

Diamec Smart 4

Core drilling rig

Hole diameter: A, B and N



Compact and smart

Diamec Smart 4 is the most compact rig in the Diamec Smart range, perfect for drilling in confined spaces. It is equipped with the same advanced Rig Control System (RCS) as the other rigs in the Diamec Smart range, allowing it to be operated automatically. Diamec Smart 4 is easy to set up and can be equipped with a long or short feed to enable the right configuration for any working space.

+ Main benefits

Automated drilling increases productivity and lowers operational costs

Fast and safe positioning means less time wasted between holes

Advanced data management makes it possible to analyse data. This improves both drilling and operations whilst lowering the TCO of each Diamec rig

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.

A-N rotation unit with sealed gear box, hollow spindle and hydraulic chuck. The rotation unit chuck and rod-holder are synchronized to enhance safety. Both the rotation unit and rod holder come with a hinge design.

Please note that this image does not feature the latest design of guard.



The gas spring rod holder closes instantly in case of loss of hydraulic pressure - ensuring that the drill string is not lost.



Increased safety and productivity thanks to the unique wire line winch design which enables drilling angles from -90 to +90 degrees without repositioning.



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



Feed fitted with protected and direct acting telescopic feed cylinder which utilizes equal pull/push force and high travel speed.

Unique positioning design including a turntable enables fast and accurate rig set-up, especially in confined spaces.

Optional HD air/oil cooler which provides extra cooling capacity.

Easy-to-use lightweight control panel with 12" touch screen and adjustable height.



Discover more about the Diamec Smart 4

Powerful, intelligent and productive

Diamec Smart 4 is based on the well-proven Diamec Smart range. It's compact size enables it to be used for both shallow to medium depth underground exploration as well as in drilling applications such as tunneling and dam projects.



+ Automated drilling

Diamec Smart 4 has an advanced Rig Control System allowing it to be operated automatically. From the touch screen on the control panel, drilling parameters are easily set and monitored. Automatic drilling of the complete run with constant penetration, dramatically extends the life of the bit when compared to manual drilling.



+ Less time wasted between holes

Rig set-up is made easy, safe and quick thanks to the combination of a unique positioning arm and turntable, plus the optimized positioning of the wireline winch. This increases drilling time and boosts productivity.



+ Compact and flexible

Thanks to a shorter feed, the Diamec Smart 4 can be used in spaces with a height as low as 2.5 meters using wireline drilling and even lower with conventional drilling. Sophisticated drilling tasks, such as setting up casings, are simplified thanks to the fact that both the rotation unit and rod holder utilize a hinge design to move them off the drill center.



A comprehensive service offering

Even the best equipment needs to be serviced regularly to make sure it sustains peak performance. An Epiroc 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 an Epiroc service from our certified technicians, we safeguard your productivity – wherever you are.



+ Data logging and Exploration Manager

All Diamec Smart rigs offer added value via a standard data logging feature, Measure While Drilling (MWD) which records drilling parameters. The optional added operational data logging feature enables the logging of activities directly on the rig screen plus automatic logging of key functions during drilling. Rigs also create a log file for major events and warnings. The optional Exploration Manager software presents all this data in a comprehensive way. It provides a full overview of the drilling process. Users have the ability to analyze data, find improvements and generate various reports. Exploration Manager improves productivity, lowers operational costs and provides fast and professional fleet management.

Technical specifications

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. Epiroc 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.

(Wireline hoist capacity is 500 m with 4.75 mm wire)	Vertical down		Vertical up	
	Metric	US	Metric	US
AO/AT	1 125 m	3 691 ft	750 m	2 461 ft
BO/BT	815 m	2 674 ft	425 m	1 394 ft
NO/NT	515 m	1 690 ft	215 m	705 ft
HO/HT	-	-	-	-

Wireline winch capacity is 500 m with 5 mm wire

Rotation unit alternatives

Model: 60CC A-N	Metric	US
Rod sizes	A-N	A-N
Max torque	744 Nm	549 ft lbf
Max rotation speed	1 870 rpm	1 870 rpm
Spindle (inner diameter)	78 mm	3.1 in
Chuck axial holding force	100 kN	22 480 lbf
Weight	160 kg	353 lb
Power	Hydraulic motor	

