

Robbins 34RH QRS

Low-profile raise boring machine for holes ranging from 0.72 to 1.2 m (2.4-4 ft.) in diameter



Rapid and right on

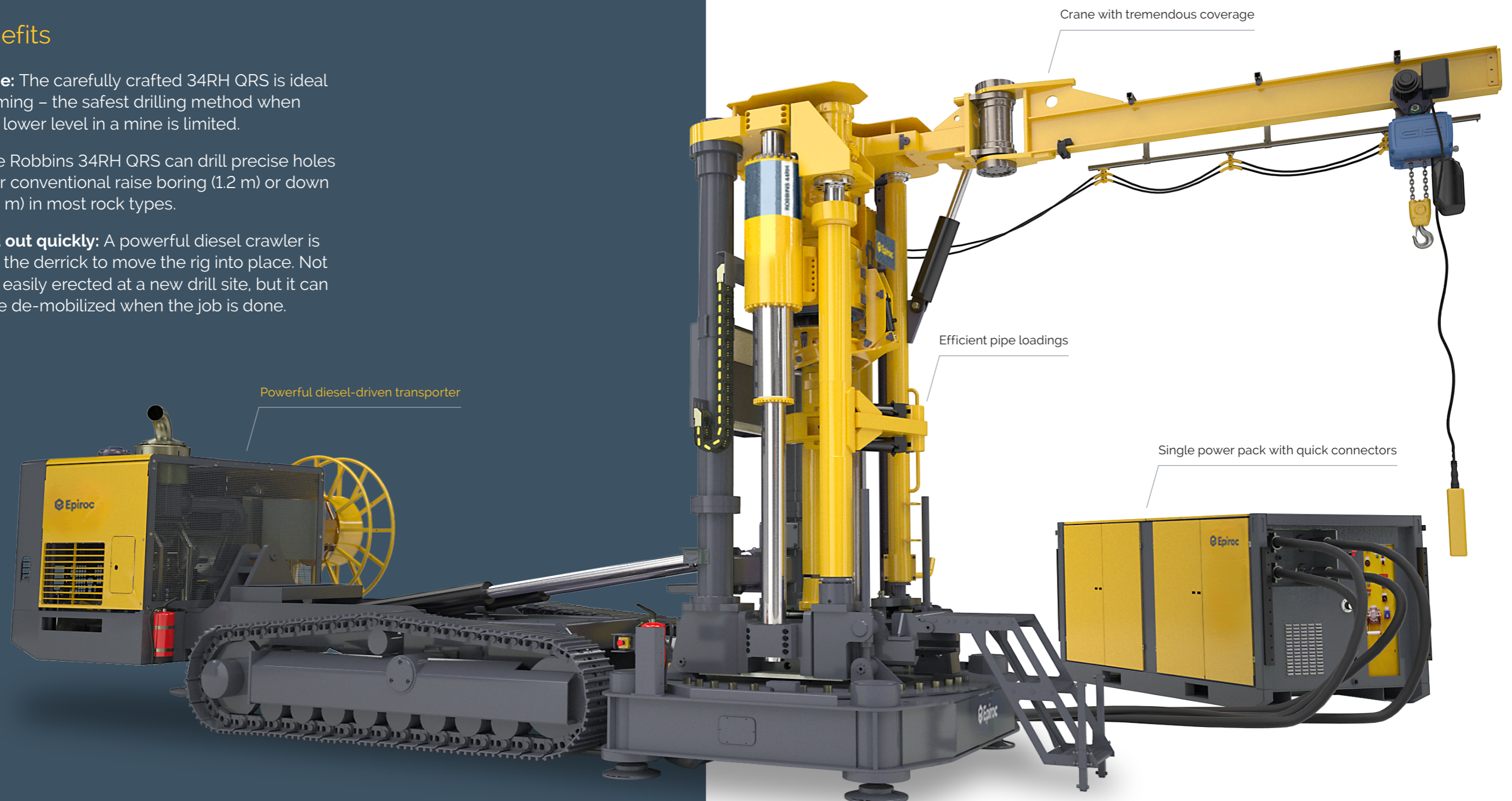
The Robbins 34RH QRS is a low-profile, lightweight raise rig for holes of smaller diameter in mining and tunnelling applications. This powerful Robbins machine can tackle most rock types to drill a raise of 720 mm in diameter by down reaming or a hole 1.2 m diameter through conventional back reaming. Thanks to its unique design, the efficient Robbins 34RH QRS moves into position quickly and eliminates many of the time-consuming preparations necessary when other traditional raise boring machines are used.

