

FlexiROC D50

Surface drill rig for quarrying and mining

FlexiROC D50 hole diameter: 90–130 mm (3.5" – 5.12")



Efficient and versatile

The FlexiROC D50 from Epiroc is designed to be efficient, solid and dependable. This well-proven machine is versatile and is equally at home in either a quarry or a mine.

The FlexiROC D50 provides the optimum combination of air flow and air pressure which means high drilling economy and productivity. The rig is built on a proven platform which ensures reliability and efficiency. Fitted with a standard feed, this workhorse

excels at production drilling and in auxiliary drilling applications such as toe-hole drilling. The reliable Epiroc DTH hammer is matched with a powerful air compressor – a proven and effective team even in the toughest mining conditions.



Discover more about the FlexiROC D50.



A real workhorse

A proven and dependable rig for DTH drilling in mining and large quarry applications, the FlexiROC D50 is rugged and multifunctional. It is built to take on the toughest drilling demands and is ready to exceed your expectations.

+ Main benefits

High productivity thanks to the robust and powerful feeding system

Availability and serviceability due to high degree of parts commonality

Durability based on well-proven and trusted design

A well-proven rig for both quarries and mines

Designed round a proven platform, this rig is very efficient. It also features a standard feed, which means it not only excels in production drilling, but also in auxiliary applications such as toe-hole drilling.



+ Built on years of experience in mining and quarrying

A reliable DTH hammer teamed-up with a powerful air compressor is a proven and effective combination – even in the toughest mining conditions. As a world-leader in mining equipment, Epiroc has equipped the FlexiROC D50 with advanced DTH technology and a robust compressor. Both work together to deliver straight and smooth holes along with plenty of air to keep the hole clean.



+ Maximum drilling time means increased productivity

The FlexiROC D50 features long service intervals and few parts. It also has a high degree of service and parts commonality with other rigs in the Epiroc family. Two examples of shared design are the heavy duty chain feeding system and the robust and fast rod-handling system. Epiroc provides security and peace of mind, so you can concentrate on your profit and growth.



+ Uniform feeding

Epiroc's FlexiROC DTH family ensures smooth and uniform feeding regardless of rock conditions. The aluminum feed profile cuts harmful vibrations down to a minimum, leading to optimum transmission of each percussive blow to fresh rock and no wasted air.



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

Main Components

- Crawler type two speed undercarriage with track oscillation system
- ROPS and FOPS-approved cabin with rubber vibration dampers
- Single section boom system
- Toe hole drilling capability
- Carousel type rod-handling system
- Pressure regulated break-out table
- Service hand lights inside canopy

Hole range & length (recommended)

		Metric	US
FlexiROC D50	QLX 35, COP 44 Gold	90-130 mm	3.63"-5.12"
Hydraulic tube handling system for max hole length, with 5 m (16.4') tubes – standard feed			
FlexiROC D50	Ø 76-102 mm (3" - 4") drill rods	45 m	148'
Single pass drilling, max hole length			
FlexiROC D50		5.4 m	18'

Engine

FlexiROC D50	Metric	US
CAT C11 turbo-charged diesel engine, Tier 3/EU Stage IIIA - power rating at 1800 rpm	287 kW	385 HP
CAT C13B turbo-charged diesel engine, Tier 4 Final / EU Stage V - power rating at 1800 rpm	340 kW	456 HP
*CAT C13B turbo-charged diesel engine, Tier 4 Final / EU Stage V/China IV - power rating at 1800 rpm	340 kW	456 HP
*China only		

Electrical system

Voltage	24 V
Batteries	2 x 12 V, 235 Ah
Alternator	28 V, 95 Ah
Work lights, front	4 x 70 W
Work lights, rear	2 x 70 W
Work lights, feed	2 x 70 W
Warning lamp and reverse buzzer	

Compressor

Atlas Copco XRX 10 two-stage screw type compressor

FlexiROC D50	Metric	US
Working pressure, max	25 bar	363 psi
FAD at 25 bar	295 l/s	625 cfm

