HRD100
Hydraulic rock drill

Epiroc

We'll follow you all the way

Rock drilling is a tough job. And it gets ever more demanding. We want to make your job easier as you go deeper.

Your job is an inspiration to us. By understanding your working conditions and the demands that you live up to every day, we can create tools that help you work faster and safer.

The HRD system consists of the rock drill, power pack and a selection of pusher legs. Together they have two missions:

The first is to provide hydraulic drilling that helps you exceed your production targets in a safe way.

Thanks to the hydraulic system you don't have to worry about loosing production time due to poor air pressure at large depths. We have also gone out of our way to design a system that helps you avoid heavy lifting and wasting precious energy.

The second mission is to provide good value for money, over a long period of time.

To succeed we only use the best parts and materials available and combine them with active security systems that protect both you and the equipment. That's the only way to do it.

After all, your business is our business.

This is quality

Good drilling means that the entire system, from rock drill to drill steel to the rock itself, must harmonise. Here's how it works.

Four actions for successful drilling

Action 1:

Percussive Impact

Percussive drilling breaks the rock by hammering impacts transferred from the rock drill to the drill bit at the bottom of the hole.

Action 2:

Feed force

The purpose of the feed force is to keep the drill bit in close contact against the rock. The engineering challenge is to combine high feed force with good rotation.

Action 3:

Rotation

Rotation moves the drill bit to a new position to make the next blow as effective as possible. When the drilling starts you need even and smooth rotation.

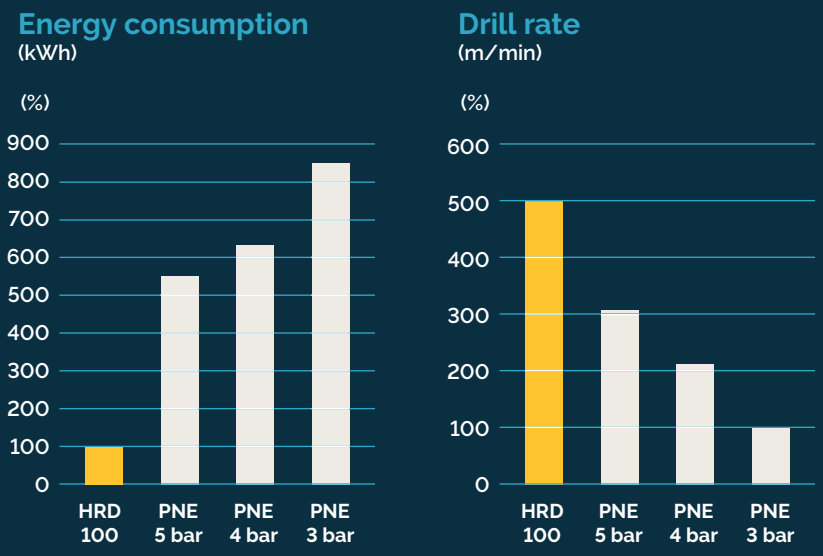
Action 4:

Flushing

Drill systems with a high output need good flushing technology to be able to remove drill cuttings. Particle size, shape and material affect the flushing methods.

HRD100 vs pneumatics

Typical performance index comparison



Five step flush

Quality drilling means using the right amount of water at every moment. The five step flushing technology helps you adjust the water flow for your drilling challenge.

Forced flush

This feature works when the drill is idle. Use it when for instance the drill is stuck and you need to flush it out.

You do the Rock
We do the Roll

The RD100 is designed to let you work. Fast and at low cost per metre drilled. Concentrate on the rock and we'll keep you on a roll. No matter the rock type.

You need a rock drill that lets you focus on drilling accurate blow and support holes. Fast and safe.

The RD100 has a soft start function that is easy to reach with one hand. This means you can work with more precision, and collaring is made especially easy.

When it's time to go faster, the RD100 is one of the most powerful drills on the market. The hydraulic system has an increased drill rate compared to electrical systems, and is considerably more energy efficient than pneumatic drills.

And it saves your hearing as well. Perceived noise is about 50 percent lower than that of a pneumatic drill.

Quality drilling means using just enough water for flushing. The RD100 has a five-step water adjustment to help you use the right amount of water for each step. And when you stop drilling, the flow stops automatically. Of course, you still have the ability to force feed water to flush out the drill if it is jammed.

A polyurethane cover provides vibration damping and strength. The RD100 is tested to withstand both heavy handling and drops from more than one metre.

