

# Simba E60 S

Smart and Green series

Production drill rig with i-beam mounted drilling unit for medium to large sized drifts with a hole range of 51 to 178 mm





# Excellence in heavy-duty production drilling

Simba E60 S is a long-hole production drill rig for medium to large-drift mining. It accommodates a range of drill bits, rock drills and in-the-hole hammers to adapt to your specific needs. The rig operator enjoys excellent visibility and enhanced safety in the comfortable cabin. When you seek a hard-working, high-precision solution for long-hole drilling, rely on the powerful Simba E60 S.

## ⊕ Main benefits

**Utilization and effectiveness** thanks to a wide range of automation options, boosted by high performance drill consumables such as the Powerbit X drill bit

**Excellent drilling quality** with the new tube drilling system ET51 which creates a balanced setup that mitigates in-hole deviation

**Focus on safety** and live work reduction with control system based electrics, opening up for higher degree of autonomous operation



New smaller hydraulic box with improved sealing to prevent water entrance, overall resulting in better serviceability.



New touch screen and centralized buttons give the operator a better overview. The Carrier Control System (CCS) means increased effectiveness and is an enabler for future automation development.



The carousel on the Simba E60 S rig has received a facelift compared to its predecessor. This improvement includes a new three-way cylinder replacing the hydraulic motor, improved material for the gripper arms and a new design for the drill steel grippers. The new drill steel support cylinders secure a solid grip when adding/removing drill steel during drilling.



Stingers for a rock solid set up for drilling

The cabin is ROPS and FOPS certified for a safe, ergonomic operating environment

Available with optional battery-electric driveline

I-beam mounted drilling unit

### S – Smart

Machines within the Smart series are equipped with Epiroc's Rig Control System, RCS, which makes them ready for automation and remote control. RCS also provides a foundation for additional functionality from our 6th Sense offering.

### SG – Smart and Green

Smart and Green means that machines feature both Epiroc's Rig Control System and exhaust-free technologies.





# Precise production drilling with higher consistency

The Simba E60 S is the latest upgrade in the Simba range with a clear focus on remote and autonomous control. Putting vehicle electrics under control systems enables a higher degree of machine automation. All improvements on the Simba E60 S aim towards autonomous operations.



### + Safety

Operator safety is always a top priority, and on the Simba E60 S this has been improved by a higher degree of automation. Live work around energized parts is minimized and the operator becomes more of a process operator.



### + Carrier Control System - enabler for automation

The entire machine is now managed via control systems, making all the automation features available to combine. When blended together, a higher percentage of tasks can be performed autonomously.



### + Quality boosting consumables

The Powerbit X drill bit range together with the newly developed ET-series tubes (Epiroc Tubes) highly contribute to increasing the overall hole quality and effectiveness. Straighter drilling, longer service life and easier service planning make the ET-series the obvious next step towards higher quality drilling.



## 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  
A = Simba E60 S   B = Simba E60 S ITH   C = Simba E60 SG   D = Simba E60 SG ITH

Drilling system	A	B	C	D
COP 1838+	○		○	
COP 1838MUX+, COP 1838HUX+	○		○	
COP 2550UX+	○		○	
COP 3060MUX	○		○	
COP 44 to COP 64		○		○
Dry drilling system	○			
Bit changer, only with MUX/HUX/UX	○		○	
Water mist flushing, external water and air supply (hydraulic oil cooled by water cooler) *	○	●	○	●
Water mist flushing, external water and air supply (hydraulic oil cooled by air fan) *	○		○	
Hole blowing kit	○		○	
Thread lubrication spray kit	●		●	
Thread lubrication kit		○		○
* Watermist flushing is included when ordering option: Double GAR 30 compressor+air receiver.				

