| | 3700 | 12' | 1" | 2241237 |
| | 4270 | 14' | - | 2241242 |
| Rod $\varnothing 38$ with threads R32/R38 | 2435 | 8' | - | 2341224 |
| | 3050 | 10' | - | 2341230 |
| | 3660 | 12' | - | 2341236 |
| | 1220 | 4' | - | 2611112 |
| | 1525 | 5' | - | 2611115 |
| | 1830 | 6' | - | 2611118 |
| | 3050 | 10' | - | 2611130 |
| | 3660 | 12' | - | 2611136 |
| | 4300 | 14' | 1" | 2611143 |
| | 1220 | 4' | - | 2631312 |
| | 1830 | 6' | - | 2631318 |
| | 2435 | 8' | - | 2631324 |
| | 3050 | 10' | - | 2631330 |
| | 3660 | 12' | - | 2631336 |

| Couplings | D | | L | | | Catalogue no. |
|-----------|----|---------|-----|----|--------|---------------|
| | mm | inch | mm | ft | inch | |
| | 44 | 1 47/64 | 150 | 5' | 7/8" | 3941400 |
| | 44 | 1 47/64 | 200 | 7' | 7/8" | 3941401 |
| | 44 | 1 47/64 | 200 | 7' | 7/8" | 3941404 |
| | 55 | 2 5/32 | 170 | 6' | 11/16" | 3941201 |

| Couplings | D | | L | | | Catalogue no. |
|---------------------------|----|---------|-----|----|--------|---------------|
| | mm | inch | mm | ft | inch | |
| | 55 | 2 5/32 | 180 | - | - | 3947200 |
| | 55 | 2 5/32 | 200 | 7' | 7/8" | 3947202 |
| | 55 | 2 5/32 | 200 | 7' | 7 7/8" | 3947204 |
| | 62 | 2 27/64 | 190 | - | - | 3937401 |
| | 62 | 2 27/64 | 200 | 7' | 7/8" | 3932404 |
| Couplings RETRAK type | 44 | 1 47/32 | 150 | 5' | 7/8" | 3941409 |

| Connecting element | D | | L | | | Catalogue no. |
|--------------------|----|--------|-----|----|------|---------------|
| | mm | inch | mm | ft | inch | |
| | 55 | 2 5/32 | 140 | 5' | 1/2" | 3941206 |

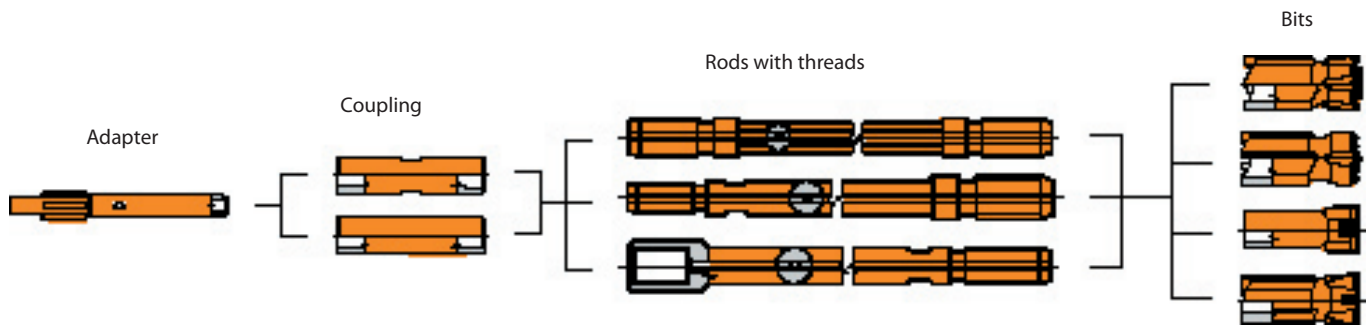


| Bits | D | | Flushings holes | | Buttons (mm) | | Catalogue no. |
|-----------------------|-----|---------|-----------------|-----------------|---------------------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| | 64 | 2 1/2 | 2x6 | 1x10 | 9x10 | 2x10 | 51642150 |
| | 70 | 2 3/4 | 2x10 | 1x10 | 9x10 | 2x10 | 51702150 |
| | 76 | 3 | 2x10 | 1x12 | 9x12 | 2x10 | 51762151 |
| | 89 | 3 1/2 | 2x10 | 1x12 | 9x12 | 2x12 | 51892150 |
| | 102 | 4 | 2x10 | 1x12 | 9x12 | 2x12 | 51022150 |
| Button bit | 64 | 2 1/2 | 1x6 | 2x6 | 8x10 | 4x10 | 52642151 |
| | 89 | 3 1/2 | - - | 2x10 | 8x12 | 4x12 | 52892150 |
| Cross bit | 64 | 2 1/2 | 2x8 | 1x10 | - - | - - | 4264212 |
| | 70 | 2 3/4 | 2x8 | 1x10 | - - | - - | 4270212 |
| | 76 | 3 | 2x8 | 1x10 | - - | - - | 4276212 |
| ... | 64 | 2 1/2 | 2x8 | 1x8 | - - | - - | 5764212 |
| | 66 | 2 19/32 | 2x8 | 1x8 | - - | - - | 5766212 |
| | 71 | 2 51/64 | 2x8 | 1x8 | - - | - - | 5771212 |
| | 76 | 3 | 2x8 | 1x8 | - - | - - | 5776212 |
| | 89 | 3 1/2 | 2x8 | 1x8 | - - | - - | 5789212 |
| | 102 | 4 | 2x8 | 1x8 | - - | - - | 5702212 |

| Rod | L | | | Catalogue no. |
|-------------------------------------|------|-----|---------|---------------|
| | mm | ft | inch | |
| Hex rod 32 with threads R38/R38 | 1830 | 6' | – | 2121218 |
| | 2165 | 7' | 11/14" | 2121221 |
| | 2435 | 8' | – | 2121224 |
| | 2500 | 8' | 2 5/8" | 2121225 |
| | 2730 | 8' | 11 1/2" | 2121227 |
| | 3050 | 10' | – | 2121230 |

| Rods | L | | | Catalogue no. |
|---|------|-----|------|---------------|
| | mm | ft | inch | |
| Rod \varnothing 32 with threads R38/R38 | 2435 | 8' | – | 2221224 |
| | 3050 | 10' | – | 2221230 |
| | 3660 | 12' | – | 2221236 |
| Rod \varnothing 38 with threads R38/R38 | 1220 | 4' | – | 2321212 |
| | 1500 | 4' | 11" | 2321215 |
| | 1830 | 6' | – | 2321218 |
| | 2435 | 8' | – | 2321224 |
| | 3050 | 10' | – | 2321230 |
| | 3660 | 12' | – | 2321236 |
| Rod \varnothing 38 with threads R38/T38 | 375 | 1' | 8" | 2327203 |
| | 500 | – | – | 2327205 |
| | 3660 | 12' | – | 2327236 |
| Rod \varnothing 38 with threads R38/R38 | 3050 | 10' | – | 2621330 |
| Rod \varnothing 38 with threads R38/T38 | 500 | 1' | 8" | 2627305 |

| Couplings | D | | L | | | Catalogue no. |
|-----------|----------|------------------|------------|---------|-----------|--------------------|
| | mm | inch | mm | ft | inch | |
| | 55 55 | 2 5/32 2 6/32 | 170 180 | 6' - | 3/4' - | 3921200 3921201 |
| | 55 | 2 5/32 | 200 | 7' | 7/8" | 3921204 |
| | 55 55 | 2 5/32 2 5/32 | 170 180 | 6' - | 3/4' - | 3927200 3927201 |
| | 55 | 2 5/32 | 200 | 7' | 7/8" | 3927204 |
| | 62 | 2 27/64 | 185 | 7' | | 3937200 |
| | 62 | 2 27/64 | 205 | 8' | | 3927304 |
| | 69 | - | 172 | - | - | 3927213 |
| | 55 | 2 5/32 | 200 | 7' | 7/8" | 3927206 |

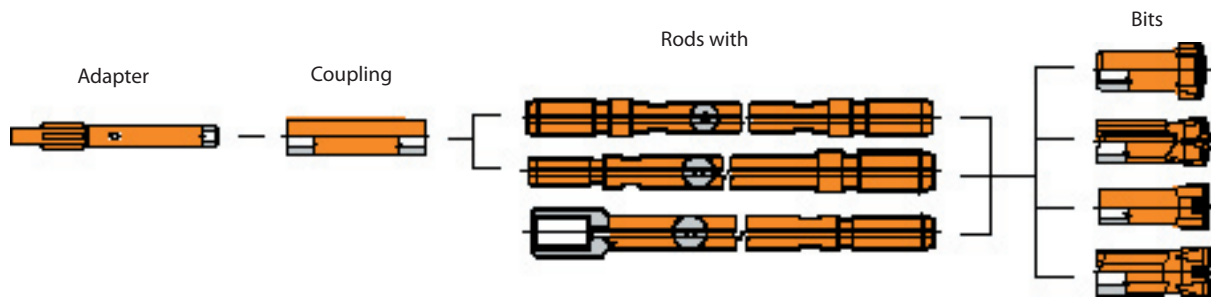


| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|-------------------------------|-----|-------|----------------|-----------------|---------------------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| <p>Button bit</p> | 64 | 2 1/2 | 2x1 | 1x10 | 9x10 | 2x10 | 51642250 |
| | 70 | 2 3/4 | 2x10 | 1x10 | 9x10 | 2x10 | 51702250 |
| | 76 | 3 | 2x10 | 1x12 | 9x10 | 2x10 | 51762250 |
| | 89 | 3 1/2 | 2x10 | 1x12 | 9x12 | 2x12 | 51892250 |
| | 102 | 4 | 2x10 | 1x12 | 9x12 | 2x12 | 51022250 |
| <p>Button bit</p> | 64 | 2 1/2 | 1x6 | 2x6 | 8x10 | 4x10 | 52642251 |
| <p>Button bit</p> | 64 | 2 1/2 | 1x6 | 2x9 | 8x12 | 4x10 | 52642252 |
| | 76 | 3 | 2x8 | 2x10 | 8x12 | 4x12 | 52762250 |
| <p>Button bit RETRAK type</p> | 64 | 2 1/2 | - - | 2x9 | 8x10 | 4x10 | 57642253 |
| <p>Button bit RETRAK type</p> | 76 | 3 | - - | 2x12 | 6x12 | 5x10 | 57762250 |

| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|-----------------------------------|-----|-------|----------------|-----------------|---------------------------|-----------------|---------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| Button bit RETRAK type | 89 | 3 1/2 | -- | 2x12 | 6x12 | 6x10 | 57892251 |
| | 64 | 2 1/2 | 2x8 | 1x10 | -- | -- | 4264222 |
| | 68 | 2 | 2x8 | 1x10 | -- | -- | 4268222 |
| | 70 | 43/64 | 2x8 | 1x10 | -- | -- | 4270222 |
| | 76 | 2 3/4 | 2x8 | 1x10 | -- | -- | 4276222 |
| Cross bit RETRAK type | 64 | 2 1/2 | 2x8 | 1x8 | -- | -- | 5764222 |
| | 66 | 2 | 2x8 | 1x8 | -- | -- | 5766222 |
| | 67 | 19/62 | 2x8 | 1x8 | -- | -- | 5776222 |
| | 89 | -- | 2x8 | 1x8 | -- | -- | 5789222 |
| | 102 | 3 1/2 | 2x8 | 1x8 | -- | -- | 5702222 |

| Rods | L | | | Catalogue no. |
|--|------|-----|--------|---------------|
| | mm | ft | inch | |
| Hex rod with threads T38/T38 | 2435 | 8' | -- | 2122224 |
| | 3050 | 10' | -- | 2122230 |
| | 3660 | 12' | -- | 2122236 |
| | 4000 | 13' | 1 3/8" | 2122240 |
| Rod Ø 38 with threads T38/T38 | 1220 | 4' | -- | 2322212 |
| | 2435 | 8' | -- | 2322224 |
| | 3050 | 10' | -- | 2322230 |
| | 3660 | 12' | -- | 2322236 |
| | 4000 | 13' | 1 3/8" | 2322240 |
| Rod Ø 38 with threads T38/T38 | 1500 | 4' | 11" | 2622315 |
| | 1850 | 6' | -- | 2622318 |
| | 2530 | -- | -- | 2622325 |
| | 3050 | 10' | -- | 2622330 |
| | 3660 | 12' | -- | 2622336 |
| | 4000 | 13' | 1 3/8" | 2622340 |

| Couplings | D | | L | | Catalogue no. |
|-----------|----------|--------------|------------|---------------------|--------------------|
| | mm | inch | mm | inch | |
| | 55 | 2 5/32 | 190 | 7 3/64" | 3922200 |
| | 62 62 | 2 27/64 - | 207 215 | 8 5/32" 8 15/32" | 3922300 3922301 |
| | 62 | 2 27/64 | 215 | 8 15/32" | 3922304 |
| | 72 | | 235 | 9 1/4" | 3997204 |

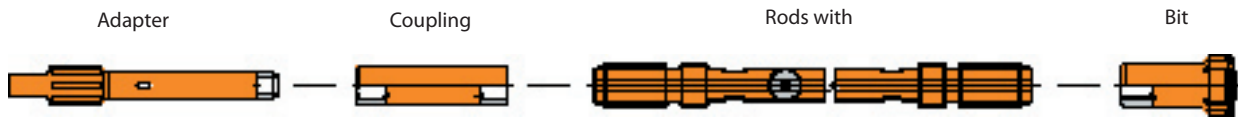


| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|------|----|-------|----------------|-----------------|---------------------------|-----------------|----------------------------------|
| | | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| | 76 | 3 | 2x10 | 1x12 | 6x12 | 5x10 | 51763251 51893250 51023250 |
| | 89 | 3 1/2 | 2x10 | 1x12 | 9x12 | 2x12 | |
| | | - | 2x10 | 1x12 | 9x12 | 2x12 | |
| | 89 | 3 1/2 | -- | 2x10 | 8x12 | 4x12 | 52893250 |
| | | | | | | | |
| | | 4 | -- | 2x10 | 8x12 | 4x12 | 52023250 |
| | | 4 | -- | 2x12 | 8x16 | 5x12 | 59020350 |
| | | | | | | | |
| | 76 | 3 | -- | 2x12 | 6x12 | 5x10 | 57763252 |
| | 89 | 3 1/2 | -- | 2x12 | 6x12 | 6x10 | 57893252 |
| | 89 | 3 1/2 | -- | 2x11 | 8x12 | 7x10 | 578932121 |

| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|----------------------------|-----------------|-----------------|---------------------|----------------------|---------------------------|-----------------|-------------------------------|
| | mm | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| Button bit RETRAK type | 102 | 4 | -- | 2x12 | 8x16 | 5x12 | 57023253 |
| Cross bit | 76 89 102 | 3 3 1/2 4 | 2x8 2x10 2x10 | 1x10 1x10 1x10 | -- -- -- | -- -- -- | 4276322 4289322 4202322 |
| Cross bit RETRAK | 76 89 102 | 3 3 1/2 4 | 2x8 2x8 2x8 | 1x8 1x8 1x8 | -- -- -- | -- -- -- | 5776322 5789322 5702322 |

| Rods | L | | | Catalogue no. |
|-----------------------------------|------------------------------|------------------------|----------------------|--|
| | mm | ft | inch | |
| Rod Ø 38 with threads T45/T45 | 3050 3660 | 10' 12' | -- -- | 2332330 2332336 |
| Rod Ø 45 with threads T45/T45 | 1270 2000 3000 3660 | -- 6' 10' 12' | -- 7" -- -- | 1832312 1832320 1832330 1832336 |
| Rod Ø 45 with threads T45/T45 | 1800 3050 3660 | 6' 10' 12' | -- -- -- | 2662618 2662630 2662636 |

