



DYNATECH

DYNATECH INDUSTRIES PVT LTD

UCD – SERIES

Heavy Duty Diamond core Drill

MODEL – UCD40CR

TECHNICAL SPECIFICATIONS

Dynatech Industries Pvt Ltd

Under ground Core Drill - UCD- 40CR

Technical Specifications



Product Introduction

Dynatech Industries Core Drill- UCD40CR is a versatile Crawler Version heavy duty underground Hydraulic Diamond core drill in compact frame size for underground mineral exploration Applications where the sites are located at remote places & hard to access.

Features

- **Deep hole underground electric hydraulic drill.**
- **Depth rated to 550m (1804ft) B+ Rod.**
- **Outstanding for wire line drilling to N+ Size**
- **Unique compact feed Cylinder -25% more efficient than chain or cable feed**
- **Crawler design allows quick set-up in confined areas**
- **High efficiency long stroke**
- **Variable speed gear box and motor provides widest range of torques and speeds in its class**
- **Integral skid with hydraulic feed frame raise and dump feature provides 360° drilling capability**
- **Incorporates the stranded DYNATECH drill components for reliability and easy servicing**
- **rod clamp and chuck pass A+ ,B+ And N+ Reaming shell and diamond bit**

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Drilling Depth Capacity

Method of drilling Diamond core (Wire line-Conventional)

A+	-	700 Meters	(2296ft)
B+	-	550 Meters	(1804ft)
N+	-	400 Meters	(1312ft)

Note: The above drilling Depth can be reasonably expected based on Straight, Vertical, Clean fluids fill holes .The depth capacities mentioned above are guide lines by field operators.

Actual drilling capacity depends on conditions, drilling techniques, In-the whole tools and used. DYNATECH cannot stand guarantee for these results in all drilling conditions.

+ Refers to various wireline rod systems

FEED BOOM & HEAD TRAVERSE SYSTEM

Feed boom is made of stiff and torsion steel profile construction . Feed boom is mounted on a frame with hydraulic tilt cylinders and mechanical lockable supports. The positioner is specially designed for easy setup when fan drilling and has full range adjustment from vertical down to vertical up.

The feed cylinder is situated between the drill slide members. It is of unique design which allows 1.7m of head travel without the use of chains or wire ropes and equal force on both sides.

The design has the advantage of doing away with chains and sprockets or wire ropes and pulleys, resulting in higher efficiency and less maintenance .

Type	Hydraulic cylinder Direct coupled.	
Head travel length	1, 7 m	(5.75 ft)
Rod hosting length	1, 50 m	(4.93 ft)
Retract force	51 KN	(11690 lb)
Pull down force	51 KN	(11690 lb)
Pull up speed	40 meters/min	
Pull down speed	40meters/min	
Fine feed speed	2.5metres/min	

Dump

Stroke	1100 MM Travel
Mechanism	Hydraulic cylinder with locking valves.
Mast raising	two independent hydraulic cylinders with lock Valves.

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Rotation Unit

The Rotation unit is powered by a Hydraulic motor , a sealed gear box with hollow spindle and “N”Chuck .The “N”chuck jaws are quick replaceable . the rotation speed is adjustable from the control console . Chuck and rod holder are synchronized along with thread compensation for faster and safer operation .

TORQUE AND SPEED RATINGS

Hydraulic motor at minimum/maximum, Motor at 1440 rpm.

Max Rotation speed : 1500rpm
Max torque : 550NM
Inner spindle diameter : 77mm
Size and jaws : A , B , N size.

Note: Rotary Head torques and speeds are infinitely variable in each gear range as indicated
Output Speeds & torques are on 100% efficiency, Actual rotation speed is effected by Engine Rpm and motor displacement settings

Powerpack

The power pack consists of a rugged skid frame on which is mounted the 45kw(60hp) electric motor, double pump drive and three hydraulic pumps. The main pump power rotation . fast travel and wireline hoist. the second pump powers slow feed and the manual release of chuck and clamp release. The third pump powers water pump.

