



ROCK DRILLING TOOLS

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DTH HAMMER

DTH HAMMER

TEMPUS supplies wide range and most efficient Down-the-Hole (DTH) hammers and bits for the mining blasting, water well, especially deep well drilling, geothermal drilling foundation and construction projects.

We offer three series DTH hammers.

- ▶ JS Series DTH HAMMER without foot valve.
- ▶ JH Series DTH HAMMER with foot valve
- ▶ Large diameter DTH HAMMER.

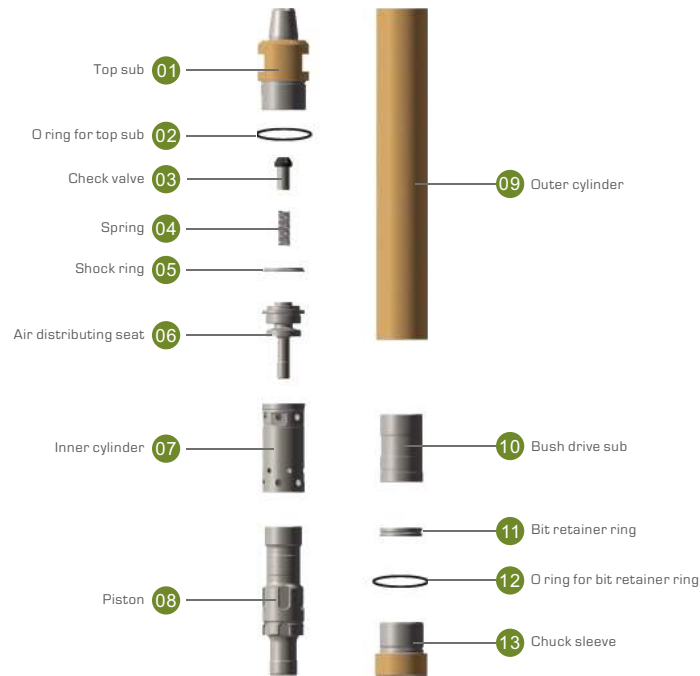


JS SERIES DTH HAMMER

JS DTH hammer without foot valve is a new high pressure hammer developed by our company.

Features

- ◆ Simple structure ensures easy maintenance and reliability.
- ◆ Optimized design maximizes energy output.
- ◆ High impact power and frequency design ensures smooth operation, drill speeds 10%~15% higher than foot valve types.
- ◆ Bits are valveless to prevent the issue of foot valve breakage.
- ◆ All critical internal components under strict heat treatment to maximize tool longevity.



Top sub with carbides is available



| Hammer mode | Dth bit shank | Foot valve | Thread connection | Hammer OD(mm) | Rec. hole size(mm) | Length without bit(mm) | Piston (kg) | Hammer weight(kg) | Working pressure(bar) |
|-------------|---------------|------------|-------------------|---------------|--------------------|------------------------|-------------|-------------------|-----------------------|
|-------------|---------------|------------|-------------------|---------------|--------------------|------------------------|-------------|-------------------|-----------------------|

3.5" Hammer

| | | | | | | | | | |
|--------|--------|----|--------------------|----|--------|-----|-----|------|-------|
| JS3.5B | BR33 | No | API 2 3/8" REG pin | 80 | 90-105 | 847 | 4.1 | 24.0 | 14-20 |
| JS3.5D | DHD3.5 | No | API 2 3/8" REG pin | 80 | 90-105 | 863 | 4.1 | 24.0 | 14-20 |

4" Hammer

| | | | | | | | | | |
|------|--------|----|--------------------|----|---------|-------|-----|------|-------|
| JS4H | DHD340 | No | API 2 3/8" REG pin | 99 | 105-130 | 967 | 8.7 | 40.0 | 16-25 |
| JS4S | SD4 | No | API 2 3/8" REG pin | 99 | 105-130 | 998 | 8.7 | 40.0 | 16-25 |
| JS4M | M40 | No | API 2 3/8" REG pin | 99 | 105-130 | 986 | 8.7 | 41.0 | 16-25 |
| JS4X | QLX40 | No | API 2 3/8" REG pin | 99 | 105-130 | 967.5 | 8.7 | 40.0 | 16-25 |

5" Hammer

| | | | | | | | | | |
|------|--------|----|--------------------------|-----|---------|------|------|------|-------|
| JS5H | DHD350 | No | API 2 3/8" or API 3 1/2" | 126 | 140-152 | 1089 | 14.8 | 69.5 | 16-28 |
| JS5S | SD5 | No | API 2 3/8" or API 3 1/2" | 126 | 140-152 | 1089 | 14.8 | 69.8 | 16-28 |
| JS5M | M50 | No | API 2 3/8" or API 3 1/2" | 126 | 140-152 | 1089 | 14.8 | 68.8 | 16-28 |
| JS5L | QL50 | No | API 2 3/8" or API 3 1/2" | 126 | 140-152 | 1089 | 14.8 | 70.0 | 16-28 |

6" Hammer

| | | | | | | | | | |
|------|--------|----|--------------------|-----|---------|--------|------|-------|-------|
| JS6H | DHD360 | No | API 3 1/2" REG pin | 148 | 155-190 | 1163.5 | 23.3 | 101.5 | 16-30 |
| JS6S | SD6 | No | API 3 1/2" REG pin | 148 | 155-190 | 1180 | 23.3 | 99 | 16-30 |
| JS6M | M60 | No | API 3 1/2" REG pin | 148 | 155-190 | 1087 | 23.3 | 100 | 16-30 |
| JS6L | QL60 | No | API 3 1/2" REG pin | 148 | 155-190 | 1161 | 23.3 | 105 | 16-30 |

8" Hammer

| | | | | | | | | | |
|------|--------|----|--------------------|-----|---------|------|------|-----|-------|
| JS8H | DHD380 | No | API 4 1/2" REG pin | 185 | 203-245 | 1365 | 42.5 | 195 | 16-30 |
| JS8S | SD8 | No | API 4 1/2" REG pin | 185 | 203-245 | 1333 | 42.5 | 195 | 16-30 |
| JS8M | M80 | No | API 4 1/2" REG pin | 185 | 203-245 | 1342 | 42.5 | 193 | 16-30 |
| JS8L | QL80 | No | API 4 1/2" REG pin | 185 | 203-245 | 1283 | 42.5 | 192 | 16-30 |

10" Hammer

| | | | | | | | | | |
|-------|---------|----|--------------------------|-----|---------|------|------|-----|-------|
| JS10N | Numa100 | No | API 5 1/2" or API 6 5/8" | 225 | 245-305 | 1492 | 70.5 | 295 | 16-35 |
| JS10S | SD10 | No | API 5 1/2" or API 6 5/8" | 225 | 245-305 | 1490 | 70.5 | 293 | 16-35 |

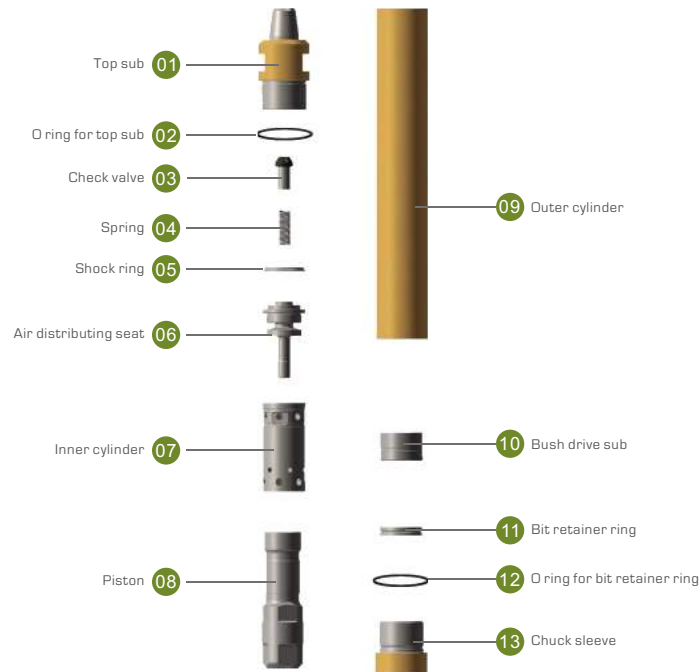


JH SERIES DTH HAMMER

The JH DTH hammer with foot valve is a new high pressure hammer developed by our company.