Feed frame alternatives

Model	800		1 750	
	Metric	US	Metric	US
Feed stroke length	800 mm	31.5 in	1 750 mm	68.9 in
Feed force / pull force	52 kN	11 742 lbf	52 kN	11 742 lbf
Max feed speed	1.0 m/s	3.2 fps	1.0 m/s	3.2 fps

Rod holder

Hydraulically open / gas pressure close. The rod holder closes instantly on hydraulic pressure loss.	Metric	US
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 with steel jaws	45 kN	10 120 lbf
Axial holding force with TC insert jaws	90 kN	20 240 lbf

Wireline hoist

	Metric	US
Capacity (4.75 mm wire)	500 m	1 640 ft
Pull min. (full drum)	4.6 kN	1 039 lbf
Pull max. (empty drum)	11.2 kN	2 523 lbf
Line speed min (empty drum)	88 m/min	287 ft/min
Line speed max (full drum)	213 m/min	698 ft/min
Weight (without wire)	110 kg	182 lb
Level wind angle	Adjustable	

Technical specifications

Control system and interface

Control system type	Epiroc Rig Control System (RCS)
Display	12" touch screen
Controls	Joysticks, control knobs and foot pedal
Data logging	Internal memory
Data export	USB port
Control unit weight	24 kg (53 lb)

Optional flush pump

The flush pumps are designed for both mud and water flushing. The distribution block is prepared for mounting of accumulator, adjustable steady flow valve and other optional equipment.

Model	Trido 80H, hydraulic driven	
	Metric	US
Flow	80 L/m	21 gpm
Pressure	50 bar	700 psi
Weight	148 kg	327 lb

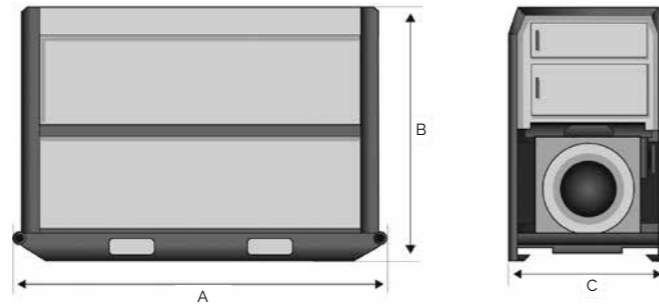
Additional optional equipment and accessories

Bracing device	Device suitable for use in narrow tunnels and drifts. It allows simple anchoring of the feed frame between the floor and roof/wall of the gallery, drift or tunnel.
Wheel kits	For easy repositioning of both rig and power unit.
Wireline sheave	For steep up-hole drilling.
Heavy duty air oil cooler	Air cooled heat exchanger which provides extra hydraulic oil cooling.
Water collector	The water collector seals against the rock face and allows collection of flush water.
Keyhole wall bracket	Enables anchor hole drilling in the wall or ceiling. Available for A-N.
Dimension kits	Jaws and bushing kits in different sizes – steel and TC inserts.
Casing clamp	Aligns the feed frame with the casing tube.
Guard interlock	Various interlock options are available featuring different levels of safety stops for when the guard is open.
Operational logging/Exploration Manager	Comprehensive operational data logging and analyzing tool.

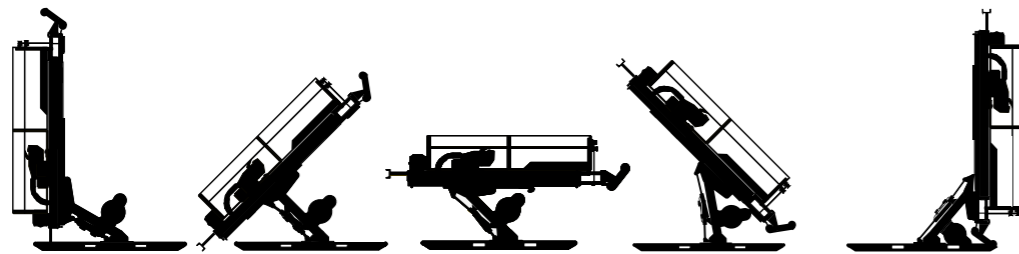
Power unit

Electrical power unit with two variable flow hydraulic pumps, mounted in tandem.