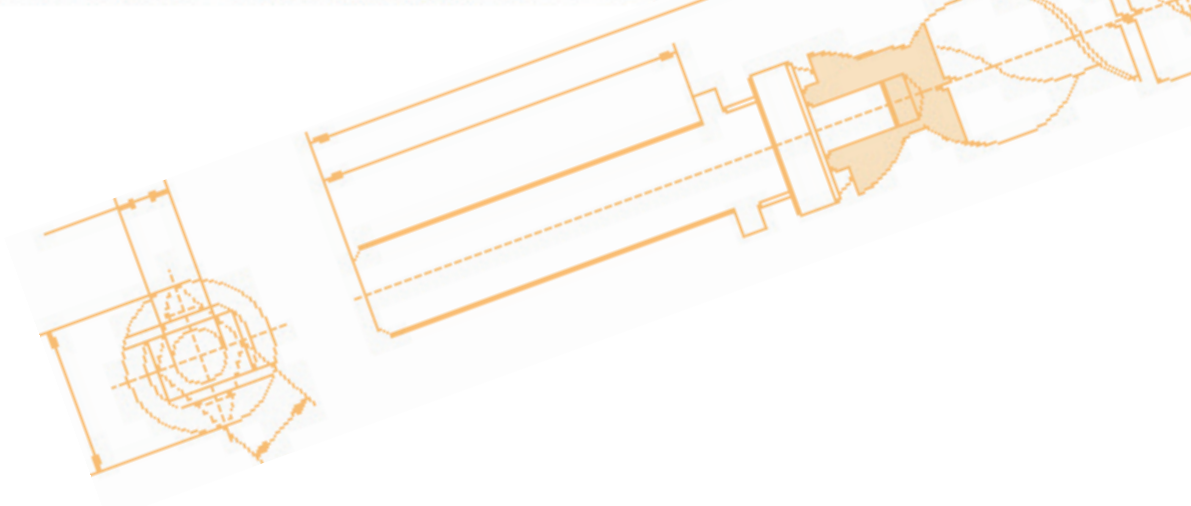
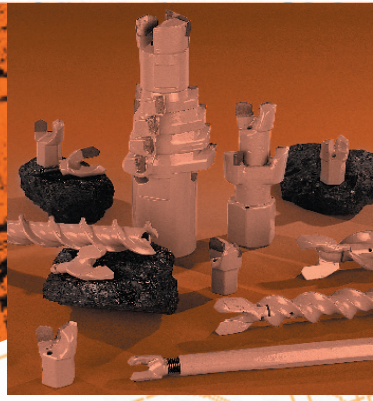
| Coupling | D | | L | | Catalogue no. |
|----------|----------|--------------------|------------|------------------|--------------------|
| | mm | inch | mm | inch | |
| | 62 62 | 2 27/64 2 27/64 | 207 220 | 8 1/4" 8 5/8" | 3932300 3932301 |



| Bits | D | | Flushing holes | | Buttons (mm) | | Catalogue no. |
|------|----|-------|----------------|-----------------|---------------------------|-----------------|---------------|
| | | inch | Side Qty x Dia | Front Qty x Dia | Circumferential Qty x Dia | Front Qty x Dia | |
| | 89 | 3 1/2 | - - | 2x11 | 8x12 | 7x10 | 59890250 |
| | | 4 | - - | 2x10 | 8x12 | 6x12 | 59020250 |

| Round rods | L | | | Catalogue no. |
|---|------|-----|------|---------------|
| | mm | ft | inch | |
| Rod \varnothing 52 with threads T51/T51 | 2400 | 8' | - | 2805024 |
| | 3660 | 12' | - | 2805036 |
| | 4265 | 14' | - | 2805042 |

| Coupling | D | | L | | | Catalogue no. |
|----------|----|------|-----|----|------|---------------|
| | mm | inch | mm | ft | inch | |
| | 76 | 3 | 230 | - | - | 3952500 |

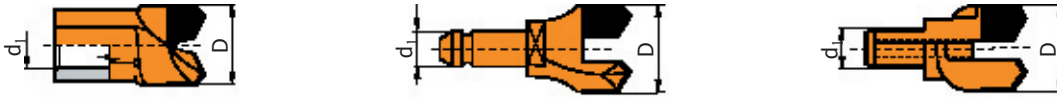


Tools for rotary drilling

4 group

- Tools for hand rotary drilling
- Tools for mechanical rotary drilling
- Tools for underground drilling gotten sucking off method
- Large diameter bits and rods for rotary drilling

Drill bits



| 77 | 43 | 0 | 1 | 2 |
|------------------|-----------------------|--------------------|--|------------------------------|
| Group of product | Bit diameter D (mm) | Version | Connection type | Sinter grade |
| 77 | 28 ÷ 58 28 ÷ 58 mm | 0 Basic version | 1 ÷ 9 Differ depends on the fastening type (cotter pin, external thread or internal thread) | 2 - B2 4 - B45 8 - G20 |

77 43 0 12

Example: drill bits with bit diameter $\varnothing 43$, fastening on the cotter pin, with sinter grade B2.

Screw rods



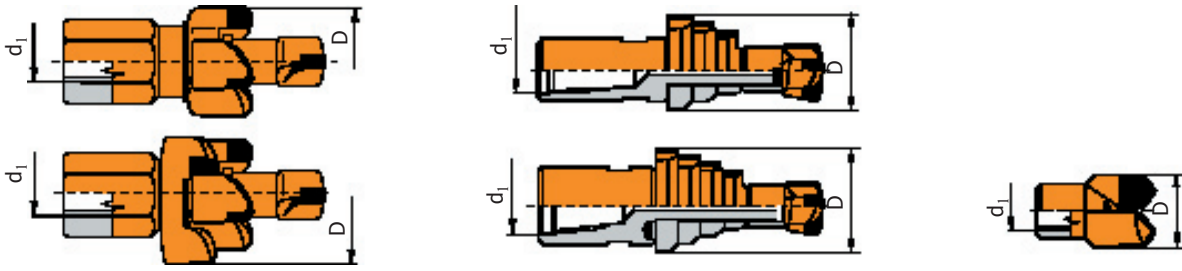
| 30 | 39 | 2 | 25 |
|---|---------------------|----------------------------|-----------------------|
| Group of product | Bit diameter D (mm) | Version | Length of rod L (dcm) |
| 30 ÷ 31 Differ depends on the rod type | 37 39 52 | 2 Without flushing hole | 05 ÷ 40 5 ÷ 40 dcm |

30 39 2 25

For group 32 - factory number

Example: screw rod with shank $\varnothing 18 \times 55$, with diameter $\varnothing 39$, without flushing hole, with total length $L=2,5m$.

Large diameters bits for rotary drilling



| 54 | 115 | 0 | 4 | |
|--------------------------|--------------------------|---|-------------------------------|--|
| Group of product | Bit diameter D (mm) | Version | Sinter grade | Thread type |
| 54 Bits 55 Drill bits | 065 ÷ 115 65 ÷ 115 mm | 0 ÷ 4 Differ depends on the bit type or part of complete bit | 2 - Grade B2 4 - Grade B40 | For group 55 1 ÷ 4 Differ depends on the connection type |

54 115 04

Example: bits with diameter $\varnothing 115$ mm complete, basic version, with sinter grade B40.

Hollow rods

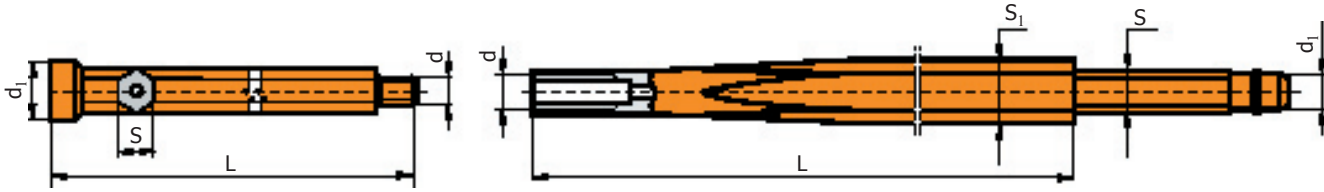


| 33 | 76 | 3 | 30 |
|------------------|-------------------------|--|------------------------|
| Group of product | Bit diameter D (mm) | Version | Length of rod L (dcm) |
| 33 | 51 ÷ 115 51 ÷ 115 mm | 0 ÷ 9 Differ depends on the rod type or connection type | 10 ÷ 40 10 ÷ 40 dcm |

33 76 3 30

Example: hollow rod with extension diameter $\varnothing 76$, with $2\frac{3}{8}$ "WP thread, with effective length L=3000 mm.

Rods with thread connections for mechanical drilling



| 27 | 2 | 3 | 6 | 24 |
|------------------|---|---|---|-----------------------|
| Group of product | Shank type | Threat type | Threat size | Lenght of rod L (dcm) |
| 25 27 | 1 ÷ 9 Differ depends on the type and dimension of shank part | 1 ÷ 9 Differ depends on the thread type (metrical, inch, rope) | 1 ÷ 9 Differ depends on the thread size (side „d“) | 05 ÷ 36 5 ÷ 36 |

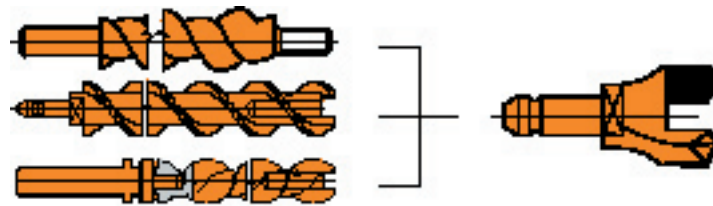
27 2 3 6 24

Example: Hexagonal rod 22, with hexagonal shank 19 with internal metrical thread, with length L=2400mm.

Tools for rotary drilling

Tools for hand rotary drilling

Way of connecting



| Drill bit BOB | L | | | Catalogue no. |
|---------------|----|----|--------|---------------|
| | mm | ft | inch | |
| | 40 | 1' | 37/64" | 7740212 |
| | 42 | 1' | 21/32" | 7742212 |
| | 43 | 1' | 11/16" | 7743012 |
| | 45 | 1' | 3/4" | 7745112 |

| Drill bit CARDOX | Catalogue no. |
|------------------|---------------|
| | 7758014 |

| Drill bit with wedge-shaped shank | L | | | Catalogue no. |
|-----------------------------------|----|----|--------|---------------|
| | mm | ft | inch | |
| | 34 | 1' | 11/32" | 7734012 |

| Rhombic screw rods R37 | L | | | Catalogue no. |
|------------------------|------|-----|--------|---------------|
| | mm | ft | inch | |
| | 500 | 1' | 8" | 3037205 |
| | 1000 | 3' | 3/8" | 3037210 |
| | 1500 | 4' | 11" | 3037215 |
| | 2000 | 6' | 6 3/4" | 3037220 |
| | 2500 | 8' | 2 1/2" | 3037225 |
| | 3000 | 10' | - | 3037230 |
| | 3500 | 11' | 5 7/8" | 3037235 |
| | 4000 | 13' | 1" | 3037240 |

Tools for rotary drilling

Tools for hand rotary drilling

| Rhombic screw rods R37 | d ₁ mm | L | | | Catalogue no. |
|------------------------|----------------------|------|-----|--------|---------------|
| | | mm | ft | inch | |
| | Rd 20 | 500 | 1' | 8" | 3137205 |
| | | 1000 | 3' | 3/8" | 3137210 |
| | | 1500 | 4' | 11" | 3137215 |
| | | 2000 | 6' | 6 3/4" | 3137220 |
| | | 2500 | 8' | 2 1/2" | 31372 25 |
| | | 3000 | 10' | – | 3137230 |
| | A 20 | 500 | 1' | 8" | 3200105 |
| | | 1000 | 3' | 3/8" | 3200110 |
| | | 1500 | 4' | 11" | 3200115 |
| | | 2000 | 6' | 6 3/4" | 3200120 |
| | | 2500 | 8' | 2 1/2" | 3200125 |
| | | 3000 | 10' | – | 3200130 |

| Rhombic rods R37 with rhombic shank 19 | L | | | Catalogue no. |
|--|------|-----|--------|---------------|
| | mm | ft | inch | |
| | 800 | 2' | 7" | 3201008 |
| | 1200 | 3' | 11" | 3201012 |
| | 1600 | 5' | 3" | 3201016 |
| | 2000 | 6' | 6 3/4" | 3201020 |
| | 2400 | 7' | 10" | 3201024 |
| | 3200 | 10' | 6" | 3201032 |
| | 4000 | 13' | 1" | 3201040 |

Finned screw rods Z39, Z52

| Finned rods Z39 with BOB shank | L | | | Catalogue no. |
|--------------------------------|------|----|------|---------------|
| | mm | ft | inch | |
| | 1000 | 3' | 3/8" | 3201110 |

Tools for rotary drilling

Tools for hand rotary drilling

Finned screw rods Z39, Z52

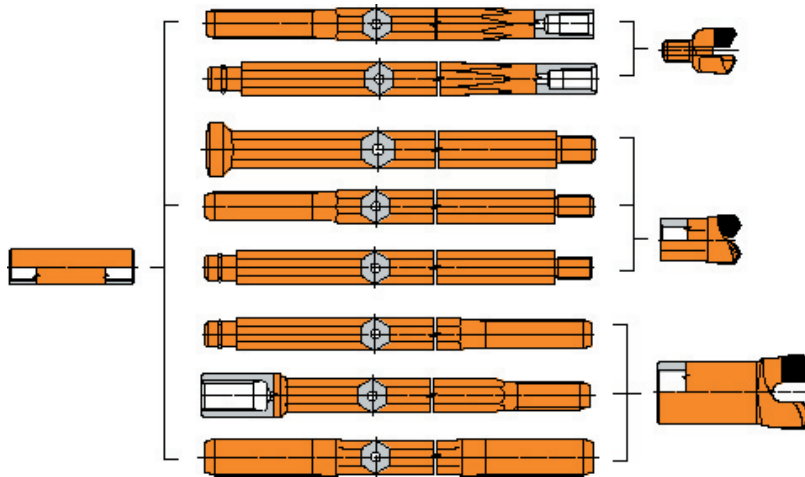
| | D | L | | Catalogue no. |
|--|----|------|-------------|---------------|
| | mm | mm | ft inch | |
| | 39 | 500 | 1' 8" | 3039205 |
| | | 1000 | 3' 3/8" | 3039210 |
| | | 1500 | 4' 11" | 3039215 |
| | | 2000 | 6' 6" | 3039220 |
| | | 2500 | 8' 3/4" | 3039225 |
| | | 3000 | 10' 2" | 3039230 |
| | | 3500 | 11' 1/2" | 3039235 |
| | | 4000 | 13' 5' 7/8" | 3039240 |
| | 52 | 500 | 1' 8" | 3052205 |
| | | 1000 | 3' 3/8" | 3052210 |
| | | 1500 | 4' 11" | 3052215 |
| | | 2000 | 6' 6" | 3052220 |
| | | 2500 | 8' 3/4" | 3052225 |
| | | 3000 | 10' 2' 1/2" | 3052230 |

| | D mm | d ₁ mm | L | | Catalogue no. |
|--|---------|----------------------|----|---------|---------------|
| | | | mm | ft inch | |
| | | | | | |

| | D mm | L | | Catalogue no. |
|--|---------|------|------------|---------------|
| | | mm | ft inch | |
| | 39 | 1000 | 3' 3/8" | 3202210 |
| | | 1500 | 4' 11" | 3202215 |
| | | 2000 | 6' 6' 3/4" | 3202220 |
| | 39 | 1000 | 3' 3/8" | 3202310 |
| | | 1500 | 4' 11" | 3202315 |
| | | 2000 | 6' 6' 3/4" | 3202320 |

Tools for rotary drilling

Tools for mechanical rotary drilling



| Drill bits | D | | Catalogue no. |
|-------------------------------------|------------------------|-----------------------------------|--|
| | mm | inch | |
| Drill bit with thread 1/2" | 28 ,5 30 | 1 1/8 1 3/16 | 7728052 7730052 |
| Drill bit with thread M16 | 28,5 30 32 35 | 1 1/8 1 3/16 1 1/4 1 3/8 | 7728032 7730032 7732032 7735034 |
| | 28,5 | 1 1/8 | 7728132 |
| | 28,5 | 1 1/8 | 7728232 |
| | 41 | 1 5/8 | 7741034 |
| Drill bit with thread Rd 3Gg/1" | 34 | 1 11/32 | 7734102 |

