

Secoroc Rock Drilling Tools

***LARGE DIAMETER  
SOLUTIONS***

Atlas Copco

# LARGE DIAMETER

## drilling solutions

Atlas Copco's approach to large diameter drilling projects is to analyze customer requirements together with the local sales engineers and provide cost effective solutions. Traditionally, companies supply either down-the-hole hammers, casing advancement systems or cluster hammers, not providing the complete solution to the customer.

These solutions consist of the latest drilling equipment and accessories for large hole applications such as foundation piles for harbours, shaft sinking and facility pipes.

### **Total package**

Atlas Copco supplies all of the equipment to make a drilling project work. We provide the contractor the assurance that the equipment will fit together and is engineered to suit the project. Our product range includes everything from the rig drive down, and includes the drill bit, drill rods, hammers, drill shrouds, casing, compressors and pumps together with technical advice on correct use and maintenance.

### **We know what we are doing**

With well experienced engineers and a local presence throughout the world, Atlas Copco not only offers high quality products, we also make sure that our offers are cost effective.

### **Rental – easier to do business**

The cost of purchasing the complete package of equipment can sometimes be a financial burden on a short term contract. Our solution is to offer a rental package including all equipment needed. This means that the customer has greater control over cash flow, the project budget and profitability. Together we evaluate the needs of our customers to make sure they get the best offer.

*1,2 meter Symmetrix system used for underpasses*

One contractor that has already benefited from the 1.2m system is Lännen Alituspalvelu Oy of Finland. This company specializes in horizontal drilling of underpasses and has recently used Symmetrix, together with the QL 300 DTH (down-the-hole) hammer, for a number of 1.2m casing projects around the country.





“Casing advancement with DTH hammers is a good method, especially here in Scandinavia where we have to drill through very tough, hard rock or boulders. We use it for installing 219mm–1 220mm casings and it means that we can drill in every type of ground with good accuracy. I was particularly surprised at the good performance of the hammer in the new system which, even in our Finnish hard rock, gave excellent penetration.”

Pekka Vepsä, Operations Manager,  
Lännen Alituspalvelu Oy, Finland





# Casing advancement systems

Every casing advancement project has its challenges, whether deep or shallow holes, sensitivity or productivity demands. The systems from Atlas Copco offer a spectrum of solutions to meet any project demands in the most efficient way.

The casing advancement systems are based on three key elements: a pilot bit to drill the hole, a ring bit (or reamer) to enlarge the hole, and a casing shoe to transfer part of the impact to the casing.

## Efficient and productive in difficult ground conditions

The system enables the casing to advance simultaneously with the drill string and offers a possibility to either retrieve or leave the casing in the ground. Simply put, casing advancement systems meet all challenges and

keep both efficiency and productivity high even in the most difficult ground conditions.

## Straight holes

The unique design of Symmetrix, being one of two casing systems offered, enables straight and efficient drilling through several kinds of soil and rock. The system provides reliable results with high productivity and precision where conditions are tough and reliability difficult to achieve with any other method.

## Air control when drilling

The Elemex system is custom designed to control the air and minimize air escape when drilling. In urban areas with loose overburden, Elemex is the safe choice where settlement of neighbouring buildings can be a risk with other methods.





# Down-the-hole hammers

Atlas Copco has been manufacturing and marketing down-the-hole equipment for more than five decades. Our offer for large diameter holes consist of a range of DTH products from 12" (304mm) to 48" (1219mm).

Where there is solid rock or a need to use a casing advancement system, DTH hammers is an efficient method of drilling the holes. Atlas Copco's range of large DTH hammers includes QL 120, QL 200 and QL 300.

These flexible hammers are designed for use in piling, footings, piers, caissons, water well drilling, horizontal directional drilling and oil and gas operations.

## **QL 120 hammer – strong performance**

The QL120 is the ideal 12" hammer when the application conditions are tough, e.g. in water saturated holes or large hole production drilling. The QL 120 range is from 311mm – 559mm (12¼" – 24").

## **QL 200 hammer – maximize production**

The QL 200 is ideal for holes from 17½" (444mm) to 26" (660mm) in size, while the QL 200S can drill holes up to 36" (914mm) in diameter.

## **QL 300 hammer – reliable**

The QL 300 and the QL 300S are hammers designed for holes from 30" (762mm) to 48" (1219mm). These hammers offer simple design and construction to promote reliability and ease of service.

\* The "S" designation indicates that hammer uses a "super chuck", allowing the hammer to accept larger diameter bits.





# Cluster hammer drills

Piling constructors are always looking for new and cost effective methods for drilling large diameter rock sockets. Thanks to many years of development at Atlas Copco, Cluster drills have become a major solution for drilling large holes over 30 inches in diameter. Today they can be seen working in shaft sinking and mine rescuing as well as in marine and foundation applications worldwide.

## Well known

Cluster drills are short, light weight and compact drills carefully custom-engineered and manufactured to meet each customer's requirements for hole size, flushing methods and the right drill rig connections. This exclusive, patented technology of self-indexing quick-release bits are just one of the ingenious solutions.

