

# Atlas Copco Surface drill rigs

**ROC D5**, Cabin version, hole diameter : 35 – 89 mm ( $1\frac{3}{8}$ " –  $3\frac{1}{2}$ " )

**ROC D7**, Cabin version, hole diameter: 64 – 115 mm ( $2\frac{1}{2}$ " –  $4\frac{1}{2}$ " )

Powerful and versatile drill rigs for all ground conditions



*Atlas Copco*







# Versatile and powerful

*Atlas Copco ROC D5 and ROC D7 drill rigs are designed to handle the most demanding drilling applications in the 35 to 102 mm diameter hole range.*

*ROC D5/D7 drill rigs combined a low centre of gravity with high ground clearance to provide optimum manoeuvrability in all types of terrain.*

*ROC D5/D7 drill rigs can also be delivered with an optional hydraulic winch to increased safety and hole location accessibility in extreme conditions.*

ROC D5 and ROC D7 have been developed to the well-known Atlas Copco values, of supplying equipment that combines state-of-the-art designs with rugged reliability. ROC D5 and ROC D7 provide optimum hole quality and the best drilling economy over the life of the drill rig.

## **Operator Comfort**

Optimum drilling productivity is directly related to operator comfort and efficiency. ROC D5 and ROC D7 cabs are state-of-the-art operator work-stations. Drilling controls in the arm rests of the six-way adjustable seat and easy-to-read instrumentation keeps the operator in full control of all systems at all times. Large safety glass windows provide excellent all-around visibility and a clear view when tramming. The front wind screen is angled inward to provide a perfect view for collaring, while limiting direct sunlight into the cab. This also

reduces dust and grease accumulation and eliminates the need for metal grills that make cleaning difficult. Front, side and top windows are equipped with washer wipers.

The efficient Freon-free climate control and low noise levels provide a pleasant working environment and reduce operator fatigue.

ROC D5/D7 FOPS/ROPS approved, rubber mounted cabs are equipped with a cab light dimmer and adjustable reading lamp for further operator comfort.

## **ROC D5 and ROC D7 take the high ground**

ROC D5/D7 drill rigs share a common robust carrier. Heavy duty triple grouser track chains with two speed traction motors provide excellent tramming, and allows the rig to be move quickly and safely around the work site. The boom is centrally placed with a low mounting point for optimum stability and maximum coverage. The power pack is mounted at the rear of the rig for balance and the optional winch is centrally located on the frame for added stability.

Ground clearance is a full 455 mm (17½") to provide great manoeuvrability in the roughest of conditions.

A robust hydraulically positioned support leg ensures drill rig stability when drilling in the roughest of conditions.



*Large glass surfaces give outstanding visibility for drilling and general control of the rig.*





## ROC D5 - a versatile site preparation drill rig

*Atlas Copco ROC D5 combines high productivity with the best total drilling economy to maximize profits. The boom system optimizes reach and swing to give more holes per set-up and is capable of horizontal drilling.*

The round tubular profile used in the boom design has a relatively low weight to length ratio, while remaining strong and extremely stiff. This provides maximum coverage area with precision hole positioning. Boom joints are fitted with conical axles that can be easily adjusted to eliminate play and ensures excellent hole quality, even as the rig accumulates high hours of use.

ROC D5 is available with a folding boom that provides maximum reach or single boom for applications involving more line drilling. The folding boom can swing 25° to the right and 29° to the left. The versatile boom head makes it possible to drill horizontally from a height of 0.3 m to 7.6 m (1-25 in.).

### **The most sold Rock Drill in the world**

ROC D5 is fitted with a COP 1238 rock drill, arguably the most economical, most dependable and most sold, rig mounted hydraulic rock drill in the world.

COP 1838 LE is offered as an option for holes in the 51-76 mm (2"-3") diameter hole range.

R32, T38 and T45 are recommended drill steel dimensions for this rig. The maximum recommended working pressure for the hydraulic system is 230 bar and the maximum hole depth that can be drilled is 28m (92 ft.).

### **CAT power reserves**

ROC D5 is powered by a Caterpillar 3126B diesel engine with a rating of 131 kW (178 HP) at 2200 rpm. ROC D5 also comes equipped with a dependable 85 l/s (180 cfm) Atlas Copco screw compressor.

The power requirements of the ROC D5 mean that the diesel engine operates well below its design capacity. This provides lower fuel consumption, reduced noise levels, less exhaust fumes and a longer service life. And the power reserve is available for really difficult situations such as high altitude drilling.



*The versatile boom head allows for, easy service access of the rock drill and horizontal drilling.*





## ROC D7

115 mm

64 mm

## ROC D7 – a high productivity quarry drill

*Atlas Copco ROC D7 has been designed for high productivity in the 64 – 115 mm diameter hole range. The powerful Caterpillar diesel engine, Atlas Copco screw compressor and COP 1838 rock drill make this the best performer in its class.*

ROC D7 has exceptional boom reach to permit more holes to be drilled from each set-up. The precise control of the boom movements ensures that every hole is drilled where it has been marked. The balanced design, low centre of gravity and high ground clearance permits the ROC D7 to tram quickly and safely even in difficult ground conditions.