Tools for rotary drilling

Tools for mechanical rotary drilling

| Drill bits | D | | Catalogue no. |
|--------------------------------------|----------------------------------|--|--|
| | mm | inch | |
| Drill bit with thread A17 | 26 | 1 1/32 | 7726002 |
| | 28 32 | 1 1/8 1 1/4 | 7728182 7732082 |
| Drill bit with thread A 20 | 36 38 40 41 42 43 | 1 27/64 1 1/2 1 37/64 1 5/8 1 21/32 1 11/16 | 7736062 7738062 7740062 7741062 7742062 7743062 |
| Drill bit with thread Rd 20 | 38 40 41 42 43 | 1 1/2 1 37/64 1 5/8 1 21/32 1 11/16 | 7738022 7740022 7741022 7742022 7743022 |
| Drill bit with thread Rd 24 | 43 | 1 11/16 | 7743604 |
| Drill bit with thread R 25 right | 43 | 1 11/16 | 7743702 |
| Drill bit with thread Cr 42 | 55 | 2 5/32 | 7755004 |
| Drill bit with rope thread 4°46' | 42 45 | 1 21/32 1 3/4 | 7742042 7745042 |

Tools for rotary drilling

Tools for mechanical rotary drilling

| Hex rods | L | | | Catalogue no. |
|----------|--------------------------------------|-----------------------------|----------------------------------|---|
| | mm | ft | inch | |
| | 600 1000 1500 | 2' 3' 4' | – 3/8" 11" | 2078706 2078710 2078715 |
| | 1000 1500 | 3' 4' | 3/8" 11" | 2800210 2800215 |
| | 1000 2110 | 3' – | 3/8" – | 2018110 2018121 |
| | 1000 1500 | 3' 4' | 3/8" 11" | 2658510 2658515 |
| | 2060 | 6' | 9 1/8" | 2599520 |
| | 2040 2150 2440 2700 3000 | 6' 7' 8' 8' 10' | 8 3/8" – – 10 1/4" – | 2573520 2573521 2573524 2573527 2573530 |
| | 2060 2150 2440 2700 3000 | 6' 7' 8' 8' 10' | 9 1/8" – – 10 1/4" | 2583520 2583521 2583524 2583527 2583530 |
| | 800 | 2' | 7" | 2743608 |
| | 400 2500 | 1' 8' | 4" 2 1/2" | 2802404 2802425 |

Tools for rotary drilling

Tools for mechanical rotary drilling

| Hex rods | L | | | Catalogue no. |
|----------|----------------------|-------------------------------|------|-------------------------------|
| | mm | ft | inch | |
| | 500 1000 | 1' 8" 3' 3/8" | | 2803805 2803810 |
| | 1500 2000 | 4' 11" 6' 6 3/4" | | 24595152 24595202 |
| | 3000 | 10' - | | 2802030 |
| | 2460 2700 3050 | 8' 6/8" 8' 10" 10' 1/4" | | 2018524 2018527 2018530 |
| | 2300 2700 | 7' 6 2/4" 8' 10 1/4" | | 2048523 2048527 |
| | 1500 | 4' 11" | | 2800315 |
| | 3150 3350 | 10' 4" 11' - | | 2801031 2801033 |
| | 1500 2000 | 4' 11" 6' 6 3/4" | | 2059515 2059520 |
| | 1800 | 5' 11" | | 2649418 |

Tools for rotary drilling

Tools for mechanical rotary drilling

| Hex rods | L | | | Catalogue no. |
|-------------------|------|-----|--------|---------------|
| | mm | ft | inch | |
| <p>R22 righty</p> | 2000 | 6' | 6 3/4" | 2478520 |
| | 2500 | 8' | 2 1/2" | 2478525 |
| | 3000 | 10' | – | 2478530 |
| <p>R32 right</p> | 2150 | 7' | – | 28042211 |
| | 2400 | 7' | 10" | 28042244 |
| | 2650 | – | – | 28042261 |
| | 2750 | 8' | 11 | 28042273 |
| | 3350 | 11' | 1 1/2" | 28042331 |
| | 800 | 2' | 7" | 2714908 |
| | 1200 | 3' | 11" | 2714912 |
| | 1400 | 4' | 7 1/8" | 2714914 |
| | 2200 | 7' | 2 5/8" | 2741922 |
| | 2400 | 7' | 10" | 2714924 |
| | 800 | 2' | 7" | 2713608 |
| | 1200 | 3' | 11" | 2713612 |
| | 1400 | 4' | 7 1/8" | 2713614 |
| | 2200 | 7' | 2 5/8" | 2713622 |
| | 2400 | 7' | 10" | 2713624 |
| | 800 | 2' | 7" | 2724908 |
| | 1200 | 3' | 11" | 2724912 |
| | 1400 | 4' | 7 1/8" | 2724914 |
| | 2200 | 7' | 2" | 2724922 |
| | 2400 | 7' | 10" | 2724924 |
| | 800 | 2' | 7" | 2753608 |
| | 1200 | 3' | 11" | 2753612 |
| | 1400 | 4' | 7 1/8" | 2753614 |
| | 2200 | 7' | 2" | 2753622 |
| | 2400 | 7' | 10" | 2753624 |
| | 800 | 2' | 7" | 2754908 |
| | 1200 | 3' | 11" | 2754912 |
| | 1400 | 4' | 7 1/8" | 2754914 |
| | 2200 | 7' | 2" | 2754922 |
| | 2400 | 7' | 10" | 2754924 |
| | 800 | 2' | 7" | 2753608 |
| | 1200 | 3' | 11" | 2753612 |
| | 1400 | 4' | 7 1/8" | 2753614 |
| | 2200 | 7' | 2" | 2753622 |
| | 2400 | 7' | 10" | 2753624 |
| | 2500 | 8' | 2 1/2" | 27595252 |
| | 2600 | 8' | 6 3/8" | 27595262 |
| | 2700 | 8' | 10 | 27595272 |
| | 2800 | 9' | 1 1/4" | 27595282 |

Tools for rotary drilling

Tools for mechanical rotary drilling

| Hex rods | L | | | Catalogue no. |
|----------|------|-----|--------|---------------|
| | mm | ft | inch | |
| | 1400 | 4' | 7 1/8" | 2724514 |
| | 1700 | 5' | 7" | 2724517 |
| | 1800 | - | 6" | 2724518 |
| | 2200 | 7' | 2" | 2724522 |
| | 2500 | 8' | 2 1/2" | 2724525 |
| | 2500 | 8' | 2 1/2' | 2758725 |
| | 3300 | 10' | 10" | 2758733 |

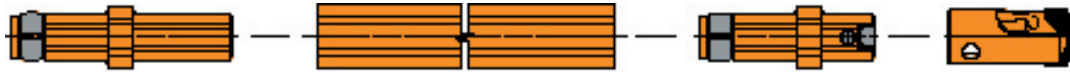
| Coupling | D | | L | | | Catalogue no. |
|----------|----|-------|-----|----|------|---------------|
| | mm | inch | mm | ft | inch | |
| | 32 | 1 1/4 | 140 | 5' | 1/2" | 3971710 |

| Adapters | D mm | Catalogue no. |
|----------|--------------|--------------------|
| | M 16 A 17 | 3800489 3800479 |

| Adapters | Catalogue no. |
|----------|---------------|
| | 3800249 |
| | 3800419 |

Tools for rotary drilling

Tools for underground drilling by gotten sucking off method



| | | Catalogue no. |
|--------------------------------|--|---------------|
| <p>Drill bit Ø25</p> | | 7726092 |
| <p>Drill bit's adapter Ø25</p> | | 2804400 |
| <p>Rod's adapter hex 22</p> | | 28043001 |

| | | L | | | Catalogue no. |
|--------------------------|--|------|----|------|---------------|
| | | mm | ft | inch | |
| <p>Rod's pipe hex 22</p> | | 900 | 2' | 11 | 28043093 |
| | | 1350 | 4' | 5/8" | 28043133 |
| | | | | | 5 1/8" |

Tools for rotary drilling

Tools for underground drilling gotten off method sucking

| | | Catalogue no. |
|--|--|---------------|
| <p>Drill bit $\varnothing 38$</p> | | 7738092 |
| <p>Drill bit's adapter $\varnothing 38$</p> | | 2804700 |
| <p>Rod's adapter hex 28</p> | | 2804600 |

| | L | | | Catalogue no. |
|--------------------------|-------------|----------|----------------------|----------------------|
| | mm | ft | inch | |
| <p>Rod's pipe hex 28</p> | 900 1350 | 2' 4' | 11 5/8" 5 1/8" | 28049093 28048133 |

Tools for rotary drilling

Large diameter bits and rods for rotary drilling


| Drill bits | Catalogue no. |
|--|---------------|
| Drill bit $\varnothing 65$ | 5406514 |
| Pilot bit $\varnothing 48$ (pilot) | CZ 5408014 |
| Drill bit $\varnothing 80$ | 5408004 |

| | poz. | D | | Catalogue no. części | Catalogue no. |
|---------------------------------|------|-----|-------|--------------------------|---------------|
| | | mm | inch | | |
| Drill bit $\varnothing 115$ | 1 | 80 | – | CZ 5408024 CZ 5411514 | 5411504 |
| | 2 | 115 | 4 1/2 | | |

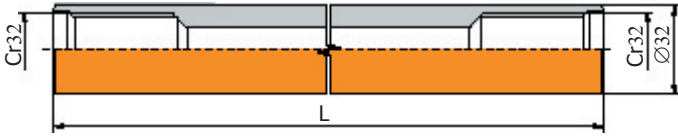
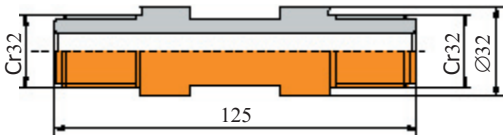
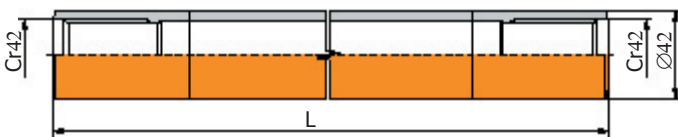
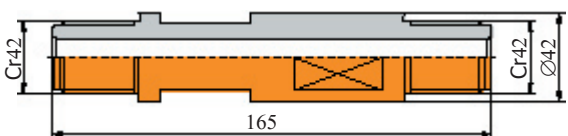
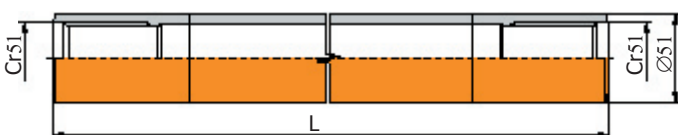
| Drill bits | Catalogue no. |
|---------------------------------|---------------|
| Drill bit $\varnothing 105$ | 55105041 |
| Drill bit $\varnothing 115$ | CZ 5408041 |

Tools for rotary drilling

Large diameter bits and rods for rotary drilling

| | D | | Catalogue no. |
|--|-----|-------|---------------|
| | mm | inch | |
| Milling cutter for drill bits  | 80 | – | CZ 5510524 |
| | 95 | – | CZ 5510534 |
| | 105 | – | CZ 5510544 |
| | 115 | 4 1/2 | CZ 5511514 |

| | Catalogue no. |
|--|---------------|
| Pilot bit Ø65 (pilot)  | CZ 5510514 |

| Hollow rods | L | | | Catalogue no. |
|--|--------------|----------|-------------|------------------------|
| | mm | ft | inch | |
| Hollow rod with threads Cr32  | 1000 1500 | 3' 4' | 3/8" 11" | 3332910 3332915 |
| Rod's adapter with threads Cr32  | | | | 33329001 |
| Hollow rod Cr42  | 1000 1500 | 3' 4' | 3/8" 11" | 33429102 33429152 |
| Rod's adapter with threads Cr42  | | | | 3800209 |
| Hollow rod with threads Cr51  | 1000 1500 | 3' 4' | 3/8" 11" | 335191002 335191502 |

Tools for rotary drilling

Large diameter bits and rods for rotary drilling

| Hollow rods | L | | | Catalogue no. |
|---------------------------------------|------------------------------|------------------------|---------------------------|--|
| | mm | ft | inch | |
| Rod's adapter with threads Cr51 | 150 | 5' | 7/8" | 3351900 |
| Hollow rod with threads Cr60,3 | 1000 1500 | 3' 4' | 3/8" 11" | 3360910 3360915 |
| Rod's adapter with threads Cr60,3 | | | | 3360900 |
| Hollow rod with threads Cr32 | 1000 1500 | 3' 4' | 3/8" 11" | 333291003 333291503 |
| Hollow rod with threads Cr42 | 1000 1500 | 3' 4' | 3/8" 11" | 334291006 334291506 |
| Hollow rod with threads Cr51 | 1000 1500 | 3' 4' | 3/8" 11" | 335191004 335191504 |
| Hollow rod with threads Cr60,3 | 1000 1500 | 3' 4' | 3/8" 11" | 336091005 336091505 |
| Hollow rod with threads N42 | 1000 1500 | 3' 4' | 3/8" 11" | 3351810 3351518 |
| Hollow rod with threads N51 | 1000 2000 3000 5000 | 3' 6' 10' 16' | 3/8" 6 3/4" — 3" | 3351910 3351920 3351930 3351950 |

Tools for rotary drilling

Large diameter bits and rods for rotary drilling

| Hollow rods | D | | L | | Catalogue no. |
|---|-----|------|------------------------------|--------------------------------------|--|
| | mm | inch | mm | ft inch | |
| Hollow rod with threads Rd40 | | | 1000 1500 1700 | 3' 3/8" 4' 11" 5' 6 7/8" | 3351010 3351015 3351017 |
| Hollow rod with threads Rd40 | 65 | | 1000 1500 | 3' 3/8" 4' 11" | 3365110 3365115 |
| | 80 | | 1000 1500 | 3' 3/8" 4' 11" | 3380110 3380115 |
| | 115 | | 1000 1500 | 3' 3/8" 4' 11" | 3315010 3315115 |
| Hollow rod $\varnothing 60$ with threads Rd50 | | | 2000 3000 | 6' 3/4" 10' - | 3360720 3360730 |
| Hollow rod $\varnothing 76$ with threads Rd50 | | | 1800 2800 3000 | 5' 11" 9' 2 2/8" 10' - | 3376718 3376720 3376730 |
| Hollow rod with threads Rd70 | | | 1500 1800 2800 3000 | 4' 11" 5' 11" 2' 2/8" 10' - | 3390215 3390218 3390228 3390230 |
| Hollow rod $\varnothing 76$ with threads 2 3/8" WP (hand screwing) | | | 1500 2800 3000 | 4' 11" 9' 2 2/8" 10' - | 3376315 3376328 3376330 |
| Hollow rod $\varnothing 76$ with threads 2 3/8" WP (machine screwing) | | | 1800 3000 4000 | 5' 11" 10' - 13' 1" | 337631801 337633001 337634001 |
| Hollow rod $\varnothing 80$ with threads 2 3/8" WP | | | 3000 4000 | 10' - 13' 1" | 33803300 33803400 |

Tools for rotary drilling

Large diameter bits and rods for rotary drilling

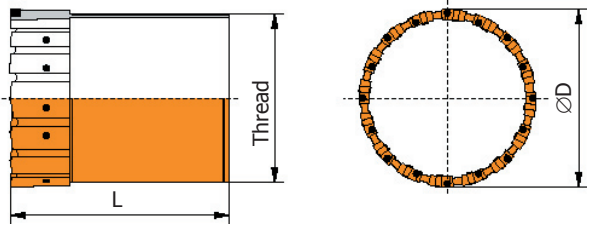
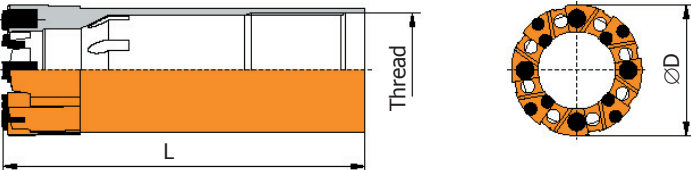
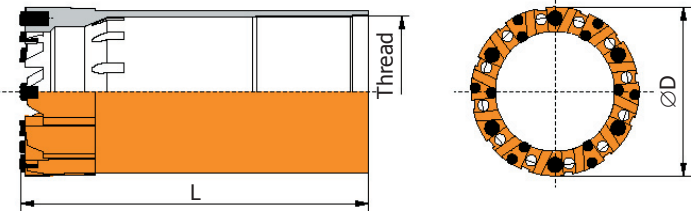
| Adapter couplings for rods' and hammers' connection | Catalogue no. |
|---|---------------|
| <p>Adapter coupling 2 3/8"WP / int. Rd48x1/6"</p> | 3800019 |
| <p>Adapter coupling 2 3/8"WP / int. 2 3/8"WP</p> | 9200990 |
| <p>Adapter coupling Rd50x1/6 / int. 2 3/8"WP</p> | 3800869 |

