

PRODRILL top hammer drilling tools

Product catalogue

Products from PRODRILL EQUIPMENT Limited





PRODRILL is a manufacturer and supplier of percussive rock drilling tools and DTH drilling systems for Mining & Quarrying, Geo/Civil Construction, and EOG Well Drilling applications.

TOP HAMMER ROCK TOOLS

- Threaded Button Bits (1½" to 6") straight & retrac body
- Reaming Equipment & Auxiliary Tools (3" to 7")
- Extension/Drifting Rods
- Shank Adapters; Couplings; Bit Adapters; Guide Adapters

DOWN THE HOLE DRILLING TOOLS

- DTH Hammers (2" to 24")
- DTH Bits (2¾" to 36")
- RC Systems (4" to 8")
- Shock Absorbers & Stabilizers
- Custom Subs & Adapters
- Drill Pipe & Casing Tube
- Diamond Grinding Cups for button bit resharpening

Our rock tools with advanced international standards can meet the drilling rig of Altas Copco, Sandvik, Furukawa, Herrenknecht, etc.

Welcome to visit ProDrill and we eagerly expect a cooperation with you

Top hammer products

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Button bit insert types

Hemispherical Button



- Application Strength - universal button
- Best suited to hard ground
- 25,000 to 45,000 PSI (170 to 300 MPa)
- Abrasive to very abrasive

Parabolic Button (semi ballistic)



- Application Strength - fast penetration
- Best suited to medium ground
- 15,000 to 25,000 PSI (100 to 170 MPa)
- Mildly abrasive ground

Conical Button



- Application Strength – fast penetration
- Suited for all non-abrasive ground types
- Smaller contact area
- Best suited for smaller diameter bits

Ballistic Button



- Application Strength - fast penetration
- Best suited to soft ground
- 10,000 to 20,000 PSI (70 to 140 MPa)
- Non abrasive ground

Bit Selection Guide

| ROCK TYPE | DUCTILITY | BREAK ABILITY | WEAR ABILITY | CONTROL ABILITY | THREADED BIT INSERT | THREADED BIT STYLE | TAPER BIT STYLE |
|-----------|-----------|---------------|--------------|-----------------|------------------------|--------------------------|-----------------------------|
| Talc | High | Low | Low | High | Blade | 2 – Prong 3 – Prong | 2 – Prong 3 – Prong |
| Shale | High | Low | Medium | Medium | Parabolic Ballistic | Flat face Drop center | Button bit Blade - Multi |
| Limestone | Medium | High | Low | High | Parabolic Ballistic | Flat face Drop center | Button bit Blade - Multi |
| Sandstone | Medium | High | High | Medium | Parabolic | Flat face Drop center | Button bit Blade - Multi |
| Marble | Low | Medium | Low | High | Hemi | Flat face | Blade - Multi |
| Gniess | Low | Medium | High | High | Hemi | Flat face | Blade |
| Feldspar | Low | Medium | Low | High | Hemi | Flat face | Blade |
| Granite | Low | Low | Medium | High | Hemi | Flat face | Blade |
| Diorite | Low | Low | Low | High | Hemi, Tent | Flat face X-Cross | Blade |
| Quartzite | Low | Low | High | High | Hemi, Tent | Flat face X-Cross | Blade |



Small hole drilling

Page

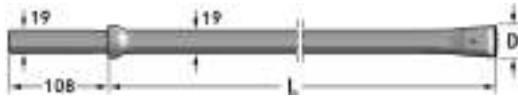
| | |
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| H19 (3/4") Integral drill steels | 4 |
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Small hole drilling

H19 (3/4") Integral drill steels

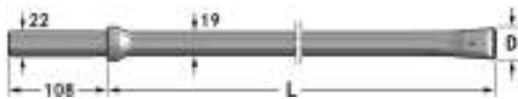
|  | Series | Length | | Bit diameter | | Weight approx kg | Part No. |
|---|--------|--------|-------|--------------|------|------------------|----------|
| | | mm | ft/in | mm | inch | | |

Shank 19 x 108 mm (3/4" x 4 1/4")




| | | | | | | | |
|---|------|--------|--------|---------|---------|-----------------------|-----------------------|
|  | 21 | 400 | 1' 4" | 29 | 1 5/32" | 1.3 | 5H19-291508-0400-40-2 |
| | | 500 | 1' 8" | 29 | 1 5/32" | 1.5 | 5H19-291508-0500-40-2 |
| | | 800 | 2' 7" | 28 | 1 1/8" | 2.2 | 5H19-281508-0800-40-2 |
| | | 1200 | 3' 11" | 27 | 1 1/16" | 3.0 | 5H19-271508-1200-40-2 |
| | | 1600 | 5' 3" | 27 | 1 1/16" | 4.0 | 5H19-271508-1600-40-2 |
| | | 2400 | 7' 10" | 26 | 1 1/32" | 5.7 | 5H19-261508-2400-40-2 |
| | | 3200 | 10' 6" | 25 | 1" | 7.5 | 5H19-251206-3200-40-2 |
| | | 4000 | 13' 1" | 24 | 15/16" | 9.2 | 5H19-241206-4000-40-2 |
| 22 | 400 | 1' 4" | 24 | 15/16" | 1.3 | 5H19-241206-0400-40-2 | |
| | 800 | 2' 7" | 23 | 29/32" | 2.2 | 5H19-231206-0800-40-2 | |
| 24 | 600 | 2' | 27 | 1 1/16" | 1.7 | 5H19-271508-0600-40-2 | |
| | 1200 | 3' 11" | 26 | 1 1/32" | 3.1 | 5H19-261508-1200-40-2 | |
| | 2400 | 7' 10" | 24 | 15/16" | 5.7 | 5H19-241206-2400-40-2 | |

Shank 22 x 108 mm (7/8" x 4 1/4")

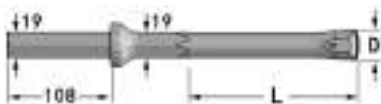


| | | | | | |
|------|--------|----|---------|-----|--------------------------|
| 400 | 1' 4" | 24 | 15/16" | 1.4 | 5H19/22-241206-0400-40-2 |
| 400 | 1' 4" | 29 | 1 5/32" | 1.4 | 5H19/22-291508-0400-40-2 |
| 800 | 2' 7" | 28 | 1 1/8" | 2.3 | 5H19/22-281508-0800-40-2 |
| 1600 | 5' 3" | 27 | 1 1/16" | 4.0 | 5H19/22-271508-1600-40-2 |
| 2400 | 7' 10" | 26 | 1 1/32" | 5.8 | 5H19/22-261508-2400-40-2 |

Stone working tools

|  | Series | Length | | Bit diameter | | Weight approx kg | Part No. |
|---|--------|--------|------|--------------|------|------------------|----------|
| | | mm | inch | mm | inch | | |


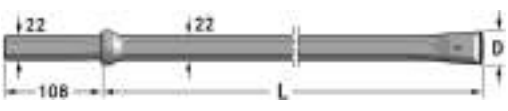
Plug hole integral steel



| | | | | | |
|-----|----------|----|--------|-----|-----------------------|
| 150 | 6" | 17 | 21/32" | 0.6 | 5H19-171206-0150-40-2 |
| 160 | 6 1/4" | 20 | 25/32" | 0.7 | 5H19-201206-0160-40-2 |
| 200 | 7 7/8" | 20 | 25/32" | 0.8 | 5H19-201206-0200-40-2 |
| 240 | 9 29/64" | 20 | 25/32" | 0.8 | 5H19-201206-0240-40-2 |
| 280 | 11 1/32" | 20 | 25/32" | 0.9 | 5H19-201206-0280-40-2 |
| 310 | 11 1/4" | 20 | 25/32" | 1.0 | 5H19-201206-0310-40-2 |
| 160 | 6 1/4" | 22 | 7/8" | 0.7 | 5H19-221206-0160-40-2 |
| 190 | 7 1/2" | 22 | 7/8" | 0.8 | 5H19-221206-0190-40-2 |

Small hole drilling

H22 (7/8") Integral drill steels

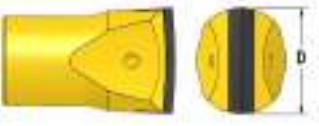
|  | Series | Length | | Bit diameter | | Weight approx kg | Part No. |
|---|--------|--------|--------|--------------|----------|------------------|-----------------------|
| | | mm | ft/in | mm | inch | | |
| Shank 22 x 108 mm (7/8" x 4 1/4") | | | | | | | |
|  | 11 | 800 | 2' 7" | 34 | 1 11/32" | 3.0 | 5H22-341810-0800-40-2 |
| | | 1600 | 5' 3" | 33 | 1 19/64" | 5.4 | 5H22-331810-1600-40-2 |
| | | 2400 | 7' 10" | 32 | 1 1/4" | 7.9 | 5H22-321508-2400-40-2 |
| | | 3200 | 10' 6" | 31 | 1 7/32" | 10.3 | 5H22-311508-3200-40-2 |
| | | 4000 | 13' 1" | 30 | 1 3/16" | 12.6 | 5H22-301508-4000-40-2 |
| | | 4800 | 15' 9" | 29 | 1 9/64" | 15.1 | 5H22-291508-4800-40-2 |
| | | 5600 | 18' 4" | 28 | 1 7/64" | 17.6 | 5H22-281508-5600-40-2 |
| | | 6400 | 21' | 27 | 1 1/16" | 19.9 | 5H22-271508-6400-40-2 |
| | | 7200 | 23' 8" | 26 | 1 1/32" | 22.3 | 5H22-261508-7200-40-2 |
| | | 12 | 800 | 2' 7" | 40 | 1 37/64" | 3.0 |
| | | 1600 | 5' 3" | 39 | 1 17/32" | 5.4 | 5H22-391810-1600-40-2 |
| | | 2400 | 7' 10" | 38 | 1 1/2" | 7.9 | 5H22-381810-2400-40-2 |
| | | 3200 | 10' 6" | 37 | 1 29/64" | 10.3 | 5H22-371810-3200-40-2 |
| | | 4000 | 13' 1" | 36 | 1 27/64" | 12.6 | 5H22-361810-4000-40-2 |
| | | 4800 | 15' 9" | 35 | 1 3/8" | 15.1 | 5H22-351810-4800-40-2 |
| | | 5600 | 18' 4" | 34 | 1 11/32" | 17.6 | 5H22-341810-5600-40-2 |
| | | 6400 | 21' | 33 | 1 19/64" | 19.9 | 5H22-331810-6400-40-2 |
| | | 7200 | 23' 8" | 32 | 1 1/4" | 22.3 | 5H22-321508-7200-40-2 |
| | 13 | 400 | 1' 4" | 34 | 1 11/32" | 1.8 | 5H22-341810-0400-40-2 |
| | | 800 | 2' 7" | 33 | 1 19/64" | 3.0 | 5H22-331810-0800-40-2 |
| | | 1200 | 3' 11" | 32 | 1 1/4" | 4.2 | 5H22-321508-1200-40-2 |
| | | 1600 | 5' 3" | 31 | 1 7/32" | 5.3 | 5H22-311508-1600-40-2 |
| | | 2000 | 6' 7" | 30 | 1 3/16" | 6.5 | 5H22-301508-2000-40-2 |
| | 16 | 600 | 2' | 35 | 1 3/8" | 2.4 | 5H22-351810-0600-40-2 |
| | | 1200 | 3' 11" | 34 | 1 11/32" | 4.2 | 5H22-341810-1200-40-2 |
| | | 1800 | 5' 11" | 33 | 1 19/64" | 6.1 | 5H22-331810-1800-40-2 |
| | | 2400 | 7' 10" | 32 | 1 1/4" | 7.9 | 5H22-321508-2400-40-2 |
| | 17 | 600 | 2' | 41 | 1 5/8" | 2.4 | 5H22-411810-0600-40-2 |
| | | 1200 | 3' 11" | 40 | 1 37/64" | 4.3 | 5H22-401810-1200-40-2 |
| | | 1800 | 5' 11" | 39 | 1 17/32" | 6.1 | 5H22-391810-1800-40-2 |
| | | 2400 | 7' 10" | 38 | 1 1/2" | 7.9 | 5H22-381810-2400-40-2 |
| | | 800 | 2' 7" | 29 | 1 9/64" | 3.0 | 5H22-291508-0800-40-2 |
| | | 1600 | 5' 3" | 28 | 1 7/64" | 5.3 | 5H22-281508-1600-40-2 |
| | | 2400 | 7' 10" | 27 | 1 1/16" | 7.9 | 5H22-271508-2400-40-2 |

H22 (7/8")

Small hole drilling

Tapered tools, 7° taper

7° taper

| Bits | Diameter | | Dimensions of carbide,mm | | | Flushing hole | | Weight approx kg | Part No. |
|---|----------|----------|--------------------------|-------|-------|---------------|-------|------------------------|------------------------|
| | mm | in | Height | Width | Class | Front | Gauge | | |
| Chisel bit (Horseshoe type) | | | | | | | | | |
|  | 32 | 1 1/4" | 13.5 | 8 | 3A | - | 2 | 0.22 | 1111-32722-13/8-40-13 |
| | 34 | 1 11/32" | 13.5 | 8 | 3A | - | 2 | 0.26 | 1111-34722-13/8-40-13 |
| | 36 | 1 7/16" | 13.5 | 8 | 3A | - | 2 | 0.29 | 1111-36722-13/8-40-13 |
| | 38 | 1 1/2" | 13.5 | 8 | 3A | - | 2 | 0.32 | 1111-38723-13/8-40-13 |
| | 38 | 1 1/2" | 15 | 9 | 3A | - | 2 | 0.32 | 1111-38723-15/9-40-13 |
| | 40 | 1 37/64" | 13.5 | 9.2 | 3A | - | 2 | 0.37 | 1111-40723-13/9-40-13 |
| | 40 | 1 37/64" | 13.5 | 9.2 | 4A | - | 2 | 0.37 | 1111-40723-13/9-40-12 |
| | 40 | 1 37/64" | 15 | 9.8 | 3A | - | 2 | 0.37 | 1111-40723-15/10-40-13 |
| | 40 | 1 37/64" | 15 | 9.8 | 4A | - | 2 | 0.37 | 1111-40723-15/10-40-12 |
| | 42 | 1 21/32" | 13.5 | 9.2 | 3A | - | 2 | 0.41 | 1111-42723-13/9-40-13 |
| | 42 | 1 21/32" | 13.5 | 9.2 | 4A | - | 2 | 0.41 | 1111-42723-13/9-40-12 |
| | 42 | 1 21/32" | 15 | 9.8 | 3A | - | 2 | 0.41 | 1111-42723-15/10-40-13 |
| 42 | 1 21/32" | 15 | 9.8 | 4A | - | 2 | 0.41 | 1111-42723-15/10-40-12 | |

| Chisel bit (Oblique—chipways) | | | | | | | | | |
|---|----|----------|------|-----|----|---|---|------|------------------------|
|  | 30 | 1 3/16" | 13.5 | 8 | 4A | - | 2 | 0.21 | 1112-30722-13/8-42-22 |
| | 32 | 1 1/4" | 13.5 | 8 | 4A | - | 2 | 0.22 | 1112-32722-13/8-42-22 |
| | 34 | 1 11/32" | 13.5 | 8 | 4A | - | 2 | 0.26 | 1112-34722-13/8-42-22 |
| | 36 | 1 7/16" | 13.5 | 8 | 4A | - | 2 | 0.29 | 1112-36722-13/8-42-22 |
| | 38 | 1 1/2" | 15 | 9 | 4A | - | 2 | 0.33 | 1112-38723-15/9-42-22 |
| | 40 | 1 37/64" | 15 | 9.8 | 4A | - | 2 | 0.37 | 1112-40723-15/10-42-22 |
| | 42 | 1 21/32" | 15 | 9.8 | 4A | - | 2 | 0.41 | 1112-42723-15/10-42-22 |










| Chisel bit (Flat—chipways) | | | | | | | | | |
|---|----|----------|----|----|----|---|---|------|------------------------|
|  | 45 | 1 3/4" | 16 | 10 | 4A | 1 | 2 | 0.56 | 1113-45723-16/10-42-22 |
| | 50 | 1 31/32" | 16 | 10 | 4A | 1 | 2 | 0.61 | 1113-50723-16/10-42-22 |
| | 55 | 1 1/4" | 16 | 10 | 4A | 1 | 2 | 0.75 | 1113-55723-16/10-42-22 |
| | 60 | 2 23/64" | 16 | 10 | 4A | 1 | 2 | 0.86 | 1113-45723-16/10-42-22 |

| Cross bit | | | | | | | | | |
|---|----|----------|----|----|----|---|---|------|------------------------|
|  | 32 | 1 1/4" | 12 | 8 | 3A | 1 | 2 | 0.26 | 1221-32722-12/8-42-23 |
| | 34 | 1 11/32" | 12 | 8 | 3A | 1 | 2 | 0.29 | 1221-34722-12/8-42-23 |
| | 36 | 1 7/16" | 12 | 8 | 3A | 1 | 2 | 0.32 | 1221-36722-12/8-42-23 |
| | 38 | 1 1/2" | 12 | 8 | 3A | 1 | 2 | 0.37 | 1221-38723-12/8-42-23 |
| | 40 | 1 37/64" | 12 | 8 | 3A | 1 | 2 | 0.40 | 1221-40723-12/8-42-23 |
| | 42 | 1 21/32" | 12 | 8 | 3A | 1 | 2 | 0.43 | 1221-42723-12/8-42-23 |
| | 45 | 1 3/4" | 14 | 8 | 3A | 1 | 2 | 0.49 | 1221-45723-14/8-42-23 |
| | 50 | 1 31/32" | 14 | 8 | 3A | 1 | 2 | 0.62 | 1221-50723-14/8-42-23 |
| | 55 | 2 1/4" | 16 | 10 | 3A | 1 | 2 | 0.82 | 1221-55723-16/10-42-23 |

Small hole drilling

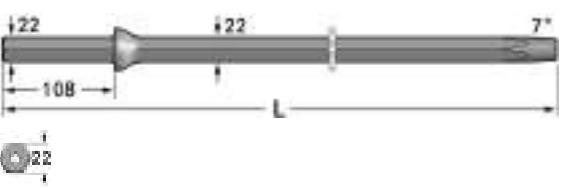
Tapered tools, 7° taper

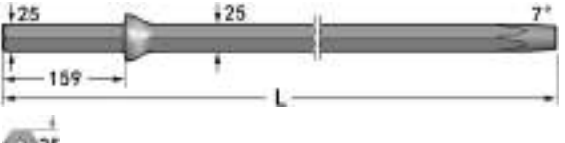
7° taper

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|----------|-------------|----------|---|-------|---------------|-------|------------------|------------------------|
| | mm | in | Front No | Gauge No | Type | | Front | Gauge | | |
| Button bit – For 22mm (7/8") hex. rod. | | | | | | | | | | |
|  | 32 | 1 1/4" | 1×8 | 3×8 |  | 35° | 1 | 1 | 0.24 | 1431-32722-18/38-42-53 |
| | 34 | 1 11/32" | 1×8 | 3×8 |  | 35° | 1 | 1 | 0.26 | 1431-34722-18/38-42-53 |
| | 36 | 1 7/16" | 1×8 | 3×9 |  | 35° | 1 | 1 | 0.27 | 1431-36722-18/39-42-53 |
| | 38 | 1 1/2" | 1×8 | 3×9 |  | 35° | 1 | 1 | 0.32 | 1431-38723-18/39-42-53 |
| | 40 | 1 37/64" | 1×8 | 3×9 |  | 30° | 1 | 1 | 0.36 | 1431-40723-18/39-42-53 |
| | 40 | 1 37/64" | 1×9 | 3×9 |  | 35° | 1 | 1 | 0.36 | 1431-40723-19/39-42-53 |
| | 42 | 1 21/32" | 1×8 | 3×9 |  | 30° | 1 | 1 | 0.40 | 1431-42723-18/39-42-53 |
| | 42 | 1 21/32" | 1×9 | 3×9 |  | 35° | 1 | 1 | 0.40 | 1431-42723-19/39-42-53 |

| | | | | | | | | | | |
|---|----|----------|-----|-----|---|-----|---|---|------|------------------------|
| Button bit – For 22mm (7/8") hex. rod. Long skirt. | | | | | | | | | | |
|  | 32 | 1 1/4" | 2×7 | 5×7 |  | 35° | 2 | 1 | 0.24 | 1435-32722-27/57-42-53 |
| | 34 | 1 11/32" | 2×7 | 5×7 |  | 35° | 2 | 1 | 0.29 | 1435-34722-27/57-42-53 |
| | 36 | 1 7/16" | 2×7 | 5×8 |  | 35° | 2 | 1 | 0.32 | 1435-36722-27/58-42-53 |
| | 38 | 1 1/2" | 2×7 | 5×8 |  | 35° | 2 | 1 | 0.34 | 1435-38723-27/58-42-53 |
| | 38 | 1 1/2" | 2×7 | 5×9 |  | 35° | 2 | 1 | 0.34 | 1435-38723-27/59-42-53 |
| | 40 | 1 37/64" | 2×7 | 5×9 |  | 35° | 2 | 1 | 0.39 | 1435-40723-27/59-42-53 |
| | 41 | 1 5/8" | 2×8 | 5×9 |  | 35° | 2 | 1 | 0.39 | 1435-41723-28/59-42-53 |

| | | | | | | | | | | |
|---|----|----------|-----|------|---|-----|---|---|------|-------------------------|
| Button bit – For 25mm (1") hex. rod. Long skirt. | | | | | | | | | | |
|  | 41 | 1 5/8" | 2×8 | 5×9 |  | 35° | 2 | 1 | 0.39 | 1435-41725-28/59-42-53 |
| | 43 | 1 11/16" | 2×8 | 5×9 |  | 35° | 2 | 1 | 0.39 | 1435-43725-28/59-42-53 |
| | 45 | 1 3/4" | 2×8 | 5×9 |  | 35° | 2 | 1 | 0.45 | 1435-45725-28/59-42-53 |
| | 51 | 1 31/32" | 2×9 | 5×10 |  | 35° | 2 | 1 | 0.62 | 1435-51725-29/510-42-53 |







| Rods | Length | | Weight approx kg | Part No. |
|---|--------|--------|------------------|---------------------|
| | mm | ft/in | | |
| Shank 22 x 108 mm (7/8" x 4 1/4") | | | | |
|  | 1500 | 4' 11" | 4.68 | 21H22-7/108-1500-40 |
| | 2000 | 6' 7" | 6.20 | 21H22-7/108-2000-40 |
| | 2500 | 8' 2" | 7.73 | 21H22-7/108-2500-40 |
| | 3000 | 9' 10" | 9.25 | 21H22-7/108-3000-40 |
| | 3500 | 11' 5" | 10.78 | 21H22-7/108-3500-40 |
| | 4000 | 13' 1" | 12.30 | 21H22-7/108-4000-40 |
| | 4500 | 14' 8" | 13.83 | 21H22-7/108-4500-40 |


| | | | | |
|---|------|--------|-------|--------------------|
| Shank 25 x 159 mm (1" x 6 1/4") | | | | |
|  | 4000 | 13' 1" | 16.65 | 5H25-7/159-4000-40 |
| | 4700 | 15' 4" | 18.9 | 5H25-7/159-4700-40 |
| | 5000 | 16' 4" | 22.1 | 5H25-7/159-5000-40 |
| | 5500 | 18' 1" | 22.1 | 5H25-7/159-5500-40 |

