

FORWARD UN6

Core Drilling Rigs

Hole diameter: A,B,N and H

FORWARD



HEAD OFFICE

No .175 Visayas Avenue, Brgy. Gavino Maderan, Gen.
Mariano Alvarez (GMA), Cavite 4117. Philippines.
Tel: +6346 972 2001/+63 46 972 4813
E-mail: info@forwarddrill.com
Web-site: www.forwarddrill.com

FACTORY

Lianyungang Forward Heavy Industrial Machinery CoLTD
99#, New East Rod, Lianyungang Economic and
Technological Development Zone, Lianyungang city,
Jiangsu province. China. 222047
Tel: +86 518 81089618
Fax: +86 518 81599918
WhatsApp: +86 13056057070
E-mail: info@forwarddrill.com
Web-site: www.forwarddrill.com

Make your drilling more efficient

The machines in the rugged FORWARD UN6 (Pilot Hydraulic Control) utilize well-proven technology. It can perform above or below ground in a wide range of core drilling applications. The FORWARD UN6 rig are adaptable and can be tailored to fit the unique needs of your operation.

FORWARD UN6 core rig are equipped with a skid-mounted chassis as standard for easy transport. A compact design enables the rigs to manoeuvre within cramped quarters causing minimal disturbance to surrounding operations. FORWARD machines are ideal for both underground exploration and surface applications. A modular design means that rigs can be configured with various interchangeable feed lengths and rotation units. Future reconfiguration is easily carried out with minimal fuss.



An inductive water flow meter, without moving parts, and a highly accurate pressure sensor increases flushing reliability and availability of the machine.



The unique combined turntable and positioning arm fitted to the FORWARD UN6 core rig enables easy, fast and accurate set up.



Main benefits

Compact yet flexible, featuring a modular design that can be tailored to fit your specific needs.

Built for productivity, FORWARD UN6 rig is safe and easy to operate so you get the best outcome.

Trusted for reliability, a FORWARD UN6 rig can be relied on to retrieve superior core samples, time-after-time

The industry-standard in exploration

Powerful and compact, the FORWARD UN6 features a versatile modular design. It can be fitted with various alternatives and options to best suit your particular requirements regarding rock type, hole diameter and hole depth. FORWARD machines drill straight upwards, downwards or horizontally, enabling you to get the job done easily.



Excellent positioning capabilities make the rigs quick and safe to set up.



Drilling time is maximized by the electrical power units and cleverly designed hose arrangements which feature a hose ladder to reduce wear.



The pilot hydraulic control system provides the operator with full control. The operator station works at a reduced hydraulic pressure (max 80 bar) which means it's safer for the operator and lighter in weight.

The rod holder opens hydraulically and closes with gas pressure. The rod holder and chuck are synchronized to eliminate human errors and remove the risk of dropping rods.

A direct-acting telescopic feed cylinder provides optimal control, constant travel speed and equal push/pull force.

Powerful electro-hydraulic power unit mounted on its own skid for easy positioning.

Doublepump packages are available to further boost efficiency and performance.

Sturdy control panel featuring ergonomic design provides operator with full control from a safe distance.



The wire line which is mounted in the optimum position. It's possible to rotate 90° to 90° without needing to reposition the winch.

The safety guard provides a high level of protection from moving and rotating parts. Thanks to a hydraulic cylinder, the long section on the operation-side can be opened and closed from the control panel for safe, quick and ergonomic operation.



Features that make a real difference

FORWARD UN6 core drilling rigs are available with a wide choice of options which



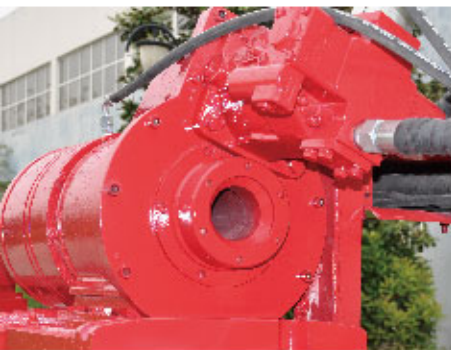
+ Feed frame with equal pull and push force

The feed frame is the backbone of the drill rig. This robust system uses a direct feed cylinder coupled to a chainless feed. The system reduces maintenance costs and provides a pull and push force which is equal. FORWARD UN6 rig has increased capacity for up-hole drilling without the need for modifying anything on the feed. The feed frame is also fitted with wear strips which increase service life and reduce repair costs.



