



# DD311 DEVELOPMENT DRILL

## TECHNICAL SPECIFICATION

The Sandvik DD311 is a single-boom electro-hydraulic jumbo, designed for fast and accurate drilling within drifting and tunneling of 40 m<sup>2</sup> cross-sections.

The hydraulic controls enable drilling performance of the highest accuracy, ensuring maximum performance vs. customer requirements.

Our new Sandvik RDX5 rock drill now replaces the previous HLX5 model, capitalizing on the existing reliability and efficiency of its predecessor – whilst further improving/lowering operating costs alongside an extended service interval.

The robust SB40 Boom ensures that optimal coverage is achieved, with drilling performance also being improved via optional instrumentation.

The DD311 is the last born of Sandvik medium size single boom jumbos, comprising none of the previous unit's quality, whilst offering a number of improvements including (but not limited to) easier maintenance etc.

### KEY FEATURES

Coverage area	40 m <sup>2</sup> (5.8 x 7.2 m)
Hydraulic rock drill	1 x RDX5, 20 kW
Drill feed	1 x TF512, 12 - 16 ft
Boom	1 x SB40
Hole length	Up to 4 660 mm
Drift size class (H x W)	3 000 x 3 000 mm
Turning width (T-section)	3 550 mm (TFX6/12)
Transport width	2 020 mm
Transport height (canopy)	2 140 mm / 3 100 mm
Transport height (cabin)	2 920 mm or 2 670 mm
Transport length	12 520 mm
Total weight	15 000 - 18 000 kg depending on options



## HYDRAULIC ROCK DRILL

Type of rock drill	RDX5 (TS2-433)
Percussion power	20 kW
Percussion pressure	Max. 210 bar (factory setting)
Percussion rate	67 Hz
Rotation speed	Max. 250 rpm (with OMS80)
Rotation torque	400 Nm (with OMS80)
Hole size diameter (drifting)	43 - 64 mm
Hole size diameter (cut hole)	76 - 127 mm
Recommended rod	T38 - Hex 35 - R32 T38 - Hex 35 - Alpha 340 T38 - Hex 35 - R35
Shank adapter (male)	T38
Weight	210 kg
Length	955 mm
Profile height	87 mm
Filling device for accumulators	Specification TS2-430

## FEED

Type of feed	TF500-12' Standard	TF500-14' Optional	TF500-16' Optional	TFX6/12 Optional	TFX8/14 Optional
Feed force	Max. 25 kN	Max. 25 kN	Max. 25 kN	Max. 25 kN	Max. 25 kN
Total length	5 270 mm	5 880 mm	6 490 mm	3 560 / 5 390 mm	4 170 / 6 000 mm
Hole length	3 440 mm	4 050 mm	4 660 mm	1 610 / 3 440 mm	2 220 / 4 050 mm
Rod length	3 700 mm	4 305 mm	4 915 mm	1 830 / 3 700 mm	2 480 / 4 305 mm
Net weight	500 kg	530 kg	560 kg	640 kg	680 kg

## BOOM

Type of boom	SB40 (TS2-231)
Parallel coverage	44.5 m <sup>2</sup>
Parallelism	Automatic hydraulic
Boom extension	1 050 mm
Feed extension	1 350 mm
Boom weight, net	2 100 kg
Roll-over angle	358°

## HYDRAULIC SYSTEM

Powerpack	HPP555 (1 x 55 kW) IE3 electric motor
Filtration (pressure / return)	20 μ / 10 μ Quick couplers for kidney filtration
Oil tank volume	180 liters
Oil tank filling pump	Electric
Cooler for hydraulic oil	OW30 oil-to-water (1 x 30 kW)

## DRILLING CONTROL SYSTEM

Type of control system	THC561 (TS2-362)
Operating principle	Hydraulic control
Manual boom control	Direct control Fully proportional Hydraulic parallelism
Drilling control	Manual collaring Feed / percussion pressure control Feed / percussion pressure monitoring Anti-jamming system Flushing control (On /Off/Auto.) Reaming control
Automatic cycle	Stop and return automatics
TFX adjustment	Electric
Drilling safety	Boom movements inhibition switches

## ELECTRIC SYSTEM

Standard voltage	380 - 690 V (± 10%)
Total installed power	70 kW
Main switch gear	MSE 5
IP classification	Specification TS2-132
Starting method	Star Delta 380 V - 575 V DOL 600 - 690 V
Automatic cable reel	TCR1
Cable reel control	At operator station and remote control at rear of the machine
Sealed AGM batteries	2 x 12 V, 95 Ah
Cable plug holder	On central rear hood
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)
Parking rear brake / park lights	2 x Red LED

