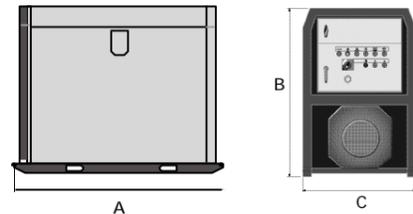


# DIAMEC® U6 PHC Deep Hole characteristics



Power unit

## Power Units

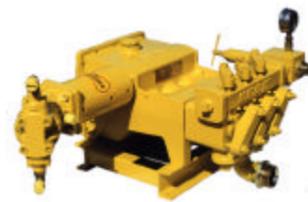
The electric power unit has two variable-flow hydraulic pumps, mounted in tandem. Supplied complete with 130 litre oil tank, water type oil cooler and filters. An air type oil cooler is optional.

<b>Motor rating</b>	75 kW (100 hp) at 1450 rpm	
<b>Main pump</b>		
max flow	160 l/min	(42,2 US gpm)
max pressure	300 bar	(4350 psi)
<b>Service pump</b>		
max flow	40,5 l/min	(10,7 US gpm)
max pressure	300 bar	(4350 psi)

Dimensions	mm		in		Weights	
	mm	in	kg	lb	kg	lb
A	1845	73	1000	2200		
B	1250	49				
C	790	31				

## DIAMEC® U6 PHC Application related accessories

1. Flush pump alternatives	Flow	Pressure
TRIDO® 80 H	80 l/min (21 US gpm)	50 bar (725 psi)
TRIDO® 140 H	140 l/min (37 US gpm)	70 bar (1000 psi)



TRIDO® 80 H

## 2. Wireline hoist

Wireline hoist, version 1000 m

Mounted on the positioner arm and has adjustable levelwind angle. Does not need to be moved when changing drilling angle.

Data	Wireline hoist 1000 m	
Capacity	1000 m (3280 ft) of 4.75 mm (3/16 in) wire rope	
Pull min	3600 N (810 lbf)	(Full drum)
max	9700 N (2180 lbf)	(Empty drum)
Hoisting speed		
min	1.8 m/s (360 fpm)	(Empty drum)
max	4.8 m/s (950 fpm)	(Full drum)



Wire line hoist, version 1000 m

Atlas Copco Craellius AB Original AB, 01-11

69911 1246 01

# Atlas Copco DIAMEC® U6 PHC - DEEP HOLE

Core drilling rig for underground operations, with wireline (A-H) and conventional core barrels.