Boom/drilling unit	A	B	C	D
Rod Handling System, RHS 17 (17+1 rods) mechanized drilling up to 30 m	○		○	
Rod Handling System, RHS 27 (27+1 rods) mechanized drilling up to 51 m	○	○	○	○
Rod Handling System, RHS 35 (35+1 rods) mechanized drilling up to 63 m		○		○
Adaptable to 4', 5' and 6' rods	●		●	
Adaptable to TDS 64, TDS 76, TDS 87 drill rods	○		○	
Adaptable to 76/89/102 ITH pipes		○		○
Adaptable to ET45, ET51, ET55 and ET66	○		○	
2 rear and 2 front stinger	●	●	●	●
Automatic lubrication for positioning unit	○	○	○	○
Central lubrication for drilling and positioning unit	●	●	●	●

Electrical system	A	B	C	D
Total installed drilling power 103 kW (main motors 1x75kW)*	●		●	
Total installed drilling power 103 kW (main motors 1x95 kW)**	●		●	
Total installed drilling power 63 kW (main motor 1x55 kW)		●		●
Total installed drilling power 158 kW (main motor 1x95 kW, equipped with booster compressor)		○		○
Total installed drilling power 158 kW (main motors 2x75 kW)***	○		○	
24 V batteries 2x125 Ah	●	●	●	●
Electric system 24 V	●	●	●	●
700 V Battery 280 Ah			●	●
Voltage 400-1 000 V 50/60 Hz	●	●	●	●
Starting method star/delta (400-690 V)	●	●	●	●
Soft start of main electrical motors (not for 1 000 V)	○	○	○	○
Electronic overload protection for electric motors	●	●	●	●
Digial voltmeter/amperage meter in electric cabinet	●	●	●	●
Electric outlet for accessories, 16 A (CE)/32 A (CE)	○	○	○	○
Extra transformer 8 kVA	●	●	●	●
Extra transformer 15 kVA	○	○	○	○
Transformer for charging 100 kW			●	●
PC4 or PC5 plug/socket	○	○	○	○
Phase sequence and eart fault indicator	●	●	●	●
Battery charger	●	●	●	●
Dual controls for cable reel	●	●	●	●
Limit switch for cable reel with signal lamp and brake connection	●	●	●	●
Stainless steel electrical enclosure	○	○	○	○
Carrier Control System	●	●	●	●
Tramming lights 8x22 LED, 2x70 W, 24 V DC	●	●	●	●
Working lights 4x150 LED, 24 V DC	●	●	●	●
Illuminated stairs for platform LED	●	●	●	●

\* Depending on selected rock drill  
\*\* Only with COP 3060  
\*\*\* Only with double GAR 30 compressors or DCT installed

Hydraulic system	A	B	C	D
Low oil level indicator and shut-down	●	●	●	●
Smart oil leakage shut-down system	●	●	●	●
Oil temperature gauge on oil tank, electronically supervised	●	●	●	●
Hydraulic oil thermostat	●	●	●	●
Water/oil cooler in stainless steel	●	●	●	●
Filtration 16 µm	●	●	●	●
Oil filter indicator	●	●	●	●
Mineral hydraulic oil	●	●	●	●
Electrical oil filling pump	●	●	●	●
Heater kit for hydraulic oil tank, diesel engine and electric motors	○	○		
Heater kit for hydraulic oil tank and electric motors *			○	○
Biodegradable hydraulic oil	○	○	○	○
Ni-Cr plated piston rods (limitations exist)	○	○	○	○
Kidney filter	○	○	○	○
* On SG-rigs no diesel engine heating, only hydraulic oil tank and electrical motor				

Control system	A	B	C	D
Epiroc Rig Control System (RCS)	●	●	●	●
Advanced Boom Control (ABC) Regular	○	○	○	○
Advanced Boom Control (ABC) Total	○	○	○	○
Breakthrough automatic stop	○	○	○	○
Underground manager pro *	○	○	○	○
Drill plan handling *	○	○	○	○
Drill plan handling with raise view *	●	●	●	●
Measure While Drilling (MWD)	○	○	○	○
Void detection	○	○	○	○
Automatic parallel holding *	○	○	○	○
Remote cradle control/remote feed control	○	○	○	○
Rig Remote Access (RRA)	○	○	○	○
Mobile tele-remote/multi tele-remote	○	○	○	○
Remote operating kit	○	○	○	○
Additional panel	○	○	○	○
Remote controlled camera on tripod with monitor in cabin	○	○	○	○
Total station navigation	○	○	○	○