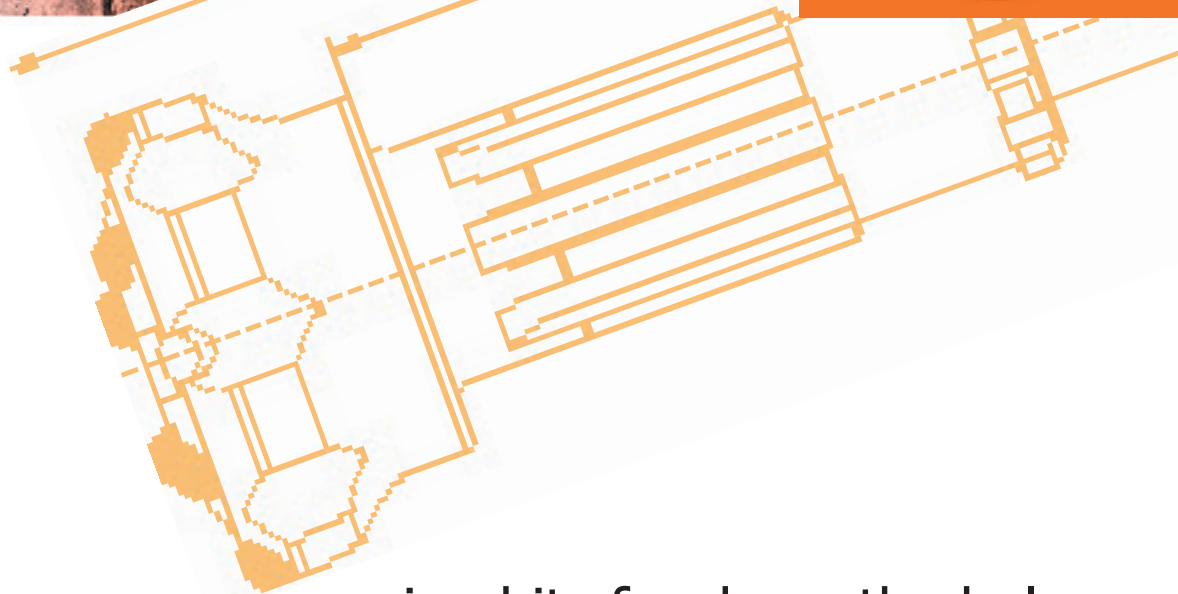
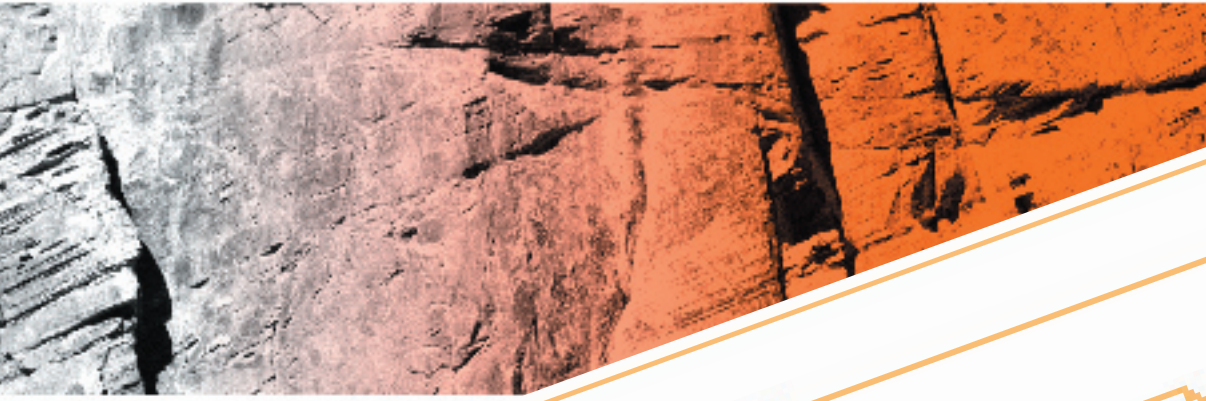
| Broaching bit | L | | | Catalogue no. |
|---------------|-----|-----|-------|---------------|
| | mm | ft | inch | |
| | 240 | 9' | 7/16" | 9500440 |
| | 560 | 22' | 3/64" | 9500441 |

| Coring bits | D | | L | | | Thread | Catalogue no. |
|-------------|-----|---------|-----|----|--------|--------|---------------|
| | mm | inch | mm | ft | inch | | |
| | 36 | 1 27/64 | 75 | | | TrW30 | 59360320 |
| | 46 | 1 26/32 | 80 | | | TrW42 | 59460120 |
| | 59 | 2 21/64 | 90 | | | TrW53 | 59590120 |
| | 76 | 3 | 90 | | | TrW70 | 5976002 |
| | 93 | 35/6 | 90 | | | TrW85 | 59930120 |
| | 93 | 3 5/8 | 90 | - | - | TrW85 | 59930120 |
| | 112 | 4 13/32 | 100 | 3' | 15/16" | TrW107 | 59120120 |
| | 132 | 5 13/64 | 100 | 3' | 15/16" | TrW126 | 59320120 |

Tools for rotary drilling

Large diameter bits and rods for rotary drilling

| Coring bits | D | | L | | | Thread | Catalogue no. |
|--|-------------------------|--|--------------------------|----------------------|----------------------------------|-------------------------------------|--|
| | mm | inch | mm | ft | inch | | |
|  | 151 | 5 15/16 | 105 | 4' | 9/64" | TrW145 | 59511020 |
|  | 59 76 | 2 21/64 3 | 165 200 | – 7' | – 7/8" | TrW52 TrW68 | 59590220 59761120 |
|  | 93 112 132 151 | 3 5/8 4 13/32 5 13/64 5 15/16 | 205 210 215 230 | 8' 8' 8' 9' | 5/64" 1/8" 15/32" 3/64" | TrW84 TrW104 TrW120 TrW140 | 59930220 59120220 59320220 59511120 |

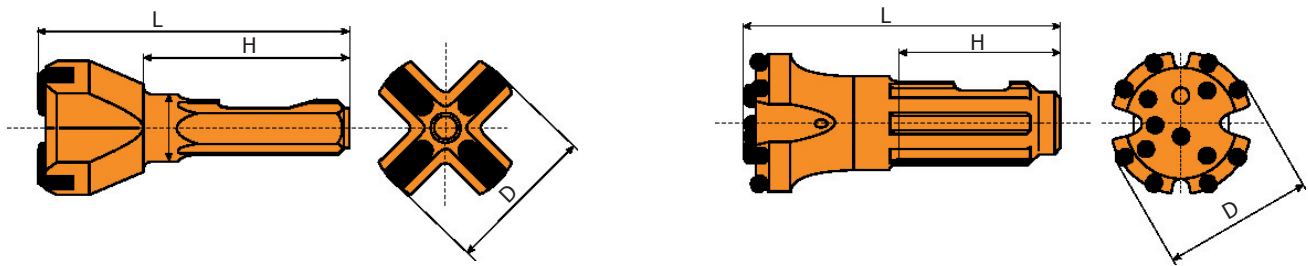


percussion bits for down the hole hammers

5 group

- Down the hole bits for UDAREX $\varnothing 70$ and $\varnothing 90$
- Down the hole bits for BÖHLER LH-78
- Down the hole bits for BÖHLER LH-78 ZD
- Down the hole bits for HK 105-1

Down the hole bits



| 44 | 00 | 2 | 1 | 4 | |
|---|------------------------|---|--|---|---|
| Group of product | Bit diameter D (mm) | Bit type (Hammer type) | Bit type | Sinter grade | Version |
| 44 Cross bits X-type 53 Button bits | 80 ÷ 65 80 ÷ 165 mm | 1 ÷ 9 Differ depends on the hammer type (ex. Ud90, Ux70, MPW95) | 1 ÷ 9 Differ depends on the bit type (cross, x-type or button bit) | 2 - Sinter grade B2 4 - Sinter grade B45 5 - Sinter grade G10 | ... Without figure for basic version |

44 00 2 1 4

Example: Cross bit N100, for down the hole hammer Ux-90 type with sinter grade B45.

| Down the hole bits for $\varnothing 70$ i $\varnothing 90$ | | Type of hammer | D | | L | | H | a | | b | | Catalogue no. |
|--|--|----------------|---------|------|----|----|----|---------|------|--------|----------|---------------|
| | | | mm | inch | mm | ft | | mm | inch | mm | inch | |
| | | Ud-90 | 4 | | 7' | | 36 | 1 27/64 | 30,6 | | 53024551 | |
| | | | | | | | | | | | | |
| | | Ud-90 | 4 | | 7' | | 36 | | 30,6 | | 4400444 | |
| | | | | | | | | | | | | |
| | | Ud-90 | 3 15/16 | | 7' | | 36 | | 30,6 | 1 3/16 | 4400414 | |
| | | | | | | | | | | | | |

Attention: Down the hole bits no 4480314 and 4400414 are manufactured only for old type of hammer Ud-70 and Ud-

| Down the hole bits for BÖHLER LH-78 | | D | | L | | a | | b | | Catalogue no. | |
|-------------------------------------|--|----|---------|-----|----|--------|------|-------|------|---------------|----------|
| | | mm | inch | mm | ft | inch | mm | inch | mm | | inch |
| | | 95 | 3 6/8 | 195 | 7' | 11/16" | 45,6 | 1 3/4 | 31,6 | 1 1/4 | 53955350 |
| | | | | | | | | | | | |
| | | 86 | 3 25/64 | 188 | 7' | 13/32" | 45,6 | 1 3/4 | 31,6 | 1 1/4 | 44865140 |
| | | | | | | | | | | | |

| Down the hole bits for BÖHLER LH-78 ZD | | D | | L | | | Catalogue no. |
|--|----------|------------------|------------|---------------|------------------|----------------------|---------------|
| | | mm | inch | mm | ft | inch | |
| | 95 | 3 6/8 | 225 | 8' | 55/64" | 44959140 | |
| | 90 95 | 3 35/64 3 6/8 | 215 215 | 8' 8' | 15/32" 15/32" | 53909351 53959351 | |
| | | | | | | | 53109350 |
| | | | | | | | 44109140 |
| Down the hole bits for PERMON VKP 90 | | D | | Catalogue no. | | | |
| | | mm | inch | | | | |
| | 95 | 3 6/8 | 59950151 | | | | |
| | 100 | 3 15/16 | 59000351 | | | | |
| | 105 | - | 53059352 | | | | |

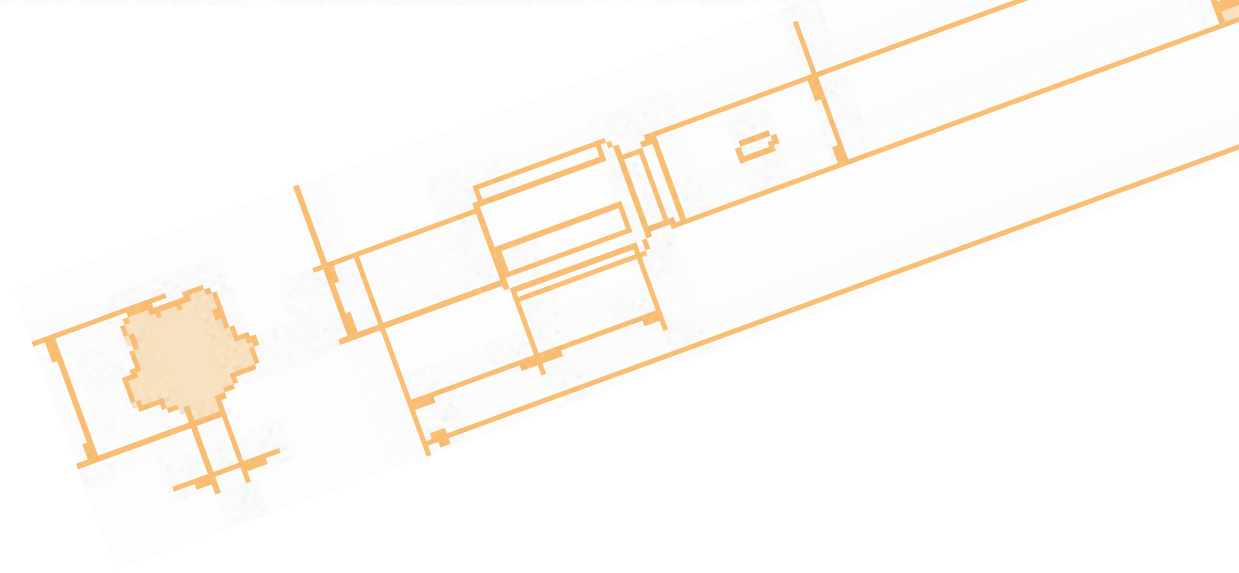
| Down the hole bits for COP 32 | | D | | Catalogue no. |
|-------------------------------|--|------------|------------------|----------------------|
| | | mm | inch | |
| | | 100 | 3 15/16 | 53009350 |
| Down the hole bits for GON 4 | | D | | Catalogue no. |
| | | mm | inch | |
| | | 110 115 | 4 21/64 4 1/2 | 53109351 53159354 |

The bits shown in the 5 th group of tools (page 75 - 77) are designed for drilling deep holes in hard rocks using the percussive-rotary method by using drilling rigs with hole hammers.

In „GONAR” plant the following pneumatic hole hammers are manufactured: Ud 70, Ud 90

As well as the above tools „GONAR” produces: hand pneumatic hammers (7 - 15 kg), pneumatic supports, solid-oil lubricators, point chisels for pneumatic and hydraulic hammers, ratchet spanners.

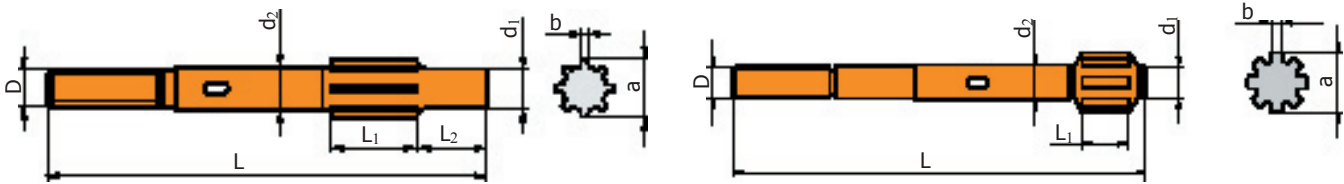
We look forward to working with you.