Small hole drilling

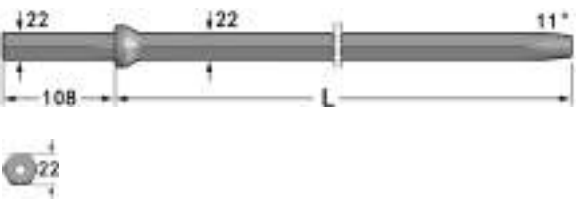
Tapered tools, 11° taper

11° taper

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|----------|-------------|----------|---|-------|---------------|-------|------------------|-------------------------|
| | mm | in | Front No | Gauge No | Type | | Front | Gauge | | |
| Button bit— Short skirt. | | | | | | | | | | |
|  | 32 | 1 1/4" | 2×7 | 3×8 |  | 35° | 1 | 2 | 0.24 | 1431-321122-27/38-45-51 |
| | 34 | 1 11/32" | 1×8 | 3×8 |  | 35° | 1 | 1 | 0.26 | 1431-341122-18/38-45-51 |
| | 36 | 1 7/16" | 1×8 | 3×9 |  | 40° | 1 | 1 | 0.29 | 1431-361122-18/39-45-51 |
| | 38 | 1 1/2" | 2×8 | 3×9 |  | 40° | 1 | 1 | 0.32 | 1431-381122-28/39-45-51 |
| | 40 | 1 37/64" | 2×8 | 3×9 |  | 40° | 1 | 1 | 0.36 | 1431-401122-28/39-45-51 |

| Button bit— Short skirt. | | | | | | | | | | |
|---|----|----------|-----|-----|---|-----|---|---|------|-------------------------|
|  | 32 | 1 1/4" | 2×7 | 4×7 |  | 35° | 1 | 1 | 0.24 | 1431-321122-27/47-45-51 |
| | 34 | 1 11/32" | 2×7 | 4×7 |  | 35° | 2 | 1 | 0.29 | 1431-341122-27/47-45-51 |
| | 36 | 1 7/16" | 2×7 | 4×8 |  | 35° | 2 | 1 | 0.32 | 1431-361122-27/48-45-51 |




| Button bit— Short skirt. | | | | | | | | | | |
|--|----|----------|-----|-----|---|-----|---|---|------|-------------------------|
|  | 32 | 1 1/4" | 2×7 | 5×7 |  | 40° | 1 | 1 | 0.24 | 1431-321122-27/57-45-51 |
| | 34 | 1 11/32" | 2×7 | 5×7 |  | 35° | 1 | 1 | 0.29 | 1431-341122-27/57-45-51 |
| | 36 | 1 7/16" | 2×7 | 5×8 |  | 35° | 1 | 1 | 0.32 | 1431-361122-27/58-45-51 |
| | 38 | 1 1/2" | 2×7 | 5×8 |  | 35° | 1 | 1 | 0.34 | 1431-381123-27/58-45-51 |
| | 38 | 1 1/2" | 2×7 | 5×9 |  | 40° | 1 | 1 | 0.34 | 1431-381123-27/59-45-51 |
| | 40 | 1 37/64" | 2×7 | 5×9 |  | 35° | 1 | 1 | 0.39 | 1431-401123-27/59-45-51 |
| | 41 | 1 5/8" | 2×8 | 5×9 |  | 35° | 1 | 1 | 0.39 | 1431-411123-28/59-45-51 |

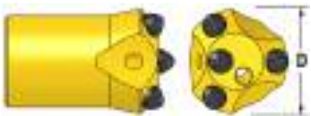







| Rods | Length | | Weight approx kg | Part No. |
|---|--------|--------|----------------------|----------------------|
| | mm | ft/in | | |
| Shank 22 x 108 mm (7/8" x 4 1/4") | | | | |
|  | 610 | 2' | 2.20 | 21H22-11/108-0610-40 |
| | 800 | 3' 3" | 2.78 | 21H22-11/108-0800-40 |
| | 1220 | 4' | 4.06 | 21H22-11/108-1220-40 |
| | 1830 | 6' | 5.92 | 21H22-11/108-1830-40 |
| | 2000 | 6' 7" | 6.44 | 21H22-11/108-2000-40 |
| | 2435 | 8' | 7.76 | 21H22-11/108-2435-40 |
| | 3050 | 10' | 9.64 | 21H22-11/108-3050-40 |
| | 3660 | 12' | 11.50 | 21H22-11/108-3660-40 |
| | 4000 | 13' 1" | 12.54 | 21H22-11/108-4000-40 |
| | 4800 | 15' 9" | 14.98 | 21H22-11/108-4800-40 |
| | 5600 | 18' 4" | 17.42 | 21H22-11/108-5600-40 |
| | 6400 | 21' | 19.86 | 21H22-11/108-6400-40 |
| | 7200 | 23' 6" | 22.30 | 21H22-11/108-7200-40 |
| 8000 | 26' 2" | 24.74 | 21H22-11/108-8000-40 | |

Small hole drilling


Tapered tools, 12° taper

12° taper

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|---------|---------------|---------------|---|-------|---------------|-------|------------------|-------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit—Short skirt. | | | | | | | | | | |
|  | 28 | 1 1/8" | 1×7 | 4×7 |  | 35° | 1 | 1 | 0.20 | 1431-281222-17/47-45-51 |
| | 30 | 1 3/16" | 1×7 | 4×7 |  | 35° | 1 | 1 | 0.22 | 1431-301222-17/47-45-51 |

| | | | | | | | | | | |
|---|----|----------|-----|-----|---|-----|---|---|------|-------------------------|
| Button bit—Short skirt. | | | | | | | | | | |
|  | 28 | 1 1/8" | 1×7 | 3×7 |  | 35° | 1 | 1 | 0.20 | 1431-281222-17/37-45-51 |
| | 30 | 1 3/16" | 1×7 | 3×7 |  | 35° | 1 | 1 | 0.22 | 1431-281222-17/37-45-51 |
| | 32 | 1 1/4" | 2×7 | 3×8 |  | 35° | 1 | 2 | 0.24 | 1431-321222-27/38-45-51 |
| | 34 | 1 11/32" | 1×8 | 3×8 |  | 35° | 1 | 1 | 0.26 | 1431-341222-18/38-45-51 |
| | 36 | 1 7/16" | 1×8 | 3×9 |  | 40° | 1 | 1 | 0.29 | 1431-361222-18/39-45-51 |
| | 38 | 1 1/2" | 2×8 | 3×9 |  | 40° | 1 | 1 | 0.32 | 1431-381222-28/39-45-51 |
| | 40 | 1 37/64" | 2×8 | 3×9 |  | 40° | 1 | 1 | 0.36 | 1431-401222-28/39-45-51 |

| | | | | | | | | | | |
|---|----|----------|-----|-----|---|-----|---|---|------|-------------------------|
| Button bit—Short skirt. | | | | | | | | | | |
|  | 32 | 1 1/4" | 2×7 | 4×7 |  | 35° | 1 | 1 | 0.24 | 1431-321222-27/47-45-51 |
| | 34 | 1 11/32" | 2×7 | 4×7 |  | 35° | 2 | 1 | 0.29 | 1431-341222-27/47-45-51 |
| | 36 | 1 7/16" | 2×7 | 4×8 |  | 35° | 2 | 1 | 0.32 | 1431-361222-27/48-45-51 |

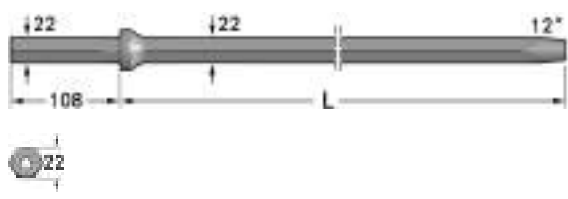
| | | | | | | | | | | |
|---|----|----------|-----|-----|---|-----|---|---|------|-------------------------|
| Button bit—Short skirt. | | | | | | | | | | |
|  | 32 | 1 1/4" | 2×7 | 5×7 |  | 40° | 2 | 1 | 0.24 | 1431-321222-27/57-45-51 |
| | 34 | 1 11/32" | 2×7 | 5×7 |  | 35° | 2 | 1 | 0.29 | 1431-341222-27/57-45-51 |
| | 35 | 1 3/8" | 2×7 | 5×8 |  | 40° | 2 | 1 | 0.32 | 1431-351222-27/58-45-51 |
| | 36 | 1 7/16" | 2×7 | 5×8 |  | 40° | 2 | 1 | 0.32 | 1431-361222-27/58-45-51 |
| | 38 | 1 1/2" | 2×7 | 5×8 |  | 35° | 2 | 1 | 0.34 | 1431-381223-27/58-45-51 |
| | 38 | 1 1/2" | 2×7 | 5×9 |  | 40° | 2 | 1 | 0.34 | 1431-381223-27/59-45-51 |
| | 41 | 1 5/8" | 2×8 | 5×9 |  | 40° | 2 | 1 | 0.39 | 1431-411223-28/59-45-51 |

| | | | | | | | | | | |
|---|----|---------|-----|-----|---|-----|---|---|------|-------------------------|
| Button bit—Long skirt. | | | | | | | | | | |
|  | 33 | 1 9/64" | 2×7 | 5×7 |  | 40° | 2 | 1 | 0.29 | 1435-331222-27/57-45-51 |
| | 35 | 1 3/8" | 2×7 | 5×8 |  | 40° | 2 | 1 | 0.32 | 1435-351222-27/58-45-51 |
| | 38 | 1 1/2" | 2×7 | 5×9 |  | 40° | 2 | 1 | 0.34 | 1435-381223-27/59-45-51 |

| | | | | | | | | | | |
|---|----|----------|---|---|---|---|---|---|------|------------------------|
| Cross bit—Long skirt. | | | | | | | | | | |
|  | 30 | 1 3/16" | - | - | - | - | 1 | 2 | 0.24 | 1221-301222-12/8-42-23 |
| | 32 | 1 1/4" | - | - | - | - | 1 | 2 | 0.24 | 1221-321222-12/8-42-23 |
| | 34 | 1 11/32" | - | - | - | - | 1 | 2 | 0.29 | 1221-341222-12/8-42-23 |
| | 35 | 1 3/8" | - | - | - | - | 1 | 2 | 0.29 | 1221-351222-12/8-42-23 |
| | 36 | 1 7/16" | - | - | - | - | 1 | 2 | 0.32 | 1221-361222-12/8-42-23 |
| | 38 | 1 1/2" | - | - | - | - | 1 | 2 | 0.34 | 1221-381222-12/8-42-23 |


Small hole drilling


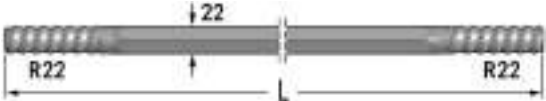
Tapered tools, 12° taper

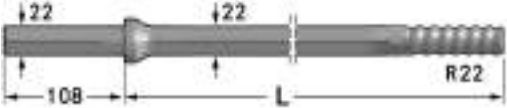
| Rods | Length | | Weight approx kg | Part No. |
|---|--------|--------|------------------|----------------------|
| | mm | ft/in | | |
| Shank 22 x 108 mm (7/8" x 4 1/4") | | | | |
|  | 610 | 2' | 2.20 | 21H22-12/108-0610-40 |
| | 800 | 3' 3" | 2.78 | 21H22-12/108-0800-40 |
| | 1220 | 4' | 4.06 | 21H22-12/108-1220-40 |
| | 1830 | 6' | 5.92 | 21H22-12/108-1830-40 |
| | 2000 | 6' 7" | 6.44 | 21H22-12/108-2000-40 |
| | 2435 | 8' | 7.76 | 21H22-12/108-2435-40 |
| | 3050 | 10' | 9.64 | 21H22-12/108-3050-40 |
| | 3660 | 12' | 11.50 | 21H22-12/108-3660-40 |
| | 4000 | 13' 1" | 12.54 | 21H22-12/108-4000-40 |
| | 4800 | 15' 9" | 14.98 | 21H22-12/108-4800-40 |
| | 5600 | 18' 4" | 17.42 | 21H22-12/108-5600-40 |
| | 6400 | 21' | 19.86 | 21H22-12/108-6400-40 |
| | 7200 | 23' 6" | 22.30 | 21H22-12/108-7200-40 |
| | 8000 | 26' 2" | 24.74 | 21H22-12/108-8000-40 |


Small hole drilling

R22 (7/8") Extension drilling tools

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|-----------|----------|---------------|---------------|------|-------|---------------|-------|------------------|-----------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| | Cross bit | | | | | | | | | |
|  | 38 | 1 1/2" | - | - | - | - | 1 | 2 | 0.34 | 1221-38R22-12/8-42-23 |
| | 40 | 1 37/64" | - | - | - | - | 1 | 2 | 0.37 | 1221-40R22-12/8-42-23 |

|  | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|--------|----------|------|------------------|-------------------|
| | mm | ft/in | mm | inch | | |
| Extension rod R22 – Hex22 – R22 | | | | | | |
|  | 800 | 2' 7" | 22 | 7/8" | 2.44 | 23H22-R22-0800-40 |
| | 1200 | 3' 11" | 22 | 7/8" | 3.66 | 23H22-R22-1200-40 |
| | 1600 | 5' 3" | 22 | 7/8" | 4.88 | 23H22-R22-1600-40 |
| | 2000 | 6' 7" | 22 | 7/8" | 6.10 | 23H22-R22-2000-40 |
| | 2435 | 8' | 22 | 7/8" | 7.44 | 23H22-R22-2435-40 |

| Shank adapter/Shank rod Hex22 – R22 | | | | | | |
|---|------|----------|----|------|------|-----------------------|
|  | 255 | 10 3/64" | 22 | 7/8" | 1.12 | 21H22-R22/108-0255-40 |
| | 1000 | 3' 3" | 22 | 7/8" | 3.39 | 21H22-R22/108-1000-40 |








| Coupling sleeve, R22 | | | | | | |
|---|-----|--------|----|--------|-----|------------------|
|  | 140 | 5 1/2" | 32 | 1 1/4" | 0.6 | 31-R22—32-140-23 |



R22 (7/8")

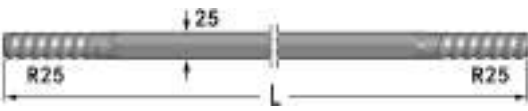
Small hole drilling

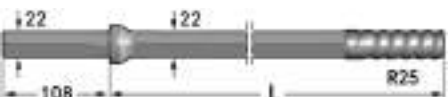
R25 (1") Extension drilling tools


R25 (1")

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 35 | 1 3/8" | 2×7 | 5×8 |  | 35° | 1 | 1 | 0.4 | 1431-35R25-27/58-45-41 |
| | 35 | 1 3/8" | 2×7 | 5×8 |  | 35° | 1 | 1 | 0.4 | 1431-35R25-27/58-45-51 |
| | 38 | 1 1/2" | 2×7 | 5×9 |  | 30° | 1 | 1 | 0.5 | 1431-38R25-27/59-45-41 |
| | 38 | 1 1/2" | 2×7 | 5×9 |  | 35° | 1 | 1 | 0.5 | 1431-38R25-27/59-45-51 |
| | 41 | 1 5/8" | 2×8 | 5×9 |  | 35° | 1 | 1 | 0.6 | 1431-41R25-28/59-45-41 |
| | 41 | 1 5/8" | 2×8 | 5×9 |  | 35° | 1 | 1 | 0.6 | 1431-43R25-28/59-45-51 |

| Button bit | | | | | | | | | | |
|---|----|--------|-----|-----|---|-----|---|---|-----|------------------------|
|  | 45 | 1 3/4" | 3×8 | 6×9 |  | 40° | 3 | - | 0.8 | 1431-45R25-38/69-45-51 |

| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|--------|----------|------|------------------|-------------------|
| | mm | ft/in | mm | inch | | |
| Extension rod R25—Hex25—R25 | | | | | | |
|  | 915 | 2' 7" | 25 | 1" | 3.66 | 23H25-R25-0915-40 |
| | 1220 | 3' 11" | 25 | 1" | 4.88 | 23H25-R25-1220-40 |
| | 1525 | 5' 3" | 25 | 1" | 6.10 | 23H25-R25-1525-40 |
| | 1830 | 6' 7" | 25 | 1" | 7.32 | 23H25-R25-1830-40 |
| | 2435 | 8' | 25 | 1" | 9.74 | 23H25-R25-2435-40 |
| | 3050 | 10' | 25 | 1" | 12.2 | 23H25-R25-3050-40 |

| Shank adapter/Shank rod Hex22—R25 | | | | | | |
|---|------|----------|----|------|------|-----------------------|
|  | 255 | 10 3/64" | 22 | 7/8" | 1.14 | 21H22-R25/108-0255-40 |
| | 800 | 2' 7" | 22 | 7/8" | 2.78 | 21H22-R25/108-0800-40 |
| | 1000 | 3' 3" | 22 | 7/8" | 3.39 | 21H22-R25/108-1000-40 |

| Coupling sleeve, R25 | | | | | | |
|---|-----|--------|----|--------|-----|------------------|
|  | 150 | 5 7/8" | 35 | 1 3/8" | 0.7 | 31-R25-35-150-23 |









Drifting and tunneling

Page





| | |
|-------------------------|----|
| R25 (1") bit thread | 14 |
| R28 (1 1/8") bit thread | 15 |
| R32 (1 1/4") bit thread | 16 |
| R35 (1 3/8") bit thread | 18 |

