

# Atlas Copco Blasthole Drills

## DM30 series



### Rotary and DTH drilling – Multi pass

Hole diameter 5 - 6 3/4 in (127 - 171 mm)

Maximum hole depth 150 ft (45 m)

*Sustainable Productivity*

**Atlas Copco**

# Heavy duty concept

## Designed for productivity

**The Atlas Copco DM30 is a crawler mounted, hydraulic tophead drive, multi pass drilling rig featuring a 30 ft (9.1m) drill pipe change and a 2-rod carousel. With a starter rod under the rotary head and the optional 4-rod carousel, the DM30 has a total depth capacity of 150 ft (45.7 m).**

It is designed to handle a 4" drill pipe and can handle up to a 5" drill pipe. The drill has a weight on bit force of 30,000 lb (13,600 kg), and both a low and a high pressure compressor alternative are available for the DM30 series, making it suitable for rotary or DTH drilling applications.

### Tower and pipe handling

Raising the tower with a full complement of up to five drill pipes in the tower can be accomplished in less than one minute (maximum number of pipes is contingent upon pipe size selection). The carousel-type drill pipe changer is part of the tower assembly and is located on the outside of the tower frame. Tower pinning and pipe changing is performed remotely from the operator's cab. Breaking pipe joint is done by a hydraulic positioned sliding fork wrench with limited impact that minimizes shock loads on the tower, carousel, rotary head and feed components. A hydraulic motor and ratchet rotates the carousel to index the drill pipe under the rotary head for changing. An exclusive "keylock" carousel design securely locks in the drill pipe at both the bottom and the top of the carousel to ensure maximum safety for drill pipe storage and changing. An auxiliary hoist is provided as standard for the drill pipe and accessory handling. A safety rod catcher also comes standard. The DM30 utilizes a hydraulic feed cylinder that raises and lowers the rotary head by way of cables for both pull-down and pull-back. The two work together to raise and lower the rotary head smoothly and positively.

### Rotary or DTH drilling

The DM30 is designed to handle a 4" (102 mm) drill pipe, but can handle up to a 5" (127 mm) drill pipe. The 30 ft (9.1 m) multi pass tower provides a depth of 90 ft (27 m), using the standard 2-rod carousel combined with a starter rod under the rotary head. A total depth capacity of 150 ft (45 m) can be reached when using the optional 4-rod carousel. A single fixed displacement axial motor powers the rotation of the head. A replaceable spindle adapter between the spindle and the drill pipe is furnished as standard equipment, along with replaceable head guides. Pulldown and pullback cables are attached to the mounting plates, which are attached to the rotary head case. On the low pressure version, 110 psi (7.6 bar) can be used for rotary drilling of blastholes up to 6 3/4" (171 mm) in diameter. On the high pressure version of the DM30, 350 psi (24 bar) can be used for up to 6 in. DTH hammers and maximum 6 3/4 in. bit diameter.

### Compressor range

Low pressure rotary	900 cfm @ 110 psi / 25.4 m <sup>3</sup> /min @ 7.6 bar
High pressure DTH	900 cfm @ 350 psi / 25.4 m <sup>3</sup> /min @ 24 bar





## Operator comfort

All operational functions can be controlled from the drillers console in the cab. The ergonomic drilling console puts all of the drilling, tramping and auxiliary operations at the driller's fingertips and the operator has excellent visibility with an unobstructed view of the drill table. A nine-light halogen night lighting system is provided as standard for operator visibility under low light operating conditions. The cab is thermally insulated, pressurized, equipped with tinted safety glass and has an ergonomic seat with a seat belt. An additional safety feature is the integrated FOPS (Falling Object Protection System) structure of the cab. A heater/ventilator also comes standard. The air conditioning unit features a dual circulation system allowing the operator to control the blower speed to regulate flow through the air conditioner evaporator, as well as the fan speed of the fresh air re-circulation system.



## Efficient power pack

The DM30 power pack consists of a diesel engine directly coupled to an air compressor on one end and a hydraulic pump drive on the other end. This complete power pack assembly is mounted on its own sub base which is, in turn, mounted to the rig's main frame. The in-line drive train configuration maximizes mechanical efficiency and the separate "floating sub base" isolates the components from drilling and propel shock loads, helping to maintain alignment between them. Separate air inlet cleaners with quick release dust drop covers are standard for both engine and air compressor intake. A cooler for the hydraulic oil, compressor oil and diesel engine coolant is provided. Operational ambient temperature rating for the DM30 is up to 125°F (52°C).