Shank adapters

6 group

Shank adapters



| 34 | 1 | 4 | 45 | 4 | |
|--|---|---|----------------------|---|---|
| Group of product | Connection type | Connection size | Total length L (cm) | Drivers number | Version |
| 34 ÷ 37 Differ depends on the seal size and place | 1 ÷ 2 Differ depends on the thread type (ex. external, internal) | 0 ÷ 9 Differ depends on the thread size (ex. R22, T38) | 24 ÷ 59 L=24 ÷ 59 | 0 ÷ 9 Differ depends on the drivers number | ... Without figure for basic version |

34 1 4 45 4

Example: Shank adapter with separate flushing with external thread R32, 4 drivers, total length 450mm, basic version.

| DRILL TYPE | ADAPTER NO. | DRILL TYPE | ADAPTER NO. |
|-----------------------------|-------------|---------------------------|-------------|
| ATLAS COPCO | | INGERSOLL - RAND | |
| BBC 41/43/44/45/100 | 1 | DA 35/505 | 1 |
| BBC 51/52/54/120 | 3 | HBM 50 | 2 |
| BBS 54/120 | 3 | DA 45/475 | 4 |
| BBE 56 U2 | 6 | LM 400 | 6 |
| BBE 57/5701 | 6 | JOY | |
| COP 125/130/131 | 7 | TM 400 | 1 |
| COP 1028 HD | 8 | VCR 360 | 20 |
| COP 1036 | 9 | KRUPP | |
| COP 1038 HB/1038 HD | 9 | HB 101 | 21,22 |
| COP 1038 HL | 10 | LE ROY | |
| COP 1238 ME/1238 HF/1238 LE | 9 | D 25 DR/D 14 DR | 1 |
| COP 1238 | 10,11 | MONTABERT | |
| COP 1432 F | 12 | TA 35/LC 50 | 1 |
| COP 1432 | 13 | H 40/50/60/70 | 3 |
| COP 1440 | 13 | HC 80, HC 90, HC 105 | 23 |
| COP 1838 | 13 | SECOMA | |
| BOART | | HYDRASTAR 200 | 24 |
| HD 65 | 14 | TAMROCK | |
| HD 125/150 | 15,16 | S 125 | 1 |
| HD 155 | 17,18 | L 400/L 500/ HL 432 | 2 |
| BÖHLER | | L 600/ L 750 | 5 |
| HM 600 D | 1 | HL 300 | 25 |
| HM 755 D | 3 | HL 300 S | 26,27 |
| DEMAG | | HL 438 L/HL 438T/HLR 438T | 28 |
| RD 400 | 4 | HLR 438 TS/HL 538 | 29 |
| RD 500 | 5 | HL 500/HL 510 | 30 |
| FURUKAWA | | HL 500 S/HL 510S/HL 510B | 30 |
| 795 D | 4 | HL 500 S | 31 |
| PD 200/M 120 | 5 | HL 500-45/HL 510-45 | 32 |
| HCR 300 S | 6 | HLX 5 | 33 |
| HCR 9-DS | 19 | HL 600-45/HL 600 S-45 | 34 |
| GARDNER-DENVER | | HL 700-45 | 35 |
| 79/93/99 | 1 | HL 700-50 | 36 |
| DH 99/DH 123 | 4 | TOYO | |
| PR 123 | 5 | 650 | 37 |

| | D mm | a mm | L mm | Catalogue no. |
|---|--------------------------------------|---------------------------------|---------------------------------|---|
| <p>1 A.C. _____ BBC 41/43/44/45/100 G.D. _____ 79/93/99 I.R. _____ DA 35/505 TAMROCK _____ S 125 LE ROY _____ D 25 DR/D 14 DR MONTABERT _____ TA 35/LC 50 BOHLER _____ HM 600 D JOY _____ TM 400</p> | R 32 | Ø10 | 380 | 3514382 |
| <p>2 TAMROCK _____ L 400/L 500/HL 432 I.R. _____ HBM 50</p> | R 32 | Ø10 | 380 | 3514384 |
| <p>3 A.C. _____ BBC 51/52/54/120 A.C. _____ BBS 54/120 MONTABERT _____ H 40/50/60/70 BOHLER _____ HM 755 D</p> | R28 R32 R38 T38 | Ø10 Ø10 Ø10 Ø10 | 380 380 380 380 | 3513380 3514380 3515382 3516382 |
| <p>4 G.D. _____ DH 99/DH 123 I.R. _____ DA 45/475 DEMAG _____ RD 400 FURUKAWA _____ 795 D</p> | R 32 R 32 R 38 R 38 T 38 | Ø12 Ø14 Ø12 Ø14 Ø14 | 330 330 330 330 330 | 3614332 3714332 3615332 3716332 3716332 |
| <p>5 GARDNER-DENVER_ PR 123 TAMROCK _____ L 600/L 750 FURUKAWA _____ PD 200/M 120 DEMAG _____ RD 500</p> | R 32 R 32 R 38 R 38 T 38 | 14 14 12 14 14 | 330 380 380 380 380 | 3714331 3714381 3615381 3715381 3716381 |
| <p>6 ATLAS COPCO _____ BBE 56 U2 ATLAS COPCO _____ BBE 57/5701 INGERSOLL-RAND _____ LM 400 FURUKAWA _____ HCR 300 S</p> | R 38 T 38 T 38 | 14 14 12 | 440 440 540 | 3715446 3716446 3816906 |

| | D mm | a mm | L mm | Catalogue no. |
|-------------------------------|------|------|------|---------------|
| 7 ATLAS COPCO COP 125/130/131 | R 38 | 14 | 380 | 3715383 |
| | T 38 | 14 | 380 | 3716383 |

| | D mm | PB | L mm | Catalogue no. |
|---------------------------|------|----|------|---------------|
| 8 ATLAS COPCO COP 1028 HD | R 28 | PB | 245 | 3423245 |

| | D mm | PB | A mm | L mm | Catalogue no. |
|--|------|----|------|------|---------------|
| 9 ATLAS COPCO___COP 1036, COP 1038 HB/1038 HD, COP 1238 ME/1238 HF/1238 LE | R 25 | PB | 38 | 485 | 3412488 |
| | R 32 | PB | 38 | 485 | 3414488 |
| | R 32 | PB | 38 | 500 | 3414508 |
| | R 32 | PB | 38 | 575 | 3414578 |
| | R 38 | PB | 38 | 462 | 3415468 |
| | R 38 | PB | 38 | 485 | 3415488 |
| | R 38 | PB | 38 | 500 | 3415508 |
| | T 38 | PB | 38 | 485 | 3416488 |
| | T 38 | PB | 38 | 500 | 34165081 |
| | T 38 | PB | 38 | 575 | 3416578 |
| | T 38 | PB | 38 | 590 | 3416598 |
| | T 45 | PB | 45 | 500 | 3418508 |
| | T 45 | PB | 45 | 575 | 3418578 |

| | D mm | PB | L mm | Catalogue no. |
|--|------|----|------|---------------|
| 10 ATLAS COPCO___COP 1036 HL, COP 1238 | R 32 | PB | 575 | 34145781 |
| | T 38 | PB | 575 | 34165781 |

| | D mm | PB | L mm | Catalogue no. |
|-------------------------|------|----|------|---------------|
| 11 ATLAS COPCO COP 1238 | R 25 | PB | 485 | 3422488 |

| | D mm | PB | L mm | Catalogue no. |
|--|--|----------------------------------|--|--|
| 12 ATLAS COPCO COP 1432 F | R 38 | PB | 341 | 3425348 |
| 13 ATLAS COPCO COP 1432, COP 1440, COP 1838 HD | R 32 R 38 T 38 | PB PB PB | 525 435 435 | 3414528 3415438 3416438 |
| 14 BOART HD 65 | R 25 R 28 R 32 | PB PB PB | 325 325 325 | 3422325 3423325 3424325 |
| 15 BOART HD 125/HD 150 | R 32 R 32 R 32 R 38 T 38 T 38 | PB PB PB PB PB PB | 495 545 572 495 495 590 | 3414495 3414545 3414575 3415495 3416495 3416595 |
| 16 BOART HD 125/HD 150 | R 25 R 25 R 32 | PB PB PB | 495 572 343 | 3422495 3422575 3424345 |
| 17 BOART HD 155 | R 38 T 45 | PB PB | 578 578 | 3415585 3418585 |

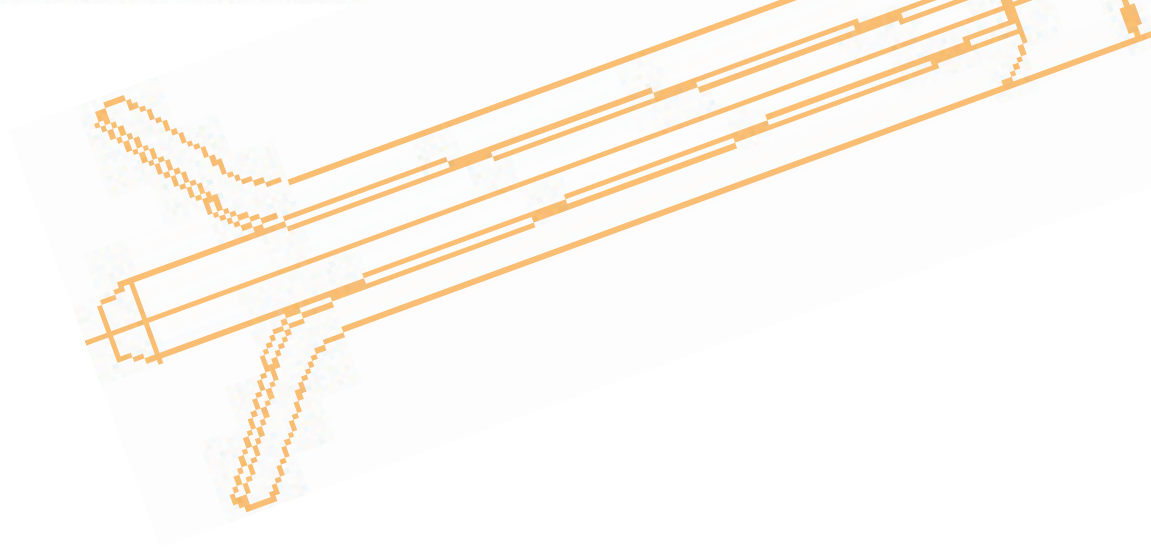
| | | D mm | PB | L mm | Catalogue no. |
|----|--------------------------------|----------------------|----------------|-------------------|-------------------------------|
| 18 | BOART HD 155 | R 32 R 38 | PB PB | 578 578 | 3424585 3425585 |
| | | | | | |
| 19 | FURUKAWA HCR 9-DS | T 38 | PB | 690 | 3416698 |
| | | | | | |
| | | D mm | a mm | L mm | Catalogue no. |
| 20 | JOY VCR 360 | T 38 T 38 | 16 PB | 387 553 | 3816018 34165580 |
| | | | | | |
| | | D mm | PB | L mm | Catalogue no. |
| 21 | KRUPP HB 101 | T 38 | PB | 650 | 3416656 |
| | | | | | |
| 22 | KRUPP HB 101 | R 38 T 38 T 45 | PB PB PB | 590 590 590 | 3425596 3426596 3428596 |
| | | | | | |
| 23 | MONTABERT HC 80, HC 90, HC 105 | R 32 R 38 | PB PB | 440 440 | 3414448 3415448 |
| | | | | | |

| | | D mm | PB | L mm | Catalogue no. |
|----|-------------------------------------|--|----------------------------------|--|--|
| 24 | SECOMA HYDRASTAR 200 | R 32 | PB | 351 | 3424358 |
| | | | | | |
| 25 | TAMROCK HL 300 | R 32 | PB | 400 | 3414408 |
| | | | | | |
| 26 | TAMROCK HL 300 S | R 32 | PB | 380 | 3414388 |
| | | | | | |
| 27 | TAMROCK HL 300 S | R 28 R 32 | PB PB | 245 245 | 34232480 34242480 |
| | | | | | |
| | | D mm | a mm | L mm | Catalogue no. |
| 28 | TAMROCK HL 438 L/HL 438 T/HLR 438 T | R 32 R 38 T 38 | 12 12 12 | 380 380 380 | 3614384 3615384 3616384 |
| | | | | | |
| | | D mm | PB | L mm | Catalogue no. |
| 29 | TAMROCK HLR 438 TS/HL 538 | R 32 R 38 R 38 T 38 T 38 T 38 | PB PB PB PB PB PB | 450 450 495 450 495 545 | 3414454 3415454 3415494 3416454 3416494 3416544 |
| | | | | | |

| | D mm | PB | L mm | Catalogue no. |
|---|--|--|---|--|
| 30 TAMROCK HL 500/HL 510/HL 500 S/HL 510 S | R 32 R 32 R 38 R 38 R 38 T 38 T 38 | PB PB PB PB PB PB PB | 460 550 460 500 550 460 500 | 34144680 34145580 34154681 34155083 3415558 3416468 34165082 |
| 31 TAMROCK HL 500 S | R 25 | PB | 550 | 3422558 |
| 32 TAMROCK HL 500-45/HL 510-45 | R 32 T 38 T 45 | PB PB PB | 550 550 550 | 34145581 34165581 3418558 |
| 33 TAMROCK HLX 5 | R 32 R 38 T 38 | PB PB PB | 500 500 500 | 3414509 3415509 3416509 |
| 34 TAMROCK HL 600-45/HL 600 S-45 | R 32 R 38 T 38 T 38 T 45 T 45 | PB PB PB PB PB PB | 600 525 525 600 525 600 | 3414608 3415528 34165281 3416608 3418528 3418608 |
| 35 TAMROCK HL 700-45 | T 38 T 45 | PB PB | 600 600 | 34166081 34186081 |

| | | D mm | PB | L mm | Catalogue no. |
|----|-------------------|---------|----|---------|---------------|
| 36 | TAMROCK HL 700-52 | T 38 | PB | 600 | 34166082 |
| | | T 45 | PB | 600 | 34186082 |
| | | T 51 | PB | 600 | 3410608 |
| | | | | | |

| | | D mm | a mm | L mm | Catalogue no. |
|----|----------|---------|---------|---------|---------------|
| 37 | TOYO 650 | T 38 | 14 | 550 | 36165560 |

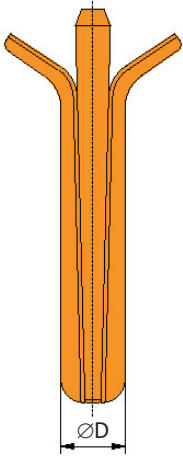


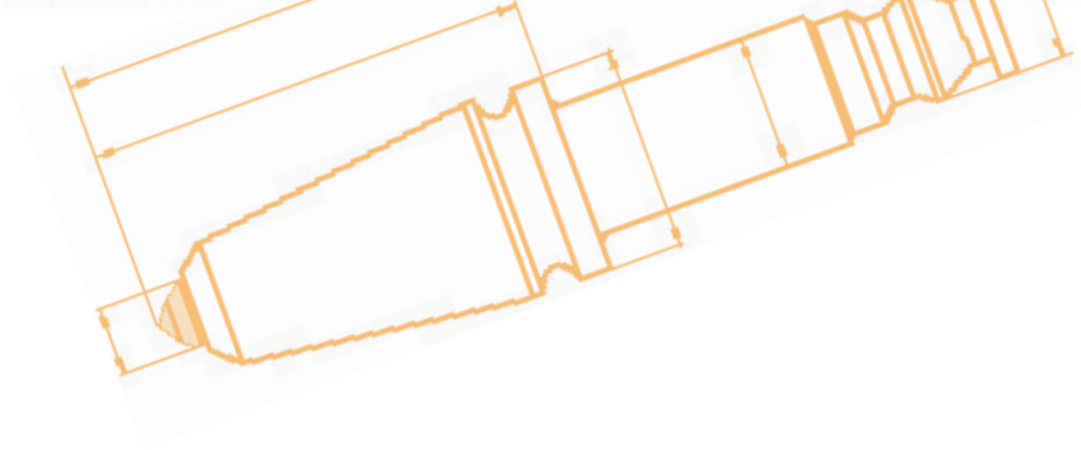
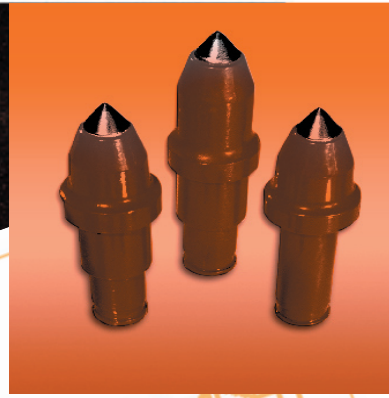
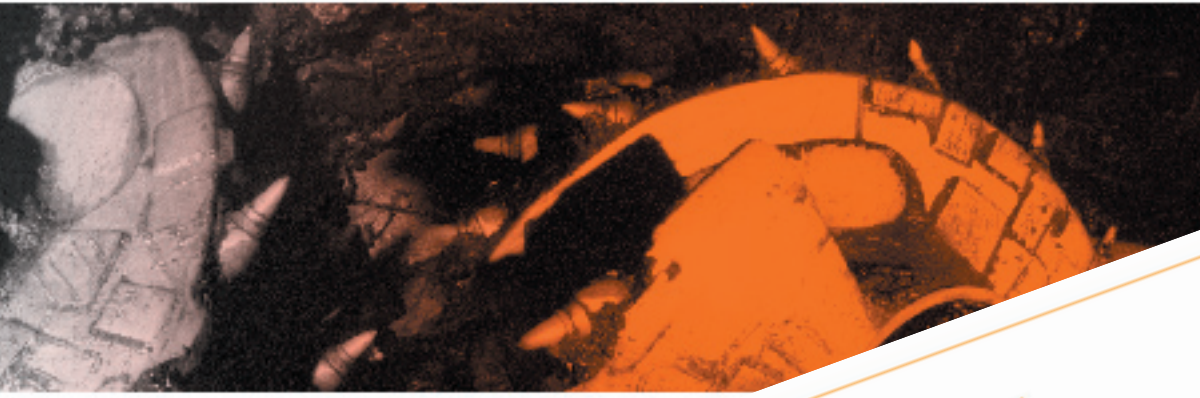
Stone crushing tools