\* Included in ABC Total

Feed	A	B	C	D
BMH 200-series 3 143 mm, 3 448 mm, 3 753 mm	○		○	
BMH 200-series (extractor) 3 348 mm, 3 653 mm, 3 958 mm*	○		○	
BMH 200-series 3 621 mm, 3 926 mm**		○		○

\* +55 mm for COP 2550 UX  
\*\* +138 mm for hammer guide

Air system	A	B	C	D
Compressor: Atlas Copco GAR 5	●		●	
Compressor: Atlas Copco GAR 30	○		○	
Double GAR 30 compressor	○		○	
On-board booster compressor, 25 bar/380 l/s		○		○
External air supply connection for hole blowing	●		●	
HECL lubrication system with electric filling pump		●		●

Water system	A	B	C	D
Minimum water inlet pressure 2 bar	●	●	●	●
Hydraulic water booster pump. Capacity at 15 bar 250 l/min	●		●	
Water injection pump. Capacity 50 l/min	○	●	○	●
Water hose reel including hose*	○	○	○	○
High pressure rig washing kit with hose and reel	○	○	○	○
Low pressure rig washing kit with hose and reel	○	○	○	○
Remote controlled water cannon	○	○	○	○

\* Not applicable when booster compressor is installed on ITH drill rigs

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Carrier	A	B	C	D
Deutz TCD 2013, L04 2 V Stage III A Tier 3, 120 kW	○	○		
Deutz TCD 4.1, L04 Stage V, 115 kW	○	○		
Deutz TCD 2012, L06 2 V Stage III A Tier 3, 155 kW	○	○		
Deutz TCD 6.1, L06 Stage V, 180 kW	○	○		
Deutz TCD 4.1, L04, CN4, 115 kW	○	○		
Traction motor 150 kW			●	●
Rear axel DANA Spicer 114/S1 +-8 degree oscillation	●	●	●	●
Articulated steering ±38° steering angle	●	●	●	●
Four-wheel drive	●	●	●	●
Hose/cable guiding at water/cable reel	○	○	○	○
Automatic differential lock on front axle, limited slip	●	●	●	●
Tires 14.00xR24	●	●	●	●
Rig alignment laser	●	●	●	●
Front and rear hydraulic jacks	●	●	●	●
Fuel tank, volume 110 l	●	●		
Central grease point	●	●	●	●
Fire suppression system ANSUL (manual or automatic)	○	○	○	○
Fire suppression system FORREX (manual or automatic)	○	○	○	○
E-tramming (electrical/hydraulic tramming)	○	○		
Manual lubrication kit	○	○	○	○
Boot washing kit	○	○	○	○

Drifter rods/pipes			
Rock drill	Rod/pipe	Guide tubes	Hole diameter (mm)
COP 1838+ COP 1838+MUX	T38 Speedrod	TDS 64	51-64 64-76
	T45 Speedrod	TDS 64/TDS 76	76-89
	TDS 45	N/A	48-76
	TDS 54	N/A	64-89
COP1838+HUX	TDS 64 (ET45)	N/A	70-89
	T51	TDS 76	89-115
	TDS 64 (ET45)	N/A	76-115
	TDS 76 (ET55)	N/A	89-102
COP 2550UX	TDS 76 (ET55)	N/A	89-115 (ST58 shank adapter)
	ET51	N/A	89-115 (T51 shank adapter)
	TDS 76 (ET55)	N/A	89-102
	TDS 87 (ET66)	N/A	102-115
COP 3060 MUX	ET51	N/A	89-115 (T51 shank adapter)
	CR76	N/A	89
COP 3060 MUX-CR			
COP 44	TAC 76/89	N/A	110-125
COP 54	TAC 89 (TAC102)	N/A	134-152
COP 64	TAC 89 (TAC102)	N/A	156-178

Note: ET45, ET51, ET55 and ET66 are replacements for TDS pipes. ET pipes also require the new version of shank adapter.