Electric motor	Metric	US
Power	55 kW	74 hp
RPM	1 450 rpm	1 450 rpm
Oil tank	70 l	18.5 gal
Cooler	Water type oil cooler	
Main pump		
Max flow	125 L/m	33 gpm
Max pressure	280 bar	4 061 psi
Service pump		
Max flow	40 L/m	10.5 gpm
Max pressure	240 bar	3 481 psi
Dimensions and weight		
A	1 604 mm	63 in
B	1 120 mm	44 in
C	710 mm	28 in
Weight	700 kg	1 510 lb



Working positions from -90° to +90°

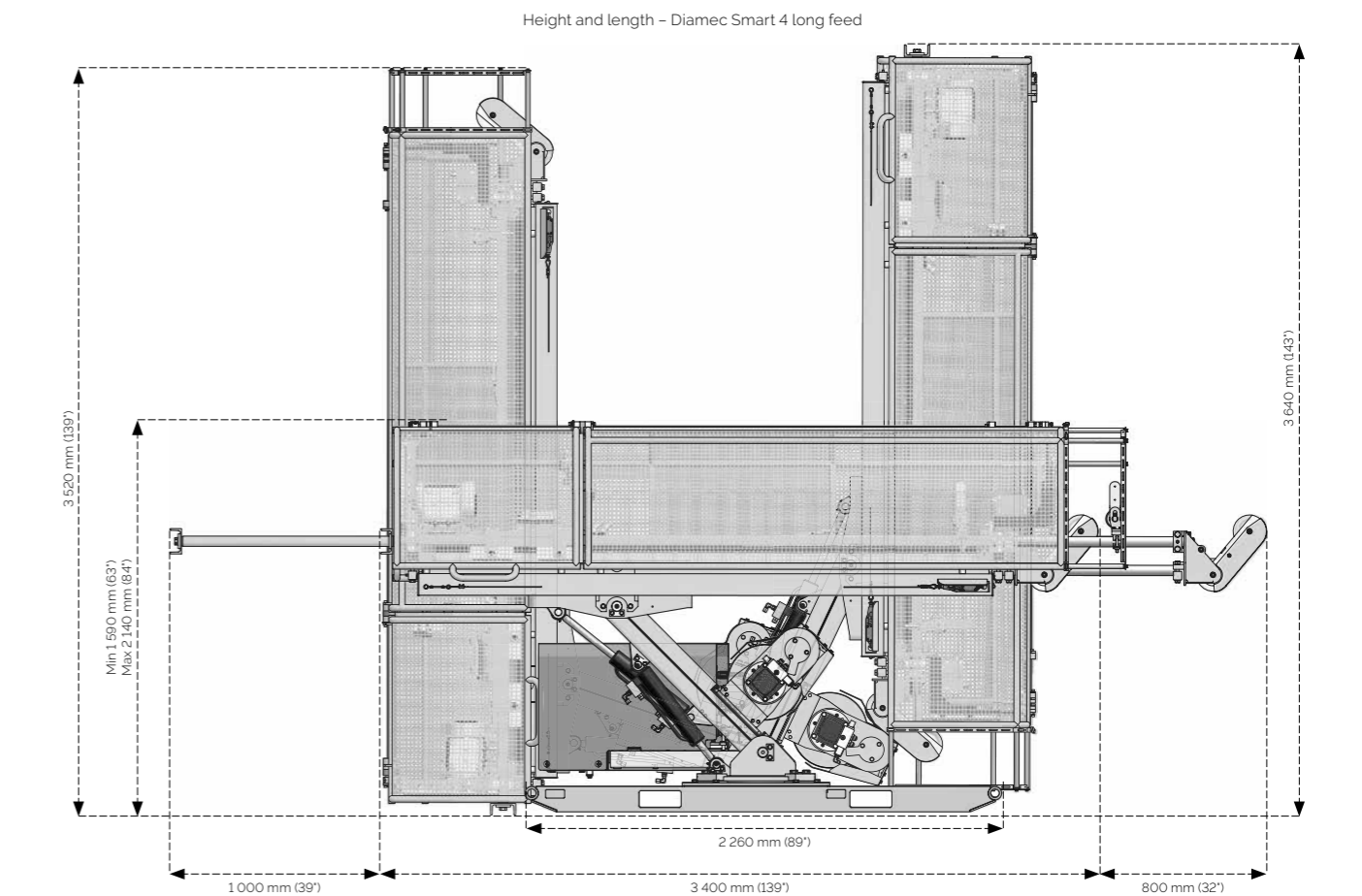
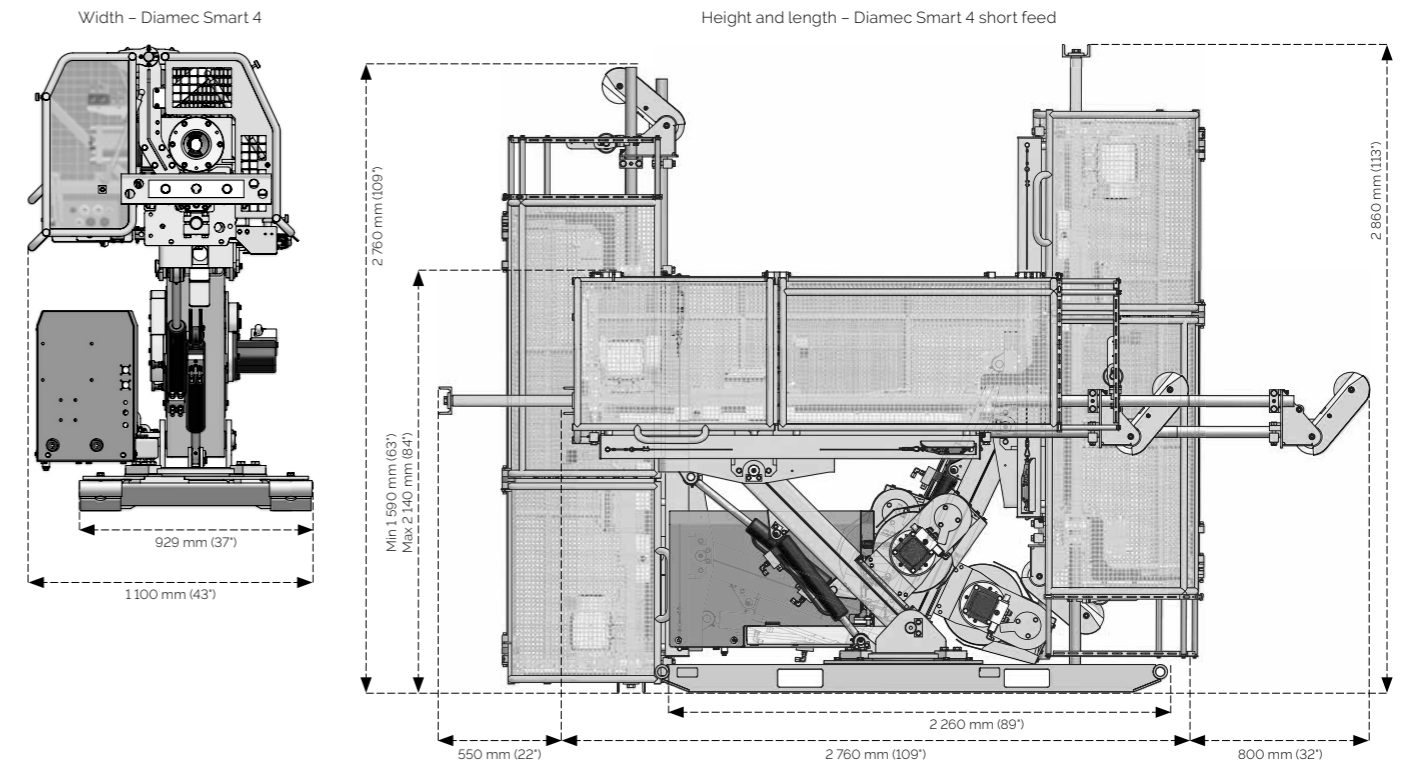


Weight of rig and control unit (without options/accessories)

Rig type	A-N Rot		Rig type	A-N Rot	
	Metric	US		Metric	US
800	1 629 kg	3 591 lb	1 750	1 754 kg	3 866 lb

Technical specifications

Working dimensions in mm



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Performance unites us, innovation inspires us, and commitment drives us to keep moving forward. Count on Epiroc to deliver the solutions you need to succeed today and the technology to lead tomorrow.
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