



# DB331 SECONDARY BREAKING DRILL CARTRIDGES SOLUTION

## TECHNICAL SPECIFICATION

Sandvik DB331 Secondary Breaking Unit (SBU) offers a safe operating process for effective ore facilitation tasks such as rock boulders reduction, hang-up blockage releases in draw points, thus enables a high production rate in large scale mining.

It is an autonomous drill based on self-contained diesel hydraulic carrier, with on-board water tank and large air compressor for air-mist flushing.

The drill rig is designed for good visibility and stability, the powerful four-wheel-drive articulated carrier ensures fast and safe maneuvering in compact underground drifts.

The robust telescopic boom offers a medium reach up to 11,33 m, the double rotation actuators and compact charging head offer easy positioning inside the draw point. The high frequency rock drill enables fast drilling and short time exposure under the drawpoint.

Drill and blast method is used for fragmenting the boulders. The explosive charging device is mounted on the Sandvik charging head.

Compatible blasting products are cartridge systems from various supplies such as: Autostem™, Dyno AP paper shell tube and other blasting solutions can be studied by Sandvik engineering.

Emulsion blasting solution is also possible, but this needs to be checked with both Sandvik and local explosive supplier providing primer and emulsion gasing kit.

The standard offer is a line of sight operational system: the drilling and tramming functions of DB331 can be done remotely and safely with an ergonomic Radio Remote Control panel and a Wifi remote video assistance.

The video system includes a tablet display, a 3D-zoom camera and multiple wide angle cameras to improve the visual capability for the operator to work from a safe location.

A full Teleremote operation, with different level of ergonomic control stations to fit end user needs, can be offered on specific demand.

### KEY FEATURES

Maximum reach	11 330 mm
Hydraulic rock drill	1 x RD314
Charging head	1 x SCH8
Boom	1 x SB60P
Hole length	Up to 2 230 mm
Radio remote control	Tramming (line of sight) and drilling
Drilling video control	10" touch pad tablet
T-section width in turning	From 3.9 m to 3.9 m drift
Transport width	2 020 mm
Transport height (canopy)	2 140 mm / 3 100 mm
Transport length	9 680 mm
Total weight	16 000 kg depending on options



1. SANDVIK DB331 - SECONDARY BREAKING DRILL

## HYDRAULIC ROCK DRILL

Type of rock drill	RD314 (TS2-137)
Percussion power	14 kW
Percussion pressure	Max. 190 bar
Percussion rate	110 Hz
Rotation speed	Max. 520 rpm (with OMS100)
Rotation torque	400 Nm (with OMS100)
Hole size (drifting)	41 to 64 mm
Shank adapter (male)	R32
Filling device for accumulators	Specification TS2-430

## CHARGING HEAD

Type of charging head	SCH8 (TS2-483)
Blasting solution	Cartridges system
Hole length	2 000 mm
Total length	3 680 mm
Max reach	Up to 11 m (with SB60P)
Feed extension	1 600 mm
Total weight (without rock drill)	866 kg

## BLASTING PRODUCTS COMPATIBILITY\*

Autostem™ cartridges GenIII	Ø43mm x 470mm, 550g
Dyno Nobel AP	Ø38mm x 400mm with paper tube shell
Others blasting solutions	On demand

*\*Not provided by Sandvik*

*Check your blasting solutions with your local providers.*

*A Certificate must be delivered for drill and charge by your local authority.*

## BOOM

Type of boom	SB60P (TS2-231)
Parallelism	Automatic hydraulic
Boom extension	1 200 mm
Boom feed extension	1 200 mm
Boom weight, net	2 400 kg
Double roll-over	Semi spherical positioning

## HYDRAULIC SYSTEM

Powerpack	Diesel hydraulic powered
Filtration (pressure / return)	20 µ / 10 µ
Oil tank volume	330 liters (drilling)
Oil tank filling pump	Electric
Oil cooler (air actuated)	OA21 oil-to-air (1 x 21 kW)

## DRILLING CONTROL SYSTEM

Type of control system	THC561 (TS2-362)
Operating principle	Electric control
Remote controls boom and drill	Electric control Fully proportional Hydraulic parallelism
Drilling control	Feed / percussion control
Drilling safety	Boom movements isolation switch