Drifting and tunneling

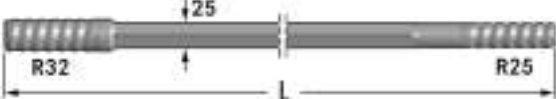
R25 (1") bit thread


| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|----------|---------------|---------------|---|-------|---------------|-------|------------------|------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 33 | 1 5/16" | 2×7 | 5×7 |  | 35° | 1 | 1 | 0.4 | 1431-33R25-27/57-45-41 |
| | 35 | 1 3/8" | 2×7 | 5×9 |  | 30° | 1 | 1 | 0.5 | 1431-35R25-27/59-45-41 |
| | 37 | 1 29/64" | 2×7 | 5×9 |  | 30° | 1 | 1 | 0.6 | 1431-37R25-27/59-45-41 |
| | 38 | 1 1/2" | 2×7 | 5×9 |  | 30° | 1 | 1 | 0.6 | 1431-38R25-27/59-45-41 |
| | 41 | 1 5/8" | 2×8 | 5×9 |  | 35° | 1 | 1 | 0.6 | 1431-41R25-28/59-45-41 |

| Cross bit | | | | | | | | | | |
|---|----|---------|---|---|---|---|---|---|-----|-----------------------|
|  | 33 | 1 5/16" | - | - | - | - | 1 | 2 | 0.4 | 1221-33R25-12/8-42-23 |
| | 35 | 1 3/8" | - | - | - | - | 1 | 2 | 0.5 | 1221-35R25-14/8-42-23 |
| | 38 | 1 1/2" | - | - | - | - | 1 | 2 | 0.6 | 1221-38R25-14/8-42-23 |

| Reaming bit, 6° taper | | | | | | | | | | |
|--|----|--------|------|------|---|-----|---|---|-----|-----------------------|
|  | 64 | 2 1/2" | 4×8 | 8×9 |  | 25° | - | - | 0.9 | 1441-64-48/89-45-41 |
| | 76 | 3" | 4×10 | 8×10 |  | 30° | - | - | 1.3 | 1441-76-410/810-45-41 |
| | 89 | 3 1/2" | 4×11 | 8×11 |  | 30° | - | - | 1.7 | 1441-89-411/811-45-41 |

| Pilot adapter, 6° taper, R25 thread | | | | | | | | | | |
|---|----|---------|---|---|---|---|---|---|-----|-----------------------|
|  | 26 | 1 1/32" | - | - | - | - | - | - | 1.3 | 1442-26R25-15/8-45-23 |






| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|-------------------------------------|----------|------|------------------|-----------------------|
| | mm | ft/in | mm | inch | | |
| Drifter rod, R32 – Hex25 – R25 | | | | | | |
|  | 2200 | 7' 2 ⁵ / ₈ " | 25 | 1" | 8.9 | 22H25-R25/R32-2200-23 |
| | 2400 | 7' 10 ¹ / ₂ " | 25 | 1" | 9.7 | 22H25-R25/R32-2400-23 |
| | 2600 | 8' 6 ³ / ₈ " | 25 | 1" | 10.5 | 22H25-R25/R32-2600-23 |
| | 2800 | 9' 2 ¹ / ₄ " | 25 | 1" | 11.3 | 22H25-R25/R32-2800-23 |
| | 3090 | 10' 1 ⁵ / ₈ " | 25 | 1" | 12.4 | 22H25-R25/R32-3090-23 |
| | 3700 | 12' 1 ⁵ / ₈ " | 25 | 1" | 14.9 | 22H25-R25/R32-3700-23 |


| Coupling sleeve | | | | | | | |
|---|-----|-----|--------|----|----------|-----|------------------|
|  | R32 | 150 | 5 7/8" | 44 | 1 23/32" | 1.0 | 31-R32-44-150-23 |





R25 (1")


Drifting and tunneling

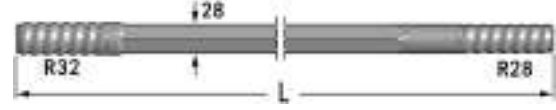
R28 (1 1/8") bit thread


| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|----------|---------------|---------------|---|-------|---------------|-------|------------------|-------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 38 | 1 1/2" | 2×7 | 5×9 |  | 30° | 1 | 1 | 0.6 | 1431-38R28-27/59-45-41 |
| | 38 | 1 1/2" | 2×7 | 5×9 |  | 35° | 1 | 1 | 0.6 | 1431-38R28-27/59-45-51 |
| | 41 | 1 5/8" | 2×8 | 5×9 |  | 35° | 1 | 1 | 0.7 | 1431-41R28-28/59-45-41 |
| | 43 | 1 11/16" | 2×8 | 5×10 |  | 30° | 1 | 1 | 0.7 | 1431-43R28-28/510-45-41 |

| | | | | | | | | | | |
|---|----|--------|---|---|---|---|---|---|-----|-----------------------|
| Cross bit | | | | | | | | | | |
|  | 38 | 1 1/2" | - | - | - | - | 1 | 2 | 0.6 | 1221-38R28-14/8-42-23 |
| | 41 | 1 5/8" | - | - | - | - | 1 | 2 | 0.7 | 1221-41R28-14/8-42-23 |

| | | | | | | | | | | |
|--|----|--------|------|------|--|-----|---|---|-----|------------------------|
| Reaming bit, 6° taper | | | | | | | | | | |
|  | 64 | 2 1/2" | 4×8 | 8×9 |  | 25° | - | - | 0.9 | 1441-646-48/89-45-41 |
| | 76 | 3" | 4×10 | 8×10 |  | 30° | - | - | 1.3 | 1441-766-410/810-45-41 |
| | 89 | 3 1/2" | 4×11 | 8×11 |  | 30° | - | - | 1.7 | 1441-896-411/811-45-41 |

| | | | | | | | | | | |
|---|----|---------|---|---|---|---|---|---|-----|-----------------------|
| Pilot adapter, 6° taper, R28 thread | | | | | | | | | | |
|  | 26 | 1 1/32" | - | - | - | - | - | - | 1.3 | 1442-26R28-15/8-45-23 |






| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|------------|----------|--------|------------------|-----------------------|
| | mm | ft/in | mm | inch | | |
| Drifter rod, R32—Hex28—R28 | | | | | | |
|  | 2400 | 7' 10 1/2" | 28 | 1 1/8" | 12.3 | 22H28-R28/R32-2400-23 |
| | 2750 | 9' 1/4" | 28 | 1 1/8" | 14.1 | 22H28-R28/R32-2750-23 |
| | 3090 | 10' 1 5/8" | 28 | 1 1/8" | 15.8 | 22H28-R28/R32-3090-23 |
| | 3700 | 12' 1 5/8" | 28 | 1 1/8" | 18.9 | 22H28-R28/R32-3700-23 |
| | 4310 | 14' 1 5/8" | 28 | 1 1/8" | 22.0 | 22H28-R28/R32-4310-23 |


| | | | | | | |
|---|-----|-----|--------|----|----------|------------------|
| Coupling sleeve | | | | | | |
|  | R32 | 150 | 5 7/8" | 44 | 1 23/32" | 31-R32-44-150-23 |

R28 (1 1/8")


Drifting and tunneling

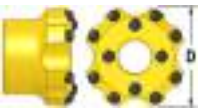




R32 (1 1/4") bit thread






| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|----------|-------------|----------|---|-------|---------------|-------|------------------|--------------------------|
| | mm | in | Front No | Gauge No | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 43 | 1 11/16" | 2×9 | 5×10 |  | 35° | 1 | 2 | 0.7 | 1431-43R32-29/510-45-41 |
| | 45 | 1 3/4" | 2×9 | 5×11 |  | 30° | 1 | 2 | 0.8 | 1431-45R32-29/511-45-41 |
| | 48 | 1 7/8" | 2×9 | 5×11 |  | 35° | 1 | 2 | 0.9 | 1431-48R32-29/511-45-41 |
| | 51 | 2" | 2×10 | 5×12 |  | 35° | 1 | 2 | 1.0 | 1431-51R32-210/512-45-41 |

| | | | | | | | | | | |
|---|----|----------|-----|------|---|-----|---|---|-----|-------------------------|
| Button bit | | | | | | | | | | |
|  | 43 | 1 11/16" | 2×9 | 6×9 |  | 40° | 2 | 2 | 0.7 | 1431-43R32-29/69-45-51 |
| | 45 | 1 3/4" | 2×9 | 6×10 |  | 35° | 2 | 2 | 0.8 | 1431-45R32-29/610-45-51 |

| | | | | | | | | | | |
|---|----|--------|-----|------|---|-----|---|---|-----|-------------------------|
| Button bit | | | | | | | | | | |
|  | 45 | 1 3/4" | 3×8 | 6×10 |  | 25° | 3 | 1 | 0.8 | 1431-45R32-38/610-45-41 |
| | 45 | 1 3/4" | 3×8 | 6×10 |  | 30° | 3 | 1 | 0.8 | 1431-45R32-38/610-45-51 |
| | 48 | 1 7/8" | 3×9 | 6×10 |  | 30° | 3 | 1 | 0.9 | 1431-48R32-39/610-45-41 |
| | 48 | 1 7/8" | 3×9 | 6×10 |  | 30° | 3 | 1 | 0.9 | 1431-48R32-39/610-45-51 |
|  | 51 | 2" | 3×9 | 6×10 |  | 35° | 3 | 1 | 1.0 | 1432-51R32-39/610-45-41 |
| | 51 | 2" | 3×9 | 6×10 |  | 35° | 3 | 1 | 1.0 | 1432-51R32-39/610-45-51 |

| | | | | | | | | | | |
|---|----|--------|---|---|---|---|---|---|-----|------------------------|
| Cross bit | | | | | | | | | | |
|  | 45 | 1 3/4" | - | - | - | - | 1 | 4 | 0.8 | 1221-45R32-16/10-42-23 |
| | 51 | 2" | - | - | - | - | 1 | 4 | 1.0 | 1221-51R32-16/10-42-23 |



| | | | | | | | | | | |
|---|----|---------|------|------|---|-----|---|---|-----|------------------------|
| Reaming bit and pilot adapter, 6° taper, R32 thread | | | | | | | | | | |
|  | 64 | 2 1/2" | 4×8 | 8×9 |  | 25° | - | - | 0.9 | 1441-646-48/89-45-41 |
| | 76 | 3" | 4×10 | 8×10 |  | 30° | - | - | 1.3 | 1441-766-410/810-45-41 |
| | 89 | 3 1/2" | 4×11 | 8×11 |  | 30° | - | - | 1.7 | 1441-896-411/811-45-41 |
|  | 26 | 1 1/32" | - | - | - | - | - | - | 1.3 | 1442-26R32-15/8-45-23 |

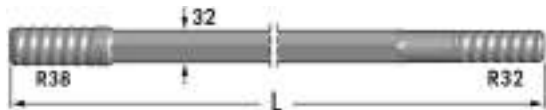
| | | | | | | | | | | |
|---|-----|----------|------|------|---|-----|---|---|-----|--------------------------|
| Reaming bit and pilot adapter, 12° taper, R32 thread | | | | | | | | | | |
|  | 89 | 3 1/2" | 4×10 | 8×12 |  | 35° | - | - | 1.7 | 1441-8912-410/812-45-41 |
| | 102 | 4" | 4×12 | 8×12 |  | 35° | - | - | 2.1 | 1441-10212-412/812-45-41 |
| | 127 | 5" | 8×12 | 8×13 |  | 35° | - | - | 3.6 | 1441-12712-812/813-45-41 |
|  | 40 | 1 37/64" | - | - | - | - | - | - | 2.9 | 1442-40R32-18/10-45-23 |


R32 (1 1/4")

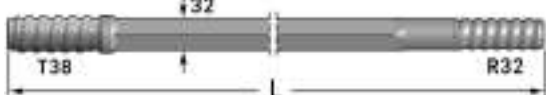
Drifting and tunneling


R32 (1 1/4") bit thread

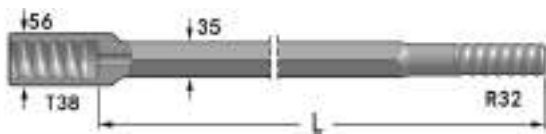
| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|----|---------------|---------------|---|-------|---------------|-------|------------------|---------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Reaming bit, R32 | | | | | | | | | | |
|  | 102 | 4" | 9×12 | 8×12 |  | 35° | 2 | 2 | 3.6 | 1441-102R32-912/812-45-41 |


| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|------------|----------|--------|------------------|-----------------------|
| | mm | ft/in | mm | inch | | |
| Drifter rod, R38—Hex32—R32 | | | | | | |
|  | 3090 | 10' 1 5/8" | 32 | 1 1/4" | 19.8 | 22H32-R32/R38-3090-23 |
| | 3700 | 12' 1 5/8" | 32 | 1 1/4" | 23.7 | 22H32-R32/R38-3700-23 |
| | 4310 | 14' 1 5/8" | 32 | 1 1/4" | 27.6 | 22H32-R32/R38-4310-23 |
| | 4920 | 16' 1 3/4" | 32 | 1 1/4" | 31.5 | 22H32-R32/R38-4920-23 |

| | | | | | | |
|---|------|------------|----|--------|------|-----------------------|
| Drifter rod, R38—Hex35—R32 | | | | | | |
|  | 3090 | 10' 1 5/8" | 35 | 1 3/8" | 24.5 | 22H35-R32/R38-3090-23 |
| | 3700 | 12' 1 5/8" | 35 | 1 3/8" | 29.3 | 22H35-R32/R38-3700-23 |
| | 4310 | 14' 1 5/8" | 35 | 1 3/8" | 34.1 | 22H35-R32/R38-4310-23 |
| | 4920 | 16' 1 3/4" | 35 | 1 3/8" | 38.9 | 22H35-R32/R38-4920-23 |

| | | | | | | |
|---|------|------------|----|--------|------|-----------------------|
| Drifter rod, T38—Hex32—R32 | | | | | | |
|  | 3700 | 12' 1 5/8" | 32 | 1 1/4" | 23.7 | 22H32-R32/T38-3700-23 |
| | 4310 | 14' 1 5/8" | 32 | 1 1/4" | 27.6 | 22H32-R32/T38-4310-23 |
| | 4920 | 16' 1 3/4" | 32 | 1 1/4" | 31.5 | 22H32-R32/T38-4920-23 |

| | | | | | | |
|---|------|------------|----|--------|------|-----------------------|
| Drifter rod, T38—Hex35—R32 | | | | | | |
|  | 3090 | 10' 1 5/8" | 35 | 1 3/8" | 24.5 | 22H35-R32/T38-3090-23 |
| | 3700 | 12' 1 5/8" | 35 | 1 3/8" | 29.3 | 22H35-R32/T38-3700-23 |
| | 4310 | 14' 1 5/8" | 35 | 1 3/8" | 34.1 | 22H35-R32/T38-4310-23 |
| | 4920 | 16' 1 3/4" | 35 | 1 3/8" | 38.9 | 22H35-R32/T38-4920-23 |
| | 5530 | 18' 1 3/4" | 35 | 1 3/8" | 43.7 | 22H35-R32/T38-5530-23 |




| | | | | | | |
|---|------|------------|----|--------|------|-----------------------|
| Drifter rod, T38—Hex35—R32 | | | | | | |
|  | 3700 | 12' 1 5/8" | 35 | 1 3/8" | 31.3 | 24H35-R32/R38-3700-23 |
| | 4310 | 14' 1 5/8" | 35 | 1 3/8" | 36.1 | 24H35-R32/R38-4310-23 |
| | 4920 | 16' 1 3/4" | 35 | 1 3/8" | 40.9 | 24H35-R32/R38-4920-23 |
| | 5530 | 18' 1 3/4" | 35 | 1 3/8" | 45.7 | 24H35-R32/T38-5530-23 |

| | | | | | | | |
|---|-----|-----|--------|----|---------|-----|------------------|
| Coupling sleeve | | | | | | | |
|  | R38 | 170 | 6 3/4" | 55 | 2 5/32" | 1.9 | 31-R38-55-170-23 |
| | T38 | 190 | 6 1/8" | 55 | 2 5/32" | 2.0 | 31-T38-55-190-23 |




R32 (1 1/4")


Drifting and tunneling



R35 (1 3/8") bit thread

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|--------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 48 | 1 7/8" | 2×9 | 5×11 |  | 35° | 1 | 2 | 0.9 | 1431-48R35-29/511-45-41 |
| | 51 | 2" | 2×10 | 5×12 |  | 35° | 1 | 2 | 1.0 | 1431-51R35-210/512-45-41 |

| | | | | | | | | | | |
|---|----|--------|-----|------|---|-----|---|---|-----|-------------------------|
| Button bit | | | | | | | | | | |
|  | 48 | 1 7/8" | 3×9 | 6×10 |  | 30° | 3 | 1 | 0.9 | 1431-48R35-39/610-45-41 |
| | 48 | 1 7/8" | 3×9 | 6×10 |  | 30° | 3 | 1 | 0.9 | 1431-48R35-39/610-45-51 |



| | | | | | | | | | | |
|---|----|----|-----|------|---|-----|---|---|-----|-------------------------|
|  | 51 | 2" | 3×9 | 6×10 |  | 35° | 3 | 1 | 1.0 | 1432-51R35-39/610-45-41 |
| | 51 | 2" | 3×9 | 6×10 |  | 35° | 3 | 1 | 1.0 | 1432-51R35-39/610-45-51 |

| | | | | | | | | | | |
|---|----|--------|---|---|---|---|---|---|-----|------------------------|
| Cross bit | | | | | | | | | | |
|  | 48 | 1 7/8" | - | - | - | - | 1 | 2 | 0.9 | 1221-48R35-16/10-42-23 |
| | 51 | 2" | - | - | - | - | 1 | 2 | 1.0 | 1221-51R35-16/10-42-23 |

| | | | | | | | | | | |
|---|----|--------|-----|------|---|-----|---|---|-----|-------------------------|
| Button bit, Retrac | | | | | | | | | | |
|  | 54 | 2 1/5" | 3×9 | 6×11 |  | 30° | 3 | 1 | 1.3 | 1632-54R35-39/611-45-51 |

| | | | | | | | | | | |
|---|-----|--------|------|------|---|-----|---|---|-----|--------------------------|
| Reaming bit and pilot adapter, 12° taper, R35 thread | | | | | | | | | | |
|  | 89 | 3 1/2" | 4×10 | 8×12 |  | 35° | - | - | 1.7 | 1441-8912-410/812-45-41 |
| | 102 | 4" | 4×12 | 8×12 |  | 35° | - | - | 2.1 | 1441-10212-412/812-45-41 |
| | 127 | 5" | 8×12 | 8×13 |  | 35° | - | - | 3.6 | 1441-12712-812/813-45-41 |

| | | | | | | | | | | |
|---|----|----------|---|---|---|---|---|---|-----|------------------------|
|  | 40 | 1 37/64" | - | - | - | - | - | - | 2.9 | 1442-40R35-18/10-45-23 |
|---|----|----------|---|---|---|---|---|---|-----|------------------------|


| | | | | | | | | | | |
|---|-----|----|------|------|---|-----|---|---|-----|---------------------------|
| Reaming bit, R35 | | | | | | | | | | |
|  | 102 | 4" | 9×12 | 8×12 |  | 35° | 2 | 2 | 3.6 | 1441-102R35-912/812-45-41 |

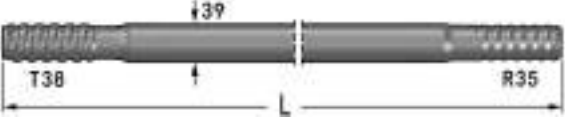
R35 (1 3/8")

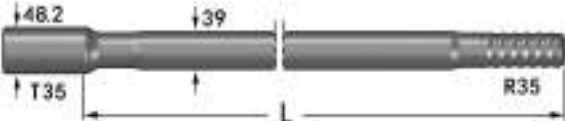
Drifting and tunneling


R35 (1 3/8") bit thread


| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|------|--------|-------|----------|------|------------------|----------|
| | mm | ft/in | mm | inch | | |

| Drifter rod, T38—Hex35—R35 | | | | | | |
|---|------|------------|----|--------|------|-----------------------|
|  | 4310 | 14' 1 5/8" | 35 | 1 3/8" | 34.1 | 22H35-R35/T38-4310-23 |
| | 4920 | 16' 1 3/4" | 35 | 1 3/8" | 38.9 | 22H35-R35/T38-4920-23 |
| | 5530 | 18' 1 3/4" | 35 | 1 3/8" | 43.7 | 22H35-R35/T38-5530-23 |
| | 6100 | 20' 1/8" | 35 | 1 3/8" | 48.2 | 22H35-R35/T38-6100-23 |

| Drifter rod, T38—Round39—R35 | | | | | | |
|---|------|------------|----|--------|------|-----------------------|
|  | 4310 | 14' 1 5/8" | 39 | 1 1/2" | 35.0 | 22R39-R35/T38-4310-23 |
| | 4920 | 16' 1 3/4" | 39 | 1 1/2" | 39.9 | 22R39-R35/T38-4920-23 |
| | 5530 | 18' 1 3/4" | 39 | 1 1/2" | 44.8 | 22R39-R35/T38-5530-23 |
| | 6100 | 20' 1/8" | 39 | 1 1/2" | 49.5 | 22R39-R35/T38-6100-23 |

| Drifter rod, T35—Round39—R35 | | | | | | |
|--|------|------------|----|--------|------|-----------------------|
|  | 4310 | 14' 1 5/8" | 39 | 1 1/2" | 37.0 | 22R39-R35/T38-4310-23 |
| | 4920 | 16' 1 3/4" | 39 | 1 1/2" | 41.9 | 22R39-R35/T38-4920-23 |
| | 5530 | 18' 1 3/4" | 39 | 1 1/2" | 46.8 | 22R39-R35/T38-5530-23 |
| | 6100 | 20' 1/8" | 39 | 1 1/2" | 51.5 | 22R39-R35/T38-6100-23 |

| Drifter Extension rod, T35—Round39—T35 | | | | | | |
|---|------|-----|----|--------|------|----------------------|
|  | 3050 | 10' | 39 | 1 1/2" | 26.7 | 24R39-T35/48-3050-23 |
| | 3660 | 12' | 39 | 1 1/2" | 31.7 | 24R39-T35/48-3660-23 |
| | 4270 | 14' | 39 | 1 1/2" | 36.6 | 24R39-T35/48-4270-23 |
| | 4880 | 16' | 39 | 1 1/2" | 41.6 | 24R39-T35/48-4880-23 |

| Coupling sleeve | | | | | | | |
|---|-----|-----|--------|----|---------|-----|------------------|
|  | T38 | 190 | 6 1/8" | 55 | 2 5/32" | 2.0 | 31-T38-55-190-23 |

