

Robbins 44RH

Low-profile and lightweight raiseboring machine for holes ranging from 1.0 to 1.8 m in diameter



A lightweight fighter

The Robbins 44RH is a low-profile, lightweight raise boring drill in Epiroc's internationally acclaimed Robbins line for both civil engineering and mining applications. The rig has been optimized for low ceilings and holes up to 1.8 meters in diameter. Its compact design offers greater manoeuvrability without sacrificing high torque and thrust. The Robbins 44RH can be relied on to drill holes of the desired diameter with greater power and efficiency.

+ Main benefits

Immense penetration power in constricted work spaces thanks to its low weight and a height of only 3.54 m

Smart and in full control thanks to Epiroc's intelligent Rig Control System (RCS)

Built to last with hard wearing parts which are all replaceable, including the electric components that comprise the RCS

Drive train with hollow shaft for efficient transmission of flushing media to clear the pilot hole

Sturdy worktable with manual or optional hydraulic wrenching system for safe, efficient pipe threading

Single hydraulic-drive power pack

Detachable pipe loader for quick, easy installation

Handy hose and cable connections for rapid setup and hassle-free maintenance



Purposefully built for power

The Robbins 44RH is a conventional raiseboring drill designed for prime performance in tough and cramped mining areas. With its sturdy, compact frame and telescopic cylinders, the rig is a mere 3.54 meters in height.



+ Optimal design

Rigid crosshead columns provide efficient torque reaction to extend the service life of the thrust cylinders. The rig's pipe loader with quick detachments enables easy installation. The sturdy worktable is available with a manual or a hydraulic wrenching system for fast, efficient pipe threading.



+ Safe, efficient drilling

The Rig Control System provides diagnostics and an event logging system to improve drilling accuracy, facilitate equipment maintenance and improve rig reliability. Built-in interlocks prevent setbacks due to human errors. Standard functions include auto make-up, the gradual ramp-up of power at the start of drilling, and an anti-jamming with restart function to prevent reamer stall and minimize downtime. Shutdown is enabled at the end of a stroke for safe, easy shift changes.



+ Smart options

The Robbins 44RH is available with a hydraulic wrenching system for safer, more efficient pipe threading. Additional smart options are available, including a closed-loop cooling unit and a variety of transporters to best suit your needs on site.



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.

Technical specifications

● - Standard ○ - Option

Motor

Two hydraulic motors connected in series	●
Radial-piston type with a rotating cylinder hollow shaft, stationary housing	●
Hydrostatic system	●

Gearbox

Planetary-type reduction	●
Individual bearings for reaming and box hole drilling	●
Spherical roller thrust bearing for reaming	●
Pre-loading of the bearings	●

Drivehead

Floating drive box with DI-22 thread	●
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Lubrication

Oil from the hydraulic system is used for the lubrication of the gearbox assembly: 19 l/min (5 US gal./min)	●
Filtration: 25 micron	●
Water cooled	●

Pipelader

Easy and safe pipe handling	●
Sturdy design	●
Mounted on either side	●
Remote controlled	●

Wrench system

Semi auto-automatic drive head wrench	●
Hydraulic horse shoe wrench	●

Electrical system

Separate cabinet inside the single power pack	●
Standard protection ground fault, over/under voltage	●
Phase fault and emergency stop	●
Thermal overload protection for electrical motors	●
Anti condensation heaters in electrical cabinet	●
Built in heaters in the electrical motor	●
Direct start of thrust motor	●
Power management. If there are power limits on site, this feature monitor the power outtake of the machine and limits it to a preset value	●
Auxiliary outlet: V/230 V	●
Electrical standards UL, CSA and AS3000	○
20 or 30 meter cable to derrick	○

