



DD311 DEVELOPMENT DRILL

TECHNICAL SPECIFICATION

Sandvik DD311 is a single-boom electro-hydraulic jumbo for fast and accurate drilling in drifting and tunneling of 40 m² cross sections. The hydraulic controls enable accurate and efficient drilling performance.

Sandvik HLX5 rock drill has proven to be efficient and powerful. Optimal coverage is achieved with the robust Sandvik SB40 boom. The drilling performance can be improved with optional instrumentation.

Sandvik DD311 is the successor of the well-known Sandvik DD310 and offers easier maintenance.

KEY FEATURES

Coverage area	40 m ² (5.8 x 7.2 m)
Hydraulic rock drill	1 x HLX5, 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)	4 040 mm
Transport width	1 980 mm
Transport height (canopy)	2 140 mm / 3 100 mm
Transport height (cabin)	2 920 mm or 2 670 mm
Transport length	12 420 mm
Total weight	15 000 - 18 000 kg depending on options



HYDRAULIC ROCK DRILL

Type of rock drill	HLX5 (TS2-232)
Percussion power	20 kW
Percussion pressure	Max. 220 bar
Percussion rate	67 Hz
Rotation speed	Max. 250 rpm (with OMS80)
Rotation torque	400 Nm (with OMS80)
Hole size (drifting)	43 - 64 mm
Hole size (cut hole)	76 - 127 mm
Recommended rod	T38 - Hex 35 - R32 T38 - Hex 35 - Alpha 330 T38 - Hex 35 -R35
Shank adapter (male)	T38
Weight	210 kg
Length	955 mm
Profile height	87 mm
Inflating device for accumulator	Specification 2-9110

DRILLING FEED

Type of feed	TF500-12' Standard	TF500-14' Optional	TF500-16' Optional
Feed force	Max. 25 kN	Max. 25 kN	Max. 25 kN
Total length	5 270 mm	5 880 mm	6 490 mm
Hole length	3 440 mm	4 050 mm	4 660 mm
Rod length	3 700 mm	4 305 mm	4 915 mm
Net weight	500 kg	530 kg	560 kg

BOOM

Type of boom	SB40 (TS2-231)
Parallel coverage	44.5 m ²
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)
Filtration (pressure / return)	20 µ / 10 µ
Oil tank volume	180 liters
Oil tank filling pump	Manual
Cooler for hydraulic oil	OW30 oil-to-water (1 x 30 kW)
Tool set for hydraulic adjustment	Specification 2-9100

DRILLING CONTROL SYSTEM

Type of control system	THC560 (TS2-361)
Operating principle	Hydraulic control
Manual boom control	Direct control Fully proportional Hydraulic parallelism
Drilling control	Manual collaring Feed / percussion control Anti-jamming system Flushing control
Automatic cycle	Stop and return automatics
MySandvik insight	Remote monitoring system

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
Automatic cable reel	TCR1
Cable reel control	Operator station and remote control at rear 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	CTN10, 1 m ³ /min (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) High cabin ROPS < 21 000 kg
Height in tramming	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
Steering system	Frame steering
Carrier articulation	± 38°
Rear axle oscillation	± 10°
Ground clearance	320 mm
Diesel engine	BF4M2011 (EMR), 62 kW, Tier 2, Stage II
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 EN 16228-2)
Fuel tank	80 liters
Tramming oil tank	55 liters
Carrier stabilization	2 x Telescopic (front) 2 x Vertical (rear)
Hand held fire extinguisher	1 x 6 kg (type ABC)
Tramming alarm	Standard
Documentation	2 x Operator's manual 2 x Maintenance manual 2 x Technical manual (in English only) 2 x Parts manual (in English only) 2 x CD of manuals (PDF files)