R35 (1 3/8")

Surface drill rigs - Pantera DP1500i for hole sizes of 102 -152 mm (4" - 6")



Premium tungsten carbide T6/YK05



GT60-127



Top hammer drilling tools








Bench and long-hole drilling

Page


| | |
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| R32 (1 1/4") | 22 |
| T35(1 3/8") | 24 |
| T38 (1 1/2") | 25 |
| T45 (1 3/4") | 28 |
| T51 (2") | 31 |
| T60 (2 3/8") | 34 |
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| ST68 (2 3/4") tube drilling tools | 36 |



Bench and long-hole drilling




R32 (1 1/4")

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|--------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 51 | 2" | 3×9 | 6×10 |  | 35° | 3 | 1 | 1.0 | 1432-51R32-39/610-45-41 |
| | 51 | 2" | 3×9 | 6×10 |  | 35° | 3 | 1 | 1.0 | 1432-51R32-39/610-45-51 |
| | 57 | 2 1/4" | 3×10 | 6×11 |  | 35° | 3 | 1 | 1.2 | 1432-57R32-310/611-45-41 |
| | 64 | 2 1/2" | 3×11 | 6×12 |  | 30° | 3 | - | 1.6 | 1432-64R32-311/612-45-41 |

| Button bit, Retrac | | | | | | | | | | |
|---|----|--------|------|------|---|-----|---|---|-----|--------------------------|
|  | 51 | 2" | 3×9 | 6×10 |  | 35° | 3 | - | 1.2 | 1632-51R32-39/610-45-41 |
| | 51 | 2" | 3×9 | 6×10 |  | 35° | 3 | - | 1.2 | 1632-51R32-39/610-45-51 |
| | 57 | 2 1/4" | 3×10 | 6×11 |  | 35° | 3 | - | 1.7 | 1632-57R32-310/611-45-41 |
| | 64 | 2 1/2" | 3×11 | 6×12 |  | 30° | 3 | - | 2.1 | 1632-64R32-311/612-45-41 |

| Cross bit | | | | | | | | | | |
|--|----|----|---|---|---|---|---|---|-----|------------------------|
|  | 51 | 2" | - | - | - | - | 1 | 2 | 1.0 | 1221-51R32-16/10-42-23 |

| Guide bit | | | | | | | | | | |
|---|----|----|-----|------|---|-----|---|---|-----|-------------------------|
|  | 51 | 2" | 3×8 | 6×10 |  | 40° | 3 | - | 1.2 | 1632-51R32-38/610-45-51 |

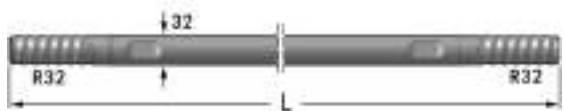
| Reaming bit, R32 | | | | | | | | | | |
|---|-----|----|------|------|---|-----|---|---|-----|---------------------------|
|  | 102 | 4" | 9×12 | 8×12 |  | 35° | 2 | 2 | 3.6 | 1441-102R32-912/812-45-41 |
| | 127 | 5" | 9×13 | 8×13 |  | 35° | 2 | 2 | 6.9 | 1441-127R32-913/813-45-41 |

R32 (1 1/4")


Bench and long-hole drilling

R32 (1 1/4")

| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|------|--------|-------|----------|------|------------------|----------|
| | mm | ft/in | mm | inch | | |

| Extension rod, R32 – Round32 – R32 | | | | | | |
|---|------|-----|----|--------|------|-------------------|
|  | 915 | 3' | 32 | 1 1/4" | 5.4 | 23R32-R32-0915-23 |
| | 1220 | 4' | 32 | 1 1/4" | 7.2 | 23R32-R32-1220-23 |
| | 1525 | 5' | 32 | 1 1/4" | 9.0 | 23R32-R32-1525-23 |
| | 1830 | 6' | 32 | 1 1/4" | 10.8 | 23R32-R32-1830-23 |
| | 2435 | 8' | 32 | 1 1/4" | 14.3 | 23R32-R32-2435-23 |
| | 3050 | 10' | 32 | 1 1/4" | 17.9 | 23R32-R32-3050-23 |
| | 3660 | 12' | 32 | 1 1/4" | 21.5 | 23R32-R32-3660-23 |

| MF – rod, R32 – Round32 – R32 | | | | | | |
|-------------------------------|--|--|--|--|--|--|
|-------------------------------|--|--|--|--|--|--|

| | | | | | | |
|---|------|-----|----|--------|------|----------------------|
|  | 915 | 3' | 32 | 1 1/4" | 6.2 | 24R32-R32/46-0915-23 |
| | 1220 | 4' | 32 | 1 1/4" | 8.0 | 24R32-R32/46-1220-23 |
| | 1525 | 5' | 32 | 1 1/4" | 9.8 | 24R32-R32/46-1525-23 |
| | 1830 | 6' | 32 | 1 1/4" | 11.6 | 24R32-R32/46-1830-23 |
| | 2435 | 8' | 32 | 1 1/4" | 15.1 | 24R32-R32/46-2435-23 |
| | 3050 | 10' | 32 | 1 1/4" | 18.7 | 24R32-R32/46-3050-23 |
| | 3660 | 12' | 32 | 1 1/4" | 22.3 | 24R32-R32/46-3660-23 |

| Guide tube | | | | | | |
|------------|--|--|--|--|--|--|
|------------|--|--|--|--|--|--|

| | | | | | | |
|---|------|-----|----|--------|------|----------------------|
|  | 1830 | 6' | 46 | 1 3/4" | 16.0 | 24G46-R32/46-1830-23 |
| | 3050 | 10' | 46 | 1 3/4" | 26.0 | 24G46-R32/46-3050-23 |




| Coupling sleeve, R32 | | | | | | |
|----------------------|--|--|--|--|--|--|
|----------------------|--|--|--|--|--|--|




| | | | | | | |
|---|-----|--------|----|----------|-----|------------------|
|  | 150 | 5 7/8" | 44 | 1 23/32" | 1.0 | 31-R32-44-150-23 |
|---|-----|--------|----|----------|-----|------------------|

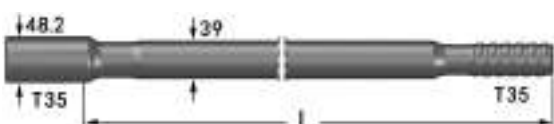
R32 (1 1/4")

Bench and long-hole drilling

T35 (1 3/8") bit thread

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|--------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 54 | 2 1/6" | 3×9 | 6×10 |  | 35° | 3 | 1 | 1.1 | 1432-54T35-39/610-45-41 |
| | 57 | 2 1/4" | 3×10 | 6×11 |  | 35° | 3 | 1 | 1.2 | 1432-57T35-310/611-45-41 |

































| Button bit, Retrac | | | | | | | | | | |
|---|----|--------|------|------|---|-----|---|---|-----|--------------------------|
|  | 54 | 2 1/5" | 3×9 | 6×10 |  | 35° | 3 | - | 1.3 | 1632-54T35-39/610-45-51 |
| | 57 | 2 1/4" | 3×10 | 6×11 |  | 35° | 3 | - | 1.5 | 1632-57T35-310/611-45-51 |

| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|-------|----------|--------|------------------|----------------------|
| | mm | ft/in | mm | inch | | |
| MF—rod, T35—Round39-T35 | | | | | | |
|  | 1830 | 6' | 39 | 1 1/2" | 16.5 | 24R39-T35/48-1830-23 |
| | 3050 | 10' | 39 | 1 1/2" | 26.4 | 24R39-T35/48-3050-23 |
| | 3660 | 12' | 39 | 1 1/2" | 31.3 | 24R39-T35/48-3660-23 |
| | 4270 | 14' | 39 | 1 1/2" | 36.2 | 24R39-T35/48-4270-23 |

T35 (1 3/8")

Bench and long-hole drilling

T38 (1 1/2")

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|-------------|----------|---|-------|---------------|-------|------------------|--------------------------|
| | mm | in | Front No | Gauge No | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 64 | 2 1/2" | 3 × 11 | 6 × 12 |  | 30° | 3 | - | 1.6 | 1432-64T38-311/612-45-41 |
| | 64 | 2 1/2" | 3 × 11 | 6 × 12 |  | 35° | 3 | - | 1.6 | 1432-64T38-311/612-45-51 |
|  | 64 | 2 1/2" | 5 × 9 | 8 × 10 |  | 35° | 4 | - | 1.7 | 1432-64T38-59/810-45-51 |
| | 70 | 2 3/4" | 5 × 10 | 8 × 11 |  | 30° | 4 | - | 1.9 | 1432-70T38-510/811-45-41 |
| | 76 | 3" | 5 × 11 | 8 × 12 |  | 35° | 4 | - | 2.3 | 1432-76T38-511/812-45-41 |
| | 76 | 3" | 5 × 11 | 8 × 11 |  | 40° | 4 | - | 2.3 | 1432-76T38-511/811-45-51 |
| | 89 | 3 1/2" | 5 × 12 | 8 × 12 |  | 35° | 4 | - | 3.2 | 1432-89T38-512/812-45-41 |
| Button bit, Flat face | | | | | | | | | | |
|  | 64 | 2 1/2" | 4 × 10 | 8 × 10 |  | 35° | 2 | - | 1.6 | 1431-64T38-410/810-45-41 |
| | 70 | 2 3/4" | 4 × 11 | 8 × 11 |  | 40° | 2 | - | 1.9 | 1431-70T38-411/811-45-41 |
| | 76 | 3" | 4 × 11 | 8 × 11 |  | 40° | 2 | - | 2.3 | 1431-76T38-411/811-45-41 |
| | 89 | 3 1/2" | 4 × 12 | 8 × 12 |  | 40° | 2 | - | 2.3 | 1431-89T38-412/812-45-41 |
|  | 76 | 3" | 6 × 10 | 8 × 11 |  | 35° | 2 | - | 2.3 | 1431-76T38-610/811-45-41 |
| | 76 | 3" | 6 × 10 | 8 × 11 |  | 40° | 2 | - | 2.3 | 1431-76T38-610/811-45-51 |
| | 89 | 3 1/2" | 6 × 11 | 8 × 12 |  | 35° | 2 | - | 3.2 | 1431-89T38-611/812-45-41 |
| Button bit, Drop center | | | | | | | | | | |
|  | 64 | 2 1/2" | 4 × 10 | 6 × 11 |  | 35° | 3 | - | 1.6 | 1433-64T38-410/611-45-41 |
| | 64 | 2 1/2" | 4 × 10 | 6 × 11 |  | 35° | 3 | - | 1.6 | 1433-64T38-410/611-45-51 |
| | 70 | 2 3/4" | 4 × 10 | 6 × 11 |  | 40° | 3 | - | 1.9 | 1433-70T38-410/611-45-41 |
| | 76 | 3" | 4 × 11 | 6 × 13 |  | 35° | 3 | - | 2.3 | 1433-76T38-411/613-45-41 |
| | 76 | 3" | 4 × 11 | 6 × 13 |  | 35° | 3 | - | 2.3 | 1433-76T38-411/613-45-51 |
| | 89 | 3 1/2" | 5 × 11 | 6 × 13 |  | 35° | 3 | - | 3.2 | 1433-89T38-511/613-45-41 |
|  | 76 | 3" | 6 × 10 | 8 × 11 |  | 35° | 4 | - | 2.3 | 1433-76T38-610/811-45-41 |
| | 76 | 3" | 6 × 10 | 8 × 11 |  | 35° | 4 | - | 2.3 | 1433-76T38-610/811-45-51 |
| | 89 | 3 1/2" | 6 × 11 | 8 × 12 |  | 35° | 4 | - | 3.2 | 1433-89T38-611/812-45-41 |
| Button bit, Retrac | | | | | | | | | | |
|  | 64 | 2 1/2" | 3 × 11 | 6 × 12 |  | 30° | 3 | - | 2.2 | 1632-64T38-311/612-45-41 |
| | 64 | 2 1/2" | 3 × 11 | 6 × 12 |  | 35° | 3 | - | 2.2 | 1632-64T38-311/612-45-51 |
|  | 64 | 2 1/2" | 5 × 9 | 8 × 10 |  | 35° | 4 | - | 2.2 | 1632-64T38-59/810-45-51 |
| | 70 | 2 3/4" | 5 × 10 | 8 × 11 |  | 30° | 4 | - | 2.4 | 1632-70T38-510/811-45-41 |
| | 76 | 3" | 5 × 11 | 8 × 12 |  | 35° | 4 | - | 2.9 | 1632-76T38-511/812-45-41 |
| | 76 | 3" | 5 × 11 | 8 × 11 |  | 40° | 4 | - | 2.9 | 1632-76T38-511/811-45-51 |
| | 89 | 3 1/2" | 5 × 12 | 8 × 12 |  | 35° | 4 | - | 3.2 | 1632-89T38-512/812-45-41 |

T38 (1 1/2")

Bench and long-hole drilling

T38 (1 1/2")

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|---------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit, Retrac, Flat face | | | | | | | | | | |
|  | 64 | 2 1/2" | 4×10 | 8×10 |  | 35° | 2 | - | 2.2 | 1531-64T38-410/810-45-41 |
| | 64 | 2 1/2" | 4×10 | 8×10 |  | 35° | 2 | - | 2.2 | 1531-64T38-410/810-45-51 |
| | 70 | 2 3/4" | 4×11 | 8×11 |  | 40° | 2 | - | 2.4 | 1531-70T38-411/811-45-41 |
|  | 76 | 3" | 6×10 | 8×11 |  | 35° | 2 | - | 3.2 | 1531-76T38-610/811-45-41 |
| | 76 | 3" | 6×10 | 8×11 |  | 40° | 2 | - | 3.2 | 1531-76T38-610/811-45-51 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 2 | - | 4.7 | 1531-89T38-611/812-45-41 |
| Button bit, Retrac, Drop center | | | | | | | | | | |
|  | 64 | 2 1/2" | 4×10 | 6×11 |  | 35° | 3 | 1 | 2.2 | 1533-64T38-410/611-45-41 |
| | 64 | 2 1/2" | 4×10 | 6×11 |  | 35° | 3 | 1 | 2.2 | 1533-64T38-410/611-45-51 |
| | 70 | 2 3/4" | 4×10 | 6×11 |  | 40° | 3 | 1 | 2.4 | 1533-70T38-410/611-45-41 |
|  | 76 | 3" | 4×11 | 6×13 |  | 35° | 3 | 1 | 3.2 | 1533-76T38-411/613-45-41 |
| | 76 | 3" | 4×11 | 6×13 |  | 35° | 3 | 1 | 3.2 | 1533-76T38-411/613-45-51 |
|  | 76 | 3" | 6×10 | 8×11 |  | 35° | 4 | 1 | 3.2 | 1533-76T38-610/811-45-41 |
| | 76 | 3" | 6×10 | 8×11 |  | 35° | 4 | 1 | 3.2 | 1533-76T38-610/811-45-51 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 4 | 1 | 4.7 | 1533-89T38-611/812-45-41 |
| X bit | | | | | | | | | | |
|  | 64 | 2 1/2" | - | - | - | - | 1 | 2 | 2.0 | 1321-64T38-25/13-42-23 |
| | 76 | 3" | - | - | - | - | 1 | 2 | 2.6 | 1321-64T38-25/13-42-23 |
| Guide bit | | | | | | | | | | |
|  | 64 | 2 1/2" | 4×9 | 6×11 |  | 35° | 3 | 1 | 1.9 | 1632-64T38-49/611-45-51 |
| | 76 | 3" | 6×10 | 8×11 |  | 35° | 4 | - | 2.4 | 1632-76T38-610/811-45-51 |
| Reaming bit, T38 | | | | | | | | | | |
|  | 102 | 4" | 9×12 | 8×12 |  | 35° | 2 | 2 | 3.6 | 1441-102T38-912/812-45-41 |
| | 127 | 5" | 9×13 | 8×13 |  | 35° | 2 | 2 | 6.9 | 1441-127T38-913/813-45-41 |

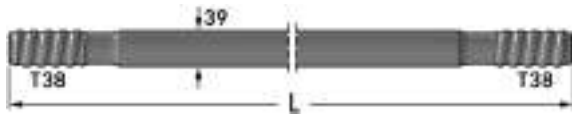
T38 (1 1/2")

Bench and long-hole drilling

T38 (1 1/2")

| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|------|--------|-------|----------|------|------------------|----------|
| | mm | ft/in | mm | inch | | |

Extension rod, T38—Round39—T38



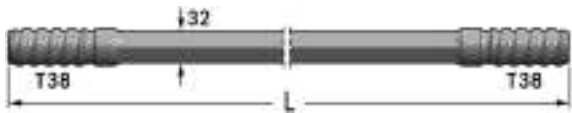
| | | | | | |
|------|-----|----|--------|------|-------------------|
| 1220 | 4' | 39 | 1 1/2" | 9.9 | 23R39-T38-1220-23 |
| 1525 | 5' | 39 | 1 1/2" | 12.4 | 23R39-T38-1525-23 |
| 1830 | 6' | 39 | 1 1/2" | 14.9 | 23R39-T38-1830-23 |
| 3050 | 10' | 39 | 1 1/2" | 24.7 | 23R39-T38-3050-23 |
| 3660 | 12' | 39 | 1 1/2" | 29.7 | 23R39-T38-3660-23 |

MF—rod, T38—Round39—T38



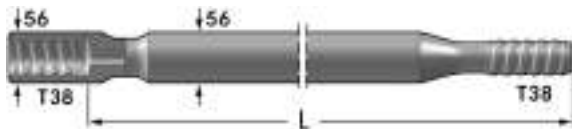
| | | | | | |
|------|-----|----|--------|------|----------------------|
| 1220 | 4' | 39 | 1 1/2" | 11.5 | 24R39-T38/57-1220-23 |
| 1525 | 5' | 39 | 1 1/2" | 14.0 | 24R39-T38/57-1525-23 |
| 1830 | 6' | 39 | 1 1/2" | 16.5 | 24R39-T38/57-1830-23 |
| 3050 | 10' | 39 | 1 1/2" | 26.4 | 24R39-T38/57-3050-23 |
| 3660 | 12' | 39 | 1 1/2" | 31.3 | 24R39-T38/57-3660-23 |
| 4270 | 14' | 39 | 1 1/2" | 36.2 | 24R39-T38/57-4270-23 |

MF—rod, T38—Hex32—T38



| | | | | | |
|------|-----|----|--------|------|-------------------|
| 3050 | 10' | 32 | 1 1/4" | 19.6 | 23H32-T38-3050-23 |
|------|-----|----|--------|------|-------------------|

Guide tube



| | | | | | |
|------|-----|----|----------|------|----------------------|
| 1830 | 6' | 56 | 1 13/64" | 18.4 | 24G56-T38/56-1830-23 |
| 3660 | 12' | 56 | 1 13/64" | 33.8 | 24G56-T38/56-3660-23 |

Coupling sleeve










































| | | | | | | |
|-----|-----|--------|----|---------|-----|------------------|
| T38 | 190 | 6 1/8" | 55 | 2 5/32" | 2.0 | 31-T38-55-190-23 |
|-----|-----|--------|----|---------|-----|------------------|

T38 (1 1/2")

Bench and long-hole drilling







































T45 (1 3/4")

