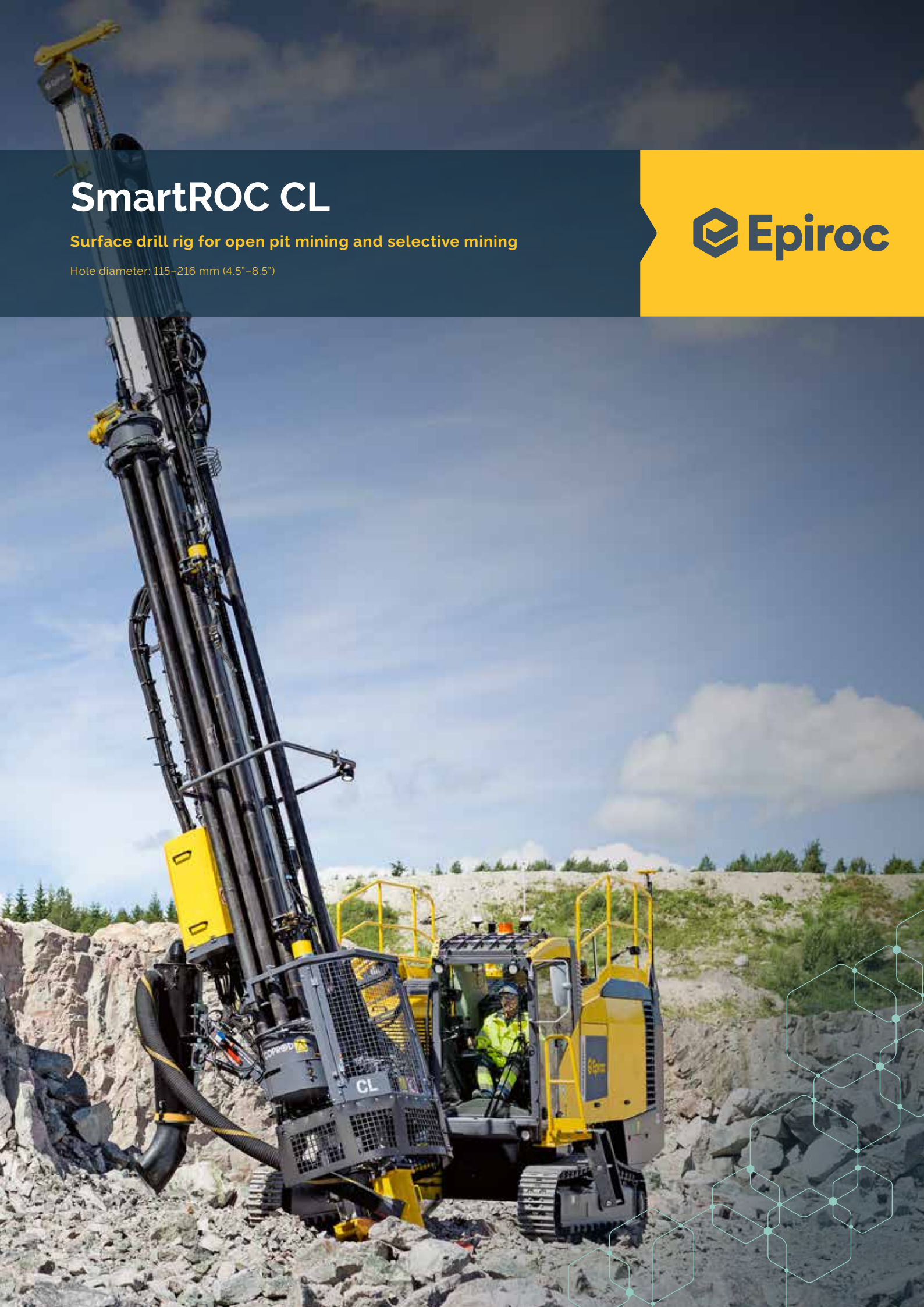


# SmartROC CL

Surface drill rig for open pit mining and selective mining

Hole diameter: 115–216 mm (4.5"–8.5")





# The SmartROC CL is built to beat the rock

The fuel-efficient SmartROC CL is one of the most powerful and versatile surface drill rigs we've ever built. Equipped with the hard-wearing COP 5060 CR, your SmartROC CL will perform – whatever the conditions.

