

Atlas Copco Blasthole Drills

DM25-SP series



Rotary or DTH drilling

Hole diameter 4 - 7 in (102 - 178 mm)

Single pass depth 40 or 50 ft (12.2 or 15.2 m)

Sustainable Productivity

Atlas Copco

Heavy duty concept

with high single pass drilling capacity

The Atlas Copco DM25-SP is a crawler mounted, hydraulic table drive, rotary drilling rig specifically designed for production blasthole drilling to depths up to 50 ft (15.2 m) in a single pass without a pipe change. Tower options are available for both a 40 ft and a 50 ft clean hole tower and angle drilling is an option.

The DM25-SP utilizes a diesel engine to drive the air compressor and hydraulic system. Operation of the drill is performed using hydraulic controllers from an ergonomically designed operator cab. Feed pressure generates a weight on bit force of up to 25,000 lbf. (111 kN). The rugged and reliable DM25-SP has a track record of long service life as well as efficient operation. The DM25-SP is ideal in quarrying or hard rock applications which are suitable for kelly bar drilling.

Tower and kelly bar handling

Raising or lowering the tower is done by two hydraulic cylinders and can be accomplished in less than one minute, while tower pinning is performed remotely from within the operator's cab. Rotation on the DM25SP is supplied by a hydraulic rotary table drive assembly. A drive hub engages the kelly drive bushing and transmits power from the rotary table to the drive hub. This in turn drives the 3-fluted kelly through a six pin arrangement. Infinite speed adjustment from 0 to 170 RPM is obtainable. The kelly bar on the DM25SP utilizes pulldown cables and pullback chains through a cluster sprocket located above the rotary table. Attachment of the feed chains to the base of the swivel yoke at the top of the bar assures evenly applied force to the kelly. The chains are then attached to shock-absorbing cables through turnbuckles on the hoist side of the swivel yoke. Traveling stabilizers are provided to prevent the kelly bar from excessive bending under down feed pressure.

Rotary or DTH drilling

The DM25-SP is designed to handle 2 7/8" (73 mm) through 4 3/4" (121 mm) kelly bars. The low pressure, 110 psi compressor is used for rotary drilling of blastholes up to 7" in diameter, while the 350 psi high pressure compressor enables up to 6" DTH hammer and 7" bit diameter. The "on-off" regulation system of the high pressure compressor can remove load during non-drilling operations. This extends compressor life, saves energy and provides easier startup. The DM25-SP in-line drive train consists of a diesel engine directly coupled to a compressor on one end and a hydraulic pump drive on the other. A heavy-duty engine silencer/muffler is also provided to reduce power pack noise emission. 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.

Compressor range

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



Operator comfort

All operational functions can be controlled from the drillers console in the cab. The operator has excellent visibility with an unobstructed view of the drill table. The drilling console places the heavy-duty electric over hydraulic controllers within easy reach. The cab is thermally insulated, pressurized, equipped with tinted safety glass and has an ergonomic seat with seat belt. A nine-light halogen night lighting system is provided as standard for operator visibility under low light operating conditions.



The single-pass advantage

Drilling a hole in one pass has many advantages and the most obvious is the elimination of rod changing time. The non productive time for the extra cycle of adding and removing rods can be around 1 – 2 minutes. When drilling in very soft coal overburden formations, a single pass drill would yield an overall productivity gain of over 25 percent. Other benefits are that operators do not have to worry about the rod changing operation, breaking tight drill tool joints, or other tasks such as changing a bit in the middle of a hole.