Rotary head

	Connection thread	Max rpm	Max torque, drilling		Suitable for DTH-hammer
			Metric	US	
DHR6 H 45	API 2 3/8" REG, box	137	1 839 Nm	1 356 lbf	COP 44 Gold (COP 54 Gold)
DHR6 H 56	API 3 1/2" REG, box	107	2 353 Nm	1 735 lbf	COP 54 Gold

Hydraulic system

Hydraulic oil cooler	Metric	US
Max ambient temperature	50°C	122°F
Pumps		
Axial piston pump (1)	240 l/min	63 gal/min
Gear pump (2)	111 l/min	29 gal/min
Gear pump (3)	63 l/min	16.6 gal/min
Gear pump (4)	39 l/min	10.3 gal/min
Gear pump (5)	31 l/min	8.2 gal/min
Gear pump (6)	31 l/min	8.2 gal/min
Return and drainage filters (2 x 3 filters)		
Filtration rate	20 µm absolute	

Aluminum feed

Aluminum profile feed with hose guide and double drill tube support with break-out table and movable lower guide/dust hood	Metric	US
Feed rate, max	0.9 m/s	177 ft/min
Feed force, max	40 kN	8 992 lbf
Tractive pull, max	50 kN	11 240 lbf
Feed motor size	2099 cc	0.6 US gal
Chain size	45 mm	1.8"
Feed extension	1900 mm	74.8"
Travel length	5 400 mm	212.6"
Total length	9 400 mm	370"

Carrier

	Metric	US
Tramming speed, max/min	3.3/1.8 kph	2.0/1.1 mph
Traction force, max	138 kN	31020 lbf
Ground clearance	405 mm	16"
Track oscillation	±10°	

Dust collector

FlexiROC D50 - DCT 200	Metric	US
Filter area	20 m²	215 sq.ft
Suction capacity at 500 mm wg	850 l/s	3 002 cfm
Suction hose diameter	152 mm	6"
Cleaning air pressure, max	8 bar	116 psi
Cleaning air consumption	2-4 l/pulse	0.06-0.12 cfm/pulse
Number of filter elements	20 pcs	

Volumes

	Metric	US		Metric	US
Hydraulic oil tank	380 l	100 gal	Diesel engine fuel tank, C11 Tier 3	1050 l	277 gal
Hydraulic system, total	600 l	158 gal	Diesel engine fuel tank, C13B Tier 4 Final Stage V	630 l	166 gal
Compressor oil	80 l	21 gal	Traction gear	3 l	0.8 gal
Diesel engine oil	44 l	11.6 gal	Lubrication tank (HECL)	20 l	5.3 gal
Diesel engine, cooling water, C11 Tier 3	65 l	17 gal	DEF fluid tank (C13B Tier 4 Final Stage V only)	47	12.4 gal
Diesel engine, cooling water, C13B Tier 4 Final Stage V	110 l	29 gal			

Technical specifications

Designed to meet the latest emissions regulations with Tier 3 and Tier 4 Final/ Stage 5 engines.

Superior visibility during collaring and tube handling.

The feed-system ensures smooth and uniform movement.

The cabin is ROPS and FOPS-approved and mounted on a protective plate.

Cabin

- ROPS and FOPS-approved with rubber vibration dampers
 - Fire extinguisher 6 kg (13 lbs) dry chemical ABE class III type
 - 2 x wipers with washer (front and roof windows)
- Outlet socket 24 V, rig inclination indicator
 - Clear laminated glass (front and roof windows)
 - Combined front mounted platform/ tool box
- Clear toughened glass (side and rear windows)
 - Electric combined inclination/hole depth instrument
 - Fully adjustable operator seat, cabin light, rear view mirror

A selection of options

Carrier

- Hydraulic support leg
- Protection hand rails on top of canopy
- Wide body kit*
- Halogen work light covering feed* support, transport position
- LED work lights*
- Heavy duty air intake filters for engine and compressor*
- Combined warning sound and warning light, beacon type*
- ANSUL fire extinguisher system — Check fire 210 auto system LT-A-101 or LT-A-101 manual system*
- Tropical kit for 55° ambient temperature
- Electric pump for filling hydraulic oil
- Electric fuel filling pump
- Fast fuel filling system*
- Cold weather kit +5° C to -25° C, including diesel engine heater
- Cold weather kit -25° C and below, including diesel engine heater, prepared for ether start.