Features

- ◆ High impact frequency ensures smooth operation.
- ◆ Parts made from high quality special steel with hardened surfaces for better durability.
- ◆ Simple structure ensures reliability, easy disassembly, and convenient maintenance.



Top sub with carbides is available



| Hammer mode | Dth bit shank | Foot valve | Thread connection | Hammer OD(mm) | Rec. hole size(mm) | Length without bit(mm) | Piston (kg) | Hammer weight(kg) | Working pressure(bar) |
|-------------|---------------|------------|-------------------|---------------|--------------------|------------------------|-------------|-------------------|-----------------------|
|-------------|---------------|------------|-------------------|---------------|--------------------|------------------------|-------------|-------------------|-----------------------|

3.5" Hammer

| | | | | | | | | | |
|--------|--------|-----|--------------------|----|--------|-----|-----|----|-------|
| JH3.5D | DHD3.5 | Yes | API 2 3/8" REG pin | 80 | 90-105 | 863 | 4.1 | 23 | 14-20 |
|--------|--------|-----|--------------------|----|--------|-----|-----|----|-------|

4" Hammer

| | | | | | | | | | |
|------|--------|-----|--------------------|----|---------|-----|-----|------|-------|
| JH4H | DHD340 | Yes | API 2 3/8" REG pin | 99 | 105-130 | 952 | 9.4 | 38 | 16-25 |
| JH4S | SD4 | Yes | API 2 3/8" REG pin | 99 | 105-130 | 998 | 9.4 | 38.8 | 16-25 |
| JH4X | QLX40 | Yes | API 2 3/8" REG pin | 99 | 105-130 | 950 | 9.4 | 37 | 16-25 |

5" Hammer

| | | | | | | | | | |
|------|--------|-----|--------------------------|-----|---------|------|------|------|-------|
| JH5H | DHD350 | Yes | API 2 3/8" or API 3 1/2" | 126 | 140-152 | 1070 | 15.5 | 68.5 | 16-28 |
| JH5S | SD5 | Yes | API 2 3/8" or API 3 1/2" | 126 | 140-152 | 1070 | 15.5 | 69.4 | 16-28 |
| JH5L | QL50 | Yes | API 2 3/8" or API 3 1/2" | 126 | 140-152 | 1069 | 15.5 | 69 | 16-28 |

6" Hammer

| | | | | | | | | | |
|------|--------|-----|--------------------|-----|---------|------|------|-------|-------|
| JH6H | DHD360 | Yes | API 3 1/2" REG pin | 148 | 155-190 | 1163 | 25.4 | 101.5 | 16-30 |
| JH6S | SD6 | Yes | API 3 1/2" REG pin | 148 | 155-190 | 1180 | 25.4 | 99 | 16-30 |
| JH6L | QL60 | Yes | API 3 1/2" REG pin | 148 | 155-190 | 1109 | 25.4 | 98 | 16-30 |

8" Hammer

| | | | | | | | | | |
|------|--------|-----|--------------------|-----|---------|------|----|-----|-------|
| JH8H | DHD380 | Yes | API 4 1/2" REG pin | 185 | 203-245 | 1305 | 42 | 173 | 16-30 |
| JH8S | SD8 | Yes | API 4 1/2" REG pin | 185 | 203-245 | 1273 | 42 | 173 | 16-30 |
| JH8L | QL80 | Yes | API 4 1/2" REG pin | 185 | 203-245 | 1285 | 42 | 180 | 16-30 |

10" Hammer

| | | | | | | | | | |
|-------|---------|-----|--------------------------|-----|---------|------|----|-----|-------|
| JH10N | Numa100 | Yes | API 5 1/2" or API 6 5/8" | 225 | 245-305 | 1522 | 73 | 302 | 16-35 |
| JH10S | SD10 | Yes | API 5 1/2" or API 6 5/8" | 225 | 245-305 | 1503 | 73 | 295 | 16-35 |

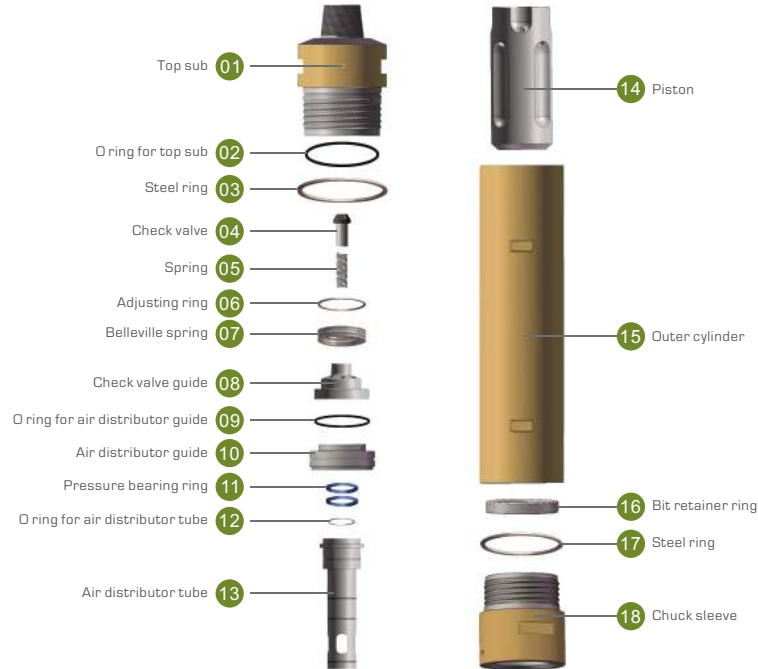


LARGE DIAMETER DTH HAMER

Large diameter DTH , designed by Tianhe Drill for over a decade, boasts stable performance and a long service life. It excels in challenging terrains like karst caves, gravel layers, block stones, and slightly weathered bedrock, extensively used in pile foundations, water well drilling and other projects.

Features

- ◆ Simple structure without an inner cylinder, ensuring high reliability and easy maintenance.
- ◆ Drilling hard rock with high penetration rates.
- ◆ Manufactured from special steel, resulting in low failure and crack rates.
- ◆ Features a dedicated fixed position for the hammer casing enabling convenient modifications.