A mobile and stable platform

The DM25-SP utilizes an excavator-type undercarriage, 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 3/4" (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
- Hydraulically retractable dust hood with skirting
- Nine quartz halogen night lighting package
- Cooling package rated up to 125°F (52°C) ambient temperature
- Heavy duty engine silencer/muffler
- Separate air intake filters for engine and compressor
- Remote hydraulic tower pinning
- Hydraulically powered auxiliary chain wrench (Down-the-hole units only)
- 230-gallon (870 l) fuel tank
- Hydraulic spur gear and planetary drive rotary table with 0 to 170 RPM and a maximum torque of 3,500 lbf•ft
- Three 48 in. (1,219 mm) stroke leveling jacks with 18 in. (457 mm) pads
- 62,000 lb. (28,120 kg) GVW rated excavator-type undercarriage
- 19.7 in. (500 mm) wide triple bar grousers
- Separate air intake filters for engine and air compressor
- Reinforced rectangular steel track frame with oscillation yoke mounting
- Full length kelly bar and kelly sub
- Deck service catwalk with railings
- Back up alarm

A selection of features on the DM25-SP series

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



Angle drilling package

The optional angle drilling package allows the tower to be positioned up to a maximum of 15° from vertical position in 5 degree increments. The package includes a drill rod support and an angle drill tie bar. All controls are located at the operator's control console inside the cab.



Central lubrication

Two options for central lubrication are available on the DM25SP; The manual central machine lube system is a hand pump type and the automatic central machine lube system has an air pump and timer and provides lubrication to all non-traveling grease points on the machine through metered injectors.



Cold weather starting kit

Atlas Copco has designed a series of heater packages for rotary rigs operating in Arctic conditions where special attention must be given to start-up and lubrication. Option consists of a diesel fired engine preheater, battery and engine oil pan heater.



Water injection

The water injection system suppresses the dust created by the drilling operations. The water injection system is operated from the cab control system and consists of a 0-3 GPM (0-11 liter/min) hydraulic drive pump and a 200 gallon water tank.

Technical data DM25-SP series

Technical data

Drilling Method	Rotary or DTH - Single pass	
Hole Diameter	4 in - 7 in	102 mm - 178 mm
Hydraulic Pulldown	25,000 lbf	111 kN
Weight on bit	25,000 lb	11,300 kg
Hydraulic Pullback	25,000 lbf	111 kN
Single pass depth	40 ft or 50 ft	12.2 m or 15.2 m
Maximum hole depth	40 ft or 50 ft	12.2 m or 15.2 m
Feed speed	72 ft/min	0.36 m/s
Rotary head, torque	3,500 lbf·ft	4.7 kNm
Estimated weight	62,000 lb	28 tonnes

Dimensions tower up (50 ft tower)

Length	30 ft 6 in	9.7 m
Height	74 ft	22.6 m
Width	12 ft 8 in	3.9 m

Dimensions tower down (50 ft tower)

Length	72 ft	21.9 m
Height	13 ft	4.0 m

* Maximum hole dept only achieved with certain pipe sizes and wall thicknesses

Compressor range

Low pressure, Rotary	900 cfm @ 110 psi 25.4 m³/min @ 7.6 bar
High pressure, DTH	900 cfm @ 350 psi 25.4 m³/min @ 24 bar

Engine (Tier III)

Caterpillar	C15	425HP / 317 kW @ 1800RPM (LP 900)
Cummins	QSX15	425HP / 317 kW @ 1800RPM (LP 900)
Caterpillar	C15	6525HP / 391 kW @ 1800RPM (HP 900)
Cummins	QSX15	525HP / 391 kW @ 1800RPM (HP 900)

Kelly specification

Hole depth*	Kelly diameter	Suggested bit diameters	Thread** size and type
40 ft (12.2 m)	2 7/8" (73 mm)	4" - 5 1/2"	2 3/8" IF
	3 3/4" (95 mm)	5 1/2" - 7"	2 7/8" API
	4 3/4" (121 mm)	5 7/8" - 7"	3 1/2" API
50 ft (15.2 m)	2 7/8" (73 mm)	4" - 5 1/2"	2 3/8" IF
	3 3/4" (95 mm)	5 1/2" - 7"	2 7/8" API
	4 3/4" (121 mm)	5 7/8" - 7"	3 1/2" API

* Clean hole ** All kellys have pin connections on both ends

High pressure DTH drilling

Up to 6" DTH hammer and max. 7" bit diameter