(*Not available in China)

Cabin

- Rubber ladder for left hand side*
- Clear laminated glass* (front and roof windows)
- Tinted toughened glass* (side and rear windows)
- Sun shade kit*
- Electric heated seat*
- Bluetooth radio*
- Reverse camera with cab-mounted monitor*

Feed

- Rod Handling System 140*
- Screw sampler*
- Service winch with jib boom mounted on the feed
- Wide feed foot*
- Protective guard, according to EN16228*

Water mist system

- Water mist system, pump, one or two 400 l water tanks
- Arctic-ready water mist system, pump, one or two 400 l water tanks

Lubrication

- Central lubrication system, type Lincoln
- Thread lubrication, spray system
- Artic hydraulic oil, VG 32
- Tropical hydraulic oil, VG 68
- Biological hydraulic oil, VG 46

Hole and Inclination systems

- Aiming unit function to standard instruments
- GPS compass aiming unit*
- Laser receiver

Automation and software

- Production log for ROC Manager*

Parts and Services products

- ROC Care*
- CERTIQ satellite based drill rig monitoring system (only in combination with a written service agreement)*
- Delivered equipment, not mounted*
- First 50 hours service kit for compressor*
- Tool kit for rotary head with fixed spindle sub*
- Tool kit for rotary head with floating spindle sub

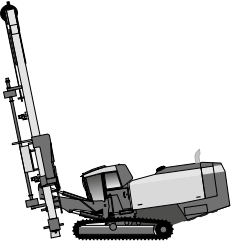
Maximum drilling angles with feed foot positioned towards cabin



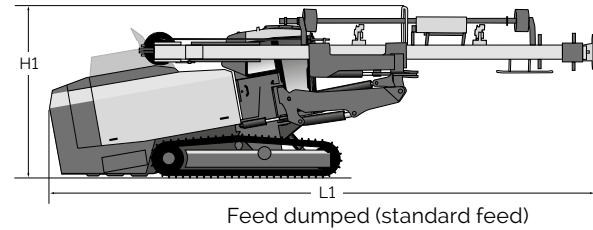
Horizontal body	
FlexiROC D50	22°



Backwards tilt body: 10°	
FlexiROC D50	25°



Front tilt body: 10°	
FlexiROC D50	20°



Height and length

Standard Feed (SF) dumped	Metric	US
Height (H1)	3 500 mm	138"
Length (L1)	11 350 mm	447"
Feed height	Metric	US
Standard Feed (H2)	9 400 mm	370"