+ Rod holder closes using gas pressure

The gas spring rod holder opens with hydraulic pressure and closes with gas pressure. The gas cartridge lasts for up to a million cycles providing a low total cost of ownership. To enhance safety, the rod holder and chuck are synchronized to eliminate human errors and remove the risk of dropping rods. Jaws with TC inserts are available to increase the holding force when drilling medium to deep holes.



+ A rotation unit of your choice

The rotation unit constitutes the muscles of the rig, and certain applications require more strength. Depending on rock conditions and your desired hole dimensions, there is a rotation unit to suit the job. Each unit is designed with oversized bearings to increase durability. The gear case is sealed completely to handle drilling from +90° to -90° angles. A patented hydraulic chuck with quick-change jaws provides both superior rod grip and quick, easy rod changes.



A comprehensive service offering

Even the best equipment needs to be serviced regularly to make sure it sustains peak performance. An FORWARD service solution offers peace of mind, maximizing availability and performance throughout the lifetime of your equipment. We focus on safety, productivity and reliability.

By combining genuine parts and the FORWARD service from our certified technicians, we safeguard your productivity – wherever you are.

Technical specifications

FORWARD UN6

The FORWARD UN6 is a powerful and flexible machine. It's available with various feed lengths, standard and deep hole feed cylinders and three different rotation heads. The rig can be configured to serve a large variety of drilling applications. The FORWARD UN6 is fitted with a synchronized rod holder and chuck. This greatly reduces the risk of dropping rods due to human error.



Core drilling hole length capacity

These figures serve as guidelines only. They are calculated with available pull/feed force, weight of drill string in water filled hole, average WOB and reserve for breaking solid core in rock with 10MPa Tensile Strength. FORWARD cannot guarantee these capacities will be reached in all working conditions due to varying factors such as ITH used, conditions of the ground and differences in operation.

Hole Size	Standard				Deep hole			
	Vertical Down		Vertical Up		Vertical Down		Vertical Up	
	Metric	US.	Metric	US.	Metric	US.	Metric	US.
AQ	1445 m	4741 ft	985 m	3232 ft	-	-	-	-
BQ	1065 m	3494 ft	600 m	1969 ft	1530 m	5020 ft	920 m	3019 ft
NQ	715 m	2346 ft	340 m	1116 ft	1080 m	3543 ft	575 m	1887 ft
HQ	335 m	1099 ft	155 m	509 ft	580 m	1903 ft	310 m	1017 ft

Wireline winch capacity is 1 300 m with 4.75 mm wire

Rotation unit alternatives

Model	110CC B-H		160CC B-H	
Rod Sizes	B-H		B-H	
Max Rotation Speed	1 400 rpm		1 190 rpm	
Power	Hydraulic Motor		Hydraulic Motor	
	Metric	US.	Metric	US.
Max Torque	1 634 Nm	1 205 ft lbf	2 390 Nm	1 762 ft lbf
Spindle (Inner Diameter)	98 mm	3.86 "	98 mm	3.86 "
Chuck axial holding force	11,800 Kgf	26,000 Lbs	11,800 Kgf	26,000 Lbs
Weight	160 kg	353 lb	272 kg	600 lb

Feed frame alternatives

Model	850		1800		1800 Deep Hole	
	Metric	US.	Metric	US.	Metric	US.
Feed stroke length	650 mm	33.5"	1 800 mm	71 "	1 800 mm	71 "
Feed force/pull force	65 kN	14 600 lbf	65 kN	14 600 lbf	89 kN	20 010 lbf
Max feed speed	10 m/s	328 fps	10 m/s	328 fps	0.8 m/s	2.7 fps

Rod Holder

Hydraulically Open / Gas pressure close. The rod holder closes instantly on hydraulic pressure loss.	
Max. Rod Size	89 mm (3.5")
Bore (without jaws):	102 mm (4.0")
Bore (without overs):	170 mm (6.7")
Axial Holding force with steel jaws	118 kN (26,000 Lbs)

FORWARD UN6

Working Positions from -90° to +90°



Weight of rig and control unit (without options/accessories)

	A – N Rot 850 PHC		A – N Rot 1 800 PHC		A – N Rot 1 800 DH PHC	
	Metric	US.	Metric	US.	Metric	US.
Weight (including rotation unit)	1 950 kg	4 299 lb	2 075 kg	4 574 lb	2 125 kg	4 664 lb

For the weight of rig when fitted with different rotation units.

Working dimensions in mm