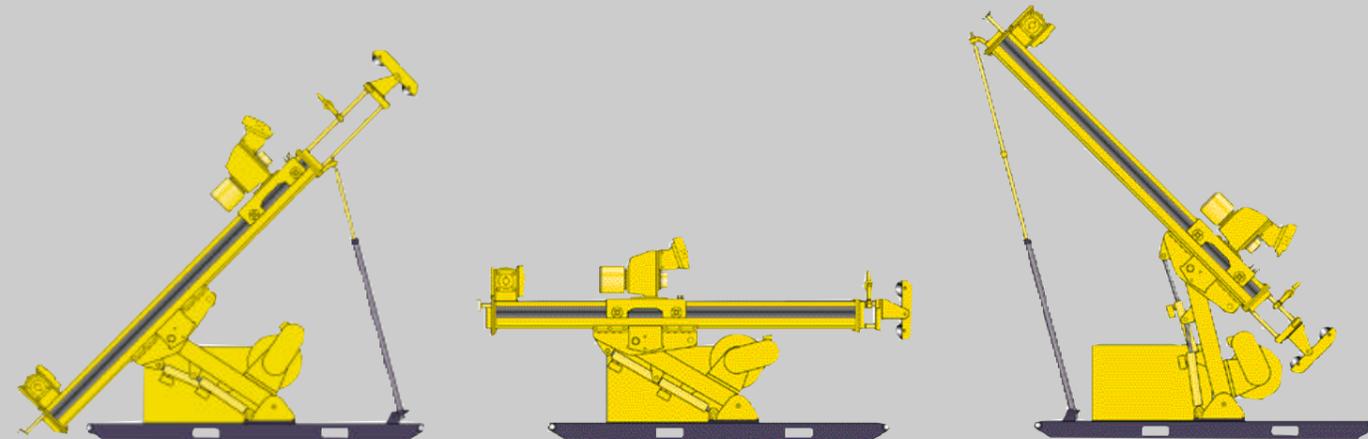


Fig. 1

Fig. 2

Fig. 3

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

## A New Drill design

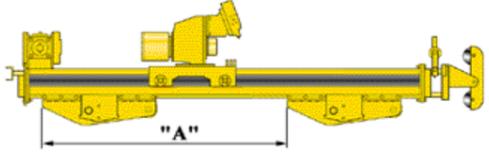
- Reliability has been increased by the use of a direct acting feed cylinder (no chains), a rod holder with a long-life gas cartridge, and a rotation unit with new distributor seals and a sealed gearcase. Hose connections with O-ring face seals prevent leakage.
- More Power is available for drilling 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 waterpump 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 1000 m 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.

## 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.

Atlas Copco reserves the right to make modifications without prior notice.

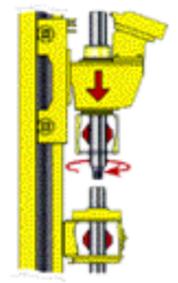
Feed Frame			Capacities	
Stroke length is 1800 mm. A direct acting feed cylinder is used.			Drill rod size	Approx. drilling depth
<b>Data</b>			B Wireline	1000 m 3280 ft
Feed length (mm)	1800		N	760 m 2490 ft
Feed length (in)	(71)		H	520 m 1700 ft
Feed frame (mm)	1800		"The above capacity values only serve as a guideline, and refer to vertical, downward drilling in homogeneous rock".	
extension "A" (in)	(70.9)			
Feed force-thrust (kN)	89			
(lbf)	(19 600)			
Feed force-pull (kN)	89			
(lbf)	(19 600)			
Fast travel speed (m/s)	0,9			
(ftm)	(176)			



**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.

Max. rod size	89 mm	(3.5 in)
Bore (without jaws)	102 mm	(4.0 in)
Bore (without covers)	170 mm	(6.7 in)
Axial holding force	45 kN	(10120 lbf)
Axial holding force (TC insert jaws)	90 kN	(20240 lbf)



**Rotation units**

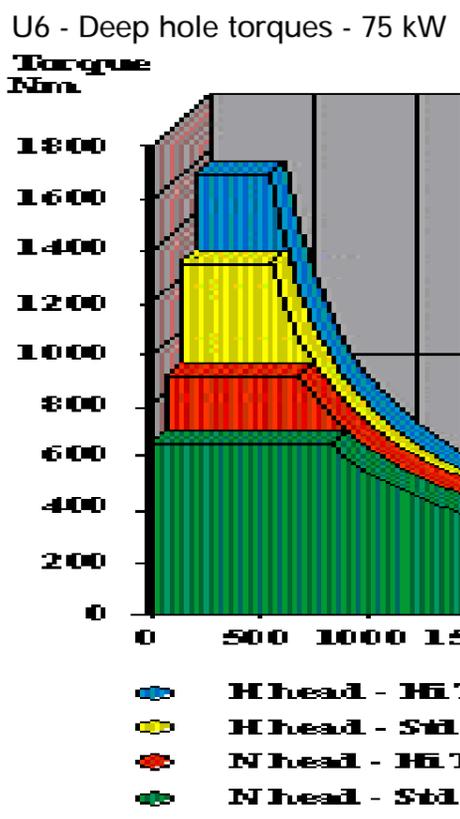
Two sizes of rotation units are available, a N size unit and a H size unit. The N size unit has two alternatives of rotation motors. The H size unit comes with a choice of two pressure/flow settings which affect the maximum torque and speed. The two sizes of rotation units are easily interchangeable.

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.

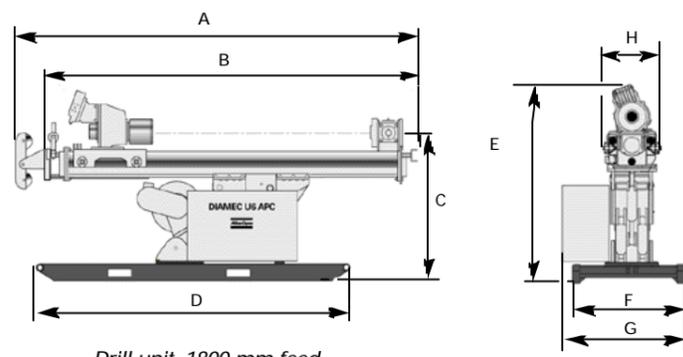
The rotation speed is adjustable from the control console. The chuck and rod holder are synchronized.