Recommended cable size and length

Voltage	Type	Dimension (mm²)	Diameter (mm)	Length (m)	Length ITH (m)
380-400 V	Buflex	3x185+3G35	56	80	65
440-500 V	Buflex	3x150+3G25	52	120	70
550 V	Buflex	3x120+3G25	46	120	95
660-690 V	Buflex	3x95+3G16	45	150	125
1 000 V	Buflex	3x50+3G10	33	200	200

Recommendations are given for surrounding temperature of 40°C and up to a height of 2 000 m. Cable dimension for battery version depends on charging cycle.

Recommended drift size

Feed	Rod	Minimum HxW
BMH 214/234	1 220	4 600x3 600 mm
BMH 215/235	1 525	4 900x3 900 mm
BMH 216/236	1 830	5 200x4 200 mm

Noise and vibration

Operator sound pressure level in cabin, drilling, free field (ISO 11201)	65±3 dB(A) re 20 uPa
Operator sound pressure level working close to machine, drilling, free field	104±6 dB(A) re 20 uPa
Sound power level (ISO 3744), drilling, free field	128 dB(A) re 1 pW
Vibration levels seated, drilling (ISO 2631-1) cabin	0.07±0.07 m/s²
Vibration levels standing, drilling (ISO 2631-1) cabin	0.07±0.07 m/s²

Cabin	A	B	C	D
ROPS and FOPS certified cabin, noise level <65 dB(A)	●	●	●	●
Low profile cabin ROPS and FOPS certified 150 mm lower than standard - seated operation only	○	○	○	○
Mounting height -140 mm from standard height	○	○	○	○
Cabin lift/tilt system, 375 mm/15°	○	○	○	○
Swingable seat for drilling and tramming	○	○	○	○
Reversing camera with monitor	●	●	●	●
Reel camera	○	○	○	○
12 V outlet	●	●	●	●
Joystick-controlled spotlights left and/or right, 70 W	○	○	○	○
FOPS-approved grizzly bar for front window	○	○	○	○
Medioplayer	○	○	○	○
Air condition	●	●	●	●
Heating function for air conditioning (water transferred)	○	○	○	○
Electrical heater, 1.2 kW, 230 V (CE)	○	○	○	○
Cabin body made of stainless steel	○	○	○	○

COPROD specific options (applicable for Simba E60 S and E60 SG)	
COP 3060MUX-CR	●
Rod Handling System, RHS 27 (27*1 rods) mechanized drilling up to 51 m	○
Adaptable to 4', 5' and 6' rods	○
Adaptable to CR76	○