## REMOTE CONTROLS AND FEED POSITIONING

Type of controls	Radio remote (2.4 Ghz, TC240 norm, ISO13766) Up to distance 100 meters (line of sight, clear of obstacle). or cable 20 meters length
Tramming controls line of sight	Remote controlled or operator station Tramming, canopy, stabilizers controls 4 x fixed cameras
Tramming informations displayed	Carrier steering angle Machine on jack - level angle
Drilling controls line of sight	Remote controlled Boom and drilling module movements 2 x fixed cameras + 1 x PT camera
Drilling informations displayed	Feed pressure Percussion pressure Rotation pressure Air pressure Hole depth
PT camera controls	On remote controls
Positioning instruments	2 x laser positioning 1 x telemeter
Safety function	Activation of fire suppression system by remote control
Display	1 x touch pad tablet 10"
Teleremote controls	On demand, specific quote

## ELECTRIC SYSTEM

Main switch gear	MSE 5 (24V)
IP classification	Specification TS2-132
Sealed AGM batteries	2 x 12 V, 95 Ah
Front working lights (combined working and driving)	4 x 50 W LED (4 200 lm, 6 000 K)
Rear working lights (combined working and driving)	4 x 50 W LED (4 200 lm, 6 000 K)
Charging head lights	1 x 50 W LED (4 200 lm, 6 000 K)
Parking rear brake / park lights	2 x Red LED

## AIR AND WATER SYSTEM

Flushing of holes	By air mist
Water booster pump	CAT pump (hydraulic driven 25 cc)
Water pump capacity	16 l/min
Flushing water pressure	10 - 15 bar
Shank lubrication device	SLU-1 (air / oil mist)
Air compressor	2.8 m³/min (at 7 bar) hydraulic driven 16 cc
End of hole flushing	1 x 60 liters air receiver
Water tank	500 liters
Rock drill oil consumption	100 - 200 g/h
Rock drill air consumption	150 - 250 l/min

## OPERATOR'S SAFETY CABIN

Cabin certification	FOPS / ROPS (ISO 3449) Height 2 920 mm
Operation	Remote drilling, seated or remote tramming
Sound pressure level according to EN 16228	Operator station: 80 dB(A)
Operator's seat	Ergonomic T-back seat
Air conditioning	During drilling and tramming

## 2. SANDVIK DB331 - SECONDARY BREAKING DRILL

**CARRIER**

Type of carrier	NC5 -17
Steering system	Frame steering
Carrier articulation	± 38°
Rear axle oscillation	± 10°
Ground clearance	320 mm
Diesel engine	Deutz TCD2012, 100 kW, Tier 3, Stage IIIA, China 3
Diesel engine control	Electronic, EMR
Exhaust catalyzer	Standard
Transmission	Hydrostatic, automotive
Axles	Dana spicer 112 with extended differential breathers
Tires	12.00-20
Service brakes	Hydrostatic and positive braking
Parking and emergency brakes	Hydraulic oil immersed multiple disc brakes on both brakes
Tramming speed	12 km/h (horizontal) 5 km/h (14%=1:7=8°)
Gradeability / sideways tilt	Max. 15° / 5° (according to ISO 18758)
Fuel tank	160 liters
Tramming oil tank	55 liters (tramming)
Hydraulic jacks	Telescopic (front) Vertical (rear)
Tramming alarm	Standard
Knowledge Box™	Connectivity solution (TS2-535) My Sandvik insight readiness (TS2-390)
Documentation	1 x Operator's manual 1 x Technical manual (in English only) 1 x Parts manual (in English only) 2 x USB key of manuals (PDF files) 1 x Online Parts manuals (MySandvik)

**OPTIONAL FEATURES AND PACKAGES****Charging head**

*Emulsion blasting solutions	Solution must be checked with emulsion supplier
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**Drilling control system**

Access detector systems	Detector or protector (TS2-211)
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**Electric system**

Battery jump start	Optional
Amber flashing light	LED (24 V)

**Cleaning system**

HP system with reel	Up to 180 bar (TS2-343)
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**Greasing systems**

Centralized greasing points	Specification TS2-463
Manual system	Greasing gun and cartridge with hose reel (TS2-463)
Automatic system	Carrier and boom (TS2-463)

**Operator's safety cabin / canopy**

*Safety canopy	FOPS (ISO 3449)
*Low cabin	FOPS / ROPS certification
	Height 2 670 mm,
Cabin heating	During drilling and tramming
Cabin audio system	CD player / radio / MP3 / Bluetooth and loudspeakers
Front screen protection grill	For cabin or canopy

**Fire suppression system**

Hand held fire extinguisher	1 x 6 kg Type ABC
Automatic system	Ansul, 6 nozzles (TS2-460)
Auto. fire suppression system	Sandvik Eclipse™ (TS2-461)