### A better boom system

ROC D7 is equipped with a folding boom with 25° swing to the right and 29° swing to the left to provide remarkable coverage of area. The booms round profile, conical expansion axles and aluminium feed ensure that precision positioning and high hole quality is maintained, even at maximum reach.

ROC D7 can be used for drilling toe holes and installing rock bolts. Holes can be drilled horizontally from a height of 0.3 m to 7.6 m (1-25 in.).

### A most efficient rock drill

The ROC D7 can be fitted with either the COP 1838ME or the COP 1838HE to suit different rock types and applications.

The piston shape of the COP 1800-series drills provides the most efficient transfer of energy through the drill steel to the bit. The rock drill is mounted on aluminium, hydraulic cylinder feed fitted with a double drill steel support to provide better collaring and a constant, even feed force on the bit. The result is; higher penetration rates, straighter holes, increased bit and steel life and lower repair costs. Fuel consumption, noise levels and blasting costs are also reduced.

The recommended drill steel size for COP1838ME and HE are T38, T45 and T51.

### Powerful diesel engine

The ROC D7 is equipped with a Caterpillar 3126B engine with a power rating of 149 kW (203 HP) at 2200 rpm. This meets all the operating requirements of



*The boom has a round profile for strength and easy to adjust conical expander axels.*

the rig with generous power reserves. As the engine operates well below its designed capacity, fuel consumption and noise levels are reduced further, while extending the service interval.

The rig is also equipped with an Atlas Copco screw compressor that provides 105 l/s (215 cfm) or the large 127 l/s, 270 cfm) of flushing air.

# A state-of-the-art workstation



*Comfort and safety increase productivity. Atlas Copco operator cabs meet the highest quality standards for safety, functionality and ergonomic design.*

- The comfortably roomy cab with its advanced systems means that the operator is fully in control of all functions at all times. To minimize neck, shoulder and back strain the entire drilling process can be completed without changing body position. The front window, free from grill work and inclined inward to reduce dirt and grease accumulation, gives the operator a perfect view.
- The cab is rubber mounted directly to the chassis to reduce vibration.
- Excellent sound proofing reduces noise levels to (below 80 dB).
- The operator's seat is of the highest quality and is six-way adjustable for maximum comfort.
- The cab is climate controlled (air conditioning and heater) to maintain the desired temperature in all weather conditions.
- ROPS (Roll Over Protection Structure) and FOPS (Falling Objects Protection Structure) approved.



# Function and performance

*Atlas Copco set out to develop a drill rig that would have the widest application without compromising performance. We also wanted a design that would provide the easiest access for service and maintenance and would meet or exceed international environmental regulations. All these goals have been realized in the ROC D5 and ROC D7 and we are able to offer a number of equipment options as well.*



## **Hydraulic cylinder-feed system with a rigid aluminium feed beam.**

Atlas Copco has developed a precision hydraulic cylinder-feed system that ensures the selected feed force is applied to the drill bit at all times during drilling. The aluminium feed beam is lighter than a steel beam and structurally stronger. The aluminium feed beam is also considerably more resistant to bending and twisting.

COP 1800 series rock drills have a unique reflex-damping system that keeps the bit in optimum contact with the rock at all times.

The Atlas Copco hydraulic drilling system increases penetration rates while reducing drill steel costs to improve productivity and overall drilling economy.



*The robust, hydraulically positioned, support leg can be used to stabilize the drill when moving in rough terrain.*



*Double drill steel supports gives better collaring and straighter holes.*



*The optional hydraulic winch can be used to anchor the rig in extreme conditions.*



*Service doors provide easy access from three sides.*



*The separated hydraulic percussion hoses system means less wear and easy service.*



*Oil-drainage points are easily accessible. Atlas Copco recommends bio-degradable hydraulic oil.*



*The dust collector has a separate service door to make filter checks and changes quick and easy.*

## Technical data ROC D5/ROC D7 cab rigs

### Recommended hole range for ROC D5

R32, T38, T45 mm	35-89 mm	1 1/8" – 3 1/2"
Hole depth	28 m	approx. 92'

### Recommended hole range for ROC D7

T38, T45	64-115 mm	2 1/2" – 4 1/2"
Hole depth	28 m	approx. 92'
T51	21 m	69'

### Engine ROC D5

Caterpillar water cooled turbo-charged diesel, CAT 3126B

Rating at 2200 rpm	131 kW	178 HP
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### Engine ROC D7

Caterpillar water cooled turbo-charged diesel, CAT 3126B

Rating at 2200 rpm	149 kW	203 HP
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### Hydraulic rock drill ROC D5

COP 1238ME/LP, COP 1838LE

Impact power, max.	15 kW	20 HP
Hydraulic pressure, max.	250 bar	3335 psi
Torque, max.	700 Nm	515 lbf/ft
Weight, Approx.	150 kg	