The large 150L reservoir provides flooded suction for all pumps. Lockable full bore valves in the suction lines permit easy servicing. Hydraulic oil can only be added to the tank through a hand pump and filter preventing contamination of the hydraulic system. An external sight gauge allows easy monitoring hydraulic oil level and temperature

A full flow 10 micron beta rated return filter with virtual indicator keeps the hydraulic oil clean a water cooled heat exchanger cools the hydraulic oil.

Electric Motor : 45kW (60hp)TEFC
Protection : IP55 ,(Flame proof Optional)
Hydraulic Tank Capacity : 150 L (50 gal US)
Max Operating pressure : 280bar (4060 Psi)
Hydraulic oil Cooling : Water Cooling by Heat exchanger

CONTROL CONSOLE

The control console is the valves which controls direction and speed (continuously variable) of rotation, fast travel and handling .

gauges are provided for rotation pressure, bit weight, and drilling water pressure. Water pimp flow is continuously variable from the console.

All hydraulic hose connections to the power pack, drill head and feed frame are through quick disconnect coupling for convenience in moving and setting up.

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Wire Line Winch

Hoisting Capacity	4 KN (899 lb) (Bare drum)
Line speed	102 m/min (335ft/min) (Bare drum)
Line sped	256 m/min (840 ft/min) (Full drum)
Cable diameter	5mm
Cable Capacity	500* meters (1640*ft)
Drive motor	fixed displacement
Level winder	Optional (mechanical drive through winch shaft)

Note: Wire cable not supplied with rig to be ordered separately.

ROD CLAMP

The hydraulic clamp assembly is fitted with nine jaws held in the gripped position by springs and released by hydraulic pressure. In the event of hydraulic System failure the clamp is fail safe.

The clamp is hinged in similar manner to the drill head to facilitate the introduction of large diameter casing when space ahead of the drill is limited. Both chuck and clamp use interchangeable carbide set jaws retract sufficiently to pass bit and reaming shells up to N+ size

Capacity	H+
Make	DynatechIndustries
Jaw Sizes	H+/N+/B+
Mode of operation	Hydraulic Release ,Spring Closed

Water Pump

Type	Triplex Piston Pump
Power	Hydraulic operated
Max flow	70 LPM
Max pressure	4.825 MPa (700 PSI)

Electricals

Total input power	:40KW
Standard Voltage	:400V
Frequency	:50HZ
Starter	:Delta-WYE starter
Safety	:circuit breaker, on/off reset buttons, :Phase loss/Phase reversal protection :Motor Over load Protection :Digital Earth leakage relay
Lighting	:Voltmeter / ammeter , indicator lamps :working 2x100w LED flood lights on drill :Driving 2x20W LED lights

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Undercarriage

Tracks	:Sealed and lubricated
Type	:Triplex Grouser
Width	:350mm
Brakes	:SAHR (spring applied hydraulic released)
Greadeability	:65%
Ground Clearence	:178mm

Tramming

Type	Hydraulic Drive
Prime Mover	Air cooled Diesel engine
Power	60Hp

Dimensions -Standard Configuration

Width	:standard 68.8inch(1750mm)
Height	:mast down tramming :94.5inch (2400mm) :Mast up drilling :126inch (3200mm)
Length	:mast down tramming :177 inch (4500mm) :Mast up drilling
Weight	:6500kg (14330 lbs)

Options

Fire extinguisher	Type	: Dry Chemical fire extinguisher
Electrical Panel	Type	: DGMS approved explosion proof NEMA4 standard , stainless steel.
Electrical motor	Type	: DGMS approved Explosion proof .
Electrical Cables	Type	: DGMS approved .
Hydraulic fluid	Type	: Fire resistance hydraulic fluid .
Wire ropes	Wire line	5mm X 400 meters long.

Specifications are subjected to modify or change ,Which are made time to time by
DynatechIndustries Pvt Ltd and their suppliers according to their polices for upgrade their products.
All Dimensions and weights are approximate and are subjected to change without notice.



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