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|-------------|----------|---|-------|---------------|-------|------------------|---------------------------|
| | mm | in | Front No | Gauge No | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 70 | 2 3/4" | 5×10 | 8×11 |  | 30° | 4 | - | 2.3 | 1432-70T45-510/811-45-41 |
| | 76 | 3" | 5×11 | 8×12 |  | 35° | 4 | - | 2.5 | 1432-76T45-511/812-45-41 |
| | 76 | 3" | 5×11 | 8×12 |  | 35° | 4 | - | 2.5 | 1432-76T45-511/812-45-51 |
| | 76 | 3" | 5×11 | 8×11 |  | 35° | 4 | - | 2.5 | 1432-76T45-511/811-45-41 |
| | 89 | 3 1/2" | 5×13 | 8×13 |  | 35° | 4 | - | 3.2 | 1432-89T45-513/813-45-41 |
| | 89 | 3 1/2" | 5×13 | 8×13 |  | 40° | 4 | - | 3.2 | 1432-89T45-513/813-45-51 |
| | 89 | 3 1/2" | 5×12 | 8×12 |  | 35° | 4 | - | 3.2 | 1432-89T45-512/812-45-41 |
|  | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | - | 4.4 | 1432-102T45-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | - | 4.4 | 1432-102T45-612/813-45-51 |
| | 102 | 4" | 6×13 | 8×13 |  | 35° | 4 | - | 4.4 | 1432-102T45-613/813-45-41 |
| Button bit, Flat face | | | | | | | | | | |
|  | 76 | 3" | 4×11 | 8×11 |  | 35° | 2 | - | 2.7 | 1431-76T45-411/811-45-41 |
| | 76 | 3" | 4×11 | 8×11 |  | 40° | 2 | - | 2.7 | 1431-76T45-411/811-45-51 |
| | 89 | 3 1/2" | 4×13 | 8×13 |  | 40° | 2 | - | 3.5 | 1431-89T45-413/813-45-41 |
|  | 76 | 3" | 6×10 | 8×11 |  | 35° | 2 | - | 2.7 | 1431-76T45-610/811-45-41 |
| | 76 | 3" | 6×10 | 8×11 |  | 40° | 2 | - | 2.7 | 1431-76T45-610/811-45-51 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 2 | - | 3.5 | 1431-89T45-611/812-45-41 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 40° | 2 | - | 3.5 | 1431-89T45-611/812-45-51 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 2 | - | 4.5 | 1431-102T45-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 2 | - | 4.5 | 1431-102T45-612/813-45-51 |
|  | 89 | 3 1/2" | 7×11 | 9×11 |  | 35° | 3 | - | 3.5 | 1431-89T45-711/911-45-41 |
| | 89 | 3 1/2" | 7×11 | 9×12 |  | 35° | 3 | - | 3.5 | 1431-89T45-711/912-45-41 |
| | 102 | 4" | 7×12 | 9×12 |  | 35° | 3 | - | 4.5 | 1431-102T45-712/912-45-41 |
| | 102 | 4" | 7×12 | 9×13 |  | 35° | 3 | - | 4.5 | 1431-102T45-712/913-45-41 |
| Button bit, Drop center | | | | | | | | | | |
|  | 76 | 3" | 4×11 | 6×13 |  | 35° | 3 | 1 | 2.5 | 1433-76T45-411/613-45-41 |
| | 76 | 3" | 4×11 | 6×13 |  | 35° | 3 | 1 | 2.5 | 1433-76T45-411/613-45-51 |
| | 89 | 3 1/2" | 5×11 | 6×13 |  | 35° | 3 | 1 | 3.2 | 1433-89T45-511/613-45-41 |
| | 89 | 3 1/2" | 5×11 | 6×13 |  | 35° | 3 | 1 | 3.2 | 1433-89T45-511/613-45-51 |
|  | 76 | 3" | 6×10 | 8×11 |  | 35° | 4 | 1 | 2.7 | 1433-76T45-610/811-45-41 |
| | 76 | 3" | 6×10 | 8×11 |  | 35° | 4 | 1 | 2.7 | 1433-76T45-610/811-45-51 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 4 | 1 | 3.5 | 1433-89T45-611/812-45-41 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 4 | 1 | 3.5 | 1433-89T45-611/812-45-51 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | 1 | 4.5 | 1433-102T45-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | 1 | 4.5 | 1433-102T45-612/813-45-51 |
| | 115 | 4 1/2" | 6×13 | 8×13 |  | 35° | 4 | 1 | 6.2 | 1433-115T45-613/813-45-41 |

T45 (1 3/4")

Bench and long-hole drilling

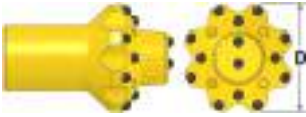


T45 (1 3/4")


| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---|---|-------|---------------|-------|--------------------------|---------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit, Retrac | | | | | | | | | | |
|  | 70 | 2 3/4" | 5×10 | 8×11 |  | 30° | 4 | - | 2.7 | 1632-70T45-510/811-45-41 |
| | 76 | 3" | 5×11 | 8×12 |  | 35° | 4 | - | 3.2 | 1632-76T45-511/812-45-41 |
| | 76 | 3" | 5×11 | 8×12 |  | 35° | 4 | - | 3.2 | 1632-76T45-511/812-45-51 |
| | 76 | 3" | 5×11 | 8×11 |  | 35° | 4 | - | 3.2 | 1632-76T45-511/811-45-41 |
| | 89 | 3 1/2" | 5×13 | 8×13 |  | 35° | 4 | - | 4.8 | 1632-89T45-513/813-45-41 |
| | 89 | 3 1/2" | 5×13 | 8×13 |  | 40° | 4 | - | 4.8 | 1632-89T45-513/813-45-51 |
| 89 | 3 1/2" | 5×12 | 8×12 |  | 35° | 4 | - | 4.8 | 1632-89T45-512/812-45-41 | |
|  | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | - | 6.8 | 1632-102T45-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | - | 6.8 | 1632-102T45-612/813-45-51 |
| | 102 | 4" | 6×13 | 8×13 |  | 35° | 4 | - | 6.8 | 1632-102T45-613/813-45-41 |
| Button bit, Retrac, Flat face | | | | | | | | | | |
|  | 76 | 3" | 4×11 | 8×11 |  | 35° | 2 | - | 3.3 | 1531-76T45-411/811-45-41 |
| | 76 | 3" | 4×11 | 8×11 |  | 40° | 2 | - | 3.3 | 1531-76T45-411/811-45-51 |
| | 89 | 3 1/2" | 4×13 | 8×13 |  | 40° | 2 | - | 5.0 | 1531-89T45-413/813-45-41 |
|  | 76 | 3" | 6×10 | 8×11 |  | 35° | 2 | - | 3.3 | 1531-76T45-610/811-45-41 |
| | 76 | 3" | 6×10 | 8×11 |  | 40° | 2 | - | 3.3 | 1531-76T45-610/811-45-51 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 2 | - | 5.0 | 1531-89T45-611/812-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 2 | - | 7.0 | 1531-102T45-612/813-45-41 |
|  | 89 | 3 1/2" | 7×11 | 9×11 |  | 35° | 3 | - | 5.0 | 1531-89T45-711/911-45-41 |
| | 89 | 3 1/2" | 7×11 | 9×12 |  | 35° | 3 | - | 5.0 | 1531-89T45-711/912-45-41 |
| | 102 | 4" | 7×12 | 9×12 |  | 35° | 3 | - | 7.0 | 1531-102T45-712/912-45-41 |
| | 102 | 4" | 7×12 | 9×13 |  | 35° | 3 | - | 7.0 | 1531-102T45-712/913-45-41 |
| Button bit, Retrac, Drop center | | | | | | | | | | |
|  | 76 | 3" | 4×11 | 6×13 |  | 35° | 3 | 1 | 3.3 | 1533-76T45-411/613-45-41 |
| | 76 | 3" | 4×11 | 6×13 |  | 35° | 3 | 1 | 3.3 | 1533-76T45-411/613-45-51 |
| | 89 | 3 1/2" | 5×11 | 6×13 |  | 35° | 3 | 1 | 5.0 | 1533-89T45-511/613-45-41 |
|  | 76 | 3" | 6×10 | 8×11 |  | 35° | 4 | 1 | 3.3 | 1533-76T45-610/811-45-41 |
| | 76 | 3" | 6×10 | 8×11 |  | 35° | 4 | 1 | 3.3 | 1533-76T45-610/811-45-51 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 4 | 1 | 5.0 | 1533-89T45-611/812-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | 1 | 7.0 | 1533-102T45-612/813-45-41 |
| Guide bit | | | | | | | | | | |
|  | 76 | 3" | 6×10 | 8×11 |  | 35° | 4 | - | 2.5 | 1632-76T45-610/811-45-51 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 4 | - | 3.2 | 1632-89T45-611/812-45-51 |


T45 (1 3/4")


Bench and long-hole drilling


T45 (1 3/4")

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|----|---------------|---------------|---|-------|---------------|-------|------------------|---------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Reaming bit, T45 | | | | | | | | | | |
|  | 127 | 5" | 6×14 | 8×14 |  | 35° | 4 | - | 6.9 | 1441-127T45-614/814-45-41 |
| | 152 | 6" | 6×14 | 8×14 |  | 35° | 4 | - | 9.2 | 1441-152T45-614/814-45-41 |

| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|-------|----------|--------|------------------|-------------------|
| | mm | ft/in | mm | inch | | |
| Extension rod, T45—Round46—T45 | | | | | | |
|  | 3050 | 10' | 45 | 1 3/4" | 34.2 | 23R46-T45-3050-23 |
| | 3660 | 12' | 45 | 1 3/4" | 41.0 | 23R46-T45-3660-23 |
| | 4270 | 14' | 45 | 1 3/4" | 47.8 | 23R46-T45-4270-23 |

| MF—rod, T45—Round46—T45 | | | | | | |
|---|------|-----|----|--------|------|----------------------|
|  | 1525 | 5' | 45 | 1 3/4" | 18.7 | 24R46-T45/65-1525-23 |
| | 1830 | 6' | 45 | 1 3/4" | 22.1 | 24R46-T45/65-1830-23 |
| | 3050 | 10' | 45 | 1 3/4" | 35.8 | 24R46-T45/65-3050-23 |
| | 3660 | 12' | 45 | 1 3/4" | 42.6 | 24R46-T45/65-3660-23 |
| | 4270 | 14' | 45 | 1 3/4" | 49.4 | 24R46-T45/65-4270-23 |
| | 6100 | 20' | 45 | 1 3/4" | 70.0 | 24R46-T45/65-6100-23 |










































| Guide tube | | | | | | |
|---|------|-----|----|--------|------|----------------------|
|  | 1830 | 6' | 64 | 2 1/2" | 26.0 | 24G64-T45/64-1830-23 |
| | 3660 | 12' | 64 | 2 1/2" | 49.9 | 24G64-T45/64-3660-23 |
| | 3660 | 12' | 76 | 3" | 79.9 | 24G76-T45/76-3660-23 |

| Coupling sleeve | | | | | | | |
|---|-----|-----|--------|----|----------|-----|------------------|
|  | T45 | 210 | 8 1/8" | 63 | 2 15/32" | 2.7 | 31-T45-63-210-23 |
| | T45 | 210 | 8 1/8" | 66 | 2 5/8" | 3.2 | 31-T45-66-210-23 |

T45 (1 3/4")

Bench and long-hole drilling











































T51 (2")

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|---------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 89 | 3 1/2" | 5×13 | 8×13 |  | 35° | 4 | - | 3.5 | 1432-89T51-513/813-45-41 |
| | 89 | 3 1/2" | 5×13 | 8×13 |  | 40° | 4 | - | 3.5 | 1432-89T51-513/813-45-51 |
| | 89 | 3 1/2" | 5×12 | 8×12 |  | 35° | 4 | - | 3.5 | 1432-89T51-512/812-45-41 |
|  | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | - | 4.4 | 1432-102T51-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 40° | 4 | - | 4.4 | 1432-102T51-612/813-45-51 |
| | 115 | 4 1/2" | 6×13 | 8×13 |  | 35° | 4 | - | 6.0 | 1432-115T51-613/813-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 4 | - | 6.0 | 1432-115T51-613/814-45-41 |
| Button bit, Flat face | | | | | | | | | | |
|  | 89 | 3 1/2" | 4×13 | 8×13 |  | 40° | 2 | - | 3.6 | 1431-89T51-413/813-45-41 |
| | 89 | 3 1/2" | 4×13 | 8×13 |  | 40° | 2 | - | 3.6 | 1431-89T51-413/813-45-41 |
| | 102 | 4" | 4×14 | 8×14 |  | 40° | 2 | - | 5.0 | 1431-102T51-414/814-45-41 |
|  | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 2 | - | 3.6 | 1431-89T51-611/812-45-41 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 40° | 2 | - | 3.6 | 1431-89T51-611/812-45-51 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 2 | - | 5.0 | 1431-102T51-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 40° | 2 | - | 5.0 | 1431-102T51-612/813-45-51 |
| | 115 | 4 1/2" | 6×13 | 8×13 |  | 35° | 2 | - | 6.0 | 1431-115T51-613/813-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 2 | - | 6.0 | 1431-115T51-613/814-45-41 |
|  | 89 | 3 1/2" | 7×11 | 9×11 |  | 35° | 3 | - | 3.6 | 1431-89T51-711/911-45-41 |
| | 89 | 3 1/2" | 7×11 | 9×12 |  | 35° | 3 | - | 3.6 | 1431-89T51-711/912-45-41 |
| | 102 | 4" | 7×12 | 9×12 |  | 35° | 3 | - | 5.0 | 1431-102T51-712/912-45-41 |
| | 102 | 4" | 7×12 | 9×13 |  | 35° | 3 | - | 5.0 | 1431-102T51-712/913-45-41 |
| | 115 | 4 1/2" | 7×13 | 9×13 |  | 35° | 3 | - | 6.0 | 1431-115T51-713/913-45-41 |
| | 115 | 4 1/2" | 7×13 | 9×14 |  | 35° | 3 | - | 6.0 | 1431-115T51-713/914-45-41 |
| Button bit, Drop center | | | | | | | | | | |
|  | 89 | 3 1/2" | 5×11 | 6×13 |  | 35° | 3 | 1 | 3.5 | 1433-89T51-511/613-45-41 |
| | 89 | 3 1/2" | 5×11 | 6×13 |  | 35° | 3 | 1 | 3.5 | 1433-89T51-511/613-45-51 |
| | 102 | 4" | 5×13 | 6×14 |  | 35° | 3 | 1 | 5.0 | 1433-102T51-513/614-45-41 |
| | 102 | 4" | 5×13 | 6×14 |  | 35° | 3 | 1 | 5.0 | 1433-102T51-513/614-45-51 |
|  | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 4 | 1 | 3.6 | 1433-89T51-611/812-45-41 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 40° | 4 | 1 | 3.6 | 1433-89T51-611/812-45-51 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | 1 | 5.0 | 1433-102T51-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 40° | 4 | 1 | 5.0 | 1433-102T51-612/813-45-51 |
| | 115 | 4 1/2" | 6×13 | 8×13 |  | 35° | 4 | 1 | 6.0 | 1431-115T51-613/813-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 4 | 1 | 6.0 | 1431-115T51-613/814-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 40° | 4 | 1 | 6.0 | 1431-115T51-613/814-45-51 |
| | 127 | 5" | 7×14 | 8×14 |  | 35° | 4 | 1 | 6.8 | 1432-127T51-613/814-45-41 |

T51 (2")

Bench and long-hole drilling




T51 (2")

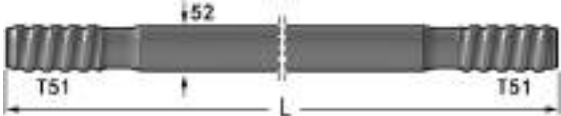
| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|---------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit, Retrac | | | | | | | | | | |
|  | 89 | 3 1/2" | 5×13 | 8×13 |  | 35° | 4 | - | 4.5 | 1632-89T51-513/813-45-41 |
| | 89 | 3 1/2" | 5×13 | 8×13 |  | 40° | 4 | - | 4.5 | 1632-89T51-513/813-45-51 |
| | 89 | 3 1/2" | 5×12 | 8×12 |  | 35° | 4 | - | 4.5 | 1632-89T51-512/812-45-41 |
|  | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | - | 6.2 | 1632-102T51-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 40° | 4 | - | 6.2 | 1632-102T51-612/813-45-51 |
| | 115 | 4 1/2" | 6×13 | 8×13 |  | 35° | 4 | - | 8.4 | 1632-115T51-613/813-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 4 | - | 8.4 | 1632-115T51-613/814-45-41 |
| Button bit, Retrac, Flat face | | | | | | | | | | |
|  | 89 | 3 1/2" | 4×13 | 8×13 |  | 40° | 2 | - | 5.0 | 1531-89T51-413/813-45-41 |
| | 89 | 3 1/2" | 4×13 | 8×13 |  | 40° | 2 | - | 5.0 | 1531-89T51-413/813-45-51 |
| | 102 | 4" | 4×14 | 8×14 |  | 40° | 2 | - | 7.0 | 1531-102T51-414/814-45-41 |
|  | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 2 | - | 5.0 | 1531-89T51-611/812-45-41 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 40° | 2 | - | 5.0 | 1531-89T51-611/812-45-51 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 2 | - | 7.0 | 1531-102T51-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 40° | 2 | - | 7.0 | 1531-102T51-612/813-45-51 |
| | 115 | 4 1/2" | 6×13 | 8×13 |  | 35° | 2 | - | 9.5 | 1531-115T51-613/813-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 2 | - | 9.5 | 1531-115T51-613/814-45-41 |
|  | 89 | 3 1/2" | 7×11 | 9×11 |  | 35° | 3 | - | 5.0 | 1531-89T51-711/911-45-41 |
| | 89 | 3 1/2" | 7×11 | 9×12 |  | 35° | 3 | - | 5.0 | 1531-89T51-711/912-45-41 |
| | 102 | 4" | 7×12 | 9×12 |  | 35° | 3 | - | 7.0 | 1531-102T51-712/912-45-41 |
| | 102 | 4" | 7×12 | 9×13 |  | 35° | 3 | - | 7.0 | 1531-102T51-712/913-45-41 |
| | 115 | 4 1/2" | 7×13 | 9×13 |  | 35° | 3 | - | 9.5 | 1531-115T51-713/913-45-41 |
| | 115 | 4 1/2" | 7×13 | 9×14 |  | 35° | 3 | - | 9.5 | 1531-115T51-713/914-45-41 |
| | 115 | 4 1/2" | 7×13 | 9×14 |  | 35° | 3 | - | 9.5 | 1531-115T51-713/914-45-41 |
| Button bit, Retrac, Drop center | | | | | | | | | | |
|  | 89 | 3 1/2" | 5×11 | 6×13 |  | 35° | 3 | 1 | 5.0 | 1533-89T51-511/613-45-41 |
| | 89 | 3 1/2" | 5×11 | 6×13 |  | 35° | 3 | 1 | 5.0 | 1533-89T51-511/613-45-51 |
| | 102 | 4" | 5×13 | 6×14 |  | 35° | 3 | 1 | 7.0 | 1533-102T51-513/614-45-41 |
| | 102 | 4" | 5×13 | 6×14 |  | 35° | 3 | 1 | 7.0 | 1533-102T51-513/614-45-51 |
|  | 89 | 3 1/2" | 6×11 | 8×12 |  | 35° | 4 | 1 | 5.0 | 1533-89T51-611/812-45-41 |
| | 89 | 3 1/2" | 6×11 | 8×12 |  | 40° | 4 | 1 | 5.0 | 1533-89T51-611/812-45-51 |
| | 102 | 4" | 6×12 | 8×13 |  | 35° | 4 | 1 | 7.0 | 1533-102T51-612/813-45-41 |
| | 102 | 4" | 6×12 | 8×13 |  | 40° | 4 | 1 | 7.0 | 1533-102T51-612/813-45-51 |
| | 115 | 4 1/2" | 6×13 | 8×13 |  | 35° | 4 | 1 | 9.5 | 1533-115T51-613/813-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 4 | 1 | 9.5 | 1533-115T51-613/814-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 40° | 4 | 1 | 9.5 | 1533-115T51-613/814-45-51 |
| | 127 | 5" | 7×14 | 8×14 |  | 35° | 4 | 1 | 11.5 | 1533-127T51-714/814-45-41 |

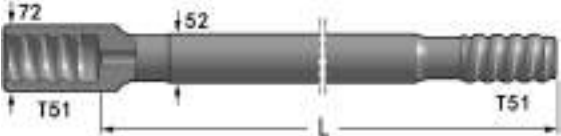
T51 (2")


Bench and long-hole drilling


T51 (2")

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|----|---------------|---------------|---|-------|---------------|-------|------------------|---------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Reaming bit, T51 | | | | | | | | | | |
|  | 127 | 5" | 6×14 | 8×14 |  | 35° | 4 | - | 8.0 | 1441-127T51-614/814-45-41 |
| | 152 | 6" | 6×14 | 8×14 |  | 35° | 4 | - | 11.0 | 1441-152T51-614/814-45-41 |

| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|-------|----------|------|------------------|-------------------|
| | mm | ft/in | mm | inch | | |
| Extension rod, T51 – Round52 – T51 | | | | | | |
|  | 3660 | 12' | 51 | 2" | 50.9 | 23R52-T51-3660-23 |
| | 4270 | 14' | 51 | 2" | 59.4 | 23R52-T51-4270-23 |
| | 6100 | 20' | 51 | 2" | 84.8 | 23R52-T51-6100-23 |

| | | | | | | |
|--|------|-----|----|----|------|----------------------|
| MF – rod, T51 – Round52 – T51 | | | | | | |
|  | 1525 | 5' | 51 | 2" | 23.8 | 24R52-T51/72-1525-23 |
| | 1830 | 6' | 51 | 2" | 28.1 | 24R52-T51/72-1830-23 |
| | 3050 | 10' | 51 | 2" | 45.0 | 24R52-T51/72-3050-23 |
| | 3660 | 12' | 51 | 2" | 53.5 | 24R52-T51/72-3660-23 |
| | 4270 | 14' | 51 | 2" | 62.0 | 24R52-T51/72-4270-23 |
| | 6100 | 20' | 51 | 2" | 87.4 | 24R52-T51/72-6100-23 |







| | | | | | | |
|---|------|-----|----|--------|------|----------------------|
| Guide tube | | | | | | |
|  | 1830 | 6' | 76 | 3" | 40.0 | 24G76-T51/76-1830-23 |
| | 3660 | 12' | 76 | 3" | 79.1 | 24G76-T51/76-3660-23 |
| | 3660 | 12' | 87 | 3 1/2" | 90.9 | 24G87-T51/87-3660-23 |

| | | | | | | | |
|---|-----|-----|--------|----|---------|-----|------------------|
| Coupling sleeve | | | | | | | |
|  | T51 | 235 | 8 7/8" | 72 | 2 7/8" | 4.0 | 31-T51-72-235-23 |
| | T51 | 235 | 8 7/8" | 77 | 3 1/32" | 4.6 | 31-T51-77-235-23 |