Weight

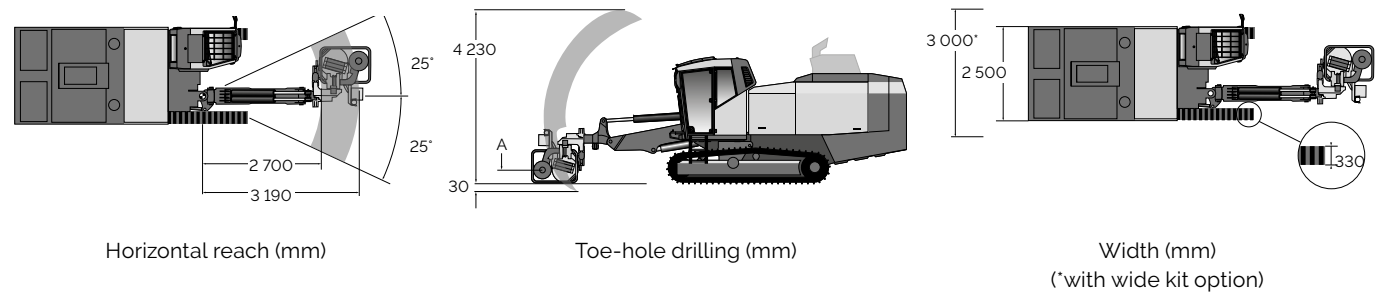
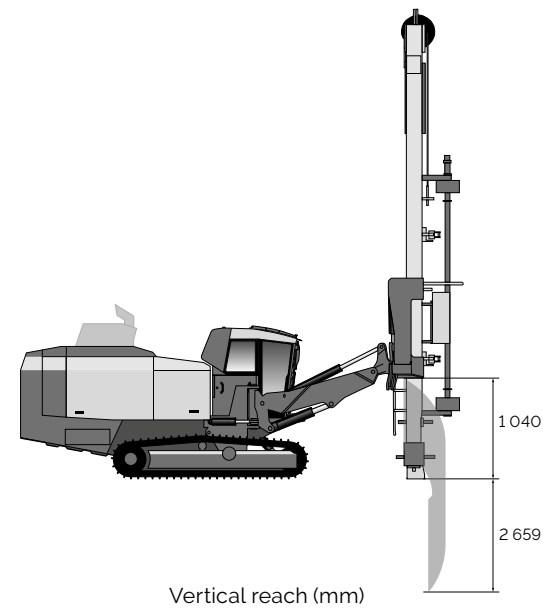
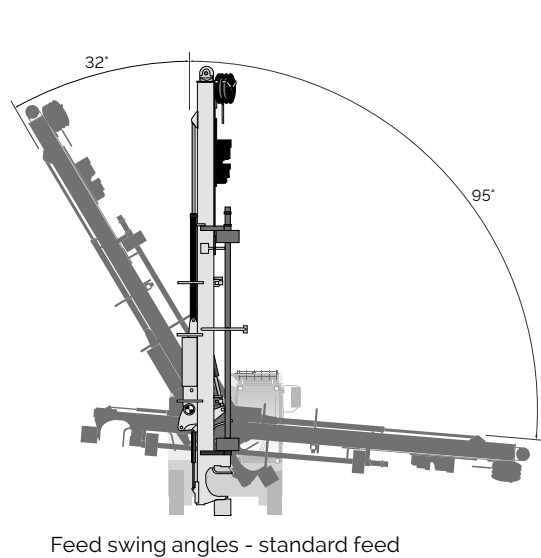
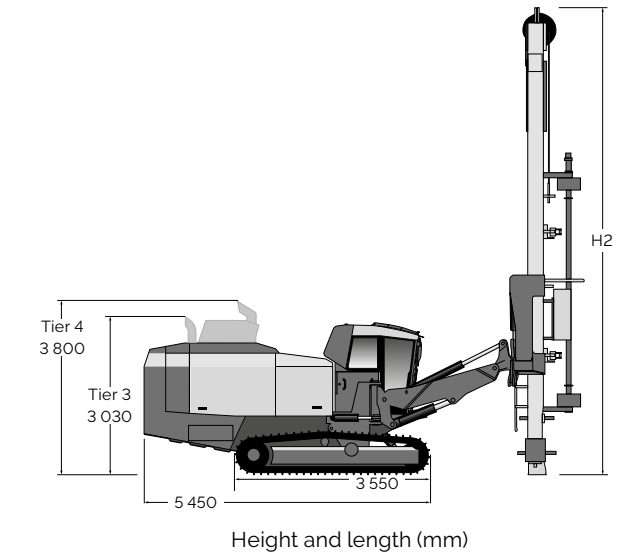
Standard unit excluding all options and drill rods	Metric	US
FlexiROC D50	21 900 kg (T3)	48 280 lb
	22 300 kg (T4)	49 160 lb