7 group

- Cutter blade for crushing machine
- Three-divisional wedge

| | Catalogue no. |
|---|---------------|
| <p>Cutter blade - bottom</p> | 9209790 |
| <p>Cutter blade - top</p> | 9209770 |
| <p>Cutter blade for crusher „STEINEX“</p> | 9200020 |
| <p>Cutter blade for crusher „PAKONA“</p> | 9209850 |

| Three-divisional wedge | Hole diameter mm | D mm | Catalogue no. |
|---|---------------------|---------|---------------|
|  | 15 | 18 | 92000340 |
| | 20 | 22,5 | 92000310 |
| | 22 | 24,5 | 92000320 |
| | 27 | 29,5 | 92000330 |
| | 30 | 32 | 92000350 |
| | 36 | 38 | 92000360 |
| | 43 | 45 | 92000370 |



Extraction tools: holders and picks

8 group

- Rotary picks $\varnothing^{38}/\varnothing^{30}$
protected with the ring of SEGERA's KR type
or with cotter of hert HZ type
- Rotary picks \varnothing^{30}
protected with the ring of SEGERA KR type
or with cotter of hert HZ type
- Rotary picks for other types of holders
- Rotary couplings $\varnothing 30/\varnothing 35/\varnothing 38$
- Pick holders

Rotary picks $\square 38/\square 30$



protected with the ring of SEGERA's „KR” type or with cotter of hert „HZ” type

| | | | |
|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| | | | |
| | | | |
| | | | |
| <p>6000604 - KR 6002024 - HZ</p> | <p>6000614 - KR 6000704 - HZ</p> | <p>6000064 - KR 6001784 - HZ</p> | <p>6001144 - KR 6002034 - HZ</p> |

Rotary picks $\square 30$

protected with the ring of SEGERA „KR” type or with cotter of hert „HZ” type

| | | | |
|--------------------------------------|--------------------------------------|--|--|
| | | | |
| | | | |
| | | | |
| <p>6012104 - KR 6011764 - HZ</p> | <p>6012114 - KR 6012124 - HZ</p> | | |

| | | | |
|---------|---------|---------|---------|
| | | | |
| 6010382 | 6011434 | 6010252 | 6011024 |
| | | | |
| 6011424 | 6041012 | 6041204 | 6041122 |
| | | | |
| 6041134 | 6020982 | 6020974 | 6021314 |

| | | | |
|---------|---------|---------|---------|
| | | | |
| 6020344 | 6021674 | 6020424 | 6001844 |
| | | | |
| 6030452 | 6030312 | 6031502 | 6021162 |
| | | | |
| 6021234 | 6030462 | 6021862 | 6021912 |

| | | |
|--|--|--|
| | | |
| <p>87/21 z - 65001140 87/24 z - 65014040</p> | <p>87/15 z - 65001440</p> | <p>90/100/27 wz - 65202142 90/100/24 wz - 65205042</p> |
| | | |
| <p>87/27 zr - 95016140 87/24 zr - 65015040</p> | <p>87/15 zr - 65039440 87/15/2 zr - 65040640</p> | <p>90/100/27 zr - 65230140 90/100/24 zr - 65237040</p> |
| | | |
| <p>86/27 z - 65018141 89/24 wz - 65006142</p> | <p>90/150/27 wzr - 65233142 90/150/24 wzr - 65235042</p> | <p>90/100/27 wzr - 65231142 90/100/24 wzr - 65236042</p> |

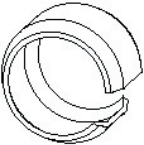


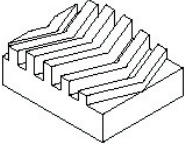
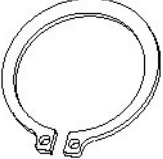

Rotary coupling

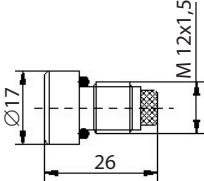
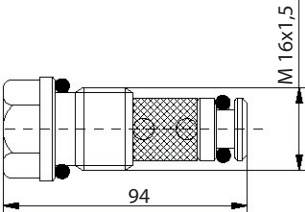
protected with expanded coupling

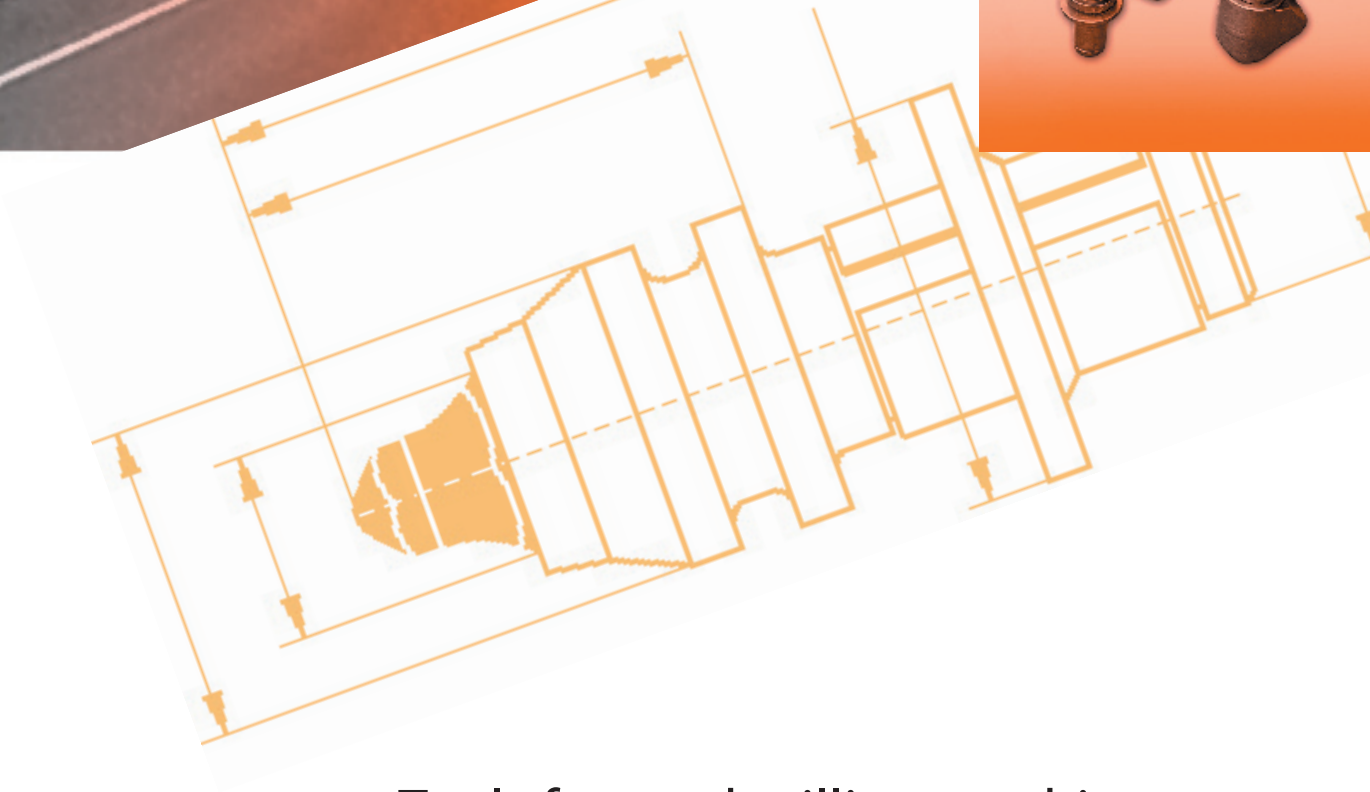
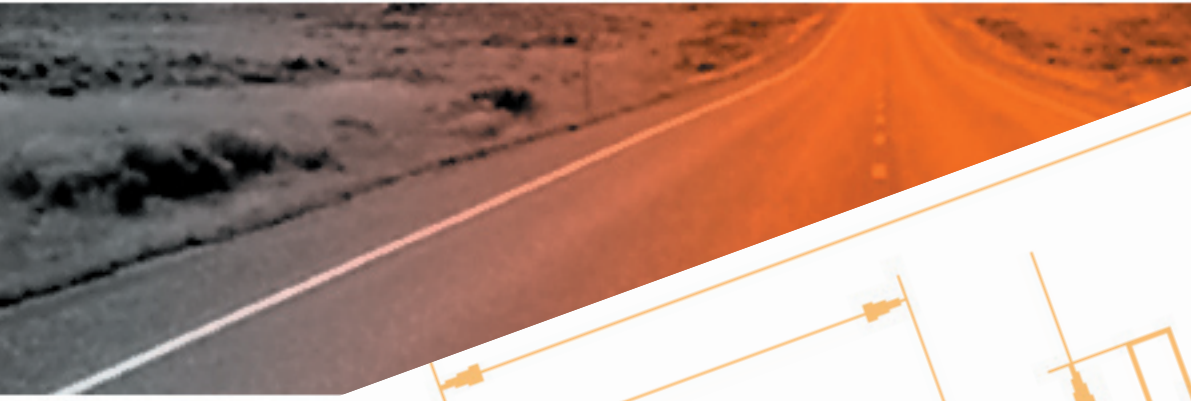
| | | | |
|---------|---------|---------|---------|
| | | | |
| 6900007 | 6900010 | 6900017 | 6900012 |
| | | | |
| 6900022 | 6900011 | 6900059 | 6900013 |
| | | | |
| 6900019 | 6900020 | 6900016 | 6900028 |

| | | | |
|---------|---------|---------|---------|
| | | | |
| 6900892 | 6900032 | 6910028 | 6920002 |
| | | | |
| 6900829 | 6900064 | 6910031 | 6920001 |
| | | | |
| 6920004 | 6920005 | 6920006 | 6921003 |

| | | | |
|----------|---------|---------|---------|
| | | | |
| 6910001 | 6910002 | 6910003 | 6900021 |
| | | | |
| 6900027 | 6921006 | 6921012 | 6921011 |
| | | | |
| 69210041 | 6921006 | 6921010 | |
| | | | |
| 6900832 | 6900890 | | |

| Protections | Catalogue no. |
|--|--|
| Couplings  | 6100007 |
| HZ  | 6900003 |
|  | 9100011 |
|  | 6500000 |
| KR  | Z 28 PN-81/M-85111 9100001 Z 38 PN-81/M-85111 9100002 Z 45 PN-81/M-85111 9100021 Z 50 PN-81/M-85111 9100022 |
| Versions of protection  | |

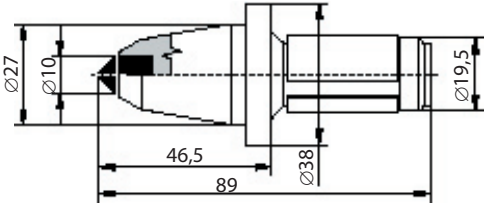
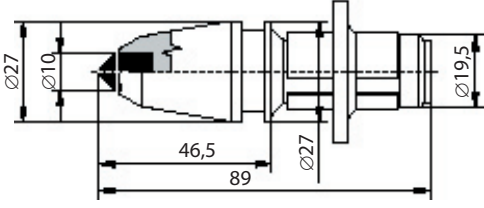
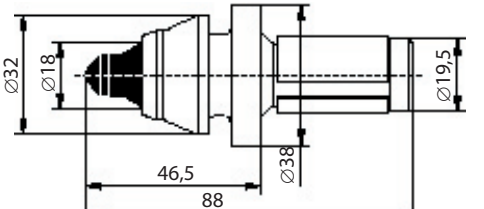
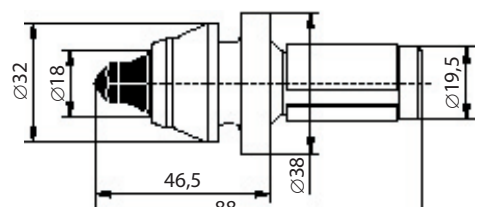
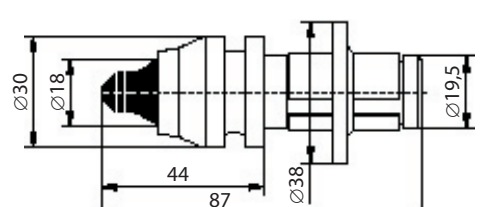
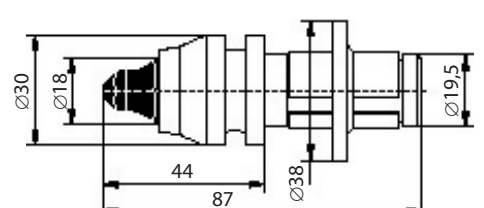
| Nozzle and filter | Catalogue no. |
|---|---------------|
|  | 6920001-02 |
|  | 6920000-03 |



Tools for road milling machines

9 group

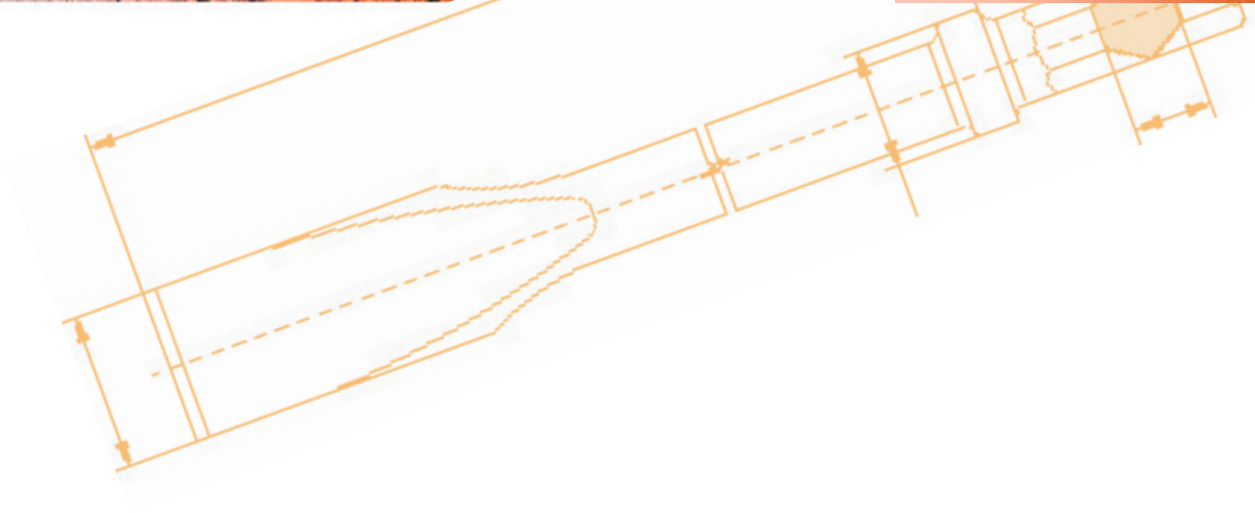
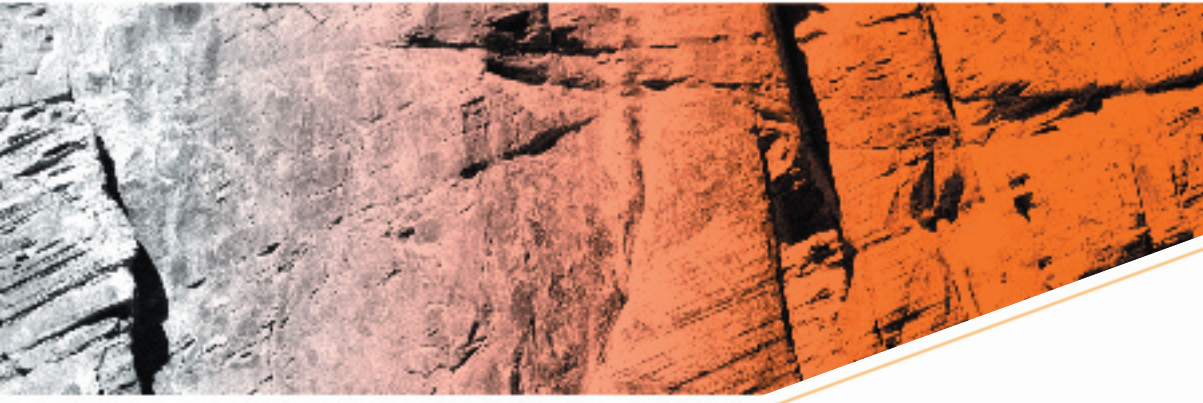
- Tools for road milling machines
- Holders for roughing cutters