OPTIONAL FEATURES AND PACKAGES

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
Hydraulic system	
*Oil tank filling pump	Electric
Drilling control system	
Constant speed drilling	Replaces feed / pressure control
Instrumentation	TCAD+ without TLOG and iSURE TCAD+ with iSURE I-II design and reporting. (with SB40 boom only) iSure III Analysis (with TCAD+ option)
Access detector system	Mandatory in Europe (TS2-211)
Access protector system	Mandatory in Canada (TS2-211)
MySandvik productivity	Remote monitoring system
Electric system	
*Optional voltage	1 000 V (50 or 60 Hz) with DOL starter
*Starting method	Star delta 600 V - 690 V
*Electric cables	Specification TS2-121
Ground fault and overcurrent protection	VYK (N/A USC package)
Auxiliary outlet	1 x 110 V or 1 x 230 V, 16 A
Battery jump start	Optional
Dewatering pump outlet readiness	Max. 8 kW, 380 / 690 / 1 000 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	2 x 60L air receivers requires CTN16 air compressor
*Air compressor	CTN16, 1.6 m ³ /min (7 bar) CT28, 2.8 m ³ /min (7 bar)
Water hose reel with water hose	THR with 32 mm (1 ¼"), 80 meters
Water hose with hooks	32 mm (1 ¼"), 80 meters

Cleaning system

LP system with reel	Up to 15 bar (TS2-343)
HP system with reel	Up to 180 bar (TS2-343)

Greasing systems

Centralized greasing points	Specification 5-2110
Manual system	Greasing gun and cartridge with hose reel
Automatic system	Carrier and boom

Operator's safety cabin / canopy

*Safety canopy	FOPS / ROPS (ISO 3449) ROPS < 15 700 kg
*Low cabin	FOPS / ROPS certification ROPS < 21 500 kg Height 2 670 mm,
Cabin heating	During drilling and tramming
Cabin audio system	CD player / radio / MP3 and loudspeakers
Safety grill	For cabin or canopy

Fire suppression system

Spare hand held fire extinguisher	1 x 6 kg Type ABC
Manual or automatic system	Ansul, dry powder (6 nozzles) Ansul, twin agent (12 nozzles)
Auto. fire suppression system	Sandvik Eclipse™

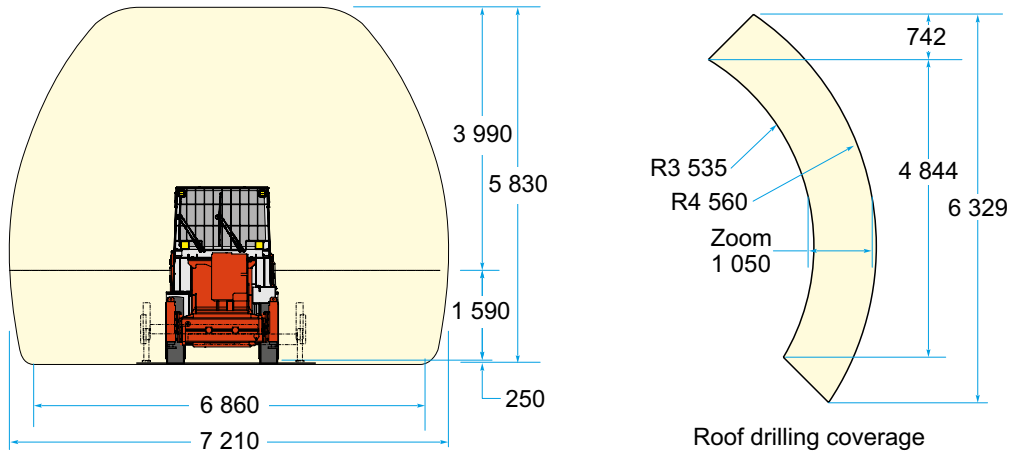
Carrier

*Diesel engine	TCD2012, 74 kW, Tier 3, Stage IIIA
*Foam filled tires	4 pcs
Fast filling and evacuation system	Wiggins (complete)
Brake release	Manual hand pump
Wheel chocks and holders	2 Sets

Extra items

Berg plug and socket	250 A
Spare rock drill	HLX5
Spare wheel assembly	Air or foam filled tire
Special tools for rock drill	HLX5
Warranty extension	One year (excl. Kazakhstan)
Documentation	Extra paper, PDF manuals LAM, LAM, USC, AUS package
Package: Country specific options	
*Package: Arctic	N/A 1 000 V and USC package Specification TS2-209
*Package: Harsh water	Basic or advanced (TS2-049)
*Package: Rotary drilling	Specification TS2-195