## AIR AND WATER SYSTEM

Flushing of holes	By water
Water booster pump	WBP1 (4 kW)
Water pump capacity	33 l/min at 15 bar (input pressure = 4 bar)
Water pump inlet pressure	2 bar (Min.)
Flushing water pressure	10 - 15 bar
Shank lubrication device	SLU1 (air / oil mist)
Air compressor	1 m <sup>3</sup> /min at 7 bar
Rock drill oil consumption	180 - 250 g/h
Rock drill air consumption	250 - 350 l/min

## OPERATOR'S SAFETY CABIN

Cabin certification	FOPS / ROPS (ISO 3449 / 3471) Height 2 920 mm
Operation	Standing drilling, seated tramming
Sound pressure level according to EN 16228	Operator station: 80 dB(A)
Operator's seat	Ergonomic T-back seat
Air conditioning	Cooling only

**CARRIER**

Type of carrier	NC5-17
Steering system	Frame steering
Carrier articulation	Up to $\pm 38^\circ$
Rear axle oscillation	$\pm 10^\circ$
Ground clearance	320 mm
Diesel engine	Deutz TCD2012, 74 kW, Tier 3, Stage IIIA, Canmet, China 2
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	SAHR fail safe type wet disc 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	90 liters
Tramming oil tank	55 liters
Carrier stabilization	2 x Telescopic (front) 2 x 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 (My Sandvik)

**OPTIONAL FEATURES AND PACKAGES****Rock drill**

\*Type of rock drill RD520 instead of RDX5

**Drilling feed**

\*Feed length 14', 16'  
\*Telescopic feed TFX6/12, TFX8/14  
Rod retainer TRR1 incl. safety wire, adds 35 mm length of the feed

**Boom**

\*Type of boom SB40NV instead of SB40 (TS2-257)  
Boom suspension system Specification TS15-232

**Drilling control system**

Instrumentation TCAD+ with iSURE I (Option iSure II, III, IV)  
Access detector system Mandatory in Europe (TS2-211)  
Access protector system Mandatory in Canada (TS2-211)

**Electric system**

\*Optional voltage Multivoltage (380 - 1000 V), at 50 or 60Hz  
\*Electric cables Specification TS2-121  
Ground fault and overcurrent protection VYK (N/A USC package) with pilot cord (optional)  
Auxiliary outlet 1 x 110 V or 1 x 230 V, 16 A  
Battery jump start Optional  
Dewatering pump outlet readiness 8 kW (site voltage 380 - 690 V) N/A USC package  
Amber flashing light LED (24 V)

**OPTIONAL FEATURES AND PACKAGES****Air and water system**

Air mist flushing Specification TS2-285  
\*End of hole air flushing 1 x 60 liters air receivers  
\*Air compressor 2.8 m<sup>3</sup>/min at 7 bar  
Water hose reel with water hose THR with 32 mm (1 1/4"), 80 meters  
Water hose with hooks 32 mm (1 1/4"), 80 meters  
Dry drilling Dust collector with 2.8 m<sup>3</sup>/min air compressor

**Cleaning system**

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

**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 Radio / USB MP3 / Bluetooth® and loudspeakers  
Safety grill For cabin or canopy  
Tramming cameras For cabin or canopy

**Fire suppression system**

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

**Carrier**

\*Diesel engine Deutz TCD3.6, 74 kW, Tier4F, Stage V, Canmet,  
Deutz TCD3.6 DWG, 75 kW, China 4 with DPF (particles filter)

\*Foam filled tires 4 pcs  
Fast filling and evacuation system Wiggins (complete)

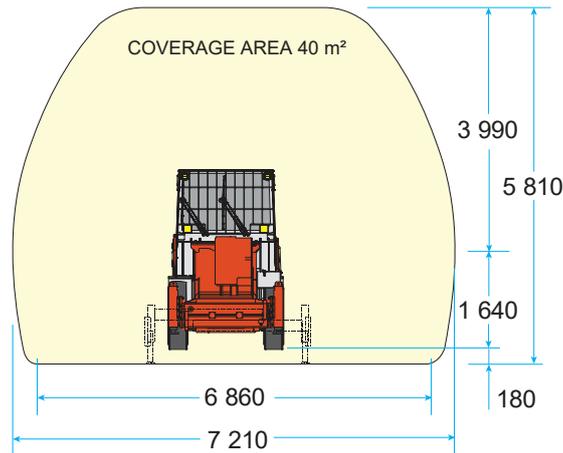
Brake release Manual hand pump  
\*Knowledge Box™ My Sandvik productivity readiness (TS2-390)

