

DD311 Development drill

Technical Specification



Same carrier through the range

FOPS / ROPS
Cabin, low cabin
or telescopic canopy



Versatile and productive in medium section

The Sandvik DD311 is a single-boom electro-hydraulic jumbo, designed for fast and accurate drilling within drifting and tunneling of 40 m² cross-sections.

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

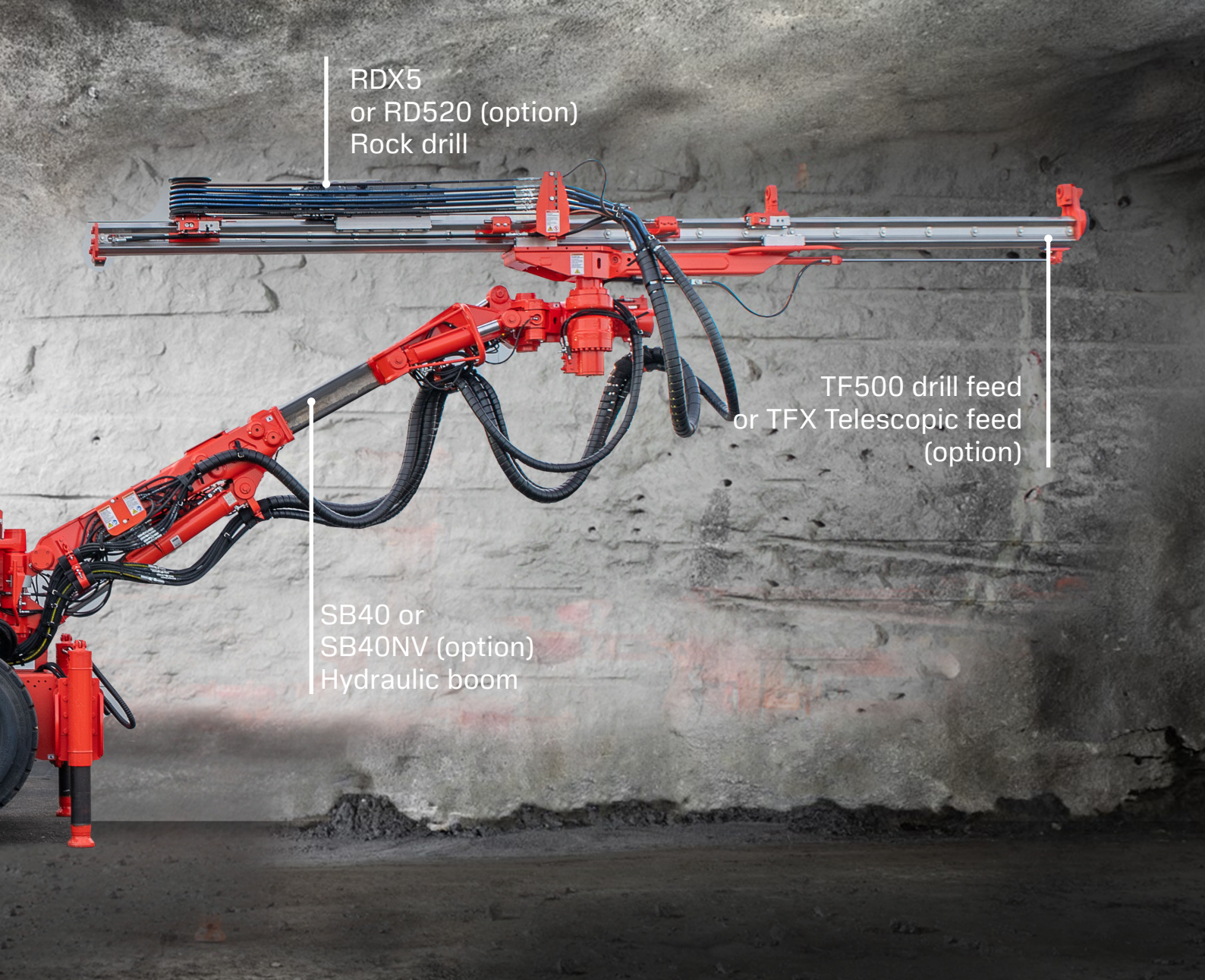
Our new Sandvik RDX5 rock drill now replaces the previous HLX5 model, capitalizing on the existing reliability and efficiency of its predecessor – whilst further improving/lowering operating costs alongside an extended service interval.