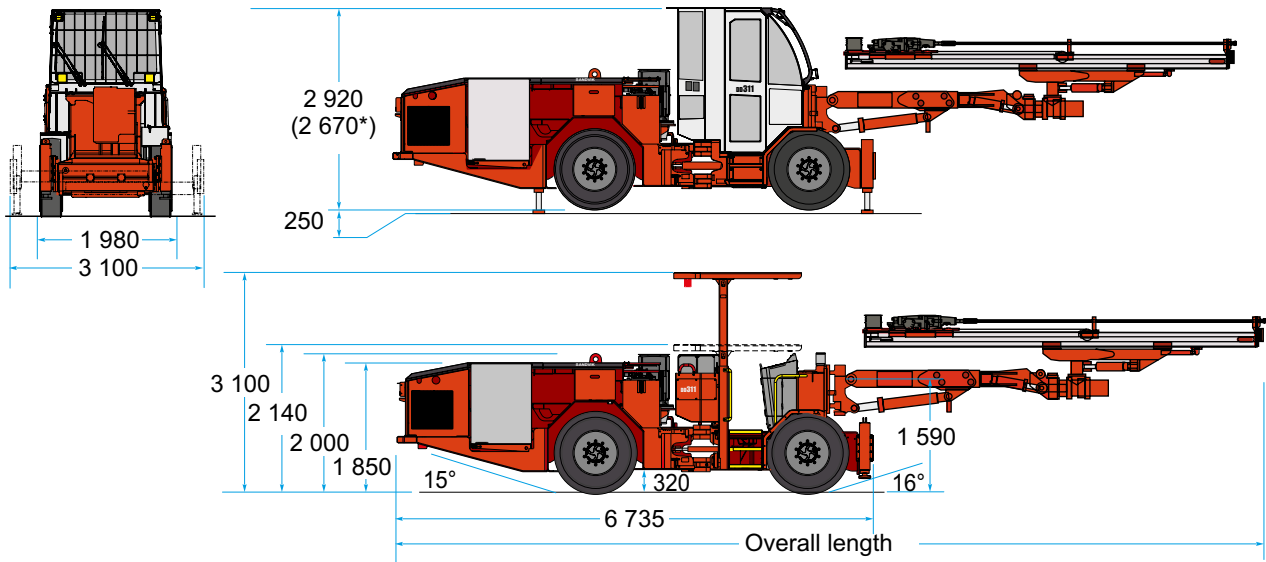
*) replaces standard feature



Roof drilling coverage

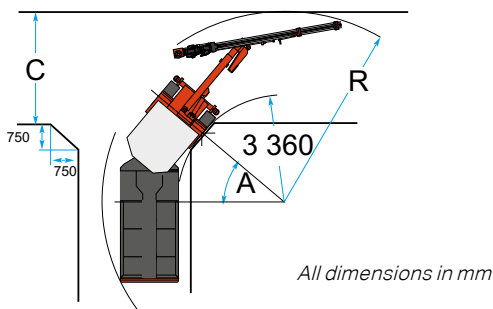
All dimensions in mm

	TF512	TF514	TF516	TFX6/12	TFX8/14
Overall length	mm 12 355	mm 12 555	mm 13 005	mm 11 890	mm 11 890



* With low cabin option

All dimensions in mm



All dimensions in mm

	Angle (A)	Radius (R)	T-cross (C)
DD311 (TF512)	mm 38°	6 290	4 040
DD311 (TF514)	mm 38°	6 425	4 170
DD311 (TF516)	mm 35°	7 000	4 800
DD311 (TFX6/12)	mm 38°	6 230	3 980
DD311 (TFX8/14)	mm 38°	6 230	3 980

Sandvik Mining and Rock Technology reserves the right to make changes to the information on this data sheet without prior notification to users. Please contact a Sandvik representative for clarification on specifications and options.

ROCKTECHNOLOGY.SANDVIK

4. SANDVIK DD311 - DEVELOPMENT DRILL