



ROCKMORE
INTERNATIONAL
Rock Drilling Tools



3-1/2 in API IF Pin
Top Sub With Back Reaming Buttons
Heavy Duty Wear Sleeve

DTH HAMMER

ROK 650Q-005

Recommended Bit Diameter
165 - 178mm [6.5 - 7.0 in]



Features:

- High Performance Design
- Integrated SonicFlow Technology
- Patent Pending Innovations
- Superior Penetration Rates
- Reduced Number of Components
- Easy Assembly / Maintenance
- Advanced Materials / Heat-Treatment
- Extended Service Life

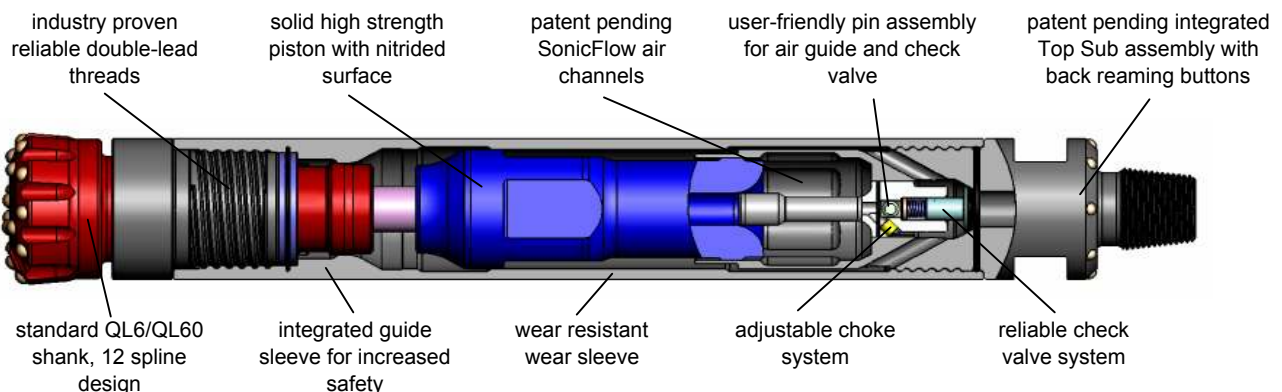
Applications:

- Mining / Blast Hole
- Construction / Quarry

SonicFlow Technology greatly improves the air flow characteristics within the ROK hammer and ensures that the high pressure air paths are optimized to deliver greater energy to the piston. This is achieved by incorporating scientific air flow concepts in the design of the hammer and its various components such as the Top Sub, Piston, and Wear Sleeve. This technology results in more impact energy to the bit and produces higher penetration rates and better overall hammer performance.



Innovative Design Features



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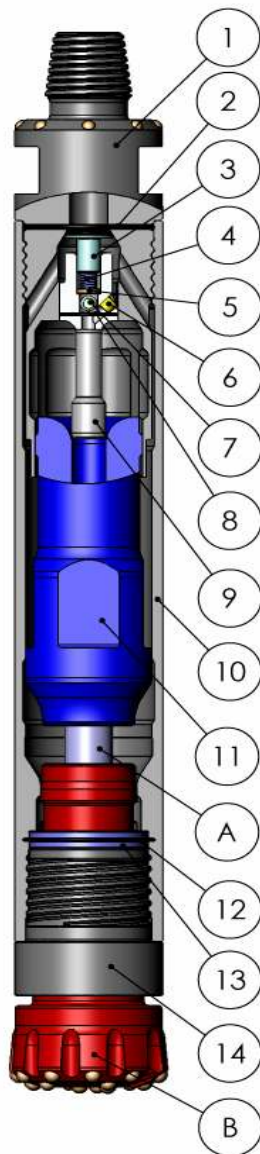
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Rev. 3-16-09

**Integrated SonicFlow
Technology**

ROK 650Q-005



Patent Pending

Parts List

| Item | Part Number | Description |
|------|--------------|---|
| | ROK 650Q-005 | DTH Hammer, 650Q, QL6/QL60, 3-1/2 in API IF Pin |
| 1 | 650TS-002 | Top Sub, 3-1/2 in API IF Pin |
| 2 | R2-349 | O-Ring, 4.475 in X 0.210 in |
| 3 | CV-001 | Check Valve |
| 4 | SP-001 | Spring |
| 5 | SR-002 | Spring Rest |
| 6 | CH-001 | Choke |
| 7 | PN-001 | Pin, 0.625 in Dia, 4.5 in L |
| 8 | R2-135 | O-Ring, 1.925 in X 0.103 in |
| 9 | AG-001 | Air Guide |
| 10 | 650WS-001 | Wear Sleeve, with Integrated Guide Sleeve |
| 11 | PT-001 | Piston |
| A | BTQL6-1014 | QL6/QL60 Blow Tube |
| 12 | R2-236 | O-Ring, 3.234 in X 0.139 in |
| 13 | BR-001 | Bit Retainer Ring |
| 14 | 650DS-001 | Driver Sub |
| B | DTH Bit | QL6/QL60 Shank |

Operating Parameters

| Air Pressure | Air Consumption |
|--|--------------------------------------|
| 10.4 Bar [150 PSI] | 10.6 m ³ /min [386 SCFM] |
| 17.2 Bar [250 PSI] | 19.8 m ³ /min [720 SCFM] |
| 24.1 Bar [350 PSI] | 29.1 m ³ /min [1056 SCFM] |
| Oil consumption at 24.1 Bar (350 PSI): | 0.7 l/hr [0.2 gallon/hr] |
| Recommended rotation speed: | 15 r/min to 60 r/min |
| Minimum diameter difference between wear sleeve and bit: | 12 mm [0.47 in] |

Technical Specifications

| | |
|---------------------------------------|-------------------------|
| Standard Top Sub | 3-1/2" API IF Pin |
| Bit shank type | QL6/QL60 |
| Recommended bit diameter, mm [in] | 165 to 178 [6.5 to 7.0] |
| Outside diameter, mm [in] | 149 [5.9] |
| Wear sleeve discard diameter, mm [in] | 130 [5.1] |
| Wrench flat size on Top Sub, mm [in] | 95 [3.8] |
| Length without drill bit, mm [in] | 1013 [39.9] |
| Weight without drill bit, kg [lbs] | 99 [218.0] |

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