T51 (2")


Bench and long-hole drilling


GT60 (2 3/8")


| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|---------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 92 | 3 5/8" | 6×12 | 8×14 |  | 35° | 4 | - | 5.2 | 1433-92T60-612/814-45-41 |
| | 96 | 3 3/4" | 6×12 | 8×14 |  | 35° | 4 | - | 5.3 | 1433-96T60-612/814-45-41 |
| | 102 | 4" | 6×13 | 8×13 |  | 35° | 4 | - | 6.4 | 1433-102T60-613/813-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 4 | - | 7.3 | 1433-115T60-613/814-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 4 | - | 7.3 | 1433-115T60-613/814-45-51 |

| | | | | | | | | | | |
|---|-----|--------|------|------|---|-----|---|---|------|---------------------------|
|  | 127 | 5" | 7×14 | 8×16 |  | 35° | 4 | - | 8.9 | 1433-127T60-714/816-45-41 |
| | 140 | 5 1/2" | 7×16 | 8×16 |  | 35° | 4 | - | 12.1 | 1433-140T60-716/816-45-41 |
| | 152 | 6" | 7×16 | 8×16 |  | 35° | 4 | - | 13.6 | 1433-152T60-716/816-45-41 |

| Button bit, Retrac | | | | | | | | | | |
|---|-----|--------|------|------|---|-----|---|---|------|---------------------------|
|  | 92 | 3 5/8" | 6×12 | 8×14 |  | 35° | 4 | - | 6.1 | 1533-92T60-612/814-45-41 |
| | 96 | 3 3/4" | 6×12 | 8×14 |  | 35° | 4 | - | 6.2 | 1533-96T60-612/814-45-41 |
| | 102 | 4" | 6×13 | 8×13 |  | 35° | 4 | - | 8.0 | 1533-102T60-613/813-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 4 | - | 9.4 | 1533-115T60-613/814-45-41 |
| | 115 | 4 1/2" | 6×13 | 8×14 |  | 35° | 4 | - | 9.4 | 1533-115T60-613/814-45-51 |
|  | 127 | 5" | 7×14 | 8×16 |  | 35° | 4 | - | 13.1 | 1533-127T60-714/816-45-41 |
| | 140 | 5 1/2" | 7×16 | 8×16 |  | 35° | 4 | - | 16.1 | 1533-140T60-716/816-45-41 |




| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|-------|----------|--------|------------------|-------------------|
| | mm | ft/in | mm | inch | | |
| MF—rod, T60—Round60—T60 | | | | | | |
|  | 3660 | 12' | 60 | 2 3/8" | 70.0 | 24R60-T60-3660-23 |
| | 4270 | 14' | 60 | 2 3/8" | 82.0 | 24R60-T60-4270-23 |
| | 6100 | 20' | 60 | 2 3/8" | 116.0 | 24R60-T60-6100-23 |

| | | | | | | |
|---|------|-----|----|--------|------|----------------------|
| MF—rod, T60—Round60—T60 | | | | | | |
|  | 4270 | 14' | 60 | 2 3/8" | 86.6 | 24R60-T60/85-4270-23 |

| Coupling sleeve | | | | | | | |
|---|-----|-----|---------|----|----------|-----|------------------|
|  | T60 | 315 | 1' 3/8" | 85 | 3 11/32" | 7.9 | 31-T60-85-315-23 |
| | T60 | 315 | 1' 3/8" | 89 | 3 1/2" | 8.2 | 31-T60-89-315-23 |

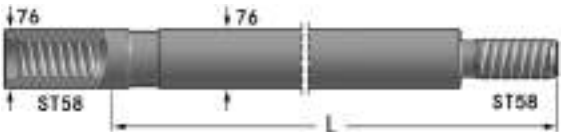
Bench and long-hole drilling

ST58 (2 1/4")

| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|---------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 89 | 3 1/2" | 6×12 | 8×12 |  | 35° | 4 | - | 4.1 | 1432-89ST58-612/812-45-41 |
| | 89 | 3 1/2" | 6×12 | 8×12 |  | 35° | 4 | - | 4.1 | 1432-89ST58-612/812-45-51 |

| Button bit, Heavy Duty | | | | | | | | | | |
|---|----|--------|------|------|---|-----|---|---|-----|---------------------------|
|  | 89 | 3 1/2" | 6×12 | 8×14 |  | 35° | 2 | - | 4.5 | 1431-89ST58-612/814-45-41 |
| | 89 | 3 1/2" | 6×12 | 8×14 |  | 35° | 2 | - | 4.5 | 1431-89ST58-612/814-45-51 |




| Reaming bit, ST58 | | | | | | | | | | |
|--|-----|----|------|------|---|-----|---|---|------|----------------------------|
|  | 152 | 6" | 6×14 | 8×14 |  | 35° | 4 | - | 13.0 | 1441-152ST58-614/814-45-41 |



| Tubes | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|-------|----------|------|------------------|-----------------------|
| | mm | ft/in | mm | inch | | |
| Drill tube, ST58 – Round76 – ST58 | | | | | | |
|  | 1525 | 5' | 76 | 3" | 33.2 | 24G76-ST58/76-1525-23 |
| | 1830 | 6' | 76 | 3" | 41.0 | 24G76-ST58/76-1830-23 |




ST58 (2 1/4")




Bench and long-hole drilling



ST68 (2 3/4")



| Bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|--------|---------------|---------------|---|-------|---------------|-------|------------------|-----------------------------|
| | mm | in | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Button bit | | | | | | | | | | |
|  | 102 | 4" | 8×12 | 10×12 |  | 35° | 4 | - | 5.2 | 1432-102ST68-812/1012-45-51 |
| | 115 | 4 1/2" | 8×14 | 10×14 |  | 35° | 4 | - | 5.9 | 1432-115ST68-814/1014-45-51 |

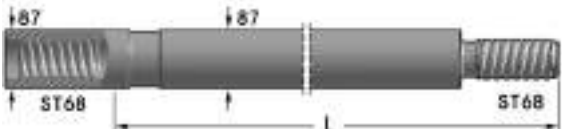
| Button bit | | | | | | | | | | |
|---|-----|----|------|------|---|-----|---|---|-----|----------------------------|
|  | 102 | 4" | 6×13 | 8×14 |  | 35° | 2 | - | 5.5 | 1431-102ST68-613/814-45-41 |

| Button bit, Retrac | | | | | | | | | | |
|---|-----|--------|------|-------|---|-----|---|---|-----|-----------------------------|
|  | 102 | 4" | 8×12 | 10×12 |  | 35° | 4 | - | 6.2 | 1632-102ST68-812/1012-45-51 |
| | 115 | 4 1/2" | 8×14 | 10×14 |  | 35° | 4 | - | 8.4 | 1632-115ST68-814/1014-45-51 |

| | | | | | | | | | | |
|---|-----|--------|------|------|---|-----|---|---|-----|----------------------------|
|  | 102 | 4" | 7×12 | 9×12 |  | 35° | 3 | - | 6.2 | 1531-102ST68-712/912-45-41 |
| | 115 | 4 1/2" | 7×13 | 9×13 |  | 35° | 3 | - | 8.4 | 1531-115ST68-713/913-45-41 |

| Collaring bit, ST68 | | | | | | | | | | |
|---|-----|----|------|------|---|-----|---|---|-----|----------------------------|
|  | 152 | 6" | 8×16 | 9×16 |  | 35° | 3 | - | 9.8 | 1431-152ST68-816/916-45-41 |

| Reaming bit, ST68 | | | | | | | | | | |
|---|-----|----|------|------|---|-----|---|---|------|----------------------------|
|  | 152 | 6" | 6×14 | 8×14 |  | 35° | 4 | - | 14.0 | 1441-152ST68-614/814-45-41 |

| Tubes | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|-------|----------|--------|------------------|-----------------------|
| | mm | ft/in | mm | inch | | |
| Drill tube, ST68—Round87—ST68 | | | | | | |
|  | 1525 | 5' | 87 | 3 1/2" | 40.0 | 24G87-ST68/87-1525-23 |
| | 1830 | 6' | 87 | 3 1/2" | 47.0 | 24G87-ST68/87-1830-23 |

ST68 (2 3/4")



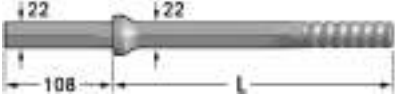
Shank adapter

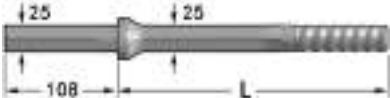
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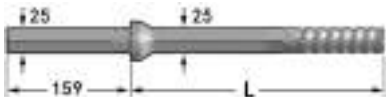
| | |
|--------------------------|----|
| Hexagonal shank adapters | 38 |
| Sandvik | 39 |
| Atlas copco | 44 |
| Boart | 47 |
| Furukawa | 48 |
| Gardner-Denver | 49 |
| Ingersoll-Rand | 49 |
| Montabert | 49 |
| SIG | 51 |
| Others | 52 |

Shank adapters

Hexagonal shank adapters








| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|-----------------------|
| For hexagonal bushing 22 x 108 mm | | | | | |
|  | R22 | 255 | 6 | 1.1 | 21H22-R22/108-0255-40 |
| | R23 | 255 | 6 | 1.1 | 21H22-R23/108-0255-40 |
| | R25 | 255 | 7 | 1.1 | 21H22-R25/108-0255-40 |

| | | | | | |
|---|-----|-----|---|-----|-----------------------|
| For hexagonal bushing 25 x 108 mm | | | | | |
|  | R23 | 255 | 6 | 1.3 | 21H25-R23/108-0255-40 |
| | R25 | 255 | 7 | 1.3 | 21H25-R25/108-0255-40 |

| | | | | | |
|---|-----|-----|---|-----|-----------------------|
| For hexagonal bushing 25 x 159 | | | | | |
|  | R25 | 255 | 7 | 1.6 | 21H25-R25/159-0255-40 |

Shank adapters

Sandvik

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|----------------------|
| HL 300 | | | | | |
|  | R32 | 400 | - | 2.8 | 4HL300-32R32-0400-23 |
| HL 300S | | | | | |
|  | R28 | 245 | - | 2.8 | 4HL300-45R28-0245-23 |
| | R32 | 245 | - | 2.8 | 4HL300-45R32-0245-23 |
| L400, L410, L500, L510, L550 | | | | | |
|  | R32 | 380 | 10 | 2.2 | 4L400-32R32-0380-23 |
| HLR 438L and HLR 438T | | | | | |
|  | R32 | 380 | 10 | 2.7 | 4HL438-38R32-0380-23 |
| | T38 | 400 | 12 | 3.3 | 4HL438-38T38-0400-23 |
| HLR 438LS, 438TS, HL 538, HL538L, L550S | | | | | |
|  | R32 | 450 | - | 3.7 | 4HL538-38R32-0450-23 |
| | R38 | 450 | - | 3.9 | 4HL538-38R38-0450-23 |
| | T38 | 455 | - | 4.0 | 4HL538-38T38-0455-23 |
| | T38 | 545 | - | 4.7 | 4HL538-38T38-0545-23 |
| HL 500-38 / 510-38 | | | | | |
|  | R32 | 550 | - | 4.2 | 4HL500-38R32-0550-23 |
| | T35 | 550 | - | 4.4 | 4HL500-38T35-0550-23 |
| | T38 | 550 | - | 4.6 | 4HL500-38T38-0550-23 |
| | R38 | 550 | - | 4.5 | 4HL500-38R38-0550-23 |
| HL 500-45 / 510-45 | | | | | |
|  | T35 | 550 | - | 5.6 | 4HL500-45T35-0550-23 |
| | T38 | 550 | - | 5.6 | 4HL500-45T38-0550-23 |
| | T45 | 550 | - | 5.9 | 4HL500-45T45-0550-23 |
| | R32 | 550 | - | 5.6 | 4HL500-45R32-0550-23 |

Shank adapters

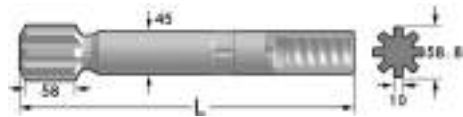
Sandvik

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|--|--------|-------------|-------------------|------------------|----------|
|--|--------|-------------|-------------------|------------------|----------|



| HL 500 S-38 / 510 S-38 / 510 B / 510 LH | | | | | |
|---|-----|-----|---|-----|-----------------------|
| | R32 | 460 | - | 3.9 | 4HL500S-38R32-0460-23 |
| | R38 | 460 | - | 4.2 | 4HL500S-38R38-0460-23 |
| | T38 | 460 | - | 4.0 | 4HL500S-38T38-0460-23 |
| | R38 | 500 | - | 4.4 | 4HL500S-38R38-0500-23 |
| | T38 | 500 | - | 4.3 | 4HL500S-38T38-0500-23 |

| HL 500 F / 510 F | | | | | |
|------------------|--|--|--|--|--|
|------------------|--|--|--|--|--|



| | | | | | |
|--|-----|-----|---|-----|-----------------------|
| | R32 | 350 | - | 3.9 | 4HL500F-45R32-0350-23 |
|--|-----|-----|---|-----|-----------------------|

| HL 550 SUPER / 560 SUPER / 510 S-45 | | | | | |
|-------------------------------------|--|--|--|--|--|
|-------------------------------------|--|--|--|--|--|



| | | | | | |
|--|-----|-----|---|-----|----------------------|
| | T35 | 460 | - | 4.9 | 4HL550-45T35-0460-23 |
| | T35 | 550 | - | 5.6 | 4HL550-45T35-0550-23 |
| | R38 | 500 | - | 5.2 | 4HL550-45R38-0500-23 |
| | T38 | 500 | - | 5.3 | 4HL550-45T38-0500-23 |

| HLX 1 | | | | | |
|-------|--|--|--|--|--|
|-------|--|--|--|--|--|



| | | | | | |
|--|-----|-----|---|-----|---------------------|
| | R23 | 235 | - | 1.0 | 4HLX1-28R23-0235-23 |
| | R25 | 255 | - | 1.1 | 4HLX1-28R25-0255-23 |

| HLX 5 / HLX 5T | | | | | |
|----------------|--|--|--|--|--|
|----------------|--|--|--|--|--|



| | | | | | |
|--|-----|-----|---|-----|---------------------|
| | R32 | 500 | - | 5.1 | 4HLX5-45R32-0500-23 |
| | T35 | 500 | - | 5.3 | 4HLX5-45T35-0500-23 |
| | T38 | 500 | - | 5.3 | 4HLX5-45T38-0500-23 |
| | R38 | 500 | - | 5.3 | 4HLX5-45R38-0500-23 |
| | R32 | 575 | - | 5.4 | 4HLX5-45R32-0575-23 |
| | T35 | 575 | - | 5.6 | 4HLX5-45T35-0575-23 |
| | T38 | 575 | - | 5.9 | 4HLX5-45T38-0575-23 |
| | T45 | 575 | - | 6.2 | 4HLX5-45T45-0575-23 |

| HLX5 PE-45 | | | | | |
|------------|--|--|--|--|--|
|------------|--|--|--|--|--|



| | | | | | |
|--|-----|-----|---|-----|-----------------------|
| | R32 | 575 | - | 5.9 | 4HLX5PE-45R32-0575-23 |
| | T38 | 575 | - | 6.4 | 4HLX5PE-45T38-0575-23 |

Shank adapters

Sandvik

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|--|--------|-------------|-------------------|------------------|-----------------------|
| HL 600-45 / 600 S-45 | | | | | |
| | R32 | 600 | - | 5.7 | 4HL600-45R32-0600-23 |
| | T38 | 600 | - | 5.9 | 4HL600-45T38-0600-23 |
| | T45 | 600 | - | 6.3 | 4HL600-45T45-0600-23 |
| | T38 | 525 | - | 5.5 | 4HL600-45T38-0525-23 |
| | T45 | 525 | - | 5.8 | 4HL600-45T45-0525-23 |
| HL 600-52 | | | | | |
| | T45 | 650 | - | 7.6 | 4HL600-52T45-0650-23 |
| | T51 | 650 | - | 8.1 | 4HL600-52T51-0650-23 |
| HL 645 | | | | | |
| | T38 | 600 | - | 6.6 | 4HL645-45T38-0600-23 |
| | T45 | 600 | - | 6.9 | 4HL645-45T45-0600-23 |
| HL 650-45 / 700-45 / 700T-45 / 710-45 / 800T-45 | | | | | |
| | T38 | 600 | - | 1.0 | 4HL650-45T45-0600-23 |
| | T45 | 600 | - | 1.1 | 4HL650-45T45-0600-23 |
| HL 650-52, 700-52 / PE-52 / S-52, 710-52 / S-52 / PE-52 / SPE-52, 800T-52 / PE-52 | | | | | |
| | T38 | 600 | - | 8.4 | 4HL650-52T38-0600-23 |
| | T45 | 600 | - | 8.5 | 4HL650-52T45-0600-23 |
| | T51 | 600 | - | 8.6 | 4HL650-52T51-0600-23 |
| HL 850S | | | | | |
| | T45 | 670 | - | 9.1 | 4HL850-52T45-0670-23 |
| | T51 | 670 | - | 9.6 | 4HL850-52T51-0670-23 |
| HL 1000-52 / 1000 S-52 | | | | | |
| | T45 | 670 | - | 9.7 | 4HL1000-52T45-0670-23 |
| | T51 | 670 | - | 10.1 | 4HL1000-52T51-0670-23 |
| | T45 | 590 | - | 8.9 | 4HL1000-52T45-0590-23 |
| | T51 | 590 | - | 9.3 | 4HL1000-52T51-0590-23 |

Sandvik


Shank adapters


Sandvik


| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|------------------------|
| HL 1000-60 | | | | | |
| | T51 | 670 | - | 11.9 | 4HL1000-60T51-0670-23 |
| | GT60 | 670 | - | 12.9 | 4HL1000-60GT60-0670-23 |
| HL 1000-80, Shoulder drive | | | | | |
| | GT60 | 670 | - | 20.8 | 4HL1000-80GT60-0670-23 |
| HL 1000 S-80 Tube drilling | | | | | |
| | ST58 | 635 | - | 17.4 | 4HL1000-80ST58-0635-23 |
| | ST68 | 640 | - | 16.9 | 4HL1000-80ST68-0640-23 |
| HL 1000 PE-52 | | | | | |
| | T51 | 840 | - | 13.9 | 4HL1000-52T51-0840-23 |
| HL 1000 PE-65 / HL 1500 PE-65 / HL 1560 T-65 | | | | | |
| | T51 | 760 | - | 15.9 | 4HL1000-65T51-0760-23 |
| | GT60 | 760 | - | 16.7 | 4HL1000-65GT60-0760-23 |
| HL 1500-52 / 1500 T-52 | | | | | |
| | T51 | 710 | - | 11.2 | 4HL1500-52T51-0710-23 |
| HL 1500-60 / 1500 T-60 | | | | | |
| | T51 | 760 | - | 13.3 | 4HL1500-60T51-0760-23 |
| | GT60 | 760 | - | 14.6 | 4HL1500-60GT60-0760-23 |

Shank adapters

Sandvik










| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|------------------------|
| HL 1500 T-80, Shoulder drive | | | | | |
|  | GT60 | 760 | - | 20.5 | 4HL1500-80GT60-0760-23 |

| | | | | | |
|---|------|-----|---|------|------------------------|
| HL 1500 S-80 Tube drilling | | | | | |
|  | ST58 | 635 | - | 17.0 | 4HL1500-80ST58-0635-23 |
| | ST68 | 635 | - | 17.0 | 4HL1500-80ST58-0635-23 |

| | | | | | |
|---|------|-----|---|------|------------------------|
| HL 1500 SPE-90 Tube drilling | | | | | |
|  | ST58 | 635 | - | 22.0 | 4HL1500-90ST58-0635-23 |
| | ST68 | 635 | - | 22.4 | 4HL1500-90ST68-0635-23 |
| | GT60 | 760 | - | 23.5 | 4HL1500-90GT60-0635-23 |