Top sub with carbides is available



| Hammer mode | Dth bit shank | Foot valve | Thread connection | Hammer OD(mm) | Rec. hole size(mm) | Length without bit(mm) | Piston (kg) | Hammer weight(kg) | Working pressure(bar) |
|-------------|---------------|------------|-------------------|---------------|--------------------|------------------------|-------------|-------------------|-----------------------|
|-------------|---------------|------------|-------------------|---------------|--------------------|------------------------|-------------|-------------------|-----------------------|

12" Hammer

| | | | | | | | | | |
|--------|---------|-----|---------------|-----|---------|--------|-------|-----|-------|
| TK12H | DHD112 | Yes | API 6 5/8"REG | 275 | 305-380 | 1698.5 | 116.5 | 551 | 16-35 |
| TSK12H | DHD112 | No | API 6 5/8"REG | 275 | 305-380 | 1818 | 121.5 | 560 | 16-35 |
| TK12S | SD12 | Yes | API 6 5/8"REG | 275 | 305-380 | 1678.5 | 121.5 | 548 | 16-35 |
| TSK12S | SD12 | No | API 6 5/8"REG | 275 | 305-380 | 1743.5 | 121.5 | 545 | 16-35 |
| TK12N | NUMA120 | Yes | API 6 5/8"REG | 275 | 305-380 | 2015 | 120.5 | 578 | 16-35 |
| TK12HN | NUMA125 | Yes | API 6 5/8"REG | 275 | 305-380 | 1699 | 116.5 | 550 | 16-35 |
| TK12L | QL120 | Yes | API 6 5/8"REG | 275 | 305-380 | 1699 | 116.5 | 550 | 16-35 |

14" Hammer

| | | | | | | | | | |
|------|------|-----|---------------|-----|---------|------|-----|-----|-------|
| TK14 | TK14 | Yes | API 7 5/8"REG | 335 | 400-500 | 1954 | 198 | 894 | 16-35 |
|------|------|-----|---------------|-----|---------|------|-----|-----|-------|

18" Hammer

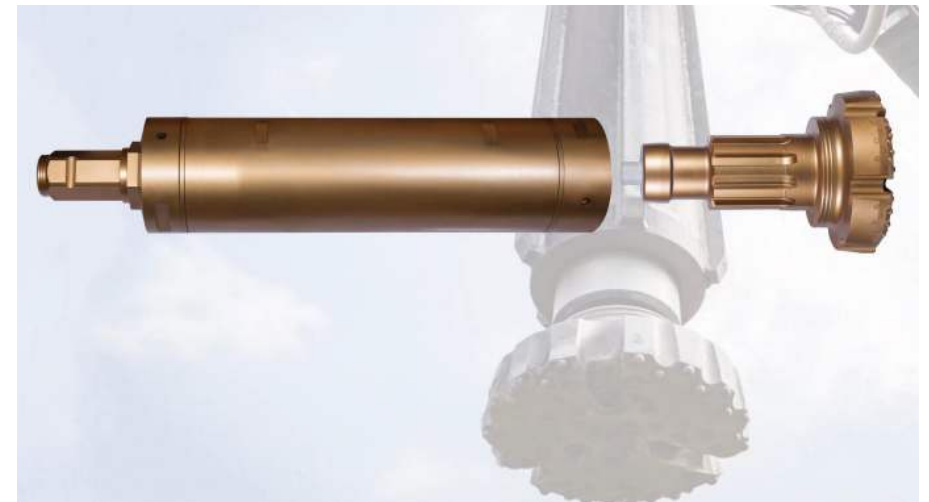
| | | | | | | | | | |
|------|---------|-----|--------------------------|-----|---------|------|-----|------|-------|
| TK18 | NUMA180 | Yes | API 7 5/8" or API 8 5/8" | 406 | 500-650 | 2162 | 329 | 1464 | 16-35 |
|------|---------|-----|--------------------------|-----|---------|------|-----|------|-------|

24" Hammer

| | | | | | | | | | |
|------|------|-----|---------------|-----|---------|------|-----|------|-------|
| TK24 | TK24 | Yes | API 8 5/8"REG | 540 | 650-800 | 2270 | 680 | 2890 | 16-35 |
|------|------|-----|---------------|-----|---------|------|-----|------|-------|

28" Hammer

| | | | | | | | | | |
|------|------|-----|-----------|-----|----------|------|-----|------|-------|
| TK28 | TK28 | Yes | Hexagonal | 650 | 800-1150 | 2618 | 790 | 4582 | 16-35 |
|------|------|-----|-----------|-----|----------|------|-----|------|-------|



DTH BIT

Bit Face Selection



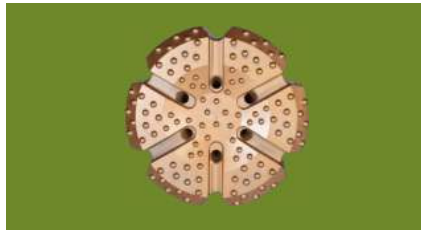
Flat Face
Hard to very hard and abrasive rock



Concave Face
Uniform rock



Convex Face
Soft-medium hard rock



Drop Center Bit
Soft to medium-hard and fissured rock

Button Shape Selection



Spherical



Parabolic

Features

- 1.Enhanced fatigue strength through advanced forging technology.
- 2.High quality carbide in optimal sizes for stable longevity.
- 3.Precision inlaying technology prevents carbide detachment.
- 4.State of the art heat treatment ensures superior hardness and wear resistance.
- 5.Tailored design and specialized processing for extended service life across various rock formations.



DTH BIT WITHOUT FOOT VALVE

DHD Shank



| Model | Bit shank | L | Φ | Spline | Air hole | Rec.hole size(mm) |
|--------|-----------|-----|-------|--------|----------|-------------------|
| JS3.5B | BR33 | 165 | 54 | 7 | 2 | 90-105 |
| JS3.5D | DHD3.5 | 181 | 54.6 | 8 | 2 | 90-105 |
| JS4H | DHD340 | 209 | 65 | 8 | 2 | 105-130 |
| JS5H | DHD350 | 260 | 84 | 8 | 2 | 140-152 |
| JS6H | DHD360 | 308 | 101.5 | 8 | 2 | 152-190 |
| JS8H | DHD380 | 350 | 128.5 | 10 | 2 | 203-245 |
| TSK12H | DHD112 | 490 | 183 | 8 | 3 | 305-380 |

SD Shank



| Model | Bit shank | L | Φ | Spline | Air hole | Rec.hole size(mm) |
|--------|-----------|-------|-------|--------|----------|-------------------|
| JS4S | SD4 | 260 | 67 | 8 | 2 | 105-130 |
| JS5S | SD5 | 258 | 82.5 | 8 | 2 | 140-152 |
| JS6S | SD6 | 324 | 102 | 8 | 2 | 152-190 |
| JS8S | SD8 | 321 | 118 | 8 | 2 | 203-245 |
| JS10S | SD10 | 355.8 | 164.5 | 8 | 2 | 245-305 |
| JSK12S | SD12 | 470 | 185.5 | 8 | 3 | 305-380 |

MISSION Shank



| Model | Bit shank | L | Φ | Spline | Air hole | Rec.hole size(mm) |
|--------|-----------|-----|-------|--------|----------|-------------------|
| JS3.5M | MISSION35 | 225 | 55 | 8 | 2 | 90-105 |
| JS4M | MISSION40 | 228 | 68 | 12 | 2 | 105-130 |
| JS5M | MISSION50 | 260 | 82.5 | 12 | 2 | 140-152 |
| JS6M | MISSION60 | 231 | 106.5 | 12 | 2 | 152-190 |
| JS8M | MISSION80 | 329 | 128.5 | 12 | 2 | 203-245 |

QL Shank



| Model | Bit shank | L | Φ | Spline | Air hole | Rec.hole size(mm) |
|-------|-----------|-------|-------|--------|----------|-------------------|
| JS4X | QLX40 | 209.5 | 69 | 12 | 2 | 105-130 |
| JS5L | QL50 | 240 | 88.5 | 12 | 2 | 140-152 |
| JS6L | QL60 | 253 | 106 | 12 | 2 | 152-190 |
| JS8L | QL80 | 331 | 136 | 16 | 2 | 203-245 |
| TK12L | QL120 | 492 | 208.5 | 12 | 3 | 305-380 |