Wheel chocks and holders 2 Sets  
\*Directional tramming alarm Cri du Lynx®

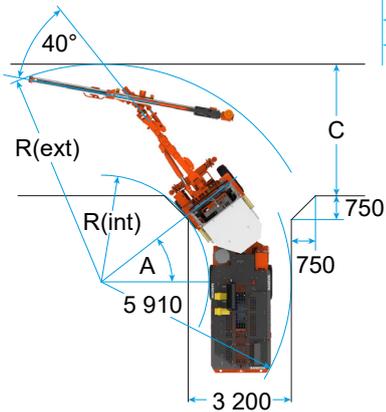
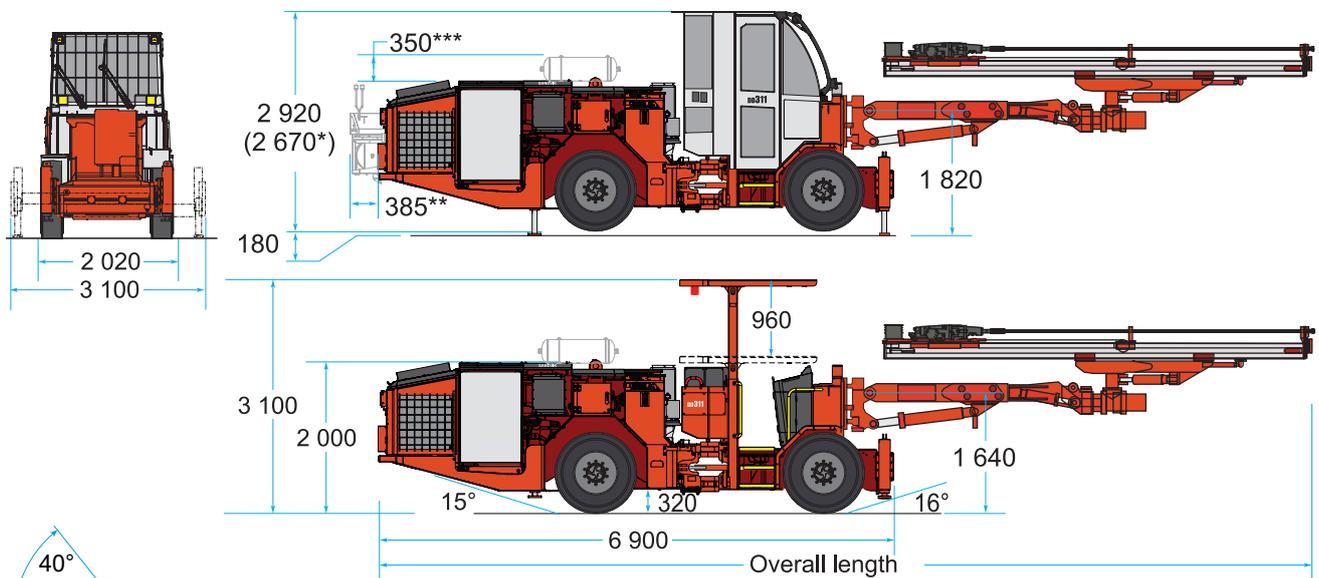
**Extra items**

Berg plug and socket 250 A  
Spare rock drill RDX5, RD520  
Tools and pressure test box Specification TS2-429  
Spare wheel assembly Air or foam filled tire  
Special tools for rock drill Field tool set (TS2-434)  
Complete tool set (TS2-435)  
Warranty extension One year (excl. Kazakhstan)  
Documentation Extra paper, PDF manuals  
Total station navigation set For TCAD (excl. total station)  
Video recorder and speedometer For CIS  
Package: Configuration level Streamline  
Package: Country specific LAM, USC, AUS, CE package options  
\*Package: Arctic N/A 1 000 V and USC package  
\*Package: Harsh water Specification TS2-209  
\*Package: Rotary drilling Basic or advanced (TS2-049)  
Specification TS2-195

*\*) Replaces standard feature*



	TF512	TF514	TF516	TFX6/12	TFX8/14
Overall length mm	12 520	12 720	13 170	12 055	12 055



\* With low cabin option \*\* With Sandvik eclipse option \*\*\* With Air receiver option

	Angle (A)	Internal Radius R(int)	External Radius R(ext)	T-cross (C)
DD311 (TF512)	mm 38°	3 345	6 420	3 720
DD311 (TF514)	mm 38°	3 345	6 535	3 820
DD311 (TF516)	mm 35°	3 731	6 940	3 950
DD311 (TFX6/12)	mm 38°	3 345	6 250	3 550
DD311 (TFX8/14)	mm 38°	3 345	6 302	3 590

All dimensions in mm

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#### 4. SANDVIK DD311 - DEVELOPMENT DRILL