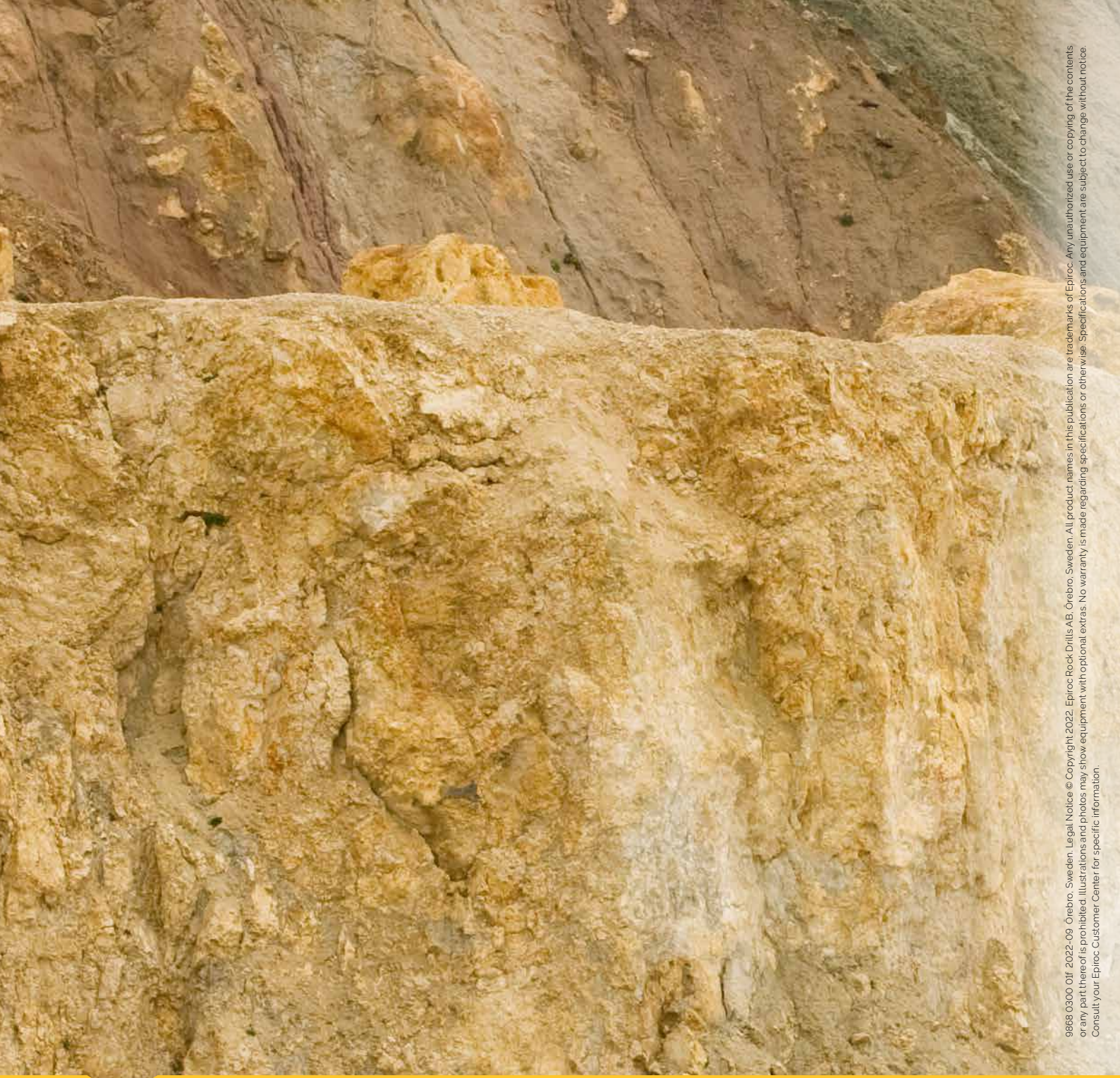
Sound and vibration*

Cabin: A-weighted Sound Pressure Level, LpA	79 dB
Cabin: Weighted whole body vibration level, a _w	< 0.5 m/s ²
A-weighted Sound Power Level, LwA	124 dB

A-weighted sound pressure level, LpA, calculated (distance from rig)			
10 m	96 dB	160 m	72 dB
20 m	90 dB	320 m	66 dB
40 m	84 dB	640 m	60 dB
80 m	78 dB	1280 m	54 dB

*The declared noise emission values should be combined with a measurement uncertainty of KpA-6 dB. The sum of declared measured value and the uncertainty value represent an upper limit of the range, in which measured values are likely to be included. The values were determined in accordance with the standards ISO 3744:2010 (for sound power level estimation), ISO 11203:1995 (for sound pressure calculation at different distances from the rig), ISO 11201:2010 (for operator cabin sound pressure level) and ISO 2631-1 (for whole body vibration).





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