+ Main benefits

Safety in mine: The carefully crafted 34RH QRS is ideal for down reaming – the safest drilling method when access to the lower level in a mine is limited.

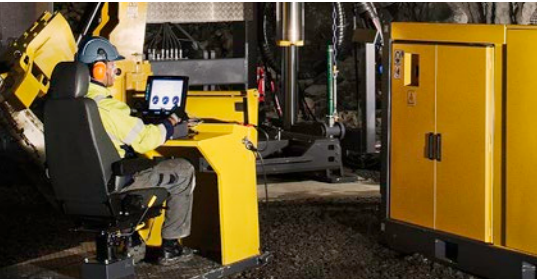
Versatile: The Robbins 34RH QRS can drill precise holes through either conventional raise boring (1.2 m) or down reaming (0.72 m) in most rock types.

Moves in and out quickly: A powerful diesel crawler is integrated on the derrick to move the rig into place. Not only is the rig easily erected at a new drill site, but it can also swiftly be de-mobilized when the job is done.



Gets straight down to work

In mines and tunnels, the tenacious 34RH QRS is up to the job and gets straight down to work. The base frame is designed to level the machine through the use of four hydraulic jacks, while dual stingers extend from the top of the machine to brace it sturdily in place. This eliminates the need for a concrete pad.



+ Proficient design

The Robbins 34RH QRS has an integrated wrenching system in both the drive head and worktable. The remote-controlled hydraulic worktable enables the reamer and stabilizers to smoothly pass through the mainframe.



+ Efficiently driven

The drive system consists of a tandem hydraulic motor coupled to a gearbox. The single hydraulic-drive power pack features variable speed and torque-limiting controls for less wear on components. The drill string avoids being subjected to excessive friction and high stall torques for greater long-term efficiency.



+ Smart control

The Robbins 34RH QRS integrates Epiroc's internationally acclaimed Rig Control System (RCS) to improve drilling accuracy and equipment reliability. Diagnostics and an event logging system facilitate maintenance and prevent human errors. Standard functions include anti-jamming, auto makeup and automatic speed and torque adjustments to suit the task at hand as drilling and reaming progresses.



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 CA50/CA50-25

Gearbox

Planetary-type reduction
Spherical roller thrust bearing for reaming
Pre-loading of the bearings

Drivehead

Floating drive box with DI-22 thread

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

Pipeloader / Telfer

Easy and safe pipe handling
Sturdy design
Can install a 720 mm reamer
Remote controlled

Wrench system

Drive head, semi automatic
Work table, sliding work table doors

Diesel crawler

The diesel powered crawler is equipped with integrally suspended twin crawler tracks, separately powered by hydraulic motors
Diesel engine: Deutz TCD 2013 L04 2V
Power rating at 2 200 rpm: 116 kW/158 hp
Tramming speed, max: 2.5 km/h/1.55 mph
Climbability, max: 15°
Max ambient temperature: 40°C/104°F
Catalytic exhaust purifier and silencer
Track frames with triple grouser shoes, dual displacement motors & spring applied hydraulic release breaks

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 | ● |
| Drive motor started by soft start | ● |
| Auxiliary outlet: 115 V/230 V | ● |
| Electrical standards UL, CSA or AS3000 | ○ |
| 20 or 30 m cables to derrick | ○ |
| Cable reel for main power cable | ○ |

Derrick

| | |
|-------------------|---|
| Stinger cylinders | ● |
| Turntable | ○ |

Control system

| | |
|--------------------------------------|---|
| Radio remote control for pipe loader | ● |
| Epiroc Rig Control System | ● |
| 15 m cable to op-panel | ● |
| Power management | ● |
| Auto makeup log | ● |
| Net force control | ● |
| Bailing pressure supervision | ● |
| Advanced Radio remote control | ○ |
| Measure While Drilling (MWD) | ○ |
| Angle indication | ● |
| Length sensor | ● |
| Reamer drop detection system | ○ |
| Bailing pump control | ○ |
| 20 or 30 m cable to OP-panel | ○ |
| RRA, Rig Remote Access | ○ |
| Platform with chair | ○ |

Drive and thrust system

| | |
|---|---|
| High pressure filtration | ○ |
| Build in heater in reservoir | ○ |
| 15 or 20 m hoses to derrick | ○ |
| Fire suppression system inside the hydraulic cabinet | |
| 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 pipeloader movements | |
| Off-line filtration system | |
| Electric filling pump | |
| Water cooled | |
| Traverse/Auxiliary 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) | |
| Trust pump max pressure: 330 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 system | ○ |
|---|---|