| Tools for road milling machines | | Catalogue no. |
|---|---|---------------|
|  <p>Technical drawing of a milling tool with dimensions: $\varnothing 27$, $\varnothing 10$, 46,5, 89, $\varnothing 38$, and $\varnothing 19,5$.</p> | <ul style="list-style-type: none"> - for all types of asphalt and concrete - to work under very big loadings - for milling in very difficult roughing conditions | 6210292 |
|  <p>Technical drawing of a milling tool with dimensions: $\varnothing 27$, $\varnothing 10$, 46,5, 89, $\varnothing 27$, and $\varnothing 19,5$.</p> | <ul style="list-style-type: none"> - for all types of asphalt and concrete - to work under very big loadings - for milling in very difficult roughing conditions | 6210085 |
|  <p>Technical drawing of a milling tool with dimensions: $\varnothing 32$, $\varnothing 18$, 46,5, 88, $\varnothing 38$, and $\varnothing 19,5$.</p> | <ul style="list-style-type: none"> - for all kinds of asphalt - for base milling to big depth | 6210279 |
|  <p>Technical drawing of a milling tool with dimensions: $\varnothing 32$, $\varnothing 18$, 46,5, 88, $\varnothing 38$, and $\varnothing 19,5$.</p> | <p>In difficult conditions:</p> <ul style="list-style-type: none"> - asphalt in medium - concrete | 6210322 |
|  <p>Technical drawing of a milling tool with dimensions: $\varnothing 30$, $\varnothing 18$, 44, 87, $\varnothing 38$, and $\varnothing 19,5$.</p> | <ul style="list-style-type: none"> - for all types of asphalt and concrete - to work under very big loadings - for milling in very difficult roughing conditions | 6210309 |
|  <p>Technical drawing of a milling tool with dimensions: $\varnothing 30$, $\varnothing 18$, 44, 87, $\varnothing 38$, and $\varnothing 19,5$.</p> | <ul style="list-style-type: none"> - for all types of asphalt and concrete - to work under very big loadings - for milling in very difficult roughing conditions | 6210312 |

| Tools for road milling machines | | Catalogue no. |
|---------------------------------|---|---------------|
| | <ul style="list-style-type: none"> - for all kinds of asphalt - for base milling to big depth | 6210352 |
| | <ul style="list-style-type: none"> - for all types of asphalt and concrete - to work under very big loadings - for milling in very difficult roughing conditions | 6220342 |
| | <ul style="list-style-type: none"> - for all types of asphalt and concrete | 6290422 |

| Holders for roughing cutters | Catalogue no. |
|------------------------------|---------------|
| | 6900033 |
| | 6900830 |

| Holders for roughing cutters | Catalogue no. |
|------------------------------|---------------|
| | 6900005 |
| | 6900006 |
| | 6900014 |



Tools points to hammers

10 group

- Tool points to pneumatic hammers
- Tool points to electrical hammers
- Tool points to hydraulic hammers
- Hand pneumatic hammers

| | d mm | D mm | H mm | L mm | Catalogue no. | |
|--|---------|---------|---------|---------|---------------|---------|
| | | | | | Point | Dłuto |
| | 22 | 36 | 70 | 400 | 7022004 | 7122004 |
| | 22 | 36 | 70 | 1250 | 7022012 | 7122012 |
| | 22 | 36 | 70 | 1500 | 7022015 | 7122015 |
| | 25 | 42 | 75 | 400 | 7025004 | 7125004 |
| | 25 | 42 | 75 | 450 | 7025104 | 7125104 |
| | 25 | 42 | 75 | 1000 | 7025010 | 7125010 |
| | 25 | 42 | 75 | 1250 | 7025012 | 7125012 |
| | 25 | 42 | 75 | 1500 | 7025015 | 7125015 |
| | 25 | 42 | 75 | 1800 | 7025018 | 7125018 |
| | 25 | 42 | 75 | 2000 | 7025020 | 7125020 |
| | 25 | 42 | 75 | 3000 | 7025030 | 7125030 |
| | 25 | 42 | 75 | 4000 | 7025040 | 7125040 |

| | S mm | H mm | L mm | Catalogue no. | |
|--|---------|---------|---------|---------------|-------------|
| | | | | Point | Tool chisel |
| | 22 | 82,5 | 500 | 7222204 | 7322005 |
| | 22 | 82,5 | 1250 | 7222212 | 7322012 |
| | 22 | 82,5 | 1500 | 7222215 | 7322015 |
| | 25 | 108 | 400 | 7225004 | 7325004 |
| | 25 | 108 | 450 | 7225104 | 7325104 |
| | 25 | 108 | 1000 | 7225010 | 7325010 |
| | 25 | 108 | 1250 | 7225012 | 7325012 |
| | 25 | 108 | 1500 | 7225015 | 7325015 |
| | 25 | 108 | 1800 | 7225018 | 7325018 |
| | 25 | 108 | 2000 | 7225020 | 7325020 |
| | 25 | 108 | 3000 | 7225030 | 7325030 |
| | 25 | 108 | 4000 | 7225040 | 7325040 |

| | S mm | D mm | H mm | L mm | Catalogue no. | |
|--|---------|---------|---------|---------|---------------|-------------|
| | | | | | Point | Tool chisel |
| | 32 | 45 | 160 | 2000 | 7232120 | 7332120 |
| | 32 | 45 | 160 | 2500 | 7232125 | 7332125 |
| | 35 | 54 | 110 | 600 | 7235006 | 7335006 |

| | S mm | D mm | H mm | L mm | A mm | Catalogue no. |
|--|---------|---------|---------|---------|---------|---------------|
| | | 32 | 45 | 160 | 470 | 37 |
| | 32 | 45 | 160 | 630 | 40 | 7332004 |
| | 54 | 54 | 110 | 560 | 70 | 7335104 |
| | 54 | 54 | 110 | 560 | 110 | 7335204 |

| | A mm | G mm | Catalogue no. |
|--|---------|---------|---------------|
| | 30 | 2 | 76013011 |
| | 30 | 3 | 76013012 |
| | 30 | 4 | 76013013 |
| | 30 | 5 | 76013014 |
| | 30 | 6 | 76013015 |
| | 30 | 7 | 76013016 |
| | 30 | 8 | 76013017 |
| | 30 | 10 | 76013018 |
| | 30 | 12 | 76013019 |
| | 30 | 14 | 76013020 |
| | 50 | 2 | 76014011 |
| | 50 | 3 | 76014012 |
| | 50 | 4 | 76014013 |
| | 50 | 5 | 76014014 |
| | 50 | 6 | 76014015 |
| | 50 | 7 | 76014016 |
| | 50 | 8 | 76014017 |

| | D mm | H mm | L mm | Catalogue no. | |
|--|---------|---------|---------|---------------|-------------|
| | | | | Point | Tool chisel |
| | 19 | 60 | 400 | 7602104 | 7602204 |
| | 19 | 60 | 550 | 7602105 | 7602205 |

| | D mm | H mm | L mm | Catalogue no. | | Spade |
|--|---------|---------|---------|---------------|-------------|---------|
| | | | | Point | Tool chisel | |
| | 16 | 33 | 300 | 7602903 | 7603003 | 7603103 |
| | 16 | 33 | 405 | 7602904 | 7603004 | 7603104 |

| | d mm | Catalogue no. | | Spade |
|--|---------|---------------|-------------|----------|
| | | Point | Tool chisel | |
| | 700 | 76006072 | 76006071 | 76006073 |

| | D mm | d mm | H mm | B mm | L mm | Catalogue no. |
|--|------------------------------|----------------------------|---------------------------------|------------------------------|-----------------------------------|---|
| | 50 64 80 100 114 | 40 48 60 75 79 | 138 111 138 154 211 | 38,5 52 62 80 80 | 500 800 900 1000 1400 | 7602305 7601608 7601809 7602610 7602014 |

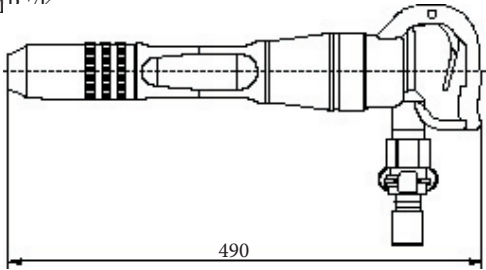
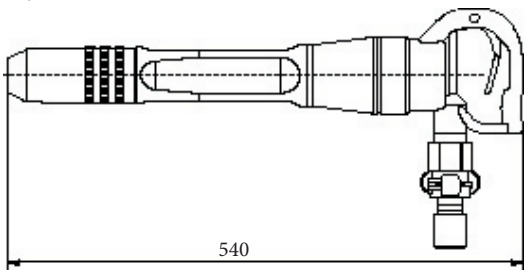
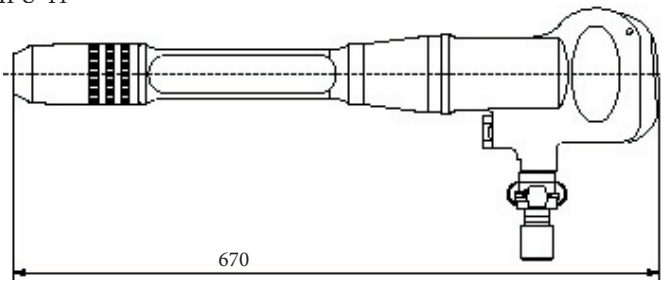
| | L mm | Catalogue no. |
|--|--------------|--------------------|
| | 1000 1250 | 7603510 7603512 |
| | 900 | 7601309 |
| | 1100 | 7603711 |
| | 1100 | 7603311 |

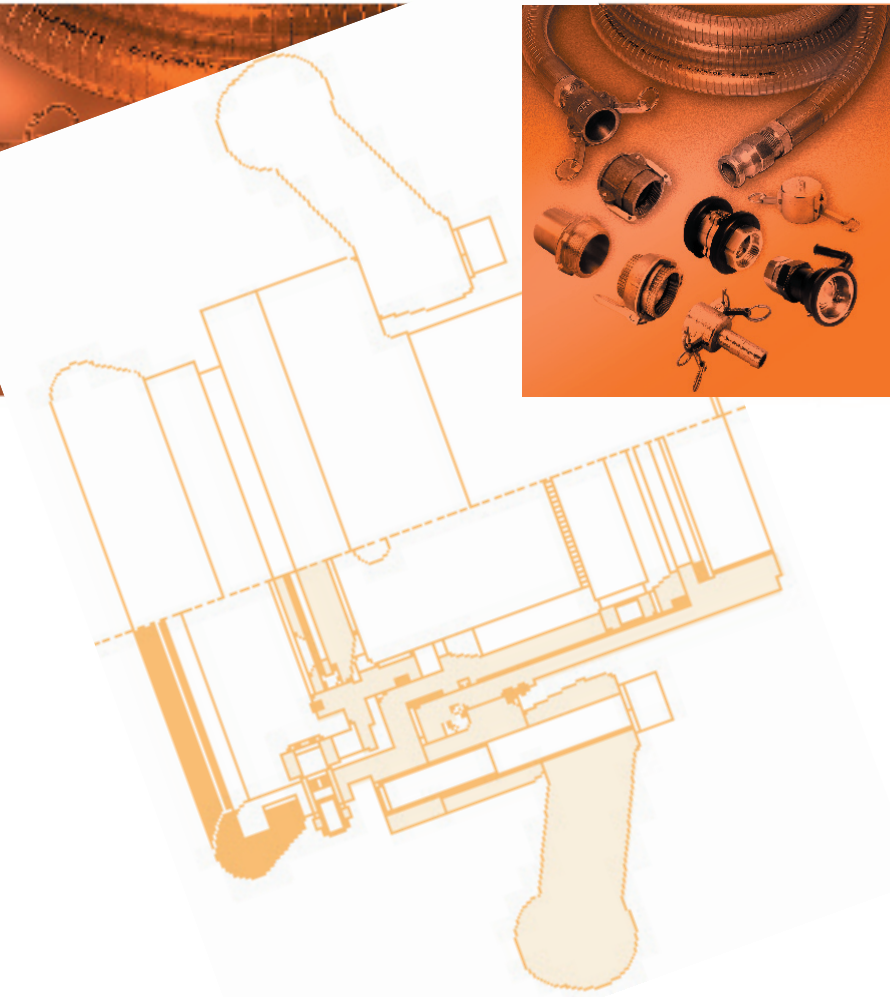
| | L mm | Catalogue no. | |
|--|---------|---------------|-------------|
| | | Flat | Tool chisel |
| | 850 | 7636208 | 7601908 |
| | 900 | 7636209 | 7601909 |
| | 1000 | 7636210 | 7601910 |
| | 1100 | 7636211 | 7601911 |

| | D mm | Catalogue no. | | |
|--|---------|---------------|---------|-------------|
| | | Point | Flat | Tool chisel |
| | 800 | 7636008 | 7602808 | 7600908 |
| | 1000 | 7636010 | 7602810 | 7600910 |
| | 1100 | 7636011 | 7602811 | 7600911 |
| | 1250 | 7636012 | 7602812 | 7600912 |
| | | | | |

| | L mm | Catalogue no. |
|--|---------|---------------|
| | 1100 | 7601511 |
| | 1100 | 7603411 |
| | 1150 | 7635911 |

| | L mm | Catalogue no. | |
|--|---------|---------------|---------|
| | | Point | Flat |
| | 1000 | 7635810 | 7600710 |
| | 1150 | 7635811 | 7600711 |

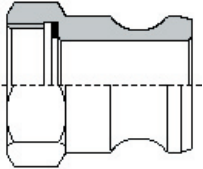
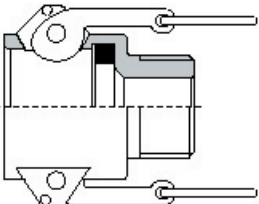
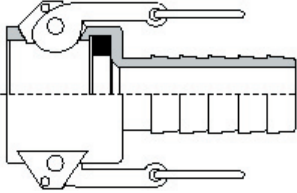
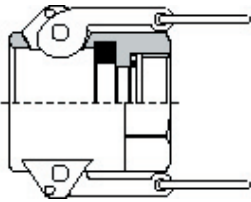
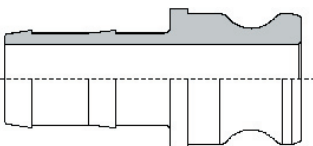
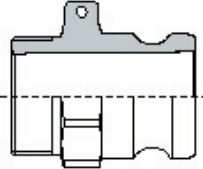
| | Hammer's mass (without a tool point) kg | Hammer's length (without a tool point) mm | Number of strokes /min | Stroke energy kJ | Air consumption Nm ³ /min | Supply pressure MPa | Dimensions of tool points holder mm |
|---|---|---|------------------------|------------------|--------------------------------------|---------------------|-------------------------------------|
| MP-7K  | 7 | 490 | 1570 | 14 | 0,8 | 0,4 - 0,6 | ∅22 x 70 |
| MP-9K  | 9 | 540 | 1350 | 26 | 0,96 | 0,4 - 0,6 | ∅25 x 75 |
| MPU-11  | 12,7 | 670 | 580 | 34 | 1,2 | 0,4 x 0,6 | ∅25 x 75 |

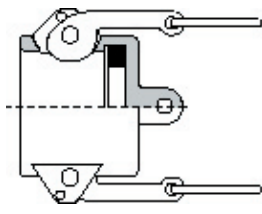
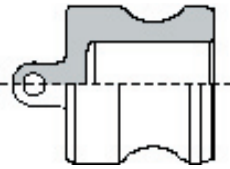