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

The DD311 is the latest in Sandvik's range of 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	40 m ² (5.8 x 7.2 m)
Hydraulic rock drill	1 x RDX5, 20 kW
Drilling feed	1 x TF512, 12 - 16 ft
Boom	1 x SB40
Hole length	Up to 4 660 mm
Minimum drift size (H x W)	3 000 x 3 000 mm
T-section width in turning	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



RDX5
or RD520 (option)
Rock drill

TF500 drill feed
or TFX Telescopic feed
(option)

SB40 or
SB40NV (option)
Hydraulic boom

Main benefits

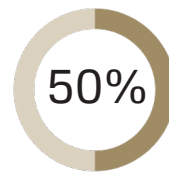
Fast and accurate drilling

DD311 uses hydraulic controls that enable high drilling accuracy of its rock drill to optimize performance and lower operating costs.

Very flexible drill, DD311 comes in three versions: DD311 (diesel tramming and electric drilling), DD311D (diesel engine for tramming and drilling for areas without electrical power) and DD311DE (diesel tramming and electric or diesel drilling).

The rig's compact carrier features a FOPS/ROPS-certified cabin and can tram into small tunnels, while its powerful powertrain provides fast tramming.

DD311 can be used for face drilling, cross cutting or roof drilling for bolting, for development and/or production in room and pillar, cut and fill, stoping or caving mining method



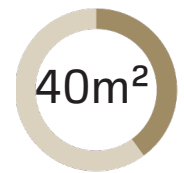
Service interval

Up to 50%* longer service interval vs proven HLX5, for lower OPEX and improved serviceability and reliability



Flexibility

100%* flexibility 3 versions of DD311 to answer customers needs



Large coverage

Up to 40m² without resetting the drill



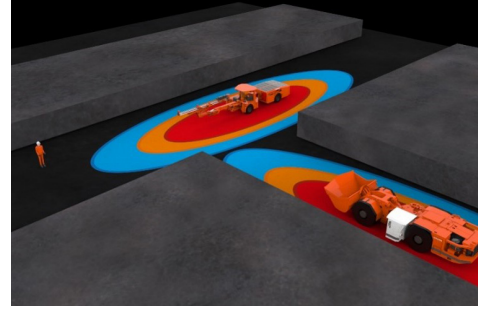
Optimized working environment

Modern and ergonomic cabin for maximum operator comfort with improved visibility and reduced noise level



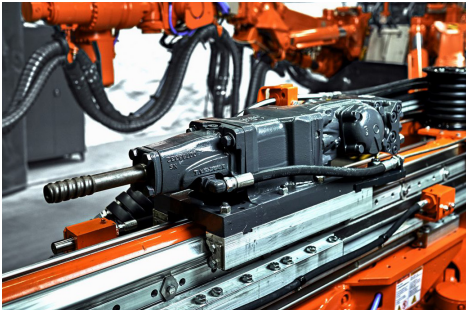
Efficient control system

The THC561 drilling control system with reaming hole selector increases drilling performance and reduces the wear on both rock drill and rock tools for an extended lifetime.



Proximity detection system (PDS level 9)

PDS system is generally designed to inform the operator and to slow down the machine and/or stop the equipment in case of a collision risk with a person or object carrying a tag.



Robust and performing rock drill

Sandvik RDX5 is a robust rock drill for heavy duty rock drilling. It is designed for face and long hole drilling, also used in rock bolting. RDX5 is designed to perform even in the harshest conditions.