Shank adapters

Atlas Copco

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|-----------------------|
| Atlas Copco BBC 43, 44, 45 and 100 | | | | | |
|  | R32 | 380 | 10 | 2.0 | 4BBC43-32R32-0380-23 |
| Atlas Copco BBC 51, 52, 54 and 120 | | | | | |
|  | R32 | 380 | 10 | 2.6 | 4BBC51-38R32-0380-23 |
| | T38 | 390 | 10 | 3.0 | 4BBC51-38T38-0390-23 |
| Atlas Copco BBE 57 | | | | | |
|  | T38 | 537 | 14 | 5.4 | 4BBE57-44T38-0537-23 |
| Atlas Copco COP 125, 130 and 131 | | | | | |
|  | T38 | 380 | 14 | 13.9 | 4125-38T38-0380-23 |
| Atlas Copco COP 1032 HD | | | | | |
|  | R32 | 340 | - | 3.3 | 41032HD-45R32-0340-23 |
|  | R38 | 340 | - | 4.1 | 41032HD-55R38-0340-23 |
| Atlas Copco COP 1032 | | | | | |
|  | R32 | 550 | - | 5.1 | 41032-45R32-0550-23 |
| | T35 | 550 | - | 5.1 | 41032-45T35-0550-23 |
| | R38 | 550 | - | 5.3 | 41032-45R38-0550-23 |
| | T38 | 550 | - | 5.3 | 41032-45T38-0550-23 |
| Atlas Copco COP 1036/1038 HB | | | | | |
|  | R32 | 500 | - | 4.1 | 41036-38R32-0500-23 |
| | T38 | 500 | - | 4.5 | 41036-38T38-0500-23 |
|  | T45 | 500 | - | 5.1 | 41036-45T45-0500-23 |

Shank adapters

Atlas Copco

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|--|--------|-------------|-------------------|------------------|----------|
|--|--------|-------------|-------------------|------------------|----------|

Atlas Copco COP 1038 HD/1238



| | | | | |
|-----|-----|---|-----|---------------------|
| R32 | 485 | - | 4.0 | 41238-38R32-0485-23 |
| R38 | 485 | - | 4.2 | 41238-38R38-0485-23 |
| T38 | 485 | - | 4.2 | 41238-38T38-0485-23 |

Atlas Copco COP 1038 HL



| | | | | |
|-----|-----|---|-----|-----------------------|
| R32 | 575 | - | 4.7 | 41038HL-38R32-0575-23 |
| T38 | 575 | - | 4.9 | 41038HL-38T38-0575-23 |



| | | | | |
|-----|-----|---|-----|-----------------------|
| T45 | 575 | - | 5.9 | 41038HL-45T45-0575-23 |
|-----|-----|---|-----|-----------------------|

Atlas Copco COP 3038



| | | | | |
|-----|-----|---|-----|---------------------|
| T38 | 435 | - | 4.0 | 43038-38T38-0435-23 |
|-----|-----|---|-----|---------------------|



| | | | | |
|-----|-----|---|-----|---------------------|
| T45 | 435 | - | 4.6 | 43038-45T45-0435-23 |
| T35 | 440 | - | 4.5 | 43038-45T35-0440-23 |
| T35 | 525 | - | 5.0 | 43038-45T35-0525-23 |

Atlas Copco COP 1238



| | | | | |
|-----|-----|---|-----|---------------------|
| R32 | 500 | - | 4.2 | 41238-38R32-0500-23 |
| T38 | 500 | - | 4.8 | 41238-38T38-0500-23 |
| R38 | 485 | - | 4.3 | 41238-38R38-0485-23 |
| T38 | 485 | - | 4.2 | 41238-38T38-0485-23 |



| | | | | |
|-----|-----|---|-----|---------------------|
| T45 | 500 | - | 5.2 | 41238-45T45-0500-23 |
|-----|-----|---|-----|---------------------|



| | | | | |
|-----|-----|---|-----|---------------------|
| R32 | 575 | - | 4.7 | 41238-38R32-0575-23 |
| T35 | 575 | - | 4.6 | 41238-38T35-0575-23 |
| T38 | 575 | - | 4.8 | 41238-38T38-0575-23 |



| | | | | |
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| T38 | 575 | - | 5.5 | 41238-45T38-0575-23 |
| T45 | 575 | - | 5.9 | 41238-45T45-0575-23 |





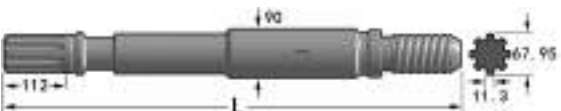

Shank adapters

Atlas Copco

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|-----------------------|
| Atlas Copco COP 1432, COP 1532, COP1440, COP1838 HD/ME | | | | | |
| | R32 | 435 | - | 3.8 | 41432-38R32-0435-23 |
| | R38 | 435 | - | 3.9 | 41432-38R38-0435-23 |
| | T35 | 435 | - | 3.8 | 41432-38T35-0435-23 |
| | T38 | 435 | - | 3.8 | 41432-38T38-0435-23 |
| | R32 | 525 | - | 4.1 | 41432-38R32-0525-23 |
| | T35 | 525 | - | 4.2 | 41432-38T35-0525-23 |
| | T38 | 525 | - | 4.4 | 41432-38T38-0525-23 |
| Atlas Copco COP 1432 Female | | | | | |
| | R32 | 341 | - | 4.3 | 41432-55R32-0341-23 |
| | R38 | 341 | - | 4.7 | 41432-55R38-0341-23 |
| Atlas Copco COP 1132 | | | | | |
| | R32 | 500 | - | 3.1 | 41132-35R32-0500-23 |
| Atlas Copco COP 1550, COP 1838 ME/ HE Atlas Copco COP 1550 EX, COP 1838 EX | | | | | |
| | T38 | 525 | - | 6.1 | 41550-52T38-0525-23 |
| | T45 | 525 | - | 6.4 | 41550-52T45-0525-23 |
| | T51 | 525 | - | 6.8 | 41550-52T51-0525-23 |
| Atlas Copco COP 1550 EX, COP 1838 EX | | | | | |
| | T38 | 730 | - | 9.9 | 41550EX-60T38-0730-23 |
| | T45 | 730 | - | 10.3 | 41550EX-60T45-0730-23 |
| Atlas Copco COP 1840 HE, COP 1850 | | | | | |
| | T35 | 565 | - | 6.6 | 41850-52T35-0565-23 |
| | T38 | 565 | - | 6.7 | 41850-52T38-0565-23 |
| | T45 | 565 | - | 6.9 | 41850-52T45-0565-23 |
| | T51 | 565 | - | 7.2 | 41850-52T51-0565-23 |

Shank adapters

Atlas Copco and Boart

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|-------------------------|
| Atlas Copco COP 2150, COP 2550 | | | | | |
|  | T51 | 770 | - | 9.9 | 42150-52T51-0770-23 |
| Atlas Copco COP 2160, COP 2560 | | | | | |
|  | T51 | 770 | - | 11.0 | 42160-60T51-0770-23 |
| Atlas Copco COP 2160 EX | | | | | |
|  | T45 | 770 | - | 13.2 | 42160EX-63T45-0770-23 |
| | T51 | 770 | - | 13.3 | 42160EX-63T51-0770-23 |
| Atlas Copco COP 4050 EX | | | | | |
|  | ST68 | 805 | - | 21.7 | 44050EX-70ST68-0805-23 |
| Atlas Copco COP 4050 MUX | | | | | |
|  | ST68 | 835 | - | 26.9 | 44050MUX-90ST68-0835-23 |
| Boart HD 125, HD 150, HD 160 | | | | | |
|  | R38 | 495 | - | 5.5 | 4HD125-45R38-0495-23 |
| | T38 | 495 | - | 5.5 | 4HD125-45T38-0495-23 |

Shank adapters

Furukawa

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|--|--------|-------------|-------------------|------------------|----------|
|--|--------|-------------|-------------------|------------------|----------|

Furukawa M 120 and PD 200



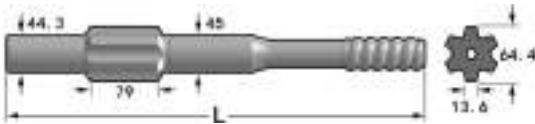
| | | | | |
|-----|-----|----|-----|---------------------|
| R32 | 330 | 14 | 3.0 | 4M120-44R32-0330-23 |
| T38 | 380 | 14 | 3.6 | 4M120-44T38-0380-23 |
| T38 | 446 | 14 | 4.0 | 4M120-44T38-0446-23 |

Furukawa PD 200R



| | | | | |
|-----|-----|----|-----|-----------------------|
| T38 | 484 | 14 | 5.2 | 4PD200R-44T38-0484-23 |
| T45 | 484 | 14 | 5.4 | 4PD200R-44T45-0484-23 |

Furukawa HD 260, HD 300



| | | | | |
|-----|-----|----|-----|----------------------|
| T38 | 655 | 16 | 6.3 | 4HD260-45T38-0655-23 |
| T45 | 655 | 16 | 6.6 | 4HD260-45T45-0655-23 |

Furukawa HD 609



| | | | | |
|-----|-----|---|-----|----------------------|
| T38 | 620 | - | 6.1 | 4HD609-45T38-0620-23 |
| T38 | 690 | - | 6.4 | 4HD609-45T38-0690-23 |
| T45 | 620 | - | 6.4 | 4HD609-45T45-0620-23 |

Furukawa HD 612



| | | | | |
|-----|-----|---|-----|----------------------|
| T45 | 710 | - | 8.9 | 4HD612-51T45-0710-23 |
|-----|-----|---|-----|----------------------|

Furukawa HD 709



| | | | | |
|-----|-----|---|-----|----------------------|
| T38 | 620 | - | 6.4 | 4HD709-45T38-0620-23 |
|-----|-----|---|-----|----------------------|

Furukawa HD 712



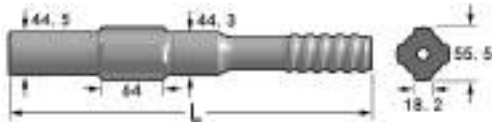
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|-----|-----|---|-----|----------------------|
| T45 | 788 | - | 9.6 | 4HD712-51T45-0788-23 |
|-----|-----|---|-----|----------------------|

Shank adapters

Gardner-Denver, Ingersoll-Rand and Montabert

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|--|--------|-------------|-------------------|------------------|----------|
|--|--------|-------------|-------------------|------------------|----------|

Gardner-Denver PR 123



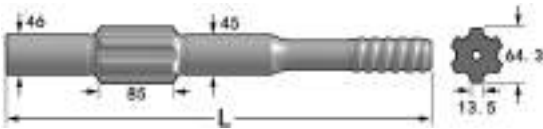
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|-----|-----|----|-----|----------------------|
| R32 | 330 | 14 | 3.0 | 4PR123-44R32-0330-23 |
| R32 | 380 | 14 | 4.1 | 4PR123-44R32-0380-23 |
| R38 | 350 | 14 | 3.5 | 4PR123-44R38-0350-23 |
| T38 | 446 | 14 | 4.0 | 4PR123-44T38-0446-23 |
| T38 | 380 | 14 | 3.6 | 4PR123-44T38-0380-23 |

Ingersoll-Rand URD 475, URD 550, VL120, EVL 130, VL140 and F16



| | | | | |
|-----|-----|----|-----|----------------------|
| R32 | 330 | 14 | 3.0 | 4VL120-44R32-0330-23 |
| R32 | 380 | 14 | 4.1 | 4VL120-44R32-0380-23 |
| T38 | 380 | 14 | 3.6 | 4VL120-44T38-0380-23 |
| T38 | 446 | 14 | 4.0 | 4VL120-44T38-0446-23 |

Ingersoll-Rand YH 65, YH 80



| | | | | |
|-----|-----|----|-----|---------------------|
| T38 | 495 | 19 | 5.4 | 4YH65-45T38-0495-23 |
| T45 | 500 | 19 | 5.6 | 4YH65-45T45-0500-23 |

Ingersoll-Rand YH 80 A



| | | | | |
|-----|-----|----|-----|----------------------|
| T45 | 495 | 19 | 6.1 | 4YH80A-51T45-0495-23 |
|-----|-----|----|-----|----------------------|

Ingersoll-Rand YH 65 RP, YH 70 RP, YH 75 RP, YH 80 RP



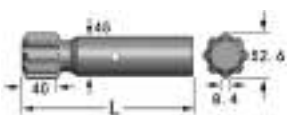
| | | | | |
|-----|-----|----|-----|-----------------------|
| T45 | 700 | 19 | 7.9 | 4YH65RP-45T45-0700-23 |
|-----|-----|----|-----|-----------------------|

Montabert HC40



| | | | | |
|-----|-----|---|-----|---------------------|
| R32 | 447 | - | 3.4 | 4HC40-38R32-0447-23 |
| R38 | 447 | - | 3.9 | 4HC40-38R38-0447-23 |

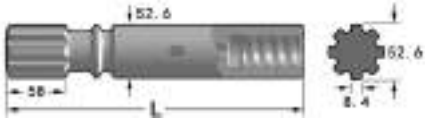
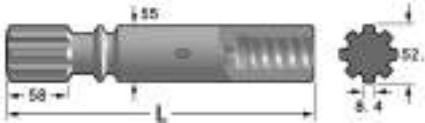






Montabert HC20 (female)



| | | | | |
|-----|-----|---|--|---------------------|
| R32 | 201 | - | | 4HC20-45R32-0201-23 |
|-----|-----|---|--|---------------------|





Shank adapters

Montabert

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|------------------------|
| Montabert HC40 (female) | | | | | |
|  | R32 | 270 | - | 2.9 | 4HC40-52R32-0270-23 |
|  | R38 | 320 | - | 4.1 | 4HC40-55R38-0320-23 |
| Montabert HC 80, HC 90, HC 105 | | | | | |
|  | R38 | 440 | - | 3.9 | 4HC80-38R38-0440-23 |
| | T38 | 440 | - | 3.9 | 4HC80-38T38-0440-23 |
| | T38 | 500 | - | 4.1 | 4HC80-38T38-0500-23 |
| Montabert H 100 | | | | | |
|  | T38 | 537 | 14 | 6.1 | 4H100-45T38-0537-23 |
| Montabert HC 80R, HC 105R, HC 107R, HC 108R, HC 109R | | | | | |
|  | T38 | 670 | - | 7.3 | 4HC80R-45T38-0670-23 |
| | T45 | 770 | - | 8.0 | 4HC80R-45T45-0770-23 |
| Montabert HC 120, HC 150 | | | | | |
|  | T45 | 490 | - | 5.6 | 4HC120-45T45-0490-23 |
| Montabert HC 120R, HC 150R, HC 155R, HC 158R | | | | | |
|  | T51 | 670 | - | 8.6 | 4HC120R-51T51-0670-23 |
| Montabert HC 200A | | | | | |
|  | T51 | 840 | - | 16.1 | 4HC200A-60T51-0840-23 |
| | GT60 | 840 | - | 16.9 | 4HC200A-60GT60-0840-23 |

Shank adapters

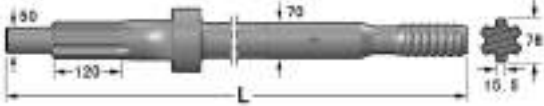
SIG

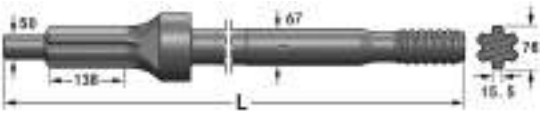
| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|-----------------------|
| SIG HBM 50, 100 and 120 | | | | | |
|  | R32 | 340 | - | 3.3 | 4HBM50-45R32-0340-23 |
| SIG HBM 100 and 120 | | | | | |
|  | R38 | 340 | - | 4.1 | 4HBM100-55R38-0340-23 |
| SIG HBM 50, 100 and 120 | | | | | |
|  | R32 | 550 | 14 | 4.8 | 4HBM50-45R32-0550-23 |
| SIG 101 | | | | | |
|  | R32 | 500 | - | 4.1 | 4SIG101-38R32-0500-23 |


SIG

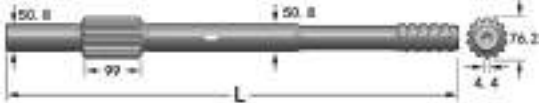
Shank adapters


Others

| | Thread | Length (mm) | Flushing Hole(mm) | Weight approx kg | Part No. |
|---|--------|-------------|-------------------|------------------|-----------------------|
| Others | | | | | |
|  | HL54 | 1180 | - | 35.1 | 4OTHER-70HL54-1180-23 |
| | HL64 | 1180 | - | 35.6 | 4OTHER-70HL64-1180-23 |

| | | | | | |
|---|------|------|---|------|-----------------------|
| Others | | | | | |
|  | HL64 | 1280 | - | 35.3 | 4OTHER-67HL64-1280-23 |

| | | | | | |
|---|-----|-----|---|-----|---------------------|
| Others | | | | | |
|  | R32 | 410 | - | 3.1 | 4OTHER-35R32-410-23 |

| | | | | | |
|---|-----|-----|---|------|----------------------|
| Others | | | | | |
|  | T51 | 913 | - | 13.8 | 4OTHER-51T51-0913-23 |

| | | | | | |
|---|-----|-----|---|------|----------------------|
| Others | | | | | |
|  | T45 | 807 | - | 14.5 | 4OTHER-60T45-0807-23 |




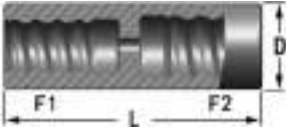
Auxiliary tools


Page

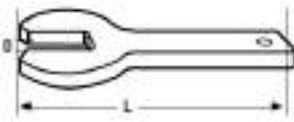
| | |
|---------------------|----|
| Bit adapters | 54 |
| Reduction couplings | 54 |
| Wrenches | 54 |
| Knock-off tools | 55 |
| fishing tools | 55 |
| Grinding Equipment | 56 |

Auxiliary tools

| Bit adapters | Threads | | Length | | Diameter | | Wrench flat mm | Weight approx kg | Part No. |
|---|----------|--------|--------|-----------|----------|----------|----------------|------------------|----------------------|
| | F female | M male | mm | inch | mm | inch | | | |
|  | R25 | R32 | 185 | 7 1/4" | 45 | 1 3/4" | 38 | 1.3 | 34-R25/R32-45-185-23 |
| | R28 | R32 | 230 | 9 1/16" | 40 | 1 37/64" | 38 | 1.4 | 34-R28/R32-40-230-23 |
| | R32 | T38 | 225 | 8 55/64" | 45 | 1 3/4" | 38 | 1.9 | 34-R32/T38-45-225-23 |
| | R32 | R38 | 225 | 8 55/64" | 45 | 1 3/4" | 38 | 1.8 | 34-R32/R38-45-225-23 |
| | T35 | T38 | 250 | 9 27/32" | 48 | 1 7/8" | 38 | 1.9 | 34-T35/T38-48-250-23 |
| | R38 | R32 | 245 | 9 21/32" | 55 | 2 5/32" | 44.5 | 2.3 | 34-R38/R32-55-245-23 |
| | R38 | T38 | 245 | 9 21/32" | 55 | 2 5/32" | 44.5 | 2.4 | 34-R38/T38-55-245-23 |
| | T38 | R32 | 270 | 10 41/64" | 57 | 2 1/4" | 44.5 | 2.6 | 34-T38/R32-57-270-23 |
| | T38 | R38 | 280 | 11 1/32" | 57 | 2 1/4" | 44.5 | 3.2 | 34-T38/R38-57-280-23 |
| | T38 | T45 | 285 | 11 7/32" | 57 | 2 1/4" | 44.5 | 3.3 | 34-T38/T45-57-285-23 |
| | T45 | T38 | 265 | 10 7/16" | 63 | 2 31/64" | 44.5 | 2.9 | 34-T45/T38-63-265-23 |
| | T45 | T51 | 285 | 11 7/32" | 63 | 2 31/64" | 44.5 | 3.7 | 34-T45/T51-63-285-23 |
| | T51 | T45 | 285 | 11 7/32" | 71 | 2 51/64" | 44.5 | 4.0 | 34-T51/T45-71-285-23 |

| Reduction couplings | Threads | | Length | | Diameter | | Weight approx kg | Part No. |
|---|---------|-----|--------|---------|----------|----------|------------------|----------------------|
| | F1 | F2 | mm | inch | mm | inch | | |
|  | R32 | R25 | 160 | 6 1/4" | 43 | 1 3/4" | 1.2 | 33-R32/R25-43-160-23 |
| | R32 | R28 | 165 | 6 1/2" | 44 | 1 3/4" | 1.3 | 33-R32/R28-44-165-23 |
| | R38 | R32 | 170 | 6 3/4" | 55 | 2 5/32" | 2.0 | 33-R38/R32-55-170-23 |
| | T38 | R32 | 170 | 6 3/4" | 55 | 2 5/32" | 2.0 | 33-T38/R32-55-170-23 |
| | T38 | R38 | 185 | 7 9/32" | 55 | 2 5/32" | 2.1 | 33-T38/R38-55-185-23 |
| | T38 | T45 | 200 | 7 7/8" | 58 | 2 9/32" | 2.6 | 33-T38/T45-58-200-23 |
| | T45 | T51 | 225 | 8 7/8" | 72 | 2 27/32" | 4.0 | 33-T45/T51-72-200-23 |

| Wrenches | Application | Length | | Diameter | | Weight approx kg | Part No. |
|---|-------------|--------|------------|----------|------|------------------|-----------------|
| | | mm | ft/in | mm | inch | | |
| For integral drill steels and shank rods | | | | | | | |
|  | Hex22 | 600 | 1' 11 5/8" | 22 | 7/8" | 3.1 | 7-H22/15-600-42 |

| For extension rods | | | | | | | |
|---|----------------|-----|-------------|----|----------|-----|-----------------|
|  | Hex22 | 300 | 11 13/16" | 22 | 7/8" | 3.0 | 7-H22/20-600-42 |
| | Hex25, Round32 | 300 | 11 13/16" | 25 | 1" | 3.0 | 7-H25/20-600-42 |
| | Hex32, Round39 | 370 | 1' 2 9/16" | 32 | 1 1/4" | 3.5 | 7-H32/20-370-42 |
| | Round46 | 370 | 1' 2 9/16" | 38 | 1 1/2" | 3.5 | 7-H38/20-370-42 |
| | Round52 | 370 | 1' 2 9/16" | 45 | 1 49/64" | 3.7 | 7-H45/20-370-42 |
| | DTH | 380 | 1' 2 31/32" | 57 | 2 1/4" | 5.0 | 7-H57/20-380-42 |
| | DTH | 380 | 1' 2 31/32" | 65 | 2 7/12" | 5.2 | 7-H65/20-380-42 |