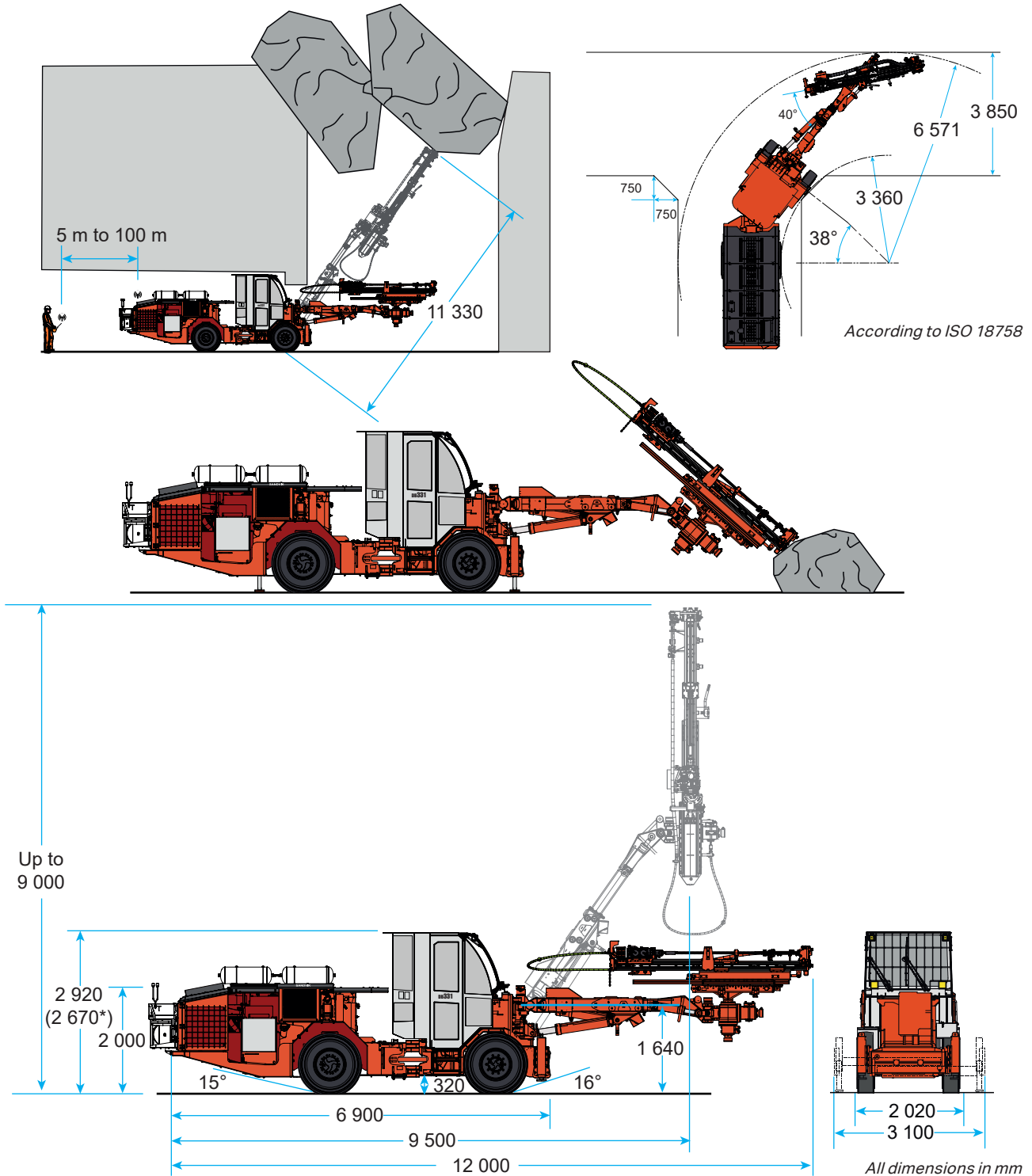
**Carrier**

*Diesel engine	Deutz TCD3.6, 100 kW, Tier 4F, Stage V, Canmet
*Foam filled tires	4 pcs
Fast filling and evacuation system	Wiggins (complete)
Brake release	Manual hand pump
*Knowledge Box™	My Sandvik productivity readiness (TS2-390)
Wheel chocks and holders	2 Sets
*Directional tramming alarm	Cri du Lynx®

**Extra items**

Spare rock drill	RD314
Tools and pressure test box	Specification TS2-429
Spare wheel assembly	Air or foam filled tire
Special tools for rock drill	Field tool set (TS2-119)
	Complete tool set (TS2-118)
Warranty extension	One year (excl. Kazakhstan)
Documentation	Extra paper, PDF manuals
Package: Country specific options	AUS, USC package
Package: Harsh water	Advanced (TS2-049)

*\*) Replaces standard feature*



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#### 4. SANDVIK DB331 - SECONDARY BREAKING DRILL