## Sturdy and powerful

The DM30 utilizes an excavator-type undercarriage that's built to Atlas Copco specifications. Tracks are driven by a planetary gear system with two hydraulic motors rated at 136 hp (101 kW) each. Both tracks are individually controlled and act as an independent unit. The tracks are hydraulically adjustable with a spring recoil system and equipped with 19.7" (500 mm) replaceable triple bar grouser pads. The Atlas Copco designed main frame is a weld fabrication of rectangular tubing, verified by dynamic strain gauging. A "walking beam" oscillation yoke allows the rig to propel over uneven ground, while reducing torsional stresses on the main frame.



## Standard Equipment

- Spacious, thermal insulated and sound-attenuated cab
- Cab pressurizer/heater/ventilator
- Hydraulically raised dust hood with skirting
- Nine quartz halogen night lighting package
- Auxiliary hoist for drill pipe and accessory handling
- Cooling package rated up to 125°F (52°C) ambient
- Heavy-duty engine silencer/muffler
- Separate air intake filters for engine and air compressor

- Remote hydraulic tower pinning
- Power indexed carousel for two 4, 4½, or 5 in. OD x 30 ft. drill rods
- Remote hydraulic fork chuck for drill pipe breakout
- Hydraulically powered auxiliary chain wrench
- 250-gallon (946 l) fuel tank
- Rotaryhead with single fixed displacement motor with 0 to 100 RPM available, and a maximum torque of 5,400 lbf•ft
- Three 48 in. (1,219 mm) stroke leveling jacks

- 68,000 lb. (30,845 kg) GVW rated excavator-type undercarriage
- 19.7 in. (500 mm) wide triple bar grousers
- Reinforced rectangular steel track frame with oscillation yoke mounting
- Deck service catwalk with railings
- Back-up alarm

# A selection of features on the DM30 series

For a more comprehensive options list, please contact your local Atlas Copco Customer Center.



## Angle drilling package

This package allows the tower to be positioned up to a maximum of 20° from the vertical in increments of 5°. All controls for positioning are located at the operator's control console inside the cab. The package includes a drill pipe support.

## Dust control

Total Dust Collection is a system that uses a dust pot to collect and remove all of the cuttings from the hole. The water injection system consists of a 0-3 GPM (0-11 LPM) hydraulic drive pump and a 200 gallon water tank.

## Fast Service System

The optional Fast Service system has quick connect fittings for the fill and evacuation of hydraulic oil, engine coolant, receiver tank oil, and crankcase oil. There is also an optional fast fuel system.

## Cold Weather Start Kit

This option consists of a diesel fired engine pre-heater kit with standard ether injection. Diesel pre-heaters are standard.

## Technical data DM30

### Technical data

Drilling Method	Rotary or DTH - Multi pass	
Hole Diameter	5 in - 6 3/4 in	127 mm - 171 mm
Hydraulic Pulldown	30,000 lbf	133 kN
Weight on bit	30,000 lb	13,600 kg
Hydraulic Pullback	10,000 lbf	44 kN
Single pass depth	26 ft	7.9 m
Maximum hole depth	150 ft	45 m
Feed speed	100 ft/min	0.5 m/s
Rotary head, torque	5,400 lbf·ft	7.3 kNm
Estimated weight	60,000 lb	28 tonnes

### Dimensions tower up

Length	24 ft 4 in	7.4 m
Height	44 ft 4 in	13.5 m
Width	11 ft 10 in	3.6 m

### Dimensions tower down

Length	42 ft 2 in	12.9 m
Height	14 ft 6 in	4.4 m

### Compressor

Low pressure, Rotary	900 cfm @ 110 psi / 25.4 m <sup>3</sup> /min @ 7.6 Bar
High pressure, DTH	900 cfm @ 350 psi / 25.4 m <sup>3</sup> /min @ 24 Bar

### Engine (Tier III)

<b>Caterpillar</b>	C15	425HP / 317 kW @ 1800RPM (LP 900)
<b>Cummins</b>	QSX15	425HP / 317 kW @ 1800RPM (LP 900)
<b>Caterpillar</b>	C15	525HP / 391 kW @ 1800RPM (HP 900)
<b>Cummins</b>	QSX15	525HP / 391 kW @ 1800RPM (HP 900)

### Drill Pipe specification

Standard 30 ft tower, 9.1 m long pipes

Drill pipe diameter	Suggested bit diameters	Thread
4" (102 mm)	5" - 6"	5 7/8" API
4 1/2" (114 mm)	5 7/8" - 6 3/4"	3 1/2" API
5" (127 mm)	6 3/4"	3 1/2" API or BECO

### High pressure DTH Drilling

Up to 6" DTH hammer and max. 6 3/4" bit diameter