



GEOMECH AFRICA
Proudly **GEO GROUP**

FACT SHEET



Atlas Copco

DIAMEC® U6

Core drilling rig for underground operations



GEOMECH AFRICA
Proudly **GEO GROUP**

Improved Performance

Improved performance and reliability with a new drill design and a new hydraulic control system.

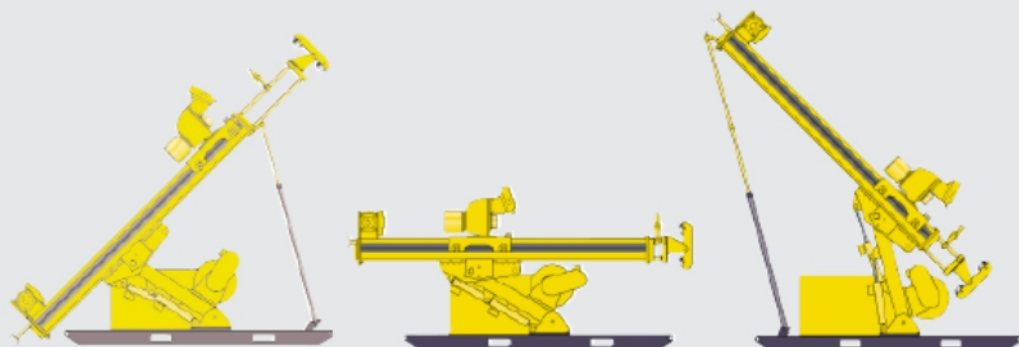
A NEW DRILL DESIGN

Reliability has been increased by the use of a direct acting feed cylinder (no chains), a rod holder with a long-life gas cartridge, and a rotation unit with new distributor seals and a sealed gear case. Hose connections with O-ring face seals prevent leakage.

More Power is available for drilling from a 75 kW power unit, a more efficient rotation unit and hydraulic system. The result is higher rpm and penetration rates to the bottom of the hole. The optional water pump can be run at full flow and pressure for faster pump in.

Flexibility of use is provided by rod tripping speed fast enough for conventional drilling, N and H size rotation units, and enough rotation power for 750m B wireline drilling.

Safety and Ergonomics have been factored into the design. An improved E-stop on the drill unit is standard, a mechanical rod guard is optional. The hydraulic control console has been designed for ease of operation.



Atlas Copco | DIAMEC® U6

A New Hydraulic Control System

Pilot Control Console makes possible higher flows and pressure while maintaining a compact and light control console.

Increased Functionality has been provided in the new hydraulic circuit in addition to the automatic synchronization of chuck and rod holder.

Pressure Filtration protects the hydraulic circuit and pilot control console from contamination that can enter the circuit when hydraulic hoses are disconnected for moving the drill. Pressure filters and main valves are mounted on the drill unit.

Water Flow Meters and RPM gauges (optional equipment) provide additional information for the driller.

Convenient Water Control System has the water pressure release valve built into the console for convenience in setting up the drill

Feed Frame

Feed Frame 1 800 mm stroke length. A direct acting feed cylinder is used.

Technical Specifications

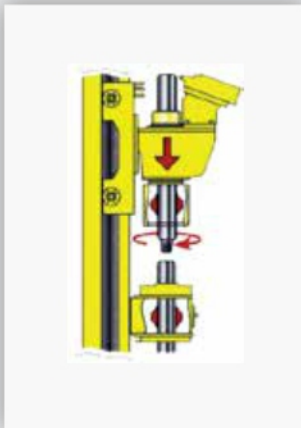
DATA, FEED VERSION	1 800
FEED LENGTH (mm) (in)	1 800 71
FEED FRAME (mm) (in)	1 800 70,9
FEED FORCE-THRUST (kN) (lbf)	65 14 600
FEED FORCE-PULL (kN) (lbf)	65 14 600
FAST TRAVEL SPEED (m/s) (ftm)	1,0 196



GEOMECH AFRICA
Proudly **GEO GROUP**

Rod Holder

The rod holder is hydraulically opened, and closed by gas pressure. In case of loss of hydraulic pressure, the rod holder closes instantly. The gas pressure can be conveniently monitored.