The SmartROC CL is designed to give you exactly what you want in a drill rig – higher productivity and profitability. Equipped with advanced COPROD technology for optimal performance, this smart rig is at the head of its class. A higher penetration rate and a lower

fuel consumption combine to provide extraordinary performance. Drill efficiently through any type of rock with a 50% increased penetration rate and more than 45% less fuel consumption compared to traditional DTH drilling.



The Rig Control System features an intuitive touchscreen display which presents all the necessary information clearly to the operator and offers assistance during troubleshooting. This keeps downtime to a minimum.



The SmartROC CL is enhanced with unique Epiroc COPROD technology to more effectively get you through any type of rock with control and accuracy. COPROD combines the speed of Tophammer with the accuracy of Down-The-Hole drilling to give you the best of both worlds.

## ⊕ Main benefits

**Super-efficient** COPROD drill rig that boosts drilling productivity

**Exceptionally low total cost of ownership** thanks to high penetration rate and low fuel consumption

**Smart high efficiency** thanks to auto drill cycle, Hole Navigation System and BenchREMOTE

**6<sup>th</sup> Sense**  
Smart. Safe. Seamless.

SmartROC CL is a  
6<sup>th</sup> Sense product.

6<sup>th</sup> Sense is the Epiroc way of optimizing your value chain through automation, system integration and information management.



Scan to read more about 6<sup>th</sup> Sense





# Engineered to give you the lowest possible total cost of ownership

Epiroc automation technology is having a positive impact on mining operations everywhere, and the SmartROC CL is no different. The SmartROC CL ensures an exceptionally low total cost of ownership thanks to its high penetration rate and low fuel consumption.



## + Superior hole quality with COPROD

With COPROD drill strings you can select the most efficient drill rod outer diameter. SmartROC functions enable you to adapt the water flushing capability to match the selected hole diameter and not risk destroying the hole walls by over-flushing or getting stuck due to low flushing. The smooth joints of the COPROD drill string means the flushing air speed is the same from the bottom to the top of the hole – this means totally straight and smooth hole walls. By adapting the flushing, fuel is saved and the life of consumable items is increased.



## + Plan your work then implement your plan

A SmartROC CL equipped with the Hole Navigation System option eliminates the need to manually mark and survey hole positions prior to drilling. It gets right down to business – producing precise holes. The SmartROC CL can also be remotely operated from a distance of up to 100 meters via the Epiroc BenchREMOTE. The Smartfold option ensures that the feed can be dumped quickly and easily for tramming with the touch of a button.



## + Further improved fuel efficiency

The entire system is designed to minimize energy loss. The operator can adjust precisely the flushing air volume and the dust collector fan speed according to need directly from the cabin. This ensures that both deliver only what is necessary for the best performance. Engine RPM and compressor load are self-adjusting according to demand. Three variable hydraulic pumps help lower engine speed during none-drilling time and tramming. Additionally, an automatic cooler-fan control is fitted as standard.



## 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
  - Caterpillar turbo-charged diesel engine
  - Atlas Copco screw type compressor
  - Hydraulic cooling system for up to 55°C ambient temperature
- Combined warning sound and warning light
  - Fixed boom system
  - Hydraulic chain feed system with hose guide
  - Hydraulic rock drill/COP 5060CR
  - Rock drill lubrication system
- Progressive COP Logic
  - Carousel type rod handling system
  - Hydraulic breakout table with double drill steel support and movable dust collector hood
  - Double hose drum
  - Dust collection system

Recommended hole range	Metric	US
CR 102, CR 127, CR 140	115–216 mm	4.5"– 8.5"
Hydraulic rod handling system for max hole depth, with 6.1 m (20') COPROD sections		
CR 102	42.5 m	139'
CR 127	36.5 m	120'
CR 140	30.5 m	100'

### Engine

SmartROC CL	Metric	US
Tier 4 Final /EU Stage 5 CAT C13B turbo-charged diesel engine, (multi-certified for US and EU markets) - power rating at 2 000 rpm. HVO 100-compliant.	340 kW	456 hp
Tier 3/Stage IIIA CAT C13 turbo-charged diesel engine - power rating at 2 000 rpm. HVO 100-compliant.	328 kW	440 hp