SD Shank



| Model | Bit shank | L | Φ | L1 | Φ1 | Spline | Air hole | Rec.hole size(mm) |
|-------|-----------|-------|-------|------|------|--------|----------|-------------------|
| JH4S | SD4 | 260 | 67 | 54 | 26 | 8 | 2 | 105-130 |
| JH5S | SD5 | 258 | 82.5 | 54.5 | 32 | 8 | 2 | 140-152 |
| JH6S | SD6 | 324 | 102 | 53 | 36.4 | 8 | 2 | 152-190 |
| JH8S | SD8 | 321 | 118 | 57 | 41 | 8 | 2 | 203-245 |
| JH10S | SD10 | 355.8 | 164.5 | 60.3 | 56 | 8 | 3 | 245-305 |
| JK12S | SD12 | 470 | 185.5 | 48 | 63.2 | 8 | 3 | 305-380 |

DTH BIT WITH FOOT VALVE

DHD Shank



| Model | Bit shank | L | Φ | L1 | Φ1 | Spline | Air hole | Rec.hole size(mm) |
|--------|-----------|-----|-------|------|------|--------|----------|-------------------|
| JH3.5D | DHD3.5 | 181 | 54.6 | 54.6 | 24.5 | 8 | 2 | 90-105 |
| JH4H | DHD340 | 209 | 65 | 59 | 27 | 8 | 2 | 105-130 |
| JH5H | DHD350 | 260 | 84 | 56 | 35 | 8 | 2 | 140-152 |
| JH6H | DHD360 | 308 | 101.5 | 55 | 38 | 8 | 2 | 152-190 |
| JH8H | DHD380 | 350 | 128.5 | 51 | 50.6 | 10 | 2 | 203-245 |
| JK12H | DHD112 | 490 | 183 | 52.2 | 63.2 | 8 | 3 | 305-380 |

SD Shank



| Model | Bit shank | L | Φ | L1 | Φ1 | Spline | Air hole | Rec.hole size(mm) |
|-------|-----------|-------|-------|------|------|--------|----------|-------------------|
| JH4X | QLX40 | 209.5 | 69 | 58 | 32.2 | 12 | 2 | 105-130 |
| JH5L | QL50 | 240 | 88.5 | 52 | 38.5 | 12 | 2 | 140-152 |
| JH6L | QL60 | 253 | 106 | 59 | 46 | 12 | 2 | 152-190 |
| JH8L | QL80 | 331 | 136 | 54 | 54.6 | 16 | 2 | 203-245 |
| TK12L | QL120 | 492 | 208.5 | 52.2 | 71.5 | 12 | 3 | 305-380 |

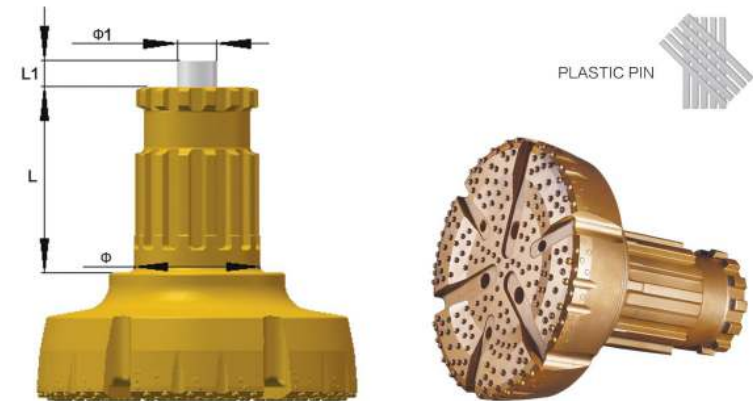
LARGE DIAMETER DTH BIT

Features

- ◆ Military grade special steel minimizes breakage and cracking failures.
- ◆ Advanced forging process enhances the fatigue strength of the drill bit steel body.
- ◆ Ultrasonic and magnetic particle flaw detection identify and eliminate material and forging defects, reducing potential quality issues during drilling.
- ◆ Larger carbides extend the service life of the drill bit.
- ◆ CNC machining ensures precise dimensions of the drill bit.
- ◆ Specially designed foot valve provides high strength and toughness, ensuring reliable performance.
- ◆ Shock absorbing plastic pin enhances the service life of the shank spline.



Numa Shank



| Model | Bit shank | L | Φ | L1 | Φ1 | Spline | Air hole | Rec.hole size(mm) |
|--------|-----------|-------|-----|------|-------|--------|----------|-------------------|
| JH10N | NUMA100 | 375 | 165 | 53 | 54 | 10 | 3 | 245-305 |
| TK12N | Numa120 | 490.5 | 191 | 56.5 | 75.6 | 12 | 3 | 305-380 |
| TK12HN | Numa125 | 491 | 209 | 54 | 74.5 | 10 | 3 | 305-380 |
| TK14 | TK14 | 520 | 235 | / | / | 10 | 3 | 400-500 |
| TK18 | NUMA180 | 527.5 | 297 | 80.7 | 93.2 | 12 | 6 | 500-600 |
| TK24 | TK24 | 560 | 380 | 80 | 118.2 | 14 | 6 | 600-800 |
| TK28 | TK28 | 560 | 430 | 80 | 118.2 | 16 | 6 | 800-1150 |

LARGE DIAMETER DTH BIT

RC hammer provides a cost-effective and reliable sampling solution for obtaining high-quality geological samples in mineral exploration drilling.

Features

- ◆ Smooth sample flushing through the inner pipe with minimal resistance.
- ◆ Environmentally friendly drilling with rock cutting contained and not flushed into the air.
- ◆ Low air consumption.
- ◆ Accurate sampling.
- ◆ Inner pipe, shrouds, and sample tube made from special alloy steel with reinforced flushing surfaces.

Numa Shank

| Bit diameter | | No.X Button diameter(mm) | | Air hole | Weight (kg) | Hammer type |
|--------------|-------|--------------------------|-----------|----------|-------------|-------------|
| mm | inch | Gauge | Front | | | |
| 115 | 4 1/2 | 8x14 | 4x14+4x13 | 2 | 10 | TH1080RC |
| 120 | 4 3/4 | 8x14 | 4x14+4x13 | 2 | 10.5 | TH1162RC |
| 127 | 5 | 8x14 | 4x14+4x13 | 2 | 11 | TH1186RC |
| 130 | 5 1/8 | 8x16 | 6x14+4x14 | 2 | 11.5 | TH1214RC |
| 133 | 5 1/4 | 8x16 | 6x14+5x14 | 2 | 15.6 | |
| 137 | 5 3/8 | 8x16 | 6x14+5x14 | 2 | 16.0 | TH1261RC |
| 140 | 5 1/2 | 8x16 | 6x14+5x14 | 2 | 18.8 | TH1305RC |
| 146 | 5 4/3 | 8x16 | 6x14+5x14 | 2 | 19.5 | |
| 152 | 6 | 8x16 | 6x14+5x14 | 2 | 21 | |

We provide a complete production solution including RC hammers, bits, dual wall drill pipes, RC stabilizers, and sub adapters.

| Model | Rec.hole size(mm) | Thread connction | Outer diameter(mm) | Length without bit(mm) | Weight(kg) |
|----------|-------------------|------------------|--------------------|------------------------|------------|
| TH1080RC | 115-130 | REMET3.5" | 108 | 1145 | 50 |
| TH1162RC | 124-146 | METZKE4.0" | 116 | 1191 | 61 |
| TH1186RC | 126-146 | REMET4.0" | 118 | 1210 | 64 |
| TH1214RC | 130-146 | METZKE4.0" | 121 | 1234 | 73 |
| TH1261RC | 135-152 | REMET4.5" | 126 | 1272 | 68 |
| TH1305RC | 140-165 | REMET4.5" | 130 | 1294 | 82 |
| TH0820RC | 203-254 | REMET4.5" | 188 | 1415 | 210 |
| TH12J0RC | 305-450 | API 8 5/8" REG | 280 | 1869.5 | 590 |