Technical Specifications

MAXIMUM ROD SIZE	89 mm	3,5 in
BORE (WITHOUT JAW)	102 mm	4,0 in
BORE (WITHOUT COVERS)	170 mm	6,7 in
AXIAL HOLDING FORCE	45 kN	10 120 lbf
AXIAL HOLDING FORCE (TC INSERT JAWS)	90 kN	20 240 lbf

Rotation Units

Our U6 rig offers the N size unit. The N size unit has two alternatives of rotation motors. The two sizes of rotation units are easily interchangeable.

The rotation unit consists of a hydraulic motor, a sealed gear box, a hollow spindle and an Atlas Copco patented hydraulic chuck. The chuck grips the rod by hydraulic pressure which is adjustable. The chuck jaws are quick change type. Both steel jaws and jaws with Tungsten Carbide inserts are available.

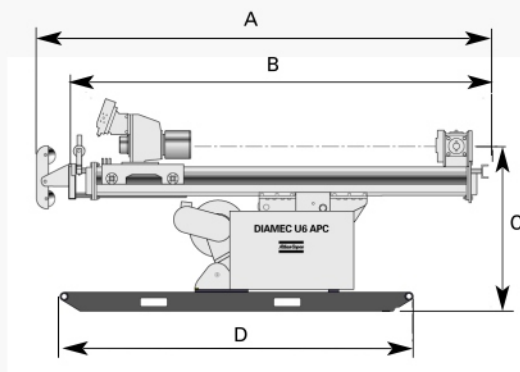
The rotation speed is adjustable from the control console. The chuck and rod holder are synchronized.

Atlas Copco | DIAMEC® U6

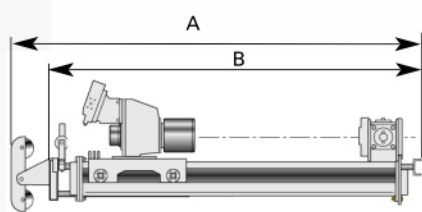
Technical Specifications

ROTATION SIZE	ROTATION UNIT - N SIZE	
	STANDARD	HIGH TORQUE
DRILL ROD SIZE	A-N	B-N
MAXIMUM ROTATION SPEED (RPM)	850 mm	1 800 mm
MAXIMUM TORQUE (Nm) (ft lbf)	645 475	860 635
ROTATION MOTOR (cc)	60	80
SPINDLE INNER DIAMETER (mm) (in)	78 3,07	78 3,07
CHUCK AXIAL HOLDING FORCE (kN) (lbf)	100 22 000	100 22 000

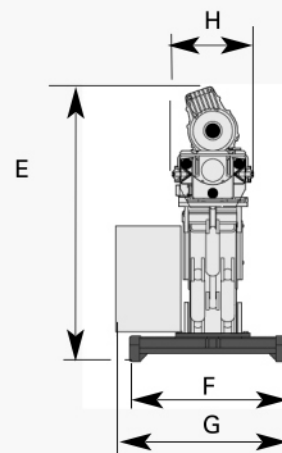
Measurements in mm (in.)