Operating equipment

| | |
|--|---|
| Drilling tool kit incl. starter bushing, bit breaker box, bloolie assembly | ○ |
| Makeup and breakout tool (MBT) | ○ |

Technical specifications

Performance

| Raise diameter | | |
|---------------------------|--------------------------------|--------------------------|
| 34RH QRS | | |
| Nominal | 1.2 m | 4 ft |
| Range | 0.6-1.5 m | 2-5 ft |
| Nominal (Downreaming) | 0.72 m | 2.4 ft |
| Raise length | | |
| Nominal | 340 m | 1 115 ft |
| Maximum | 610 m | 2 000 ft |
| Nominal Downreaming | 60 m | 197 ft |
| Maximum torque | | |
| Reaming | 64 kNm | 47 200 ft-lbs |
| Break out | 96 kNm | 70 805 ft-lbs |
| Reaming thrust | | |
| | 1 150 kN | 258 500 lbs |
| Stroke | | |
| | 1 710 mm | 67' |
| RPM | | |
| Pilot | 0-49 rpm | - |
| Reaming (Reduced torque) | 0-19 rpm (19-30 rpm) | - |
| Traverse rate | | |
| Fast traverse rate | 5.9 m/min | 19.4 ft/min |
| Feed rate | 3.0 m/min | 9.8 ft/min |
| Bailing | | |
| Air | 13 m ³ /min (7 bar) | 460 ft ³ /min |
| Water | 450 L/min | 119 gal/min |
| Electrical | | |
| Power supply | 165/190 kW (50/60Hz) | |
| 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 |

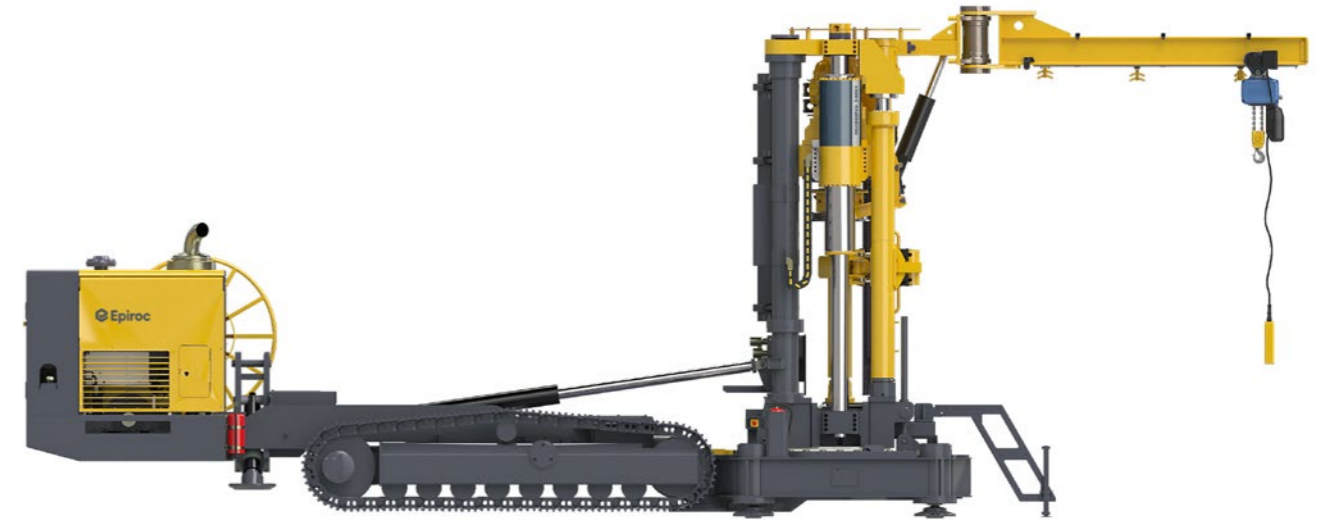
Technical specifications

Derrick

| | | |
|-------------------------------|-----------|-----------|
| Height transport | 3 000 mm | 118' |
| Height erected | 4 450 mm | 175' |
| Width | 2 570 mm | 101' |
| Width cable reel | 2 690 mm | 106' |
| Length transport | 6 000 mm | 236' |
| Length erected | 8 200 mm | 323' |
| Weight | 27 400 kg | 63 273 lb |
| Drill angle (from horizontal) | 90-60° | 90-60° |

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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