### Carrier

	Metric	US
Tramming speed, max./min	3.3/1.8 kph	2.0/1.1 mph
Track oscillation		±10°
Ground clearance	405 mm	16"

### Hydraulic rock drill

Rock drill	Drill rig	Impact power	Max hydraulic pressure	Max impact rate	Max torque	Approx. weight
COP 5060CR	SmartROC CL	50 kW (67 hp)	230 bar (3 336 psi)	47 hz	4 500 Nm (3 319 lbf/ft)	468 kg (1 032 lb)

### Compressor

Atlas Copco C146-07, screw type compressor	Metric	US
Working pressure, max	14 bar	203 psi
FAD at normal working pressure	254 L/s	538 cfm

### Sound and vibration\*

Cabin: A-weighted Sound Pressure Level, LpA		76 dB	
Cabin: Weighted whole body vibration level, a <sub>w</sub>		< 0.5 m/s²	
A-weighted Sound Power Level, LwA		125 dB	
A-weighted sound pressure level, LpA, calculated (distance from rig)			
10 m	97 dB	160 m	73 dB
20 m	91 dB	320 m	67 dB
40 m	85 dB	640 m	61 dB
80 m	79 dB	1280 m	55 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).

### Electrical system

Voltage	24 V
Batteries	2 x 12 V, 235 Ah
Alternator	28 V, 95 A
Work lights LED type, front	4 x 3000 Lumen
Work lights LED type, rear	2 x 3000 Lumen
Work lights LED type, feed	2 x 3000 Lumen
Warning lamp and reverse buzzer	

### Hydraulic system

Hydraulic oil cooler	Metric	US
Max ambient temperature	55°C	131°F
Pumps at 2000 rpm		
Axial piston pump (1)	250 L/min	66 gal./min
Axial pump (2)	180 L/min	47.5 gal./min
Axial pump (3)	70 L/min	18.5 gal./min
Gear pump (4)	46 L/min	12.1 gal./min
Gear pump (5)	46 L/min	12.1 gal./min
Return and drainage filters		
Filtration rate	10 µm absolute	

### Feed

Hydraulic chain driven aluminium feed with hose guide and double drill steel support with 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 extension	1 150 mm	45"
Travel length	7 865 mm	26"
Total length	12 400 mm	488"

### Dust collector

DCT 320 including pre-separator	Metric	US
Filter area	32 m <sup>2</sup>	344 sq.ft
Suction capacity at 500 mm wg	1 270 L/s	2 690 cfm
Suction hose diameter	203 mm	8"
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		32 pcs

### Volumes

	Metric	US
Hydraulic oil tank	120 l	32 gal
Hydraulic system, total	270 l	71 gal
Compressor oil	50 l	13.2 gal
Diesel engine oil	44 l	11.6 gal
Diesel engine, cooling water	65 l (Tier 3), 110 l (Tier 4 Final/Stage 5)	177 gal 29 gal
Diesel engine, fuel tank, Tier 3		
Diesel engine, fuel tank, Tier 4 Final /Stage 5	975 l	257.6 gal
Traction gear	3 l	0.8 gal
Lubrication tank (HECL + ECL)	40 l	10.5 gal
DEF tank (Tier 4 Final/Stage 5 engine only)	70 l	18.5 gal

Precision where it counts with Epiroc Hole Navigation System (HNS).

Better dust management with pre-splitting dust hood and from cabin adjustable pre-separator.

Wide hole range with COPROD technology.

Equipped with 50 Kw COP 5060 CR for more productivity.

The operator interacts with the rig via an intuitive, easy-to-use touchscreen display. The rig control system also helps keep downtime to a minimum by assisting with maintenance and troubleshooting.

Fully automated drill cycle for consistency in operation.