Rotation size	Rotation Unit - N size		Rotation Unit - H size	
	Standard	High torque	Standard torque	High setting
Drill Rod Size	A-N	B-N	B-H	B-H
Maximum rotation speed (rpm)	1800	1600	1400	1200
Maximum torque (Nm)	645	860	1275	1850
(ft lbf)	(475)	(635)	(940)	(1170)
Rotation motor (cc)	60	80	110	160
Spindle inner diameter (mm)	78	78	101	101
(in)	(3.07)	(3.07)	(3.97)	(3.97)
Chuck axial holding force (kN)	100	100	150	150
(lbf)	(22 000)	(22 000)	(33700)	(33700)

**U6 - Deep hole torques - 75 kW**



**Measurements in mm (in.)**



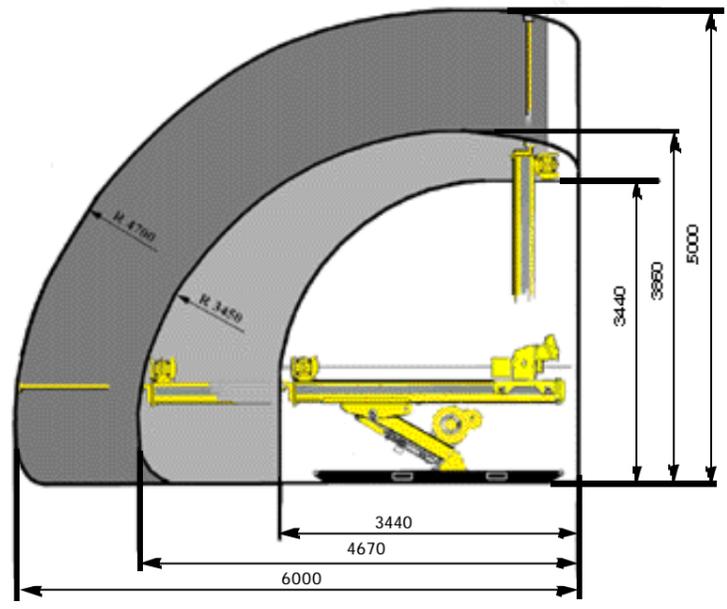
Drill unit, 1800 mm feed

Dimensions	mm		in	
	mm	in	mm	in
A	3440	135.4		
B	3100	122.0		
C	1230	48.4		
D	2700	106.3		
E	1470	57.9		
F	850	33.5		
G	950	37.4		
H	440	17.3		

**Weights**

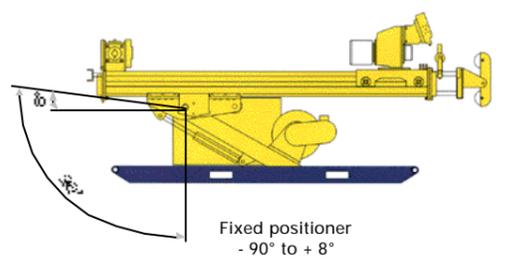
	kg	lb
	1750 *	3860

\* Incl. Wireline Hoist



**Optional mounting**

- Turn table
- Fixed positioner (shown)



Fixed positioner -90° to +8°

**Measurements in mm (in.)**

Drill unit, 1800 mm feed

Dimensions	mm		in	
	mm	in	mm	in
A	3440	135.4		
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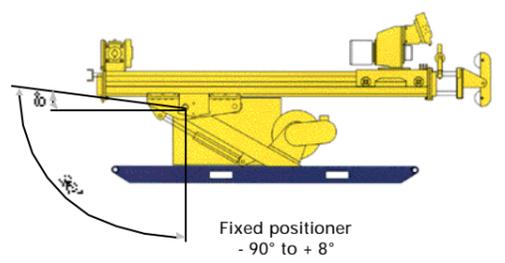
**Weights**

	kg	lb
	1750 *	3860

\* Incl. Wireline Hoist

**Optional mounting**

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Fixed positioner -90° to +8°