DTH DRILL ROD

| Outer diameter | | Wall thickness (mm) | Thread pin/box | Length range (m) |
|----------------|-----|---------------------|----------------------------------|------------------|
| inch | mm | | | |
| 2 8/7 | 73 | 4.5-6.5 | API 2 3/8" REG or 2 3/8" IF | 1-9.14 |
| 3 1/2 | 89 | 4.5-6.5 | API 2 3/8" REG or 2 3/8" IF | 1-9.14 |
| 4 | 102 | 6.5-8.5 | API 3 1/2" REG or 2 7/8" IF | 1-12 |
| 4 1/2 | 114 | 6.5-8.5 | API 3 1/2" REG or 2 7/8" IF | 1-12 |
| 5 | 127 | 6.5-8.5 | API 3 1/2" REG or 2 7/8" IF | 1-12 |
| 5 3/4 | 146 | 8.5-10 | API 4 1/2" REG | 1-12 |
| 6 5/8 | 168 | 8.5-10 | API 6 5/8" REG | 1-12 |
| 7 | 178 | 19-25 | API 4 1/2" REG or BECO 4 1/2" | 6-12 |
| 7 5/8 | 194 | 19-25 | BECO 5 1/4" or BECO 6" | 6-12 |
| 8 5/8 | 219 | 19-25 | API 5 1/2" REG or API 6 5/8" REG | 6-12 |
| 10 3/4 | 273 | 19-25 | API 7 5/8" REG or BECO 8" | 6-12 |

Other sizes can be customized upon requesting.



RC ROD



| Outer diameter | | Wall thickness (mm) | Thread pin/box | Length range (m) |
|----------------|-----|---------------------|---------------------------|------------------|
| inch | mm | | | |
| 3 1/2 | 89 | 6.5 | REMET 3.5" | 1.5-3 |
| 4 | 102 | 6.5 | REMET 4" or METZKE 4" | 2-6 |
| 4 1/2 | 114 | 6.5-8.5 | REMET 4.5" or METZKE 4.5" | 3-6 |



CASING DRILLING TOOLS

INTRODUCTION

Drilling through formations with loose, unconsolidated formation always comes with problems such as the bore hole caving in or collapsing.

With years of research and practice, We have developed different casing drilling tools for the widest applications including Eccentric casing system and several types of Concentric casing systems.

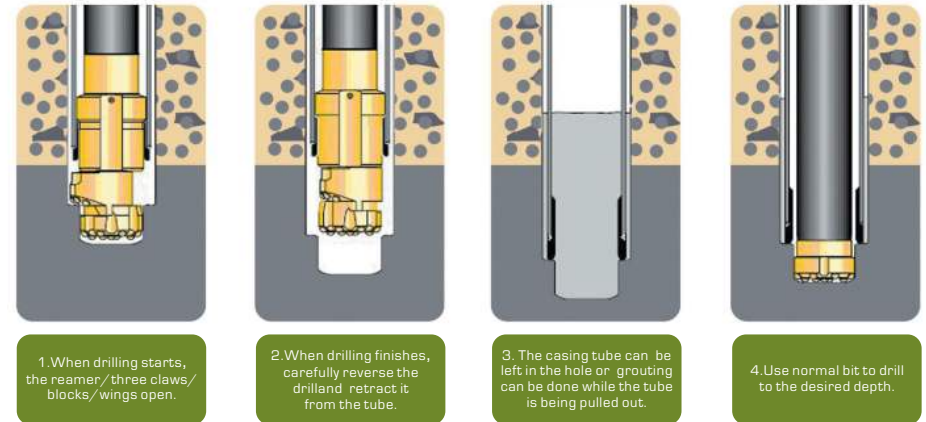
These casing systems have simple structure, high stability, and fast drilling speed. It adopts a unique locking system structure, which makes the connection reliable and easy to disassemble.

These casing systems are suitable for overburden drilling with more complex geological conditions, such as pebbles, cracks, dead stones, boulders, construction backfill waste, etc.

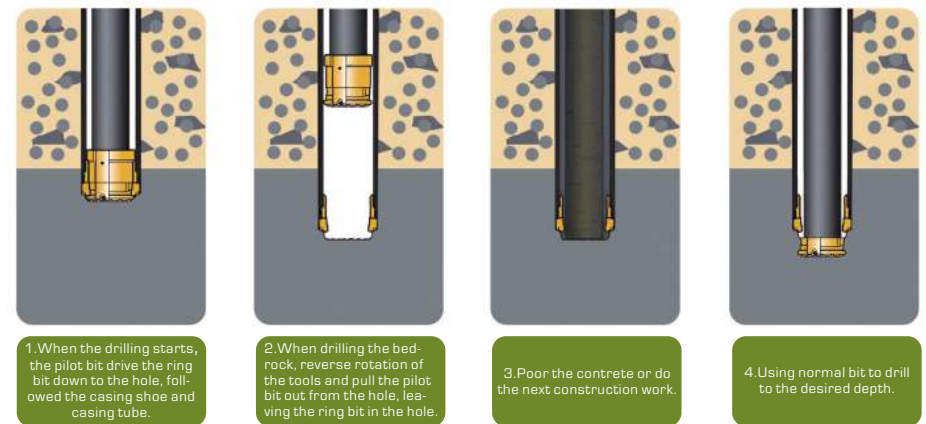


WORKING PROCEDURE

TYPE ONE: ECCENTRIC CASING(ODEX)



TYPE TWO: CONCENTRIC CASING SYSTEM



ADVANTAGES

Straightness: Ensures hole straightness across various geological structures.

Adaptability: Maintains drilling efficiency in complex conditions, such as pebbles and construction waste.

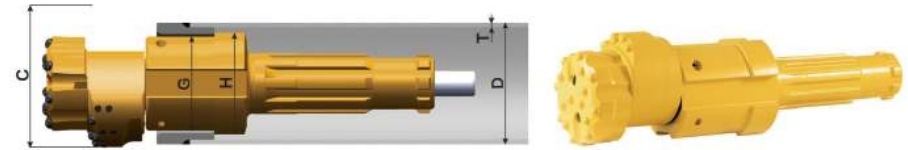
Versatility: Suitable for vertical, horizontal, and inclined drilling.

Environmental Impact: Ideal for urban construction due to smooth operation, minimal vibration, and low noise.

