

# SANDVIK DD311-40C DEVELOPMENT DRILL

TECHNICAL SPