

Diamondback™ DB40 and DB80

Performance you can rely on



Flexible by design

Need to modify your rig to get into different drilling regions or applications? The Diamondback Series was designed with flexibility in mind. Modular components make the Diamondback highly configurable both before and after purchase.

Built to Epiroc's high quality standards, the modular Diamondback design allows you to adapt the rig to changing demands or simply modify it after purchase to suit your preferences.

Using the latest weight optimization tools, we have reduced the weight while still maintaining the strength and rigidity you demand — creating a rugged design that can handle even the toughest challenges.

Contact your Epiroc representative to see how the Diamondback™ will enhance your profitability.

Tubular derrick

The tower is constructed of two custom-formed channels connected by a ladder structure, increasing the tower's overall strength while reducing the weight. The lower section is covered to protect the feed system from ingress of drilling fluids and cuttings. The tubular tower design easily accommodates larger-diameter drilling applications and allows more room around the table for a better working environment.

Safer working practices

For added safety, the auto rod handling system is available for the Diamondback for hands free loading of the pipe. Two types of auto rod handlers are available: the standard auto rod handler (ARH) that picks rods from the rod rack or a multi-axis auto rod handler (MARH) that has capability to pick from the rod rack or pipe trailer. Optional catwalks down the side of the rig and a hands-free breakout system are also available.

Plug-and-play options

Our modular rig design allows you to start with a basic rig and tower design and add the specific components you require. This system allows you to easily make choices based on your weight requirements, budget and job requirements.





The Diamondback pipe loading options are designed with safety in mind, reducing the amount of lifting and manual labor required to load pipe. Options include a swing-in single rod loader, a fixed carousel, hands-free auto rod handler (ARH), or hands-free multi-axis auto rod handler (MARH). The MARH allows for pipe to be picked up off board from a trailer and loaded into the Diamondback's dump angle mast.

The rig is pre-plumbed and wired. Hydraulic hoses and electrical connections for all standard options are in the base, so it's easy to add components or change the configuration later.

With a variety of truck options, you can choose a chassis that meets your market requirements. This includes high horsepower PTO trucks or standard over-the-road trucks for rigs that have a deck engine. The Diamondback also offers a completed rig as a module that can be bolted onto an existing truck in the field if it meets mounting requirements.

Service and support

Epiroc offers several types of service agreements to meet your operation requirements and maximize your productivity.

+ Main benefits

Variable-price repairs
Service when you need it.

Fixed-price repairs
Service with controlled costs.

Equipment audit
Scheduled equipment quality control.

Preventive maintenance programs
Peace of mind so you can focus on your core business.



Choose a water well tower or a Multi-Purpose (MP) tower, which has dump angle capability and can slide down to ground level for reverse circulation drilling or coring. The MP tower is 38 ft long and the water well tower is available in two lengths: 34 ft (26 ft head travel) or 38 ft (30 ft head travel). The 38 ft towers can also accommodate a casing hammer under the rotary head.

The optional dump angle mast capability allows the tower to be angled up to 45°. This feature can be used to slide the tower up and down in the vertical position to change the table height or lift it out of the way, allowing clearance for welding or setting a diverter.

The Diamondback's modular approach ensures the rig is easily adaptable, even after you have taken delivery. The plug and play design means components are easy to add or remove as desired, with kits that can be purchased separately.

Designed for safety, optional catwalks bolt on to the side of the rig and are quickly deployed when ready for drilling. Constructed of steel with non-slip FRP decking, they enable easy access from the driller's platform.

Three compressor options are available: no air (for those who run only mud or prefer an off-board compressor), 550 cfm @ 200 psi and 1070 cfm @ 350psi.



Innovation and proven technology

+ Drill table

The Diamondback tower design allows us to open up the area around the drill table and provide a maximum working area around the drill string. You can customize the table to meet your drilling requirements by choosing a 10-3/4 in, 17 in, or 24 in table opening. The bolt-on centralizer bushing and outer bushing adapter allow you to adapt the table quickly on the spot for a wide range of through-the-table options.



+ Rotary head

Two rotary head options are available: a 3 in ID and a 5 in ID, both with a spur gear head. The 3 in head is designed for waterwell drilling, and the 5 in ID is designed for easy adoption in the flooded reverse or reverse circulation markets. Both heads are set up to run air and mud and are 2-speed as standard. The head slides over the driller's console to allow room for casing with the main winch, and it can slide to the helper's side to pick up pipe from the carousel or single-rod loader.



+ Reverse circulation kit

This optional kit includes a ceramic-lined cyclone assembly with a hydraulic knife valve for sample isolation and a fixed cone splitter attached underneath the cyclone. Both are mounted behind the cab of the truck on the driller's side for easy access.

An above-the-head RC assembly is fitted to the 5 in ID head. This assembly is compact, field serviceable and comes with a blowdown valve. The kit also includes a hands-free breakout wrench that bolts on to the bottom of the tower.



+ Console

The ergonomically designed console is mounted off the right rear of the rig and features a hinged cover that can easily be released for storage. Controls are grouped together by function for easy access. Above the controllers, analog gauges are at eye level for easy viewing. Digital gauges are also displayed on the Powerview monitor screen, which provides key information including system pressures, speeds, and temperatures of hydraulic oil, engine oil and engine coolant. In addition, the Powerview screen shows fuel level, engine load and fuel rate, as well as low-level hydraulic warning and other diagnostic information.



+ Cyclone tank

The cyclone hydraulic tank provides weight-saving benefits and requires less hydraulic oil than a conventional tank. This proven design is used in underground mining and offshore oil and gas applications. The cyclone tank uses a centrifugal design on the inlet of the tank to spin the incoming oil, removing harmful air infused in the oil at a faster rate than a conventional tank. This allows the cyclone tank to require a lower volume of oil and provides increased flow and pressure to the pumps, helping prevent possible cavitation.



Technical specifications

Feed system

Pullback	DB40: 40,000 lb (178 kN) DB80: 80,000 lb (356 kN)
Pulldown	30,000 lb (133 kN)
Fast feed up (DB40)	197 ft/min (60 m/min)
Fast feed down (DB40)	154 ft/min (47 m/min)
Drill feed (DB40)	32 ft/min (9.8 m/min)

Tower

Length	34 ft 6 in (10.5 m) or 38 ft 6 in (11.7 m)
Width	20.08 in (510 mm)
Depth	10.91 in (277 mm)
Dump angle (optional)	0 – 45 deg (must choose Multi-Purpose tower)

Rotary head

Torque	Low speed: 8,000 ft-lbs (10.8 kNm) @ 105 rpm High speed: 5,400 ft-lbs (7.3 kNm) @ 170 rpm
Rotation speed	0 to 170 rpm
Spindle	3 in (76.2 mm) or 5 in (127 mm) Spindle ID
Head travel	26 ft (7.9 m) short tower or 30 ft (9.1 m) long tower

Table (Tower Mounted MP or Frame Mounted W/W)

Sliding wrench table	
10-3/4 in table	10-3/4 in (273 mm)
17 in table	17 in (432 mm) with removable 10-3/4 in insert
24 in table	24 in (610 mm) with removable 10-3/4 in insert
Break out wrench	
Clamping range	3-1/2 in (90 mm) to 5 in (127 mm)
Torque	16,000 lb-ft (21.7 kNm)

Rod handling

Auto rod handler (ARH)	
Rod size	3-1/2 in (88.9 mm) and 4-1/2 in (114.3 mm)
Rod box capacity	28 quantity @ 3-1/2 in (88.9 mm) and 21 quantity @ 4-1/2 in (114.3 mm)
Multi-axis auto rod handler (MARH)	
Rod size	3-1/2 in (88.9 mm) and 4-1/2 in (114.3 mm)
Rod rack capacity	28 quantity @ 3-1/2 in (88.9 mm) and 21 quantity @ 4-1/2 in (114.3 mm)
Carousel	
Carousel capacity	Quantity 9 x 3-1/2 in (89 mm) and quantity 7 x 4-1/2 in (114.3 mm)
Rod box capacity	Quantity 24 x 3-1/2 in (89 mm) and quantity 15 x 4-1/2 in (114.3 mm)
Single rod loader capacity	Quantity 1, pivots from left hand side of tower

Technical specifications

Compressor

Model	Atlas Copco
Type	Rotary screw compressor
Flow rate	1070 cfm (30.3 cmm) or 550 cfm (15.6 cmm)
Pressure	350 psi (24 bar) or 200 psi (13.8 bar)
Regulation system	Electronic Air Regulation System (EARS)

Water injection

CAT 12 gpm	0 to 12 gpm (0 to 45 L/min) supplied with pulse pump for foam injection
Bean (FMC) 18	0 to 18 gpm (0 to 68 L/min) available with optional foam injection
CAT 25 gpm	0 to 25 gpm (0 to 95 L/min) supplied with pulse pump for foam injection
Bean (FMC) 25	0 to 25 gpm (0 to 95 L/min) available with optional foam injection
Dynaset 39 gpm	0 to 39 gpm @ 1,200 psi (0 to 148 L/min @ 83 bar)

Mud system

Auxiliary mud piping and hydraulic pump for off board mud fitted as standard	
4 x 3 Mission magnum	4 in x 3 in (76 mm x 102 mm) Mission centrifugal mud pump Flow pressure: 300 gpm at 145 psi (18.9 L/s @ 10 bar)
5 x 6 Gardner Denver	5 in x 6 in (127 mm x 152 mm) Gardner Denver duplex piston pump Flow pressure: 150 gpm at 310 psi (9.5 L/s @ 10 bar)
7.5 x 10 Centerline mono	7-1/2 in x 10 in (191 mm x 254 mm) Centerline mono pump Flow Pressure: 150 gpm at 350 psi (18.9 L/s @ 24 bar)
7.5 x 10 Centerline duplex	7-1/2 in x 10 in (191 mm x 254 mm) Centerline duplex pump Flow and pressure: 300 gpm at 350 psi (18.9 L/s @ 24 bar)