RELATED PARTS LIST

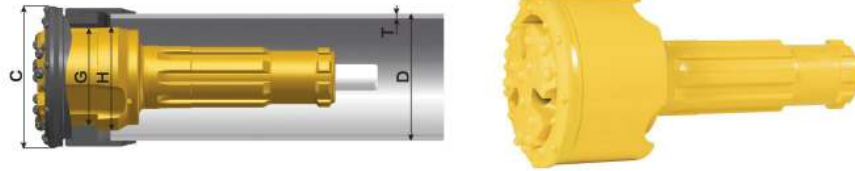
| No. | Items | Description |
|---|---------------|--|
| 1 | Casing tube | a.Threaded casing tube, left hand thread; b.Welding casing tube |
| 2 | Drill pipe | Thread: API,REG,IF,NC |
| 3 | Stabilizer | Thread of stabilizer is same as that of drill pipe |
| 4 | DTH hammer | Thread type: API,REG,IF,NC |
| 5 | Casing shoe | a.Threaded casing shoe, left hand thread; b.Welding casing shoe |
| 6 | Casing system | ①Eccentric casing system |
| | | ②Concentric casing system with rings |
| | | ③Concentric casing system with three claws |
| | | ④Concentric casing system with wings |
| | | ⑤Concentric casing system with blocks |
| All above items are available to provide in one stop. | | |

ECCENTRIC CASING SYSTEM(ODEX)



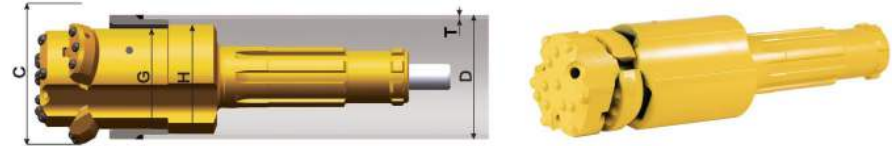
| Model | D | T | H | C | G | Bit shank | Weight (kg) |
|---------|--------------------|----------------|-----------------------------|---------------------|--------------------------|-----------------|-------------|
| | Casing tube OD(mm) | Thickness (mm) | Max OD of guide device (mm) | Reamed diameter(mm) | Max OD of normal bit(mm) | | |
| ODEX85 | 108 | 7 | 92 | 117 | 85 | DHD3.5 | 12 |
| ODEX90 | 114 | 6.5 | 99 | 125 | 90 | DHD3.5 | 13.1 |
| ODEX98 | 127 | 9.5 | 106 | 138 | 98 | DHD3.5 | 15.3 |
| ODEX110 | 140 | 9 | 120 | 150 | 110 | DHD340,SD4,QL40 | 26.6 |
| ODEX115 | 146 | 10 | 123.5 | 155 | 115 | DHD340,SD4,QL40 | 27.5 |
| ODEX140 | 168 | 10 | 146 | 180 | 136 | DHD350,SD5,QL50 | 34.7 |
| | 168 | 7.5 | 151 | 185 | 141 | DHD350,SD5,QL50 | 35.7 |
| ODEX145 | 178 | 10 | 156 | 192 | 146 | DHD350,SD5,QL50 | 43.9 |
| ODEX152 | 183 | 10 | 161 | 196 | 152 | DHD350,SD5,QL50 | 45 |
| ODEX165 | 194 | 10 | 172 | 206 | 160 | DHD360,SD6,QL60 | 59.2 |
| | 194 | 8 | 176 | 206 | 165 | DHD360,SD6,QL60 | 60.7 |
| ODEX190 | 219 | 10 | 196 | 237 | 185 | DHD360,SD6,QL60 | 73.3 |
| | 219 | 6 | 205 | 237 | 190 | DHD360,SD6,QL60 | 76.3 |
| ODEX208 | 245 | 12.5 | 218 | 258 | 203 | DHD380,SD8,QL80 | 106 |
| ODEX240 | 273 | 10 | 251 | 305 | 240 | DHD380,SD8,QL80 | 134.7 |
| | 273 | 8 | 255 | 305 | 240 | DHD380,SD8,QL80 | 136.2 |
| ODEX280 | 325 | 10.5 | 302 | 350 | 280 | NUMA100,DHD380 | 224,202 |
| | 325 | 8.5 | 306 | 350 | 290 | NUMA100,DHD380 | 227.4,205.5 |
| ODEX305 | 355 | 11 | 330 | 383 | 305 | NUMA100,DHD112 | 292.5,322 |
| ODEX330 | 377 | 10 | 354 | 405 | 330 | DHD112,NUMA120 | 345 |

CONCENTRIC CASING SYSTEM WITH RINGS



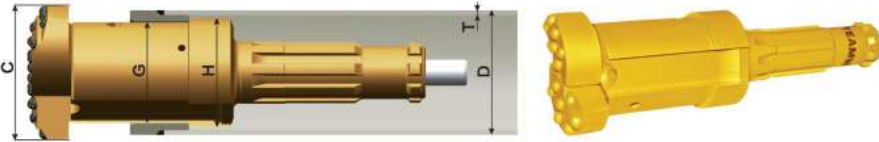
| Model | D | T | H | C | G | Bit shank | Weight (kg) |
|-------|--------------------|----------------|-------------------------|---------------------|--------------------------|---------------------------|-------------|
| | Casing tube OD(mm) | Thickness (mm) | Max OD of pilot bit(mm) | Reamed diameter(mm) | Max OD of normal bit(mm) | | |
| P76 | 76 | 8 | 57 | 88 | 39 | R32 | 3.2 |
| P89 | 89 | 8 | 70 | 102 | 58 | T38 | 4.8 |
| P114 | 114 | 9 | 94 | 128 | 74 | T38,R38 | 9.5 |
| P127 | 127 | 10 | 105 | 142 | 93 | T45 | 11 |
| P140 | 140 | 10 | 116.5 | 161 | 99 | T45,T51 | 11.5 |
| P114 | 114 | 10 | 92 | 128 | 74 | DHD3.5 | 10 |
| P127 | 127 | 10 | 105 | 142 | 93 | DHD3.5 | 13.4 |
| P140 | 140 | 10 | 116.5 | 161 | 99 | DHD340,SD4,QL40 | 17 |
| P146 | 146 | 10 | 123 | 165 | 110 | DHD340,SD4,QL40 | 21 |
| P168 | 168 | 10 | 141 | 188 | 127 | DHD350,SD5,QL50 | 28.7 |
| P178 | 178 | 10 | 155 | 198 | 136 | DHD350,SD5,QL50 | 33.6 |
| P194 | 194 | 12.7 | 166 | 214 | 145 | DHD360,SD6,QL60 | 44 |
| P219 | 219 | 12.7 | 191 | 243 | 170 | DHD360,SD6,QL60 | 59.3 |
| P245 | 245 | 12.7 | 214 | 268 | 195 | DHD380,SD8,QL80 | 80.7 |
| P254 | 254 | 12.7 | 224 | 276 | 203 | DHD380,SD8,QL80 | 85.7 |
| P273 | 273 | 12.7 | 241 | 305 | 221 | DHD380,SD8,QL80 | 102.7 |
| P325 | 325 | 12.7 | 292 | 350 | 276 | DHD380,NUMA100,SD10 | 142.3 |
| P355 | 355 | 12.7 | 326 | 380 | 306 | NUMA100,SD10 | 189 |
| P406 | 406 | 12.7 | 377 | 442 | 350 | DHD112,QL120,SD12,NUMA120 | 292.4 |
| P480 | 480 | 12.7 | 452 | 510 | 426 | TK14,NUMA125 | 390 |
| P508 | 508 | 12.7 | 476 | 541 | 449 | TK18,NUMA180 | 503.6 |
| P560 | 560 | 12.7 | 530 | 590 | 480 | TK18,NUMA180 | 620 |
| P610 | 610 | 12.7 | 558 | 642 | 513 | TK18,NUMA180 | 717 |
| P711 | 711 | 14.5 | 676 | 742 | 636 | TK24 | 1124 |
| P813 | 813 | 18 | 740 | 840 | 700 | TK24 | 1504 |