Control system

Radio remote control for pipe loader	●
15 m cable to op-panel	●
Power management	●
Auto makeup log	●
Net force control	●
Surveillance kit (angle indication, length sensor, reamer drop detection, bailing pressure supervision)	○
The advanced radio remote control handles the pipe loader, fast traverse, auto make up, break out, gear shifting and the hydraulic worktable wrench	○
Measure While Drilling (MWD)	○
Bailing pump control	○
20 or 30 meter cable to OP-panel	○
RRA, Rig Remote Access	○
Platform with chair	○

Drive and thrust system

Power: 160/185 kW at 50/60 Hz	●
Oil reservoir: 400 l (105 gal)	●
Oil filtration: 10 microns	●
Mineral hydraulic oil grade: 68	●
Proportional control of fast traverse and pipelader movements	●
Off-line filtration system	●
Electric filling pump	●
Water cooled	●
Fire suppression system	●
15 or 20 meter hoses to derrick	○
Built-in heater in oil reservoirs	○
High pressure filtration	○

Traverse circuit

Pressure compensated variable displacement piston pump	●
Travers pump: 140 cm ³ /rev (8.5 in ³ /rev)	●
Travers pump max pressure: 230 bar	●

Feed circuit

Pressure compensated variable displacement piston pump	●
Thrust pump: 40 cm ³ /rev (2.4 in ³ /rev)	●
Thrust pump max pressure: 330 bar	●

Auxiliary circuit

Fixed displacement gear pump	●
Auxiliary pump: 22 cm ³ /rev (1.34 in ³ /rev)	●
Auxiliary pump max pressure: 230 bar	●

Drive system

Rotation pump: 355 cm ³ /rev	●
Max pump pressure: 330 bar	●
Closed loop piston pump	●

Closed loop cooling system

An external air/oil cooler connected to the ordinary cooling circuit	○
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Transporters

Diesel crawler	○
Sled assembly	○
Trailer for power pack	○

Operating equipment

Drilling tool kit incl. starter bushing, bit breaker box, blooie assembly.	○
Makeup and breakout tool	○

Technical specifications

Operation data

Raise diameter		
Nominal	1.5 m	5 ft
Range	1.0-1.8 m	3.5-6 ft
Raise length		
Nominal	340 m	1 115 ft
Maximum	610 m	2 000 ft
Maximum torque		
Reaming	75 kNm	55 000 ft-lbs
Break out	96 kNm	70 805 ft-lbs
Reaming thrust		
	2 000 kN	450 000 lbs
Stroke		
	1 710 mm	67'
RPM		
Pilot	0-60 rpm	
Reaming (Reduced torque)	0-16 rpm (16-25 rpm)	
Traverse rate		
Fast traverse rate	5.9 m/min	19.4 ft/min
Feed rate	3 m/min	9.8 ft/min
Bailing		
Air	13 m ³ /min (7 bar)	459 ft ³ /min (100 psi)
Water	450 L/min	119 gallon/min
Electrical		
Power supply	165/190 kW (50/60 Hz)	
Voltage	400-1 000 V	
Frequency	50-60 Hz	
Power requirement	198/227 kVA (50/60 Hz)	
Drill pipe		
Diameter	203 mm	8"
Optional	254 mm	10"
Length s/s	1 219 mm	48"
Pilot hole		
Diameter	229 mm	9"
Optional diameter	279 mm	11"
Cooling water		
at 25°C inlet temperature	60 L/min	15.8 gal/min

Technical specifications

Derrick

Conventional Raise boring		
Height extended	3 540 mm	139'
Height retracted	3 540 mm	139'
Width	1 780 mm	70'
Width pipeloader included	3 120 mm	123'
Depth	1 755 mm	69'
Weight	9 900 kg	21 825 lb
Weight pipeloader included	10 400 kg	22 928 lb
Drill angle (from horizontal)	90-45'	

Power pack

Length	3 300 mm	130'
Height	1 690 mm	67'
Width	1 600 mm	63'
Weight	4 700 kg	10 362 lb



Derrick.



Power Pack.

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