Drill plan visualization

Sandvik TCAD+ is delivered with your drill rigs significantly improves drilling accuracy. Therefore, it also decreases the amount of over and under excavation.



Sandvik DrillConnect

Readiness for Sandvik DrillConnect mobile application for improved data management and enhanced maintenance, and My Sandvik digital services.



Sandvik 365 Parts and Services

Proudly keeping you on track!

Sandvik 365 Parts & Services offer a variety of possibilities to enhance your Sandvik DD311 drill's performance.

As an OEM, we provide the best-suited choices to preserve your machine's high performance throughout its lifetime.

These consist of highly skilled service specialists supporting you 365 days a year, all using Sandvik Genuine parts and components complemented by a range of robust tools.

In addition, you get to enjoy the benefits of advanced digital services and a global infrastructure dedicated to keeping your Sandvik fleet on track.

Technical Specification

Hydraulic rock drill

Type of rock drill	RDX5 (TS2-433)
Percussion power	20 kW
Percussion pressure	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 tools	
43 - 45 mm:	T38 - H35 - Alpha 340
48 - 51 mm:	T38 - H35 - Alpha 360 T38 - R39 - Alpha 360
Shank adapter	T38 (male)
Weight	210 kg
Filling device for accumulators	Specification TS2-430

Drilling feed

Type of feed	TF510 Optional	TF512 Standard	TF514 Optional	TF516 Optional	TFX6/12 Optional	TFX8/14 Optional
Feed force	kN 25 kN	25 kN	25 kN	25 kN	25 kN	25 kN
Rod length	mm 3 090	3 700	4 305	4 915	1 830 / 3 700	2 480 / 4 305
Hole depth	mm 2 830	3 440	4 050	4 660	1 610 / 3 440	2 220 / 4 050
Total length	mm 4 690	5 300	5 910	6 520	3 560 / 5 390	4 170 / 6 000
Net weight	kg 470 kg	500 kg	530 kg	560 kg	640 kg	680 kg

Boom

Type of boom	SB40 (TS2-157) Standard	SB40-NV (TS2-257) Optional
Parallel coverage	44.5 m ²	42.7 m ²
Parallelism	Automatic hydraulic	Automatic hydraulic
Boom extension	1 050 mm	1 050 mm
Feed extension	1 350 mm	1 350 mm
Feed tilt	90 °	± 90°
Roll-over angle	358°	358°
Boom weight, net	2 100 kg	2 050 kg

Hydraulic system

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

Drilling control system

Type of control system	THC561 (TS2-361)
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 flushing

Flushing of holes	By Water
Water booster pump type	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 ³ /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) Cabin with safety grill, height 2 920 mm
Operation	Standing drilling, seated trammin
Sound pressure level according to EN 16228	Operator station: 80 dB(A)
Operator's seat	Ergonomic T-back seat
Air conditioning	Cooling only
Tramming cameras	1 x rear frame 2 x on each side of cabin or canopy

Technical Specification

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%= $1:7=8^\circ$)
Gradeability / sideways tilt	Max. $15^\circ / 5^\circ$ (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	Backward alarm
Knowledge Box™	Connectivity solution (TS2-535) My Sandvik insight readiness (TS2-390)
Documentation	1 x Operator's manual 1 x Maintenance 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

Rock drill	
*Type of rock drill	RDX5 (OMS125) RD520 instead of RDX5
Boom	
*Type of boom	SB40NV instead of SB40 (TS2-257)
Boom suspension system	Specification TS15-232
Drill feed	
*Feed lengths	10', 14', 16'
*Telescopic feed	TFX6/12, TFX8/14
Rod retainer	TRR1 incl. safety wire, adds 35 mm length of the feed
Hydraulic system	
*Biodegradable oils	PLANTOHYD SE 68 or PLANTOHYD SE 46 (arctic)
Drilling control system	
Instrumentation	TCAD+ with iSURE I (Option iSure II, III, IV)
Data transfer (WLAN)	For TCAD+ with iSURE®
Indicator lights	For boom movement prevention switch
Access detector system	Mandatory in Europe (TS2-211)
Access protector system	Mandatory in Canada (TS2-211)