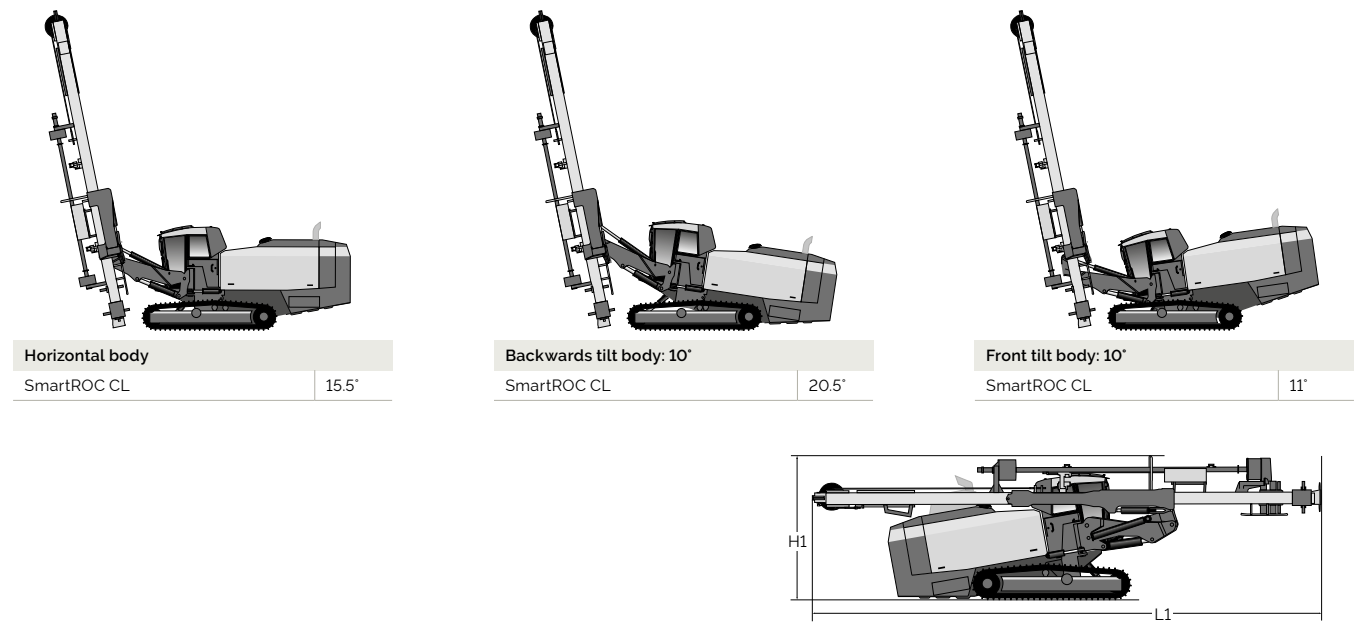


Discover more about the SmartROC CL.

Safety cabin

- ROPS and FOPS-approved with rubber vibration dampers
  - Rig inclination indicator
  - 2 x wipers with washer
  - Rear view mirror
  - Clear laminated glass (front and roof windows)
- Clear toughened glass (side and rear windows)
  - Outlet socket, 24 V
  - Fully adjustable operator's seat
  - Adjustable foot rest
- Combined front mounted platform/ tool box
  - Cabin light
  - Rig Control System featuring touchscreen display