### Hydraulic rock drill ROC D7

COP 1838HE, COP 1840

Impact power, max.	18 kW	24.5 HP
Hydraulic pressure, max.	230 bar	3335 psi
Torque, max.	980 Nm	724 lbf/ft
Weight, approx.	171 kg	

### Boom options

- 10, single boom
- 11, folding boom

### Air compressor ROC D5

Atlas Copco screw compressor C106

Working pressure, max.	8.5 bar	125 psi
FAD	85 l/s	180 cfm

### Air compressor ROC D7

Atlas Copco screw compressor C106

Working pressure, max.	10.5 bar	152 psi
FAD	105 l/s	215 cfm
or	127 l/s	270 cfm

### Fuel tank

Capacity	280 l	~ 73 US gal.
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### Feed

Feed length, total	7 140 mm	24'
Travel length	4 240 mm	15'
Feed extension	1 400 mm	4'3"
Feed rate, max.	0.92 m/s	180 ft/min
Feed force, max.	20 kN	4400 lbf

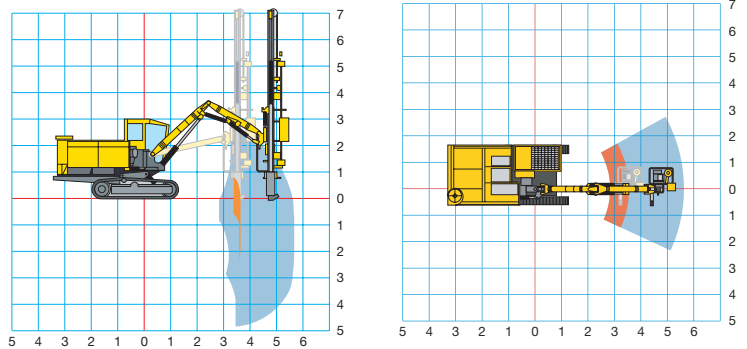
### Tramming

Tramming speed, max.	3.1 km/h	2.0 mph
Traction force	110 kN	25 000 lbf
Hill climbing ability	20° (30° with winch)	
Track oscillation	±12°	
Ground clearance	455 mm	17 1/2"

### Transport dimensions

Total weight excluding optional equipment		
ROC D5	12 600 kg	25.700 lb
ROC D7	13 600 kg	30.000 lb
Width	2 370 mm	7'10"
Length	10 710 mm	35'2"
Height	3 100 mm	10'2"

## Coverage area

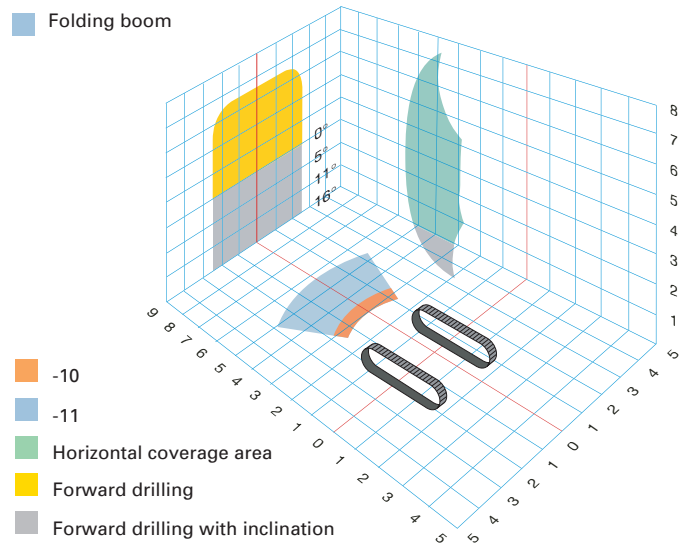


Vertical reach

Vertical feed, coverage area

Single boom

Folding boom



### Standard equipment

Operator's cab, ROPS and FOPS approved  
 RHS mechanised rod handling for 28 m (92') of rods  
 Double drill-steel support  
 Fuel saving device  
 Pre-separator (ROC D7)  
 Toe-hole drilling kit  
 Two-speed traction motors  
 Dust collector  
 Feed extension  
 Air-flow control switch  
 Anti-jamming system  
 Valves for reduced percussion and air pressures for collaring  
 Retractable dust hood  
 Heavy duty tracks  
 Hydraulic rear support leg  
 Work lights  
 Electric re-fuelling pump  
 Air conditioner/heater  
 Electronic hole inclination instrument  
 Electronic hole depth instrument

### Optional equipment

Pre-separator (ROC D5)  
 Thread greasing device with brushes  
 Thread greasing device (ECG)  
 Hydraulic winch  
 Coupling sleeve retainer  
 Engine pre-heater  
 Central lubricating system  
 Mechanical inclination instrument  
 Water-mist system  
 Extractor for rock drill  
 Heated operator's seat  
 Tinted windows  
 Laminated windows