Quick connectors for industry

11 group

- Snap quick connectors - CAMLOCK
- Connectors to tanks DIN 28450
- Quick connectors to water and compressed air (connectors)

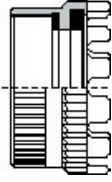
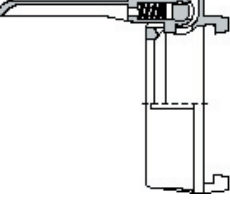
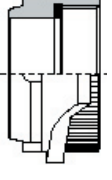
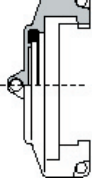
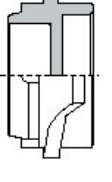
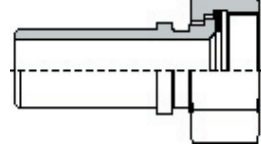
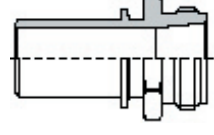
| Snap quick connectors - CAMLOCK | Size inch | Brass indeks | Acid-resistance steel indeks | Aluminium indeks | Cast steel indeks |
|--|--------------|-----------------|------------------------------------|---------------------|----------------------|
| CAMLOCK „A”  | ½ | 780061004 | 780061003 | 780061002 | 780061001 |
| | ¾ | 780062004 | 780062003 | 780062002 | 780062001 |
| | 1 | 780063004 | 780063003 | 780063002 | 780063001 |
| | 1¼ | 780064004 | 780064003 | 780064002 | 780064001 |
| | 1½ | 780065004 | 780065003 | 780065002 | 780065001 |
| | 2 | 780066004 | 780066003 | 780066002 | 780066001 |
| | 2½ | 780067004 | 780067003 | 780067002 | 780067001 |
| | 3 | 780068004 | 780068003 | 780068002 | 780068001 |
| 4 | 780069004 | 780069003 | 780069002 | 780069001 | |
| CAMLOCK „B”  | ½ | 780351004 | 780351003 | 780351002 | 780351001 |
| | ¾ | 780352004 | 780352003 | 780352002 | 780352001 |
| | 1 | 780353004 | 780353003 | 780353002 | 780353001 |
| | 1¼ | 780354004 | 780354003 | 780354002 | 780354001 |
| | 1½ | 780355004 | 780355003 | 780355002 | 780355001 |
| | 2 | 780356004 | 780356003 | 780356002 | 780356001 |
| | 2½ | 780357004 | 780357003 | 780357002 | 780357001 |
| | 3 | 780358004 | 780358003 | 780358002 | 780358001 |
| 4 | 780359004 | 780359003 | 780359002 | 780359001 | |
| CAMLOCK „C”  | ½ | 780031004 | 780031003 | 780031002 | 780031001 |
| | ¾ | 780032004 | 780032003 | 780032002 | 780032001 |
| | 1 | 780033004 | 780033003 | 780033002 | 780033001 |
| | 1¼ | 780034004 | 780034003 | 780034002 | 780034001 |
| | 1½ | 780035004 | 780035003 | 780035002 | 780035001 |
| | 2 | 780036004 | 780036003 | 780036002 | 780036001 |
| | 2½ | 780037004 | 780037003 | 780037002 | 780037001 |
| | 3 | 780038004 | 780038003 | 780038002 | 780038001 |
| 4 | 780039004 | 780039003 | 780039002 | 780039001 | |
| CAMLOCK „D”  | ½ | 780051004 | 780051003 | 780051002 | 780051001 |
| | ¾ | 780052004 | 780052003 | 780052002 | 780052001 |
| | 1 | 780053004 | 780053003 | 780053002 | 780053001 |
| | 1¼ | 780054004 | 780054003 | 780054002 | 780054001 |
| | 1½ | 780055004 | 780055003 | 780055002 | 780055001 |
| | 1¾ | 780056004 | 780056003 | 780056002 | 780229001 |
| | 2 | 780056004 | 780056003 | 780056002 | 780056001 |
| | 2½ | 780057004 | 780057003 | 780057002 | 780057001 |
| 3 | 780058004 | 780058003 | 780058002 | 780058001 | |
| 4 | 780059004 | 780059003 | 780059002 | 780059001 | |
| CAMLOCK „E”  | ½ | 780041004 | 780041003 | 780041002 | 780041001 |
| | ¾ | 780042004 | 780042003 | 780042002 | 780042001 |
| | 1 | 780043004 | 780043003 | 780043002 | 780043001 |
| | 1¼ | 780044004 | 780044003 | 780044002 | 780044001 |
| | 1½ | 780045004 | 780045003 | 780045002 | 780045001 |
| | 1¾ | 780046004 | 780046003 | 780046002 | 780219001 |
| | 2 | 780046004 | 780046003 | 780046002 | 780046001 |
| | 2½ | 780047004 | 780047003 | 780047002 | 780047001 |
| 3 | 780048004 | 780048003 | 780048002 | 780048001 | |
| 4 | 780049004 | 780049003 | 780049002 | 780049001 | |
| CAMLOCK „F”  | ½ | 780091004 | 780091003 | 780091002 | 780091001 |
| | ¾ | 780092004 | 780092003 | 780092002 | 780092001 |
| | 1 | 780093004 | 780093003 | 780093002 | 780093001 |
| | 1¼ | 780094004 | 780094003 | 780094002 | 780094001 |
| | 1½ | 780095004 | 780095003 | 780095002 | 780095001 |
| | 2 | 780096004 | 780096003 | 780096002 | 780096001 |
| | 2½ | 780097004 | 780097003 | 780097002 | 780097001 |
| | 3 | 780098004 | 780098003 | 780098002 | 780098001 |
| 4 | 780099004 | 780099003 | 780099002 | 780099001 | |

| | Size inch | Brass indeks | Acid-resistance steel indeks | Aluminium indeks | Cast steel indeks |
|---|--------------|-----------------|------------------------------------|---------------------|----------------------|
| CAMLOCK „Dc”  | ½ | 780101004 | 780101003 | 780101002 | 780101001 |
| | ¾ | 780102004 | 780102003 | 780102002 | 780102001 |
| | 1 | 780103004 | 780103003 | 780103002 | 780103001 |
| | 1¼ | 780104004 | 780104003 | 780104002 | 780104001 |
| | 1½ | 780105004 | 780105003 | 780105002 | 780105001 |
| | 2 | 780106004 | 780106003 | 780106002 | 780106001 |
| | 2½ | 780107004 | 780107003 | 780107002 | 780107001 |
| | 3 | 780108004 | 780108003 | 780108002 | 780108001 |
| | 4 | 780109004 | 780109003 | 780109002 | 780109001 |
| CAMLOCK „Dp”  | ½ | 78341004 | 78341003 | 78341002 | 78341001 |
| | ¾ | 78342004 | 78342003 | 78342002 | 78342001 |
| | 1 | 78343004 | 78343003 | 78343002 | 78343001 |
| | 1¼ | 78344004 | 78344003 | 78344002 | 78344001 |
| | 1½ | 78345004 | 78345003 | 78345002 | 78345001 |
| | 2 | 78346004 | 78346003 | 78346002 | 78346001 |
| | 2½ | 78347004 | 78347003 | 78347002 | 78347001 |
| | 3 | 78348004 | 78348003 | 78348002 | 78348001 |
| | 4 | 78349004 | 78349003 | 78349002 | 78349001 |

Material: brass, acid-resistance steel, aluminium, cast steel.

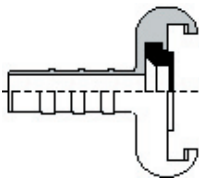
Sealing: inconnectors - BUNA.

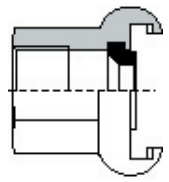
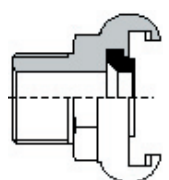
There is possibility to deliver seals from VITON, PTFE / BUNA, PTFE / VITON, FEP, SILIKON, HYPALON.

| Connectors to tanks DIN 28450 | Size of thread inch | Hose internal dia- meter mm | Brass indeks | Acid-resistance steel indeks |
|--|------------------------|-----------------------------------|--|--|
| Sealing ring MKV  | 2 3 | MKV 50 MKV 75 | 780020034 780140034 | 780020033 780140033 |
| Closing ring MKH  | 2 3 | MKH 50 MKH 75 | 780020014 780140014 | 780020013 780140013 |
| Connector with internal thread BSP - VK type  | 2 3 | | 780020024 780140024 | 780020023 780140023 |
| MB Cover to VK connector  | 2 3 | MB 50 MB 75 | 780326004 780328004 | 780326003 780328003 |
| VB Stopper to MKV Ring  | 2 3 | VB 50 VB 75 | 780316004 780318004 | 780316003 780318003 |
| Ending on hose with internal thread BSP and protecting ring  | 1 1½ 2 3 | 25 38 50 75 | 780423004 780425004 780426004 780428004 | 780423003 780425003 780426003 780428003 |
| Ending on hose with external thread BSP and protecting ring  | 1 1½ 2 3 | 25 38 50 75 | 780073004 780075004 780076004 780070004 | 780073003 780075003 780076003 780070003 |

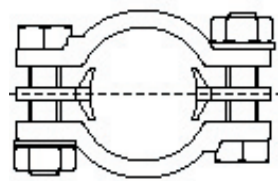
Quick connectors

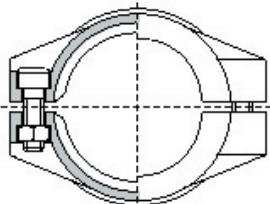
Quick connectors to water and compressed air

| Connectors | Hose internal diameter mm | Spacing catch mm | Work pressure bar | Cast steel indeks |
|---|---------------------------|------------------|-------------------|-------------------|
| Connectors with thread on hose  | 6 | 42 | 10 | 780130301 |
| | 8 | 42 | 10 | 780130401 |
| | 10 | 42 | 10 | 780130301 |
| | 13 | 42 | 10 | 780131001 |
| | 15 | 42 | 10 | 780139001 |
| | 19 | 42 | 10 | 780132001 |
| | 25 | 42 | 10 | 780133001 |
| 32 | 42 | 10 | 780134001 | |

| | Size of thread inch | Spacing catch mm | Work pressure bar | Cast steel indeks |
|---|---------------------|------------------|-------------------|-------------------|
| Connectors with internal thread  | ½ | 42 | 10 | 780111001 |
| | ¾ | 42 | 10 | 780112001 |
| | 1 | 42 | 10 | 780113001 |
| | 1¼ | 42 | 10 | 780114001 |
| Connectors with external thread  | ½ | 42 | 10 | 780121001 |
| | ¾ | 42 | 10 | 780122001 |
| | 1 | 42 | 10 | 780123001 |
| | 1¼ | 42 | 10 | 780124001 |

Material: cast steel. Sealing: oil resistance rubber.

| Clamping rings | Hose internal diameter inch | Hose external diameter mm | Cast steel indeks |
|--|-----------------------------|---------------------------|-------------------|
| Clamping rings to hoses type MU  | ½ | 20 - 29 | 780151005 |
| | ¾ | 28 - 35 | 780162005 |
| | 1 | 32 - 40 | 780153005 |
| | 1¼ | 39 - 49 | 780154005 |
| | 1½ | 48 - 60 | 780155005 |
| | 2 | 60 - 76 | 780156005 |
| | 2½ | 77 - 94 | 780157005 |
| | 3 | 94 - 115 | 780158005 |

| Clamping rings | DN mm | D MIN - MAX mm | Size | | | Clamping screws (amount/thread/lenght) |
|---|--------|----------------|------|-----|-----|--|
| | | | H | B | L | |
| Shell clamping rings  | 50x8 | 64 - 67 | 103 | 106 | 57 | 4 x M8 x 25 |
| | 50x10 | 78 - 82 | 107 | 110 | 57 | 4 x M10 x 40 |
| | 50x12 | 73 - 76 | 128 | 132 | 100 | |
| | 75x8 | 89 - 93 | 131 | 133 | 77 | |
| | 75x10 | 94 - 97 | 138 | 140 | 77 | 4 x M8 x 25 |
| | 75x12 | 98 - 101 | 148 | 150 | 77 | 4 x M10 x 40 |
| | 75x14 | 102 - 105 | 155 | 157 | 115 | |
| | 100x8 | 114 - 119 | 164 | 167 | 120 | |
| | 100x10 | 118 - 122 | 185 | 187 | 120 | 4 x M10 x 40 |
| | 100x12 | 122 - 126 | 185 | 187 | 120 | |

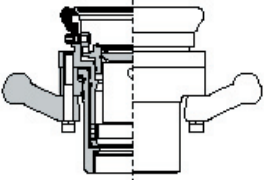
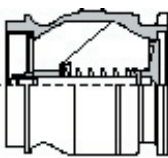
Material: galvanized cast steel. To order: brass, acid resistance steel.

Dry cutting coupling

The GONAR Coupling, a safe coupling for safe delivery of environmentally-harmful goods in the chemicals and mineral oil industry. The coupling halves are simply connected to each other by way of a slight rotation. Integrated rotary joints in the female part support this movement. The valves in the two halves of the coupling only open when the coupling is connected, eliminating the possibility of product loss. Both valves cannot be opened until the hose fittings and tank fittings form a closed unit. During decoupling, the valves in the coupling halves close first. Only then is the connection to the environment opened and the

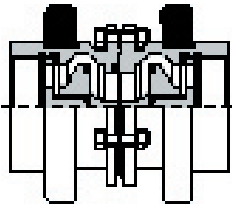
coupling halves can be separated from each other.

The coupling unit, consisting of the male and female parts, is designed for an operating pressure of up to 10 bar. The stainless steel version up to and including DN 50 can even withstand up to PN 25! Disconnection or connection of the system can be performed at pressures of up to 7 bar in the case of up to DN 80 and up to bar in the case of DN 100. GONAR coupling can be reliably fitted on the hose side or the tank side via threaded or flange connections.

| | Type mm | Size inch | Brass indeks | Asid-resistance steel indeks |
|---|------------------|--------------|------------------------|---------------------------------|
| Female-coupling ZSW  | ZSW 50 ZSW 80 | 2 3 | 780256004 780258004 | 780256003 780258003 |
| Male-coupling with thread ZSZ  | ZSZ 50 ZSZ 80 | 2 3 | 780266004 780268004 | 780266003 780268003 |

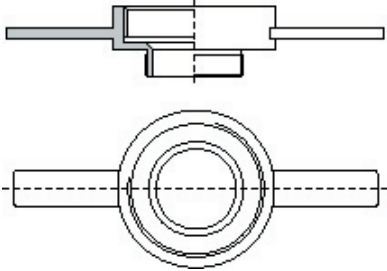
Material: brass, stainless steel, aluminium.

Sealing materials: NBR, EPDM, CR, VITON

| | Diameter | Picking up force | Acid-resistance steel indeks | Brass indeks | Aluminium indeks |
|---|----------------|------------------|------------------------------------|------------------------|------------------------|
| Break down uncouple connectors  | DN 50 DN 80 | 15 KN 27,5 KN | 780336003 780338003 | 780336004 780338004 | 780336002 780338002 |

Connectros type ARK/ARK-S are break down uncouple connectors which ensure safe liquid unloading in engineering, rail and sea transportation. Two types connectors are distinguished the first ARK related by means of power and second ARK-S closing themselves by means of displacement. During loading and unloading they are used as safe pressure elements for mechanical conduit cutting. Stresses connected with displacement of tanking vehicle are taken by ARK/ARK-S connectors which cause both sides disconnecting and tight closing the industrial conduit.

Break down uncouple connector consist of two halves each of them has a cut off valve, in case of ARK connectors joined by means of two bolts, but in case of ARK-S connectors joined by means of two clamping claps and clipping ring. Both cut off valves influence on each other during work and then flow is possible loaded with force equal the pick up force. Screws are clipping ring and releasing the clamping claps. Removing these elements help to separate connector's halves and its closing.

| | Material | Thread size | Catalogue no. |
|---|--------------------------------|-------------|------------------------|
| Rail connector  | Brass Acid-resistance steel | 130x6/75 | 780688024 780688023 |