Maximum drilling angles with feed positioned towards cabin

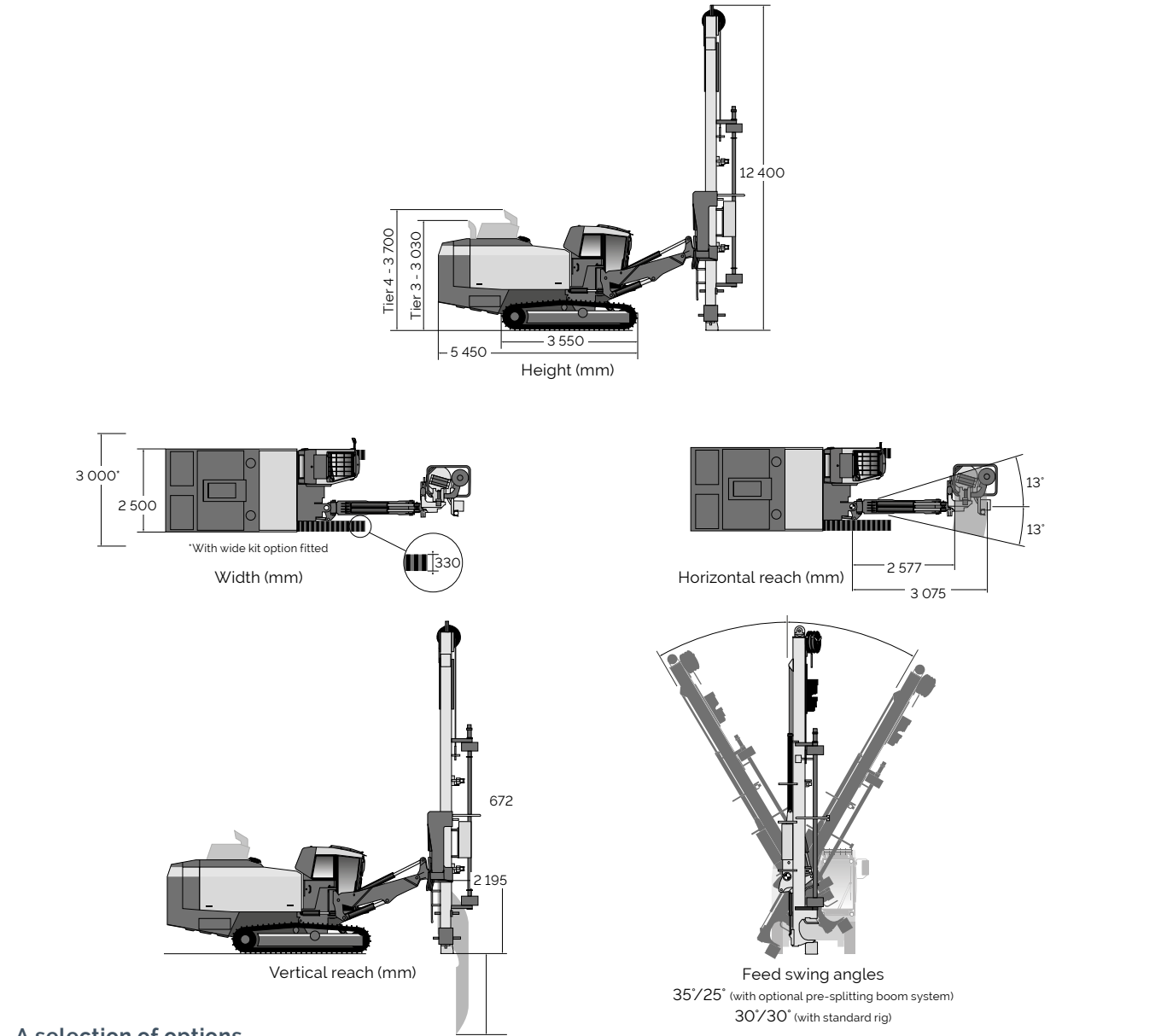


Weight

Standard unit excluding all options and drill steel	Metric	US
SmartROC CL (T3)	24 000 kg	52 910 lb
SmartROC CL (T4)	24 400 kg	53 792 lb

Transport height and length

	Metric	US
Height (H1)	3 500 mm	138°
Length (L1)	12 400 mm	488°



A selection of options

- Carrier**

  - Hydraulic support leg
  - Protection hand rail on top of canopy.
  - Wide body kit - 3m (9ft 10in) with FL6HD
  - Manually or automatic fire suppression system
  - Heavy duty air intake filters for engine and compressor
  - Battery sliding tray
  - Fast fuel filling kit
  - Electric fuel filling system
  - Diesel-driven engine heater
  - Insulated and heated compressor regulation system
  - Extra side led work lights, two (one on each side)
  - Central lubrication system
  - AUX power unit
  - Fire extinguisher, 6 kg (13 lbs) dry chemical type ABC class III type
- Feed**

  - 35° pre-splitting boom system\*
  - Pre-splitting suction hood
  - Hydraulic adjustable pre-separator
  - Wide feed foot
  - Extra wide feed foot
  - Screw sampler device
  - Service winch with jib boom mounted on the feed
  - Thread lubrication, spray system
  - Smartfold
- 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
  - Pressure washer
- Lubrication**

  - Central lubrication system, type Lincoln
  - Arctic hydraulic oil, VG 32
  - Tropical hydraulic oil, VG 68
  - Biological hydraulic oil, VG 46
- Hole and inclination systems**

  - GPS compass aiming unit
  - Laser plane receiver for hole depth
  - Hole Navigation System
- Automation & software**