CONCENTRIC CASING SYSTEM WITH THREE CLAWS



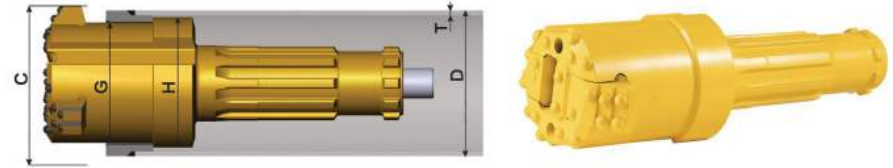
| Model | D | T | H | C | G | Qty of claws | Bit shank | Weight (kg) |
|-------|--------------------|----------------|-----------------------------|---------------------|--------------------------|--------------|-----------------|-------------|
| | Casing tube OD(mm) | Thickness (mm) | Max OD of guide device (mm) | Reamed diameter(mm) | Max OD of normal bit(mm) | | | |
| T115 | 146 | 10 | 124 | 159 | 115 | 3 | DHD340,SD4,QL40 | 20 |
| T140 | 168 | 10 | 146 | 182 | 135 | 3 | DHD350,SD5,QL50 | 33.4 |
| | 168 | 6 | 154 | 182 | 140 | 3 | DHD350,SD5,QL50 | 34.6 |
| T145 | 178 | 10 | 156 | 192 | 145 | 3 | DHD350,SD5,QL50 | 37.4 |
| T160 | 194 | 10 | 172 | 211 | 160 | 3 | DHD360,SD6,QL60 | 49.8 |
| T168 | 203 | 10 | 180 | 232 | 168 | 3 | DHD360,SD6,QL60 | 56 |
| T190 | 219 | 10 | 196 | 242 | 185 | 3 | DHD360,SD6,QL60 | 67.2 |
| | 219 | 6 | 205 | 242 | 190 | 3 | DHD360,SD6,QL60 | 72.3 |
| T203 | 245 | 12.5 | 218 | 262 | 203 | 3 | DHD380,DHD360 | 96,83 |
| T240 | 273 | 10 | 251 | 304 | 240 | 3 | DHD380,SD8,QL80 | 124 |
| | 273 | 8 | 255 | 304 | 240 | 3 | DHD380,SD8,QL80 | 125 |
| T280 | 325 | 10 | 302 | 352 | 280 | 3 | NUMA100,DHD380 | 209,187 |

CONCENTRIC CASING SYSTEM WITH WINGS



| Model | D Casing tube OD(mm) | T Thickness (mm) | H Max OD of guide device (mm) | C Reamed diameter(mm) | G Max OD of normal bit(mm) | Qty of wings | Bit shank | Weight (kg) |
|-------|----------------------------|------------------------|--|-----------------------------|----------------------------------|--------------------|-----------------|----------------|
| T90 | 114 | 6.5 | 99 | 125 | 90 | 2 | DHD3.5 | 10.3 |
| T115 | 146 | 10 | 124 | 157 | 115 | 2 | DHD340,SD4,QL40 | 20.6 |
| T136 | 168 | 10 | 146 | 180 | 136 | 2 | DHD350,SD5,QL50 | 35.5 |
| T142 | 178 | 10 | 154 | 195 | 142 | 2 | DHD350,SD5,QL50 | 36 |
| T160 | 194 | 10 | 172 | 206 | 160 | 2 | DHD360,SD6,QL60 | 52.8 |
| T190 | 219 | 7 | 203 | 236 | 190 | 2 | DHD360,SD6,QL60 | 69 |
| T240 | 273 | 10 | 251 | 290 | 240 | 3 | DHD380,SD8,QL80 | 125 |
| T280 | 325 | 10 | 302 | 342 | 280 | 3 | NUMA100,DHD380 | 180,158 |

CONCENTRIC CASING SYSTEM WITH BLOCKS



| Model | D Casing tube OD(mm) | T Thickness (mm) | H Max OD of pilot bit(mm) | C Reamed diameter(mm) | G Max OD of normal bit(mm) | Qty of blocks | Bit shank | Weight (kg) |
|-------|----------------------------|------------------------|---------------------------------|-----------------------------|----------------------------------|---------------------|------------------------|----------------|
| T115 | 140 | 6 | 126 | 150 | 115 | 2 | DHD340,SD4,QL40 | 17.2 |
| T136 | 168 | 10 | 146 | 182 | 136 | 2 | DHD350,SD5,QL50 | 25 |
| T146 | 178 | 10 | 156 | 192 | 146 | 2 | DHD350,SD5,QL50 | 30 |
| T160 | 194 | 10 | 172 | 212 | 160 | 2 | DHD360,SD6,QL60 | 41.2 |
| T185 | 219 | 10 | 196 | 234 | 185 | 3 | DHD360,SD6,QL60 | 58.6 |
| T203 | 245 | 12 | 218 | 260 | 203 | 3 | DHD380,SD8,QL80 | 85.5 |
| T240 | 273 | 10 | 251 | 305 | 240 | 3 | DHD380,SD8,QL80 | 105.6 |
| T280 | 325 | 10 | 302 | 346 | 280 | 3 | NUMA100,SD10,DHD380 | 167.2 |
| T305 | 355 | 10 | 332 | 376 | 305 | 3 | DHD112,NUMA120 | 232.5 |
| T330 | 377 | 10 | 354 | 398 | 330 | 3 | DHD112,NUMA120 | 256 |
| T360 | 406 | 11.5 | 380 | 428 | 360 | 4 | DHD112,NUMA120,NUMA125 | 282 |
| T380 | 426 | 11.5 | 400 | 448 | 380 | 4 | DHD112,NUMA120,NUMA125 | 305.8 |
| T412 | 460 | 11.5 | 434 | 485 | 412 | 4 | NUMA125,TK14 | 383 |
| T432 | 480 | 12.7 | 450 | 505 | 432 | 4 | NUMA125,TK14 | 426.6 |
| T457 | 508 | 12.7 | 479 | 534 | 457 | 4 | NUMA180,TK18,TK14 | 590 |
| T510 | 560 | 12.7 | 530 | 590 | 510 | 4 | NUMA180,TK18 | 735 |
| T551 | 610 | 12.7 | 582 | 639 | 551 | 4 | NUMA180,TK18 | 922 |
| T600 | 660 | 14 | 628 | 684 | 600 | 4 | TK24,NUMA180 | 1192 |
| T645 | 711 | 16 | 675 | 741 | 645 | 4 | TK24 | 1340 |
| T694 | 762 | 16 | 726 | 800 | 694 | 4 | TK24 | 1603 |
| T750 | 813 | 16 | 776 | 845 | 750 | 5 | TK24 | 1790 |
| T794 | 862 | 16 | 824 | 900 | 794 | 5 | TK24,TK28 | 2009 |
| T846 | 914 | 16 | 876 | 960 | 846 | 5 | TK28,QL300 | 2345 |
| T892 | 960 | 16 | 922 | 1000 | 892 | 5 | TK28,QL300 | 2536 |
| T950 | 1016 | 16 | 980 | 1060 | 950 | 6 | TK28,QL300 | 2965 |

ROCK DRILLING ACCESSORIES

Our threaded drill bits are made of high quality alloy steel, stable heat treatment and advanced processing technology to ensure that the product achieves fast drilling speed and long life.