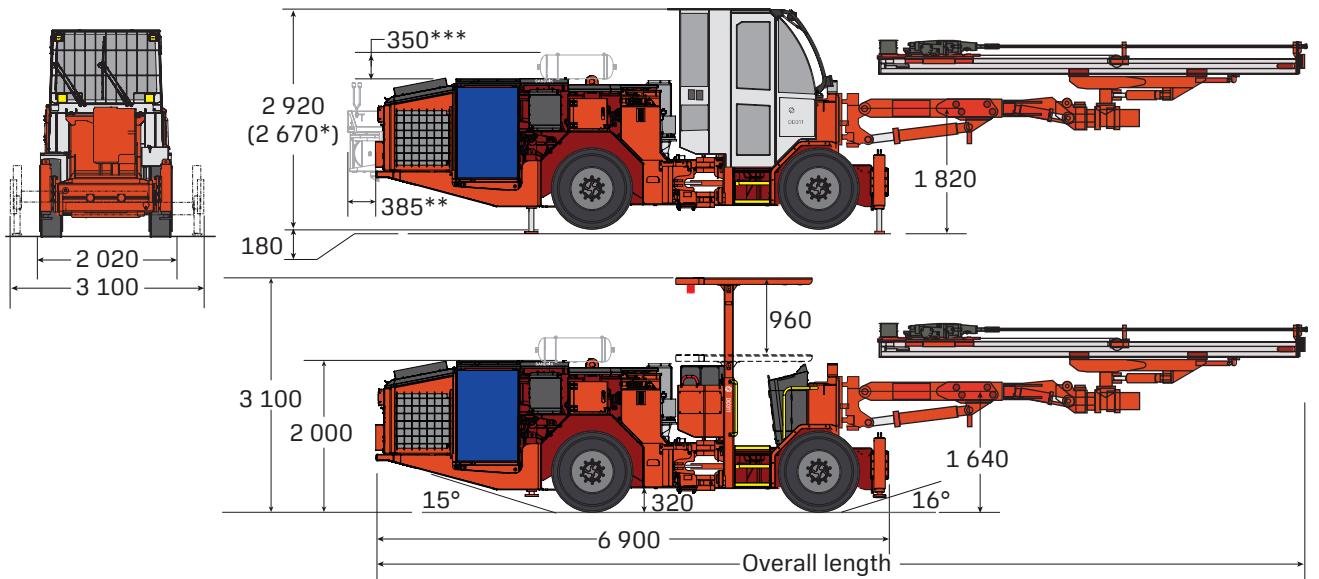
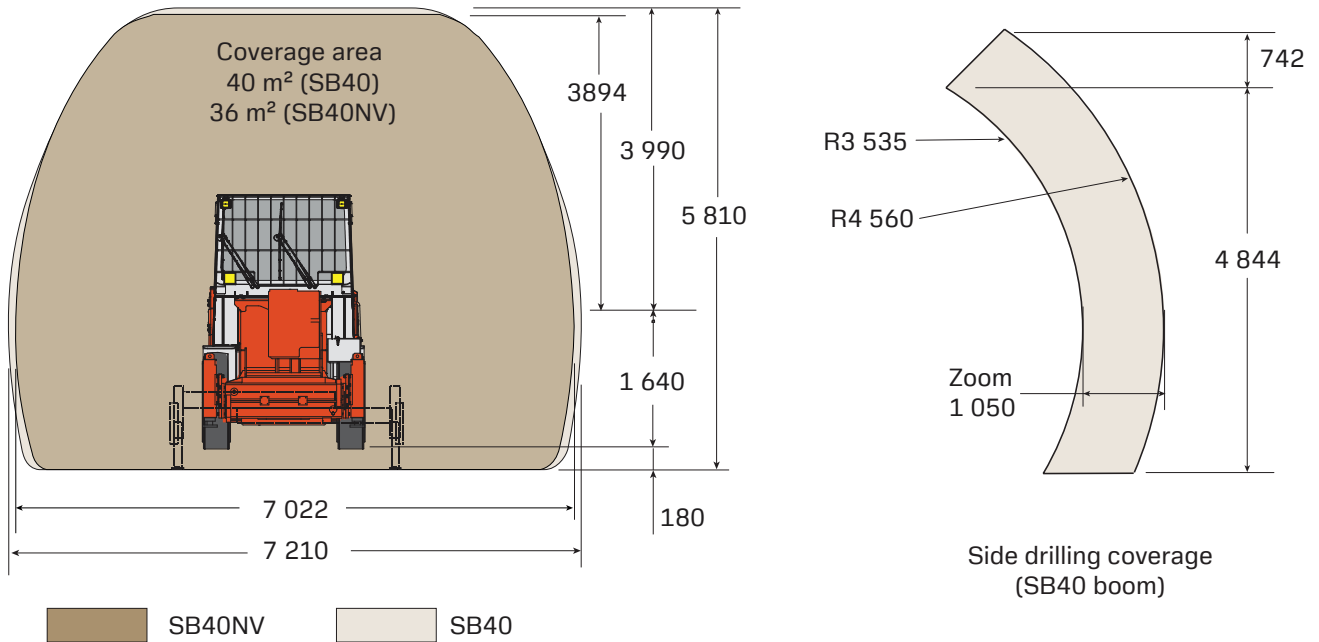
Optional features and packages