Technical specifications

Dimensions in millimeters

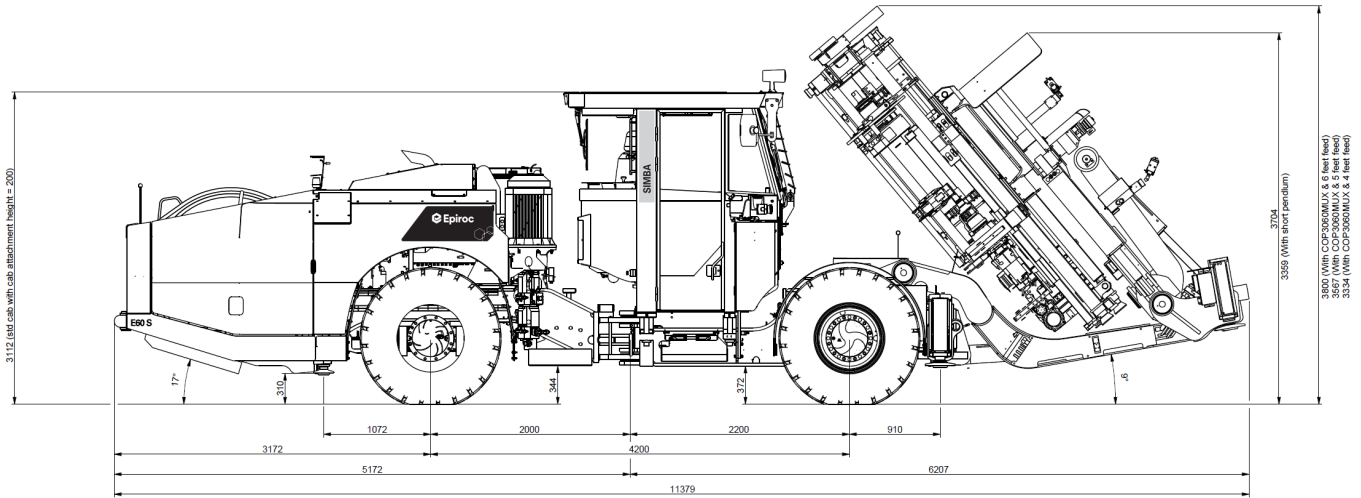


Illustration shows Simba E60 S in right side view with 6-cylinder engine and E-tramming.

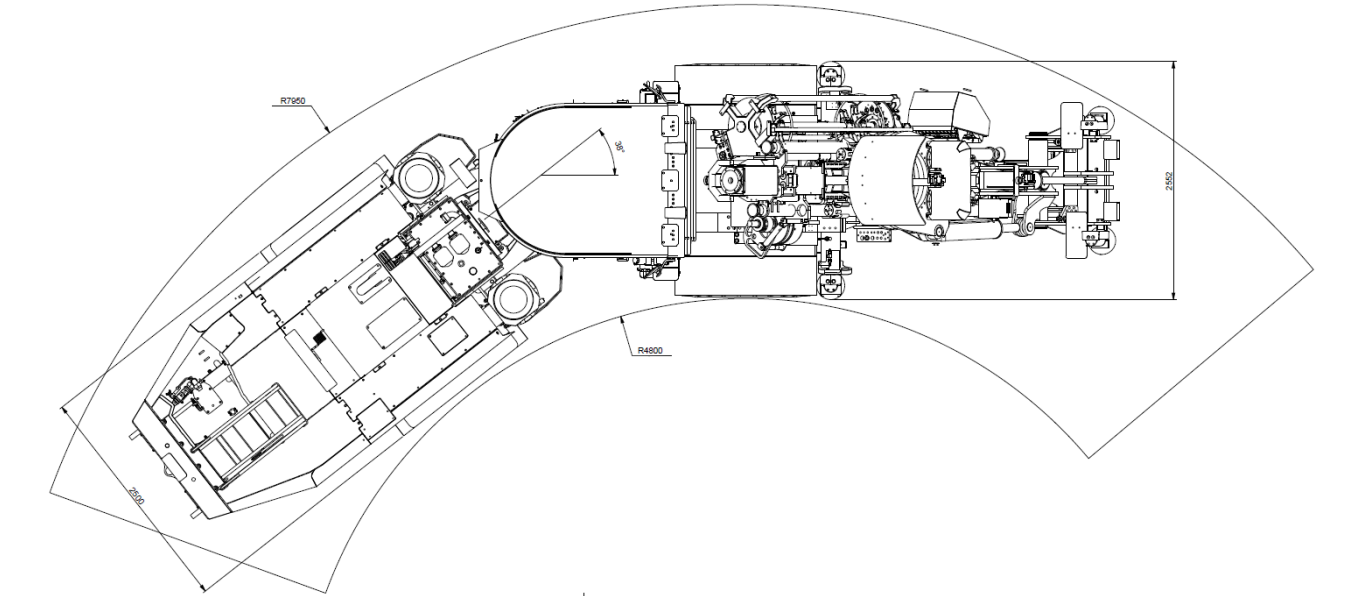


Illustration shows turning radius of Simba E60 S with 6-cylinder engine and E-tramming.