Auxiliary tools

Knock-off tools

| Application | Length | | Diameter | | Weight approx kg | Part No. |
|--|--------|-------|----------|------|------------------|-----------------|
| | mm | ft/in | mm | inch | | |
| Knock-off-tools for Hex 22 and Hex 25 | | | | | | |
| Hex22 | - | - | - | - | 3.1 | 7-H22/44-160-42 |



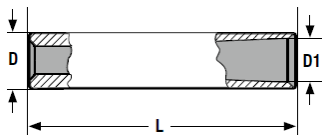
Knock-off-tools for tapered bits

| | | | | | | |
|-------|---|---|---|---|-----|-----------------|
| Hex22 | - | - | - | - | 3.1 | 7-H22/44-160-42 |
| Hex25 | - | - | - | - | 3.1 | 7-H22/44-160-42 |



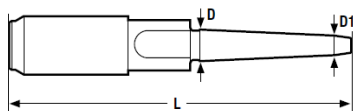
Fishing tools

| Application | Diameter | | Length L | Thread | Weight approx kg | Part No. |
|---------------------------------|----------|------|----------|--------|------------------|-----------------|
| | D | D1 | | | | |
| Fishing sleeve | | | | | | |
| R32round/Hex.rods/coupling | 49 | 47.2 | 300 | R32 | 1.9 | 7-49/R32-300-42 |
| R38 round rods/coupling | 60 | 58 | 353 | R38 | 3.9 | 7-60/R38-353-42 |
| T35 round rods/coupling | 52 | 50 | 284 | T35 | 1.7 | 7-52/T35-284-42 |
| T38 round rods/coupling/MF-rods | 61 | 58.2 | 353 | T38 | 3.9 | 7-61/T38-353-42 |
| T45 round rods/coupling/MF-rods | 71 | 68 | 393 | T45 | 6.0 | 7-71/T45-393-42 |
| T51 round rods/coupling/MF-rods | 82 | 78.2 | 440 | T51 | 8.4 | 7-82/T51-440-42 |
| GT60 rods | 92 | 87.5 | 450 | GT60 | 10.2 | 7-92/T60-450-42 |
| GT60 rods | 89 | 84.5 | 450 | GT60 | 9.9 | 7-89/T60-450-42 |
| ST68 tubes Ø87 | 102 | 92 | 410 | ST68 | 10.9 | 7-92/T60-450-42 |



Fishing sleeve

| | | | | | | |
|----------------|------|----|-----|------|------|------------------|
| R32 rods | 19.4 | 4 | 280 | R32 | 2.0 | 7-4/R32-280-42 |
| T38 rods | 19.4 | 8 | 237 | T38 | 2.5 | 7-8/T38-237-42 |
| T45 rods | 25 | 8 | 275 | T45 | 4.0 | 7-8/T45-275-42 |
| T51 rods | 27 | 15 | 285 | T51 | 5.0 | 7-15/T51-285-42 |
| ST58 tubes Ø76 | 57 | 24 | 500 | ST58 | 10.0 | 7-24/ST58-500-42 |
| ST68 tubes Ø87 | 71 | 32 | 541 | ST68 | 12.0 | 7-32/ST68-547-42 |



Diamond Grinding Cups

Button size: 7-29mm

Bit shape: Dome, Ballistic, Semi-ballistic



King



CME



SVK



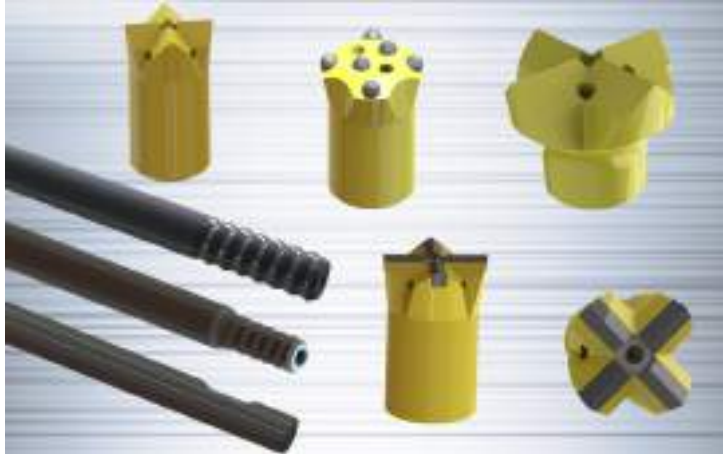
Atlas

Button Bit Grinder G200

Air pressure: 6-8bar

Spindle speed: 20.000rpm





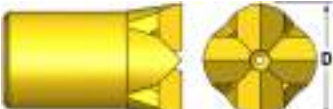
Furnace tapping tools


Page







| | |
|-------------------------|----|
| R32(1 1/4") bit thread | 58 |
| R38 (1 1/2") bit thread | 59 |
| R51 (2") bit thread | 59 |
| T38 (1 1/2") bit thread | 60 |

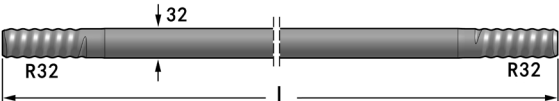
Furnace tapping tools

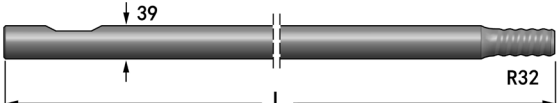
R32 (1 1/4") bit thread

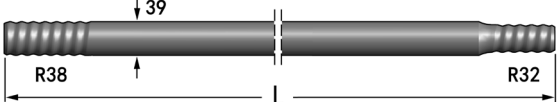
| Drill bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|---------------|---------------|---------------|------|-------|---------------|-------|------------------|---------------|
| | mm | Front No Size | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Full-steel cross bit | | | | | | | | | | |
|  | 55 | 2 1/8" | - | - | - | - | 1 | 4 | 0.6 | 1223-55R32-42 |
| | 60 | 2 3/8" | - | - | - | - | 1 | 4 | 0.7 | 1223-60R32-42 |
| | 65 | 2 1/2" | - | - | - | - | 1 | 4 | 0.9 | 1223-65R32-42 |
| | 70 | 2 3/4" | - | - | - | - | 1 | 4 | 1.3 | 1223-70R32-42 |

| Cross bit | | | | | | | | | | |
|---|----|--------|---|---|---|---|---|---|-----|-----------------------|
|  | 55 | 2 1/8" | - | - | - | - | 1 | 2 | 0.6 | 1222-55R32-10/8-42-23 |
| | 60 | 2 3/8" | - | - | - | - | 1 | 2 | 0.7 | 1222-60R32-10/8-42-23 |
| | 65 | 2 1/2" | - | - | - | - | 1 | 2 | 0.9 | 1222-65R32-10/8-42-23 |
| | 70 | 2 3/4" | - | - | - | - | 1 | 2 | 1.3 | 1222-70R32-10/8-42-23 |
| | 80 | 3 1/7" | - | - | - | - | 1 | 2 | 1.7 | 1222-80R32-10/8-42-23 |

| Button bit | | | | | | | | | | |
|---|----|--------|------|------|---|-----|---|---|-----|--------------------------|
|  | 50 | 2" | 2×10 | 4×10 |  | 35° | 2 | - | 0.6 | 1431-50R32-210/410-42-53 |
| | 55 | 2" | 2×10 | 4×10 |  | 35° | 2 | - | 0.7 | 1431-55R32-210/410-42-53 |
| | 60 | 2 1/4" | 2×10 | 4×10 |  | 35° | 2 | - | 0.8 | 1431-60R32-210/410-42-53 |
| | 65 | 2 1/2" | 2×10 | 4×10 |  | 35° | 2 | - | 1.0 | 1431-65R32-210/410-42-53 |
| | 70 | 2 3/4" | 2×10 | 4×10 |  | 35° | 2 | - | 1.4 | 1431-70R32-210/410-42-53 |

| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|--------|----------|--------|------------------|-------------------|
| | mm | ft/in | mm | inch | | |
| Drill rod, R32—Round32—R32 | | | | | | |
|  | 3000 | 9' 10" | 32 | 1 1/4" | 17.7 | 25R32-R32-3000-42 |
| | 3500 | 11' 6" | 32 | 1 1/4" | 20.7 | 25R32-R32-3500-42 |
| | 4000 | 13' 2" | 32 | 1 1/4" | 23.6 | 25R32-R32-4000-42 |
| | 4500 | 14' 9" | 32 | 1 1/4" | 26.6 | 25R32-R32-4500-42 |


| | | | | | | |
|---|------|--------|----|--------|------|----------------------|
| Drill rod, Round39—R32 | | | | | | |
|  | 4000 | 13' 2" | 39 | 1 1/2" | 32.4 | 25R39-R32/39-4000-42 |
| | 4500 | 14' 9" | 39 | 1 1/2" | 36.5 | 25R39-R32/39-4500-42 |
| | 5000 | 16' 5" | 39 | 1 1/2" | 40.5 | 25R39-R32/39-5000-42 |
| | 6000 | 19' 8" | 39 | 1 1/2" | 48.6 | 25R39-R32/39-6000-42 |






| | | | | | | |
|---|------|--------|----|--------|------|-----------------------|
| Drill rod, R38—Round39—R32 | | | | | | |
|  | 4000 | 13' 2" | 39 | 1 1/2" | 32.4 | 25R39-R32/R38-4000-42 |
| | 4500 | 14' 9" | 39 | 1 1/2" | 36.5 | 25R39-R32/R38-4500-42 |
| | 5000 | 16' 5" | 39 | 1 1/2" | 40.5 | 25R39-R32/R38-5000-42 |
| | 6000 | 19' 8" | 39 | 1 1/2" | 48.6 | 25R39-R32/R38-6000-42 |

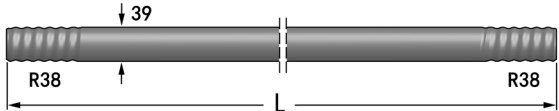
R32 (1 1/4")

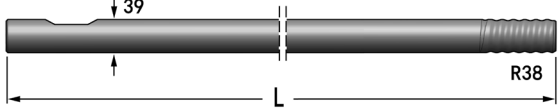
Furnace tapping tools

R38 (1 1/2") bit thread


| Drill bits | Diameter | | Buttons, mm | | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|---------------|---------------|---------------|------|-------|-------|---------------|-----|-----------------------|----------|
| | mm | Front No Size | Front No Size | Gauge No Size | Type | Front | | Gauge | | | |
| Cross bit | | | | | | | | | | | |
|  | 60 | 2 3/8" | - | - | - | - | 1 | 2 | 1.2 | 1222-60R38-10/8-42-23 | |
| | 65 | 2 1/2" | - | - | - | - | 1 | 2 | 1.4 | 1222-65R38-10/8-42-23 | |
| | 70 | 2 3/4" | - | - | - | - | 1 | 2 | 1.5 | 1222-70R38-10/8-42-23 | |
| | 80 | 3 1/7" | - | - | - | - | 1 | 2 | 1.7 | 1222-80R38-10/9-42-23 | |

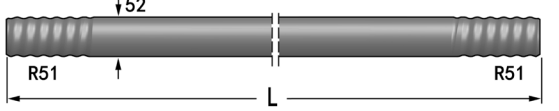
| Button bit | | | | | | | | | | | |
|---|----|--------|------|------|---|-----|---|---|-----|--------------------------|--|
|  | 55 | 2" | 2×10 | 4×10 |  | 35° | 2 | - | 1.0 | 1431-55R38-210/410-42-53 | |
| | 60 | 2 1/4" | 2×10 | 4×10 |  | 35° | 2 | - | 1.2 | 1431-60R38-210/410-42-53 | |
| | 65 | 2 1/2" | 2×10 | 4×10 |  | 35° | 2 | - | 1.4 | 1431-65R38-210/410-42-53 | |
| | 70 | 2 3/4" | 2×10 | 4×10 |  | 35° | 2 | - | 1.5 | 1431-70R38-210/410-42-53 | |

| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|--------|----------|--------|------------------|-------------------|
| | mm | ft/in | mm | inch | | |
| Drill rod, R38—Round39—R38 | | | | | | |
|  | 4000 | 13' 2" | 39 | 1 1/2" | 32.4 | 25R39-R38-4000-42 |
| | 4500 | 14' 9" | 39 | 1 1/2" | 36.5 | 25R39-R38-4500-42 |
| | 5000 | 16' 5" | 39 | 1 1/2" | 40.5 | 25R39-R38-5000-42 |
| | 6000 | 19' 8" | 39 | 1 1/2" | 48.6 | 25R39-R38-6000-42 |

| | | | | | | |
|---|------|--------|----|--------|------|----------------------|
| Drill rod, Round39—R38 | | | | | | |
|  | 4000 | 13' 2" | 39 | 1 1/2" | 32.4 | 25R39-R38/39-4000-42 |
| | 4500 | 14' 9" | 39 | 1 1/2" | 36.5 | 25R39-R38/39-4500-42 |
| | 5000 | 16' 5" | 39 | 1 1/2" | 40.5 | 25R39-R38/39-5000-42 |
| | 6000 | 19' 8" | 39 | 1 1/2" | 48.6 | 25R39-R38/39-6000-42 |

R51(2") bit thread

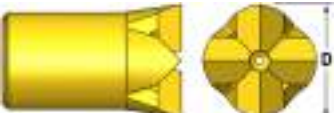
| Drill bits | Diameter | | Buttons, mm | | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|---------------|---------------|---------------|------|-------|-------|---------------|-----|------------------------|----------|
| | mm | Front No Size | Front No Size | Gauge No Size | Type | Front | | Gauge | | | |
| Cross bit, R51 | | | | | | | | | | | |
|  | 80 | 3 1/7" | - | - | - | - | 1 | 2 | 1.7 | 1222-80R51-10/9-42-23 | |
| | 90 | 3 1/2" | - | - | - | - | 1 | 2 | 1.7 | 1222-90R51-10/9-42-23 | |
| | 100 | 3 3/4" | - | - | - | - | 1 | 2 | 1.9 | 1222-100R51-10/9-42-23 | |


| | | | | | | |
|---|------|--------|----|----|------|-------------------|
| Drill rod, R51—Round52—R51 | | | | | | |
|  | 4000 | 13' 2" | 52 | 2" | 44.0 | 25R52-R51-4000-42 |
| | 4500 | 14' 9" | 52 | 2" | 49.0 | 25R52-R51-4500-42 |
| | 5000 | 16' 5" | 52 | 2" | 55.0 | 25R52-R51-5000-42 |
| | 6000 | 19' 8" | 52 | 2" | 66.0 | 25R52-R51-6000-42 |





R38 (1 1/2")


Furnace tapping tools

T38 (1 1/2") bit thread

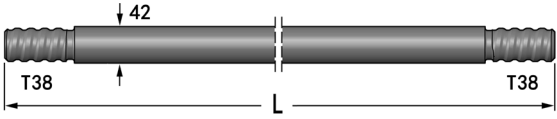
| Drill bits | Diameter | | Buttons, mm | | | Angle | Flushing hole | | Weight approx kg | Part No. |
|---|----------|---------------|---------------|---------------|------|-------|---------------|-------|------------------|---------------|
| | mm | Front No Size | Front No Size | Gauge No Size | Type | | Front | Gauge | | |
| Full-steel cross bit | | | | | | | | | | |
|  | 55 | 2 1/8" | - | - | - | - | 1 | 4 | 0.6 | 1223-55T38-42 |
| | 60 | 2 3/8" | - | - | - | - | 1 | 4 | 0.7 | 1223-60T38-42 |
| | 65 | 2 1/2" | - | - | - | - | 1 | 4 | 0.9 | 1223-65T38-42 |
| | 70 | 2 3/4" | - | - | - | - | 1 | 4 | 1.3 | 1223-70T38-42 |

| Cross bit, R38 | | | | | | | | | | |
|---|----|--------|---|---|---|---|---|---|-----|-----------------------|
|  | 60 | 2 3/8" | - | - | - | - | 1 | 2 | 1.2 | 1222-60T38-10/8-42-23 |
| | 65 | 2 1/2" | - | - | - | - | 1 | 2 | 1.4 | 1222-65T38-10/8-42-23 |
| | 70 | 2 3/4" | - | - | - | - | 1 | 2 | 1.5 | 1222-70T38-10/8-42-23 |
| | 80 | 3 1/7" | - | - | - | - | 1 | 2 | 1.7 | 1222-80T38-10/9-42-23 |
| | 90 | 3 1/2" | - | - | - | - | 1 | 2 | 1.9 | 1222-90T38-10/9-42-23 |

| Button bit | | | | | | | | | | |
|---|----|--------|------|------|---|-----|---|---|-----|--------------------------|
|  | 60 | 2 1/4" | 2×10 | 4×10 |  | 35° | 2 | - | 1.2 | 1431-60T38-210/410-42-53 |
| | 65 | 2 1/2" | 2×10 | 4×10 |  | 35° | 2 | - | 1.6 | 1431-65T38-210/410-42-53 |
| | 70 | 2 3/4" | 2×10 | 4×10 |  | 35° | 2 | - | 1.6 | 1431-70T38-210/410-42-53 |
| | 80 | 3 1/7" | 2×10 | 4×10 |  | 35° | 2 | - | 1.6 | 1431-80T38-210/410-42-53 |

| Rods | Length | | Diameter | | Weight approx kg | Part No. |
|---|--------|--------|----------|--------|------------------|-------------------|
| | mm | ft/in | mm | inch | | |
| Drill rod, T38—Round39—T38 | | | | | | |
|  | 4000 | 13' 2" | 39 | 1 1/2" | 32.4 | 25R39-T38-4000-42 |
| | 4500 | 14' 9" | 39 | 1 1/2" | 36.5 | 25R39-T38-4500-42 |
| | 5000 | 16' 5" | 39 | 1 1/2" | 40.5 | 25R39-T38-5000-42 |
| | 6000 | 19' 8" | 39 | 1 1/2" | 48.6 | 25R39-T38-6000-42 |

| Drill rod, Round39—T38 | | | | | | |
|---|------|--------|----|--------|------|----------------------|
|  | 4000 | 13' 2" | 39 | 1 1/2" | 32.4 | 25R39-T38/39-4000-42 |
| | 4500 | 14' 9" | 39 | 1 1/2" | 36.5 | 25R39-T38/39-4500-42 |
| | 5000 | 16' 5" | 39 | 1 1/2" | 40.5 | 25R39-T38/39-5000-42 |
| | 6000 | 19' 8" | 39 | 1 1/2" | 48.6 | 25R39-T38/39-6000-42 |

| Drill rod, T38—Round42—T38 | | | | | | |
|---|------|--------|----|----------|------|-------------------|
|  | 4000 | 13' 2" | 42 | 1 21/32" | 32.4 | 25R39-T38-4000-42 |
| | 4255 | 14' 1" | 42 | 1 21/32" | 34.5 | 25R39-T38-4255-42 |
| | 6000 | 19' 8" | 42 | 1 21/32" | 48.6 | 25R39-T38-6000-42 |
| | 5040 | 16' 7" | 42 | 1 21/32" | 40.8 | 25R39-T38-5040-42 |

T38 (1")



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XIAMEN PRODRILL EQUIPMENT CO., LTD

BEIJING PRODRILL EQUIPMENT CO., LTD

Xiamen Tel +86 59 25187313 Beijing Tel +86 10 53689571

Mobile/WhatsApp/WeChat +86 13911107654

Email: sales@prodrill.com.cn