Electric system	
*Multivoltage pro	380 - 1000 V, at 50 or 60Hz
*Starting method	Star Delta 600 - 690 V
*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)
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 ³ /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 ³ /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
Seat belt and door interlock	Brake applied or buzzer
Safety grill	For canopy
Fire suppression system	
Hand held fire extinguisher	1 or 2 x 6 kg or 7.7 kg (Type ABC)
Manual or automatic system	Ansul, 6 nozzles (TS2-460)
Auto. fire suppression system	Sandvik Eclipse™ (TS2-461)
Carrier	
*Diesel engine	TCD3.6, 74 kW, Tier4F, Stage IV, Canmet TCD3.6, 74 kW, Stage V TCD3.6 DWG, 75 kW, China 4 with DPF
*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®
Proximity detection system	CANbus Level 9
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 options	LAM, USC, AUS, CE package
*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

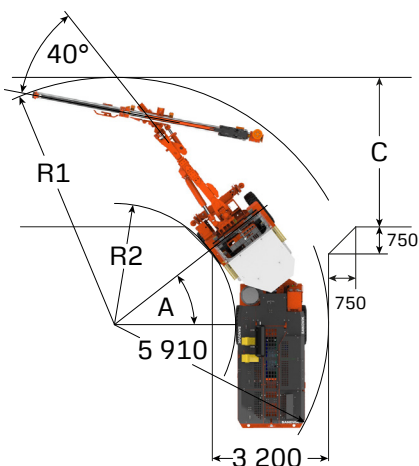
Technical drawings

All dimensions in mm



	TF512	TF514	TF516	TFX6/12	TFX8/14
DD311	12 520 mm	12 720 mm	13 170 mm	12 055 mm	12 055 mm

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



Cornering

	Angle (A)	Internal Radius R1	External Radius R2	T-cross (C)
DD311 (TF512)	38°	3 345	6 420	3 720
DD311 (TF514)	38°	3 345	6 535	3 820
DD311 (TF516)	35°	3 731	6 940	3 950
DD311 (TFX6/12)	38°	3 345	6 250	3 550
DD311 (TFX8/14)	38°	3 345	6 302	3 590

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