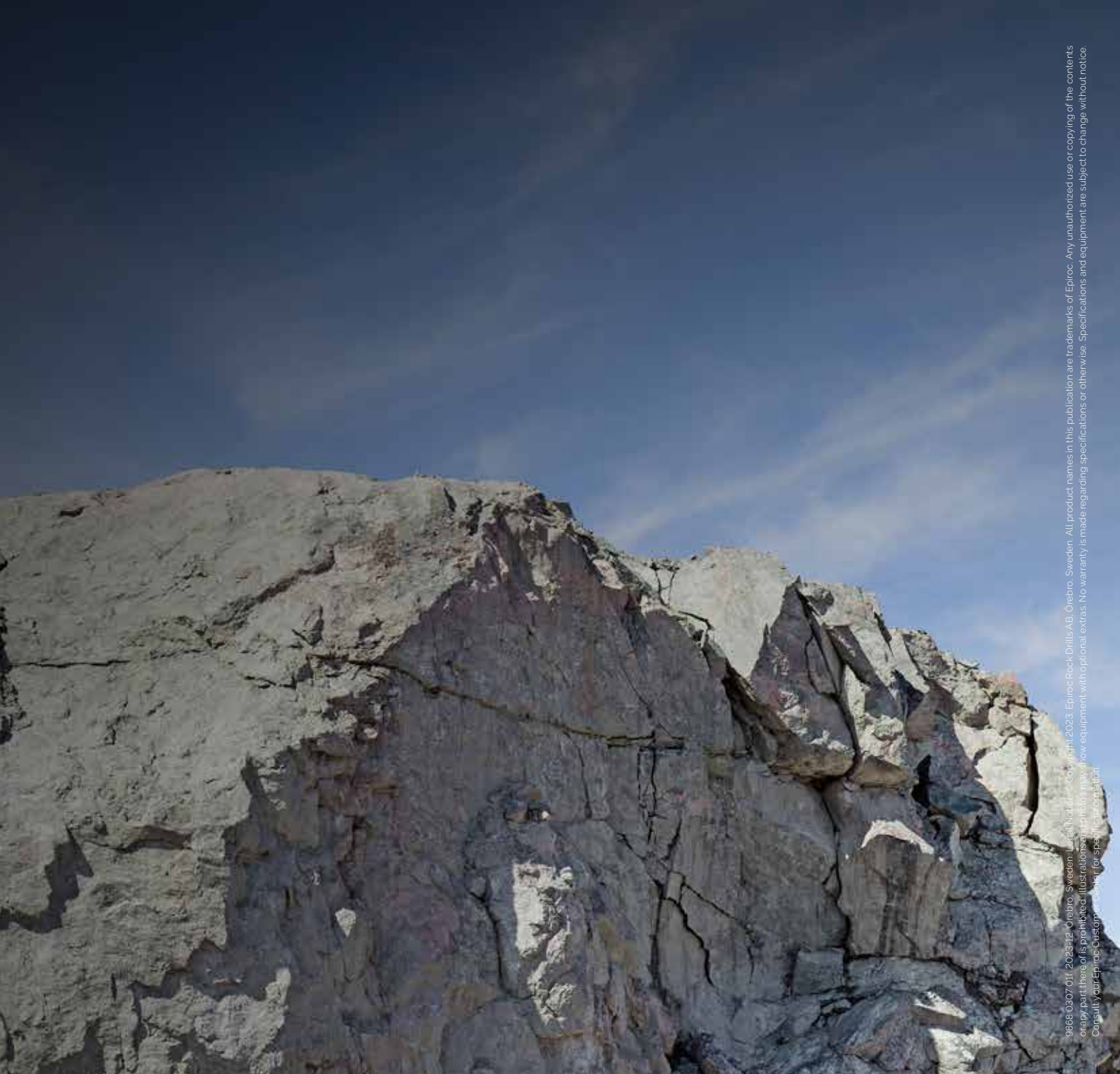
  - Rig Remote Access (RRA)
  - Surface Manager Reporting
  - Configurable Safety Software
  - Measure While Drilling
  - Rig Access Control
- Parts and Services products**

  - Certiq with GSM modem (for certified countries only)
  - ROC Care
  - COP Care
- Optional accessories**

  - Gas charging equipment (for rock drill)
  - First 50 hours service kit for compressor
  - Lubrication kit
  - RCS service tool box
  - Electrical tool kit
- Safety cabin**

  - Sun shade kit for rear side window, roof window and rear window
  - Boarding light
  - Warning light - BEACON type
  - Reverse camera with display integrated into the RCS touchscreen





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