DTH Equipment

DTH Hammers
DTH Bits

DTH Equipment

Down-The-Hole Hammers have become the industry standard for the rapid drilling of boreholes for a variety of uses such as water wells, blasting and sub-surface void locations.

With the increased availability of efficient high pressure compressors operating up to 25 bar (in some cases with even higher pressures) boreholes can be drilled in even the hardest rocks much quicker than using conventional tricone rock roller drilling techniques.

The only disadvantage is in drilling loose, unconsolidated formations or soft, sticky ground (e.g. clay) where the flushing air may cause cavitation and place the rig at risk of subsidence. However these problems can be overcome by running casing simultaneously with the hammer or by injecting foams and/or polymers into the airstream for hole cleaning.

Because Down-The-Hole hammers use a rapid percussive action to crush the rock they require much lower feed force (pull down) and rotation torque than conventional rotary drill bits. Therefore smaller rigs can be used to drill larger diameter holes with depth being limited to the rig's pullback capacity and compressor size/rating.

DTH Bits

There are many designs and types of drilling bit used for various drilling applications, and to suit different hammers.

The modern design of carbide button bit results in efficient cutting of rock from the centre to the outer edges of the bit.

Button inserts are manufactured to high precision and to very close tolerances. These are pressed into the body of the bit resulting in an “interference fit”. This means that the carbide buttons are very firmly held in the matrix and not easily dislodged during the drilling process.

Drill bit head design

Convex

A strong design for all conditions, especially hard abrasive rocks. Good balance of fast drilling and long service life.

Flat Face

An alternative design for all rock conditions, especially fractured and fissured rocks and changing formations.

Concave

An alternative design for all rock conditions, particularly deep hole drilling. Can provide improved hole alignment as a result of the inverted pilot.

Insert Types

Domed Inserts

Strong rugged shape for high performance and good service life in all conditions particularly suitable for very hard abrasive rocks and deep hole drilling.

Ballistic Inserts

Suitable for soft/medium compact low abrasive rocks producing large cuttings. Not suitable for badly fractured rocks.

Semi-Ballistic And Conical

Suitable for all soft medium rock conditions including fractured and fissured rocks.