Dimensions

Measurement	Simba E60 S	Simba E60 S ITH	Simba E60 SG	Simba E60 SG ITH
Width	2 552 mm	2 552 mm	2 552 mm	2 552 mm
Length, tramming	11 129/11 379 mm (4 or 6 cyl engine)	11 129/11 379 mm (4 or 6 cyl engine)	11 379 mm	11 379 mm
Height with cabin	3 112 mm	3 112 mm	3 112 mm	3 112 mm
Ground clearance	310 mm	310 mm	310 mm	310 mm
Turning radius outer/inner	7 950/4 800 mm	7 950/4 800 mm	7 950/4 800 mm	7 950/4 800 mm

Gross weight (depending on configuration)

Rig type	Total	Boom side	Engine side
Simba E60 S	31 500 kg	20 000 kg	11 500 kg
Simba E60 S ITH	30 500 kg	19 000 kg	11 500 kg
Simba E60 SG	33 500 kg	20 000 kg	13 500 kg
Simba E60 SG ITH	32 500 kg	19 000 kg	13 500 kg

Tramming speed

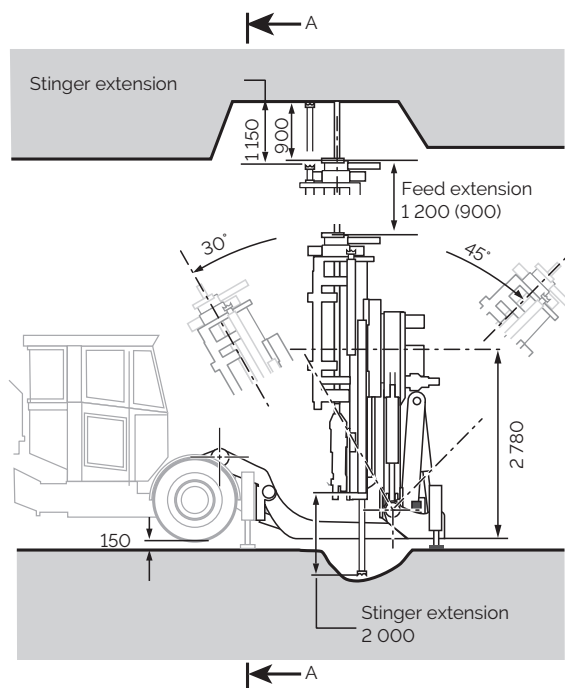
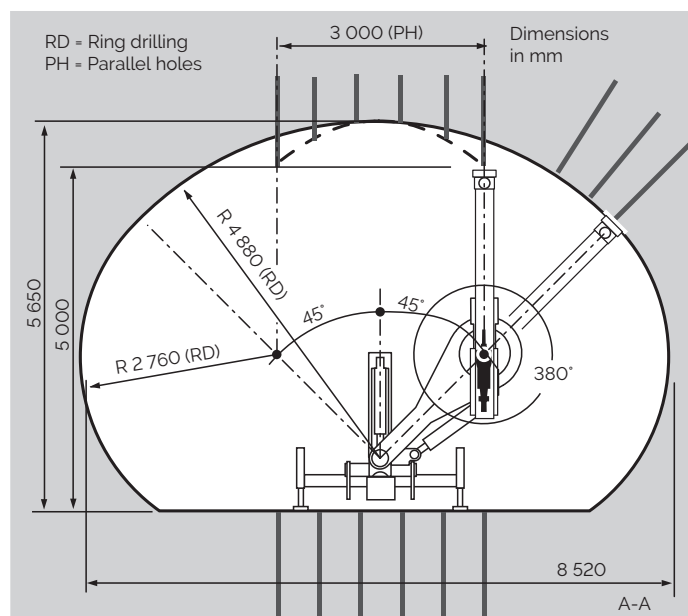
On flat ground (rolling resistance 0.05)*	>15 km/h
On incline 1:8	>5 km/h

\* Electric driveline >12 km/h



# Technical specifications

Dimensions in millimeters



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