## Hammer power

Specially designed for Cluster drills, these 8" Class CS8 Hammers are robust,

powerful tools with low maintenance requirements. Together with the CDS EZ Easy Access flange it provides instant access to the gauge and outer rows making internal hammer service easier. And that means shorter downtime and greater productivity.

## Build quality

Atlas Copco is renowned for its quality service and that is why Cluster drill canisters are strictly controlled and tested. These heavy canister bodies are

extremely durable and repairable, time and time again.

## A choice of drills

Atlas Copco's Cluster drills are available from 30 inches to 120 inches (760mm to 3048mm) in diameter combining multiple down-the-hole hammers with single canisters.

# Drill componentry

## Thread Saver

The Thread Saver is a special drill rod adaptor that protects drive shaft threads.

## Diverter Head

The Diverter Head is based at the top of the casing and consists of a funnel and hose that directs the exhaust and cuttings into a collection container. This ensures a cleaner and safer working environment.

## Stabilizer

The Stabilizer is found above the DTH hammer and centralizes the drill string inside the casing. This improves hole straightness and protects the components of the drill string from uneven stresses.

## Casing

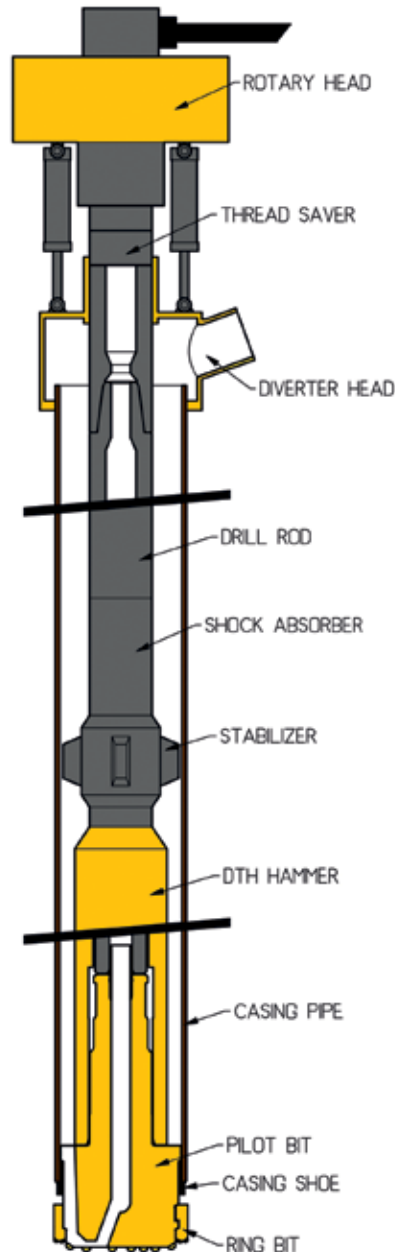
We offer a large number of permanent and retrievable casings to suit your requirements. Sizes range from 356mm to 1220mm and are available in different wall thicknesses to suit the application.

## Shock Absorber

The In-Line Shock Absorber is designed to minimise the vibration from the hammer returning up the drill string into the rotation unit. It can be fitted directly behind the hammer or under the rotation unit whichever suits the application. The Replacement Seal and Shock Pad Kits ensures longevity with this product.

## DTH Hexed Drill Pipe

The DTH Hex Connection has now proven itself with foundation drilling contractors worldwide. Our Hex has double O-ring seals that ensures an airtight connection and always makes for quick rod change every time. It allows for larger DTH drilling on smaller rigs with no breakout facility required.



## Fishing Tools/Recovery Tools

In the case of problems with your drill string our range of threaded tools for the recovery of broken drill strings, DTH hammers and drill pipe are the ideal solution. They are available for internal or external tool joints.

## API Lifting Swivel

The Lifting Swivel is ideal for safe lifting and lowering of DTH tools and drill strings from the borehole. They are available in Threaded Pin or Box c/w 360° JDT Lifting Eye versions and every model is supplied with Test Certificates.

## Atlas Copco Compressor

Atlas Copco offers a range of portable compressors, which are robust and durable and ideally suited for foundation drilling works. The demand for compressed air depends on the size of the DTH hammer and the casing diameter.

## DTH Oil Lubrication Assembly

The Lubrication unit is of modular construction. The manifold can be easily detached and mounted separately on the rig or placed on the ground. The Pump unit is a reciprocating piston pump powered by compressed air. When the airflow is turned on to the hammer the pump will start automatically.

## Hammer Oil

Line oiler is required for DTH hammer lubrication use. The choice of oil type and volume should follow the recommendations of the hammer supplier. Atlas Copco offers a range of environmental friendly lubricants minimizing pollution.

# *Sustainable Productivity*

We stand by our responsibilities towards our customers,  
towards the environment and the people around us.  
We make performance stand the test of time.  
This is what we call - Sustainable Productivity.

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