THREAD BUTTON BIT

| Diameter (mm) | Thread type | No.X Button diameter(mm) | | Face | Weight(kg) |
|---------------|-------------|--------------------------|-------|------|------------|
| | | Gauge | Front | | |

STANDARD TYPE

| | | | | | |
|-----|--------------|------|-----------|------|-----|
| 64 | R32,T38 | 6x11 | 4x10 | Flat | 1.6 |
| 76 | R32,T38,T45 | 6x12 | 4x11 | Flat | 2.6 |
| 89 | T38,T45,T51 | 8x12 | 4x12+2x11 | Flat | 3.4 |
| 95 | GT60 | 8x12 | 7x11 | Flat | 5.6 |
| 102 | T45,T51,GT60 | 8x13 | 7x12 | Flat | 5.6 |
| 115 | T45,T51,GT60 | 9x13 | 10x11 | Flat | 6.3 |
| 127 | T51,GT60 | 9x14 | 10x13 | Flat | 6.5 |
| 140 | T51,GT60 | 9x16 | 10x14 | Flat | 9.4 |

RETRAC TYPE

| | | | | | |
|-----|--------------|------|-----------|------|------|
| 76 | T38,T45 | 6x12 | 4x11 | Flat | 4.4 |
| 89 | T38,T45,T51 | 8x12 | 4x12+2x11 | Flat | 5.6 |
| 102 | T45,T51,GT60 | 8x13 | 7x12 | Flat | 5.8 |
| 115 | T45,T51,GT60 | 9x13 | 10x11 | Flat | 9.5 |
| 127 | T51,GT60 | 9x14 | 10x13 | Flat | 10.4 |
| 140 | T51,GT60 | 9x16 | 10x14 | Flat | 14.4 |
| 152 | GT60 | 9x16 | 11x14 | Flat | 22 |

COUPLING



| Thread A | Thread B | O.D(mm) | Length(mm) |
|----------|----------|---------|------------|
| R38 | R38 | 55 | 170 |
| T38 | T38 | 55 | 190 |
| T45 | T45 | 66 | 210 |
| T51 | T51 | 72 | 230 |

SHANK ADAPTER



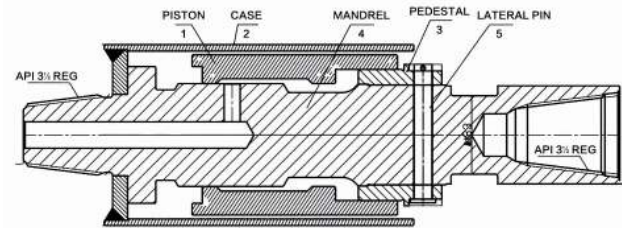
| Rock drill type | Diameter(mm) | Length(mm) | Thread |
|---------------------|--------------|------------|-------------|
| Atlas cop 1838 | 38 | 435 | T38 |
| Atlas cop 1840,1850 | 52 | 565 | T38,T45,T51 |
| Tamrock HL700,800 | 52 | 600 | T45,T51 |
| Tamrock HLX5 | 45 | 500 | T38,T45 |

OTHER PARTS

BACKHAMMER

In case of jamming in the drilling process, the back hammer will help you to save the time and cost. The back hammer is installed between the rotary head and drill pipe, it will produce reverse impact and vibration effects to solve the stuck problem.

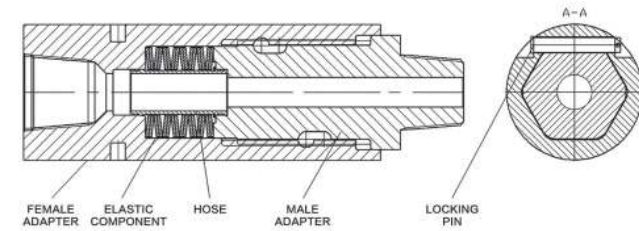
The back hammer is composed by five parts, the structure is very simple, easy to maintain. You only need to keep it clean and protect the connection part.



| Model | Air pressure (bar) | Connection thread | Diameter * length(mm) | Weight(kg) |
|-----------------|--------------------|-------------------|-----------------------|------------|
| 6" Back hammer | 8~15 | API 3 1/2" REG | 192*636 | 71.5 |
| 10" Back hammer | 8~15 | API 3 1/2" REG | 273*691 | 130.5 |



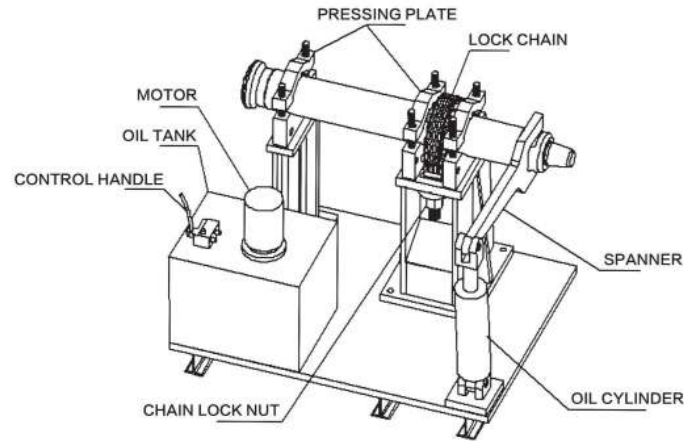
SHOCK ABSORBER



| Model | Max. buffer force(mm) | Elastic component | Connection thread | Diameter*length (mm) | Weight (kg) |
|--------------|-----------------------|-------------------|-------------------|----------------------|-------------|
| 6" Absorber | 25 | PU washer | API 3 1/2" REG | 182*565 | 100 |
| 12" Absorber | 75 | Disc spring | API 6 5/8" REG | 273*885 | 300 |
| 18" Absorber | 125 | Disc spring | Hex. 273mm | 278*1400 | 345 |

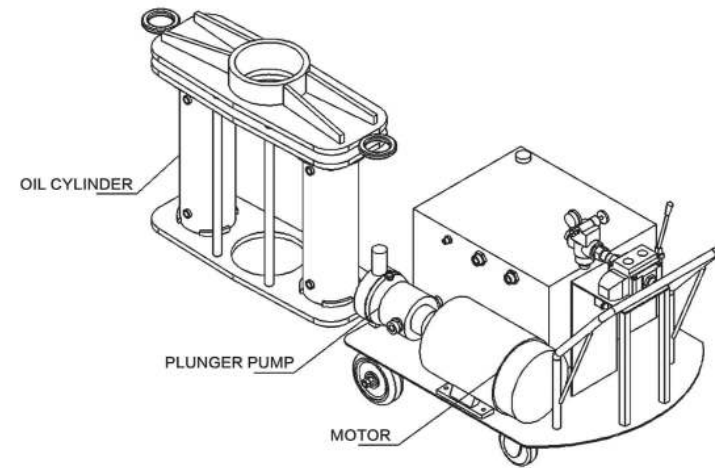


BREAKOUT BENCH



| Model | length*width*height (mm) | Hydraulic tank capacity(l) | Weight(kg) |
|-----------------------|--------------------------|----------------------------|------------|
| 3"-6" Breakout bench | 820*850*1000 | 40 | 400 |
| 6"-8" Breakout bench | 1320*920*920 | 70 | 690 |
| 8"-12" Breakout bench | 1400*1120*1180 | 70 | 820 |

EXTUBATION MACHINE



| Model | Lifting power | Pressure | Input power | Applicable casing (outer diameter) |
|-------|---------------|----------|-------------|------------------------------------|
| 50T | 492KN | 20Mpa | 380V,50Hz | Max. 178mm |
| 70T | 616KN | 20Mpa | 380V,50Hz | Max. 194mm |
| 100T | 1016KN | 20Mpa | 380V,50Hz | Max. 219mm |
| 150T | 1256KN | 20Mpa | 380V,50Hz | Max. 273mm |
| 200T | 1960KN | 20Mpa | 380V,50Hz | Max. 325mm |

HOLE OPENER BIT



DOUBLE CASING SYSTEM



FISHING TOOL



LIFTING BAIL



ADAPTER



DRAG BIT



STABILIZER



WRENCH



BREAKOUT BENCH



Open mine



Anchoring



Underground mining

Micro piling



Foundation



RC exploration



Water well



Geothermal