Winches

Main winch (DB40)	
Capacity	18,000 lb (80 kN)
Cable	5/8 in (16 mm) x 150 ft (46 m)
Line speed	183 ft/min (56 m/min)
Helper side controls (optional)	Hand-held wireless remote with proportional control
Main winch (DB80)	
Capacity	30,000 lb (134 kN)
Cable	25/32 in (20 mm) x 150 ft (46 m)
Line speed	122 ft/min (37 m/min)
Helper side controls (optional)	Hand-held wireless remote with proportional control
Auxiliary winch	
Capacity	3,900 lb (17.3 kN)
Cable	3/8 in (9.5 mm) x 120 ft (36.6 m)
Line speed	220 ft/min (67 m)
Sand reel	
Capacity	3,000 lb (13.34 kN)
Cable	5/16 in (7.9 mm) x 1,000 ft (305 m) or 500 ft (152 m)
Line speed	300 ft/min (91.4 m/min)

Technical specifications

DHD lubricator

Flow	1/4 to 1-1/2 gal/hr (1 to 5.7 L/hr)
Flow control	11 position selector
Capacity	7 gallons (26.5 L)

Chassis

Peterbilt 367 (with Namco PTO)	247 in (6.27 m) wheelbase, Cummins X15, 600 HP
Astra HD9 64.44 (deck engine rig)	201 in (5.10 m) wheelbase, Cursor 13, 440 HP
Volvo FMX 440 (deck engine rig)	201 in (5.10 m) wheelbase, D13A, 440 HP

Deck engine (optional)

Tier 3	425 HP: Cummins QSM11 (for use with 550 cfm airend or no air) 600 HP: Cummins QSX15 (for use with 1070 cfm airend)
Tier 4	425 HP: Cummins QSG12 (for use with 550 cfm airend or no air) 600 HP: Cummins QSX15 (for use with 1070 cfm airend)

Leveling jacks

Drill end jacks	Bore – 4.9 in (125 mm) stroke 36 in (914 mm)
Non drill end	Bore – 4.9 in (125 mm) stroke 48 in (1,219 mm)

Hydraulics

Hydraulic tank capacity	52 gallons (195 L)
Hydraulic filtration	10 micron
Hydraulic pumps*	1) Main pump – 175 cc @ 5,000 psi (345 bar) 2) Rotation – 145 cc @ 4,300 psi (296 bar) 3) Fan pump – 71 cc @ 3,500 psi (241 bar) 4) Slow feed pump – 18 cc @ 4,600 psi (317 bar) * Optional mud pump – 75 cc @ 4,200 psi (289 bar)

Diamondback options

	Required	Optional
Base	●	
Tower	●	
Short 34 ft tower		
Long 38 ft tower		
Multipurpose 38 ft tower		
Powerpack	●	
PTO 1070/350		
PTO 550/200		
PTO no air		
Tier 3 1070/350 deck engine		
Tier 3 550/200 deck engine		
Tier 3 no air deck engine		
Tier 4F 1070/350 deck engine		
Tier 4F 550/200 deck engine		
Tier 4F no air deck engine		
Rotary head	●	
High speed coring head		
3 in ID head		
5 in ID head		
Thread size	●	
3-1/2 in x 2-3/8 in IF		
4-1/2 in x 2-7/8 in IF		
4-1/2 in x 3-1/2 in reg		
Table setup	●	
Basic table		
Sliding wrench (10-3/4 in opening)		
Sliding wrench (17 in opening) with 10-3/4 in centralizer bushing		
Sliding wrench (24 in opening) with 10-3/4 in centralizer bushing		
Hands-free breakout table (5.6 in)		
Breakout system		●
Hydraulic PETOL™ wrench		
Hands-free rough neck		
Compressor		●
550/200 Atlas Copco		
1070/350 Atlas Copco C190+J33		
Mud pump		●
Mission 4 in x 3 in		
Centerline mono 7-1/2 in x 10 in		
Centerline duplex 7-1/2 in x 10 in		
Gardner Denver 5 in x 6 in		
Water injection		●
CAT 12 gpm		
Bean 18 gpm		
CAT 25 gpm		
Bean 25 gpm		
Dynaset 39 gpm		
Winch		●
18k main winch with jib (DB40)		
30k main winch with jib (DB80)		
Sand reel (cannot choose with auxiliary winch)		
Auxiliary winch (cannot choose with sand reel)		
Rod handling		●
Auto rod handler (ARH)		
Multi-axis auto rod handler (MARH)		
Carousel		
Single rod loader		
DHD lubricator		●
Hydraulic welder		●
Flooded reverse kit		●
Reverse circulation kit		●
Coring kit		●
Rod spinner (not required for auto rod handlers)		●
Rod box ladder/step (not required with catwalks or auto rod handlers)		●
Catwalk and platforms		●
Catwalk complete rig		
Catwalk rod box only		
Helper/driller platform steel/FRP		
Helper/driller platform aluminum		
Additional modules		●
Blank module		
Fuel module		
Water module		
Toolbox module		
Pneumatic tool connection		●

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.
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