Rock drill		RD100
Overall length	mm	655
Weight without hoses	kg	23
Shank dimension	mm	22x159
Oil consumption (120 bar)	l/min	38
Impact rate	blows/min	3600-4000
Rotation torque	Nm	50
Frequency	Hz	65
Max. hole diameter	mm	42
Working pressure	bar	100-120
Water pressure	bar	5-8
Working temperature, oil	°C	20-60
Working temperature, water	°C	5-30
Water flow rate	l/min	12
Max. drilling depth	m	2.4
Ambient temperature	°C	5-40
Part number (global version)		8311 0303 74
Part number (only for the South African market)		8311 0304 10

Noise and vibration data		
Noise		Vibration
Declared values		Declared values
Sound pressure	Sound power	Three axes values
EN ISO 11203	ISO 15744	EN ISO 5349-2
Lp r=1m dB(A) rel 20µPa	Lw guaranteed dB(A) rel 1pW	A m/s2 value
105	110	11

Choice of lubricating oil

Lubricating oil is not included with the machine. If Epiroc oil is not used, we recommend one of the following oils (tested and approved):

- Castrol Anvol SWX 46 FM biodegradable and flame retardant)
- Shell Tellus S2 V 46 (Epiroc standard mineral oil)
- Texaco/Caltex Rando HDZ 46 (traditional mineral oil)

Pusher leg		PL70	PL100	PL120	PL150
Feed length	mm	470	770	970	1,270
Overall length, retracted 1)	mm	760	1,060	1,260	1,560
Weight	kg	8.8	10.5	12.6	13.4
Part number		8321 0303 05	8321 0303 08	8321 0303 10	8321 0303 15

1) From connection axis centre to standard foot teeth

Water on demand

Thanks to the automatic water function flushing stops when you stop drilling.

Easy chuck change

You save valuable service time thanks to a replaceable rotation chuck.

Drilling freedom

You can use most drill steels and any shank lengths over 159 mm with the RD100.

Save time

Save money

Get it done

The hydraulic system has an increased drill rate compared to electrical systems, and is considerably more energy efficient than pneumatic drills.

Protects what's good

A polyurethane cover protects the equipment, reduces noise and enhance vibration-damping.

Get a grip

Hold the drill firmly in the front handle. The removable carry handle on top makes it easy to move around.

Soft start

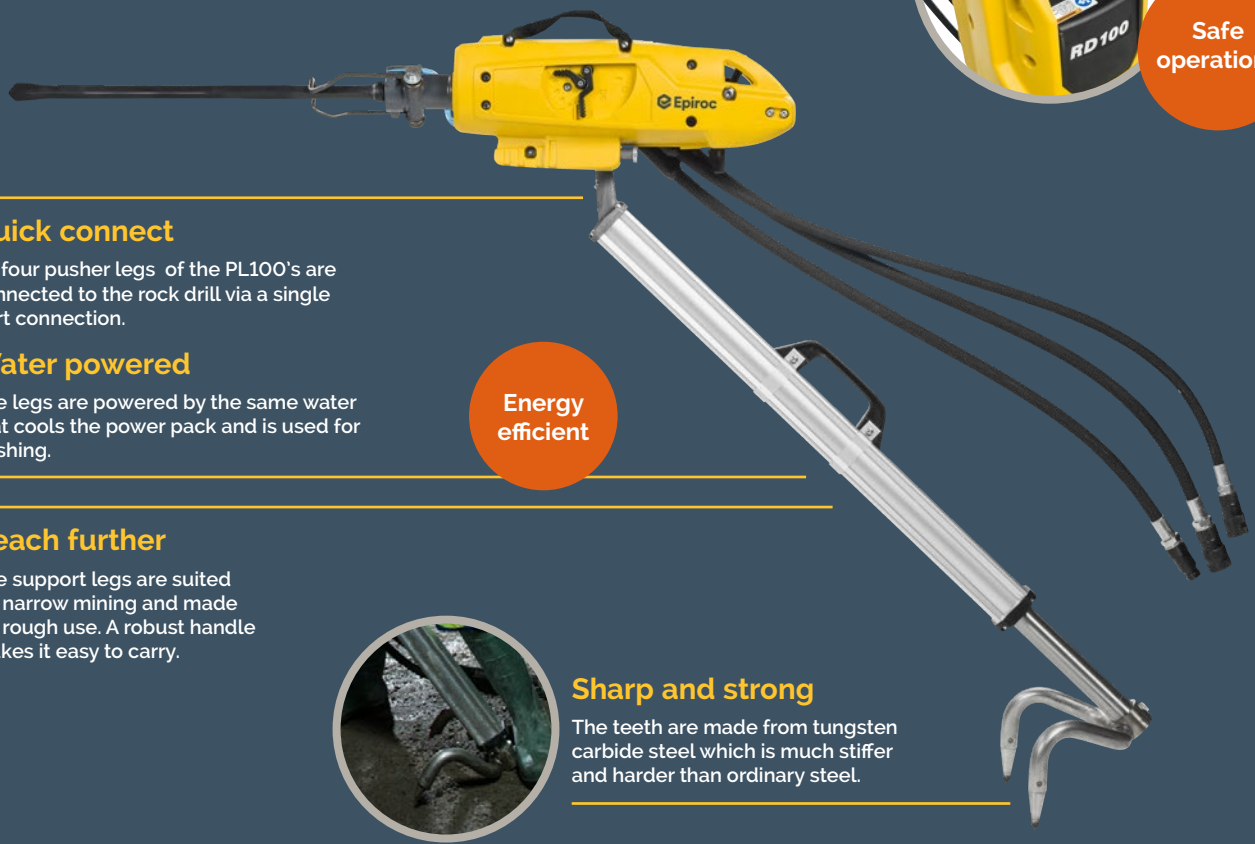
Slow speed makes collaring easier.