Drill unit, 1800 mm feed



Drill frame, 850 mm feed





GEOMECH AFRICA
Proudly **GEO GROUP**

Technical Specifications

DIMENSIONS

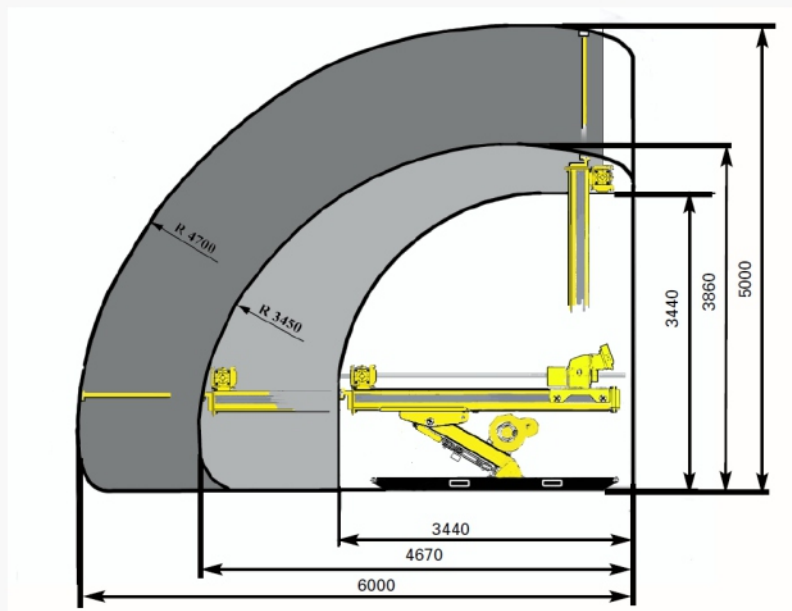
1 800 FEED VERSION

	mm	in
A	3 440	135,4
B	3 100	122,0
C	1 230	48,4
D	2 700	106,3
E	1 470	57,9
F	850	33,5
G	950	37,4
H	440	17,3

WEIGHTS

1 800 FEED VERSION

	kg	lb
	1 580	3 490



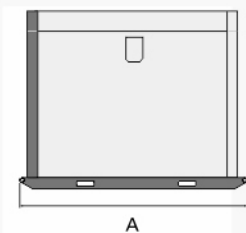
Atlas Copco | DIAMEC® U6

Power Units

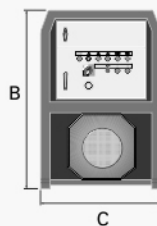
The power unit has two variable-flow hydraulic pumps, mounted in tandem. Supplied complete with 250 litre oil tank, water type oil cooler and filters. An air type oil cooler is optional.

Technical Specifications

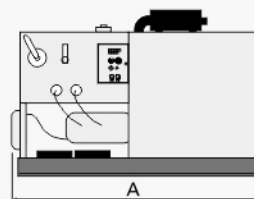
	ELECTRIC
MOTOR RATING	75 kW (100 hp) at 1 450 rpm
MAIN PUMP	
MAX FLOW	130 l/min 34,3 US gpm
MAX PRESSURE	300 bar 4 350 psi
SERVICE PUMP	
MAX FLOW	40,5 l/min 10,7 US gpm
MAX PRESSURE	300 bar 4 350 psi



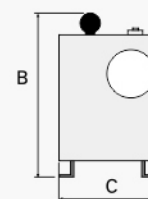
Power unit Electrical



C



Power unit Diesel



C



Atlas Copco | DIAMEC® U6

GEOMECH AFRICA

Proudly **GEO GROUP**

LEVEL 1 - B-BBEE

About Geomech Africa

Geomech Africa (Pty) Ltd is an industry leader in the geotechnical investigations in Southern Africa. Providing drilling and testing services to the minerals exploration market, as well as geotechnical and civil industries in and around Southern Africa and Africa.

Geomech Africa has long-term policies of developing operational/maintenance staff and upgrading equipment, to ensure that geotechnical investigations conducted for our clients are accurate, timely, cost effective and easily interpreted.

Contact Us

Neil Mackintosh

+27 83 229 4143

NeilM@geogroup.co.za

info@geogroup.co.za

0861 436 632

The GeoGroup



GeoGroup comprises of a group of companies, each a leader in it's own field, providing a range of services to the geotechnical, civil, mining and energy industries.

CONTACTS

GeoGroup Head Office

Plot 28, central road

Sunrella

Lanseria, Gauteng

South Africa

info@geogroup.co.za

0861 436 632

+27 (0)11 966 7760

Fax: +27 (0)86 663 3896

Eastern Cape Branch

East London

Branch Manager:

Barry Kruger

Barryk@geogroup.co.za

+27 (0)83 616 0399

Western Cape Branch

19A Zonnekus Rd

Morning Star

Cape Town

Branch Manager:

Brett Mannix

Brettm@geogroup.co.za

+27 (0)79 519 2629

KwaZulu Natal Branch

Lynnfield Park

Ashburton

Branch Manager:

Dries de Beer

Driesd@geogroup.co.za

+27 (0)82 578 0023