One hand free

One-handed operations makes work safer.

Safe operations

Water powered support



Quick connect

All four pusher legs of the PL100's are connected to the rock drill via a single port connection.

Water powered

The legs are powered by the same water that cools the power pack and is used for flushing.

Energy efficient

Reach further

The support legs are suited for narrow mining and made for rough use. A robust handle makes it easy to carry.

Sharp and strong

The teeth are made from tungsten carbide steel which is much stiffer and harder than ordinary steel.

Power up!

To stay focused you need to stay energetic. The PP100 saves your back, your time and your money.

The PP100 has been designed to keep weight down to make lifting and moving the power pack easier. Thanks to less weight you can spend more of your time and energy on drilling. We have also made it as compact as possible to give you more cargo space. The PP100 is even stackable and can be handled upside down.

And when you start it up, the power pack basically manages itself. It has smart functions that monitor oil flow and oil temperature and help you prevent breakdown from overheating.

The power pack is equipped with water cooling and automatic overheat protection. Oil volume can change with temperature and ambient pressure.

Electronics in the PP100 monitor oil volume and compensate for pressure differences and changes in the surrounding environment – ensuring it stays within the right range. The same technology allows you to work with the PP100 in a 45˚ angle, without power loss. And if you need a boost, we provide simple tools that let you refill hydraulic oil underground in the mine.

Power pack		PP100
Size: L x W x H	mm	695 x 402 x 352
Ambient temperature range	°C	5 - 40
Ambient humidity range	%	10 - 95
Weight incl. oil	kg	45
Oil flow	l/min	38
Hydraulic oil temperature	°C	20 - 60
Nominal pressure	bar	120
Pump type		Helical rotor pump, directly driven from the motor shaft
Filtration		10µ filter in return line. Filter by-pass valve
Cooling system		Water
Motor type		Inverter controlled 3 phase PM motor
Input power	kW	10
Power supply		380/400V; 440V – 525V ± 10%, 50Hz, 12A – 480v
Socket		5 pole, 3P, pilot +E
Electrical safety		Earth supervision, earth in cable screen, installed with a residual current device
IP class		IP66
Part numbers		380/400V: 8311 0304 50 440V: 8311 0304 60 480V: 8311 0304 65 525V: 8311 0304 20

Noise declaration statement		
Sound pressure EN ISO 11023	Lp, r=1m	74
Sound power level guaranteed (2000/14/EC)	Lw, dB(A)	87

Accessories		Electric cable	Hose kit
Length	m	100	10
Hose type		-	2 hydraulic hoses, 1 water hose
Part number		8311 0304 30	8311 0304 40

Smart power

The PP100 monitors hydraulic oil volume and can compensate for pressure differences and changes in surrounding temperatures.

Save energy

Power on demand

The power pack goes into idle mode automatically when not in use.

Better workplace

The same water is used to power the pusher legs, cool the power pack and for flushing the drill hole.

More uptime

Built to last

Smart workers use protective gear. Smart equipment use shock absorbers, a robust frame and a stainless steel cover.

Faster service

Data download

Download data on runtime, drill time, error logs and water pressure directly from the USB-port.

Automatic security

In case the oil or motor gets overheated the system will reduce power or engage shut-down to protect people and equipment.

Effective operations

Easy connection

Easy set-up

Blue and red hoses make it easy to do a correct and safe installation of the hydraulic system.

Straight on

Thanks to the smart hydraulic system you can work up to 45° angle from the horizontal plane.

Easy to transport

The PP100 is stackable and can be handled upside down.

United in performance. Inspired by innovation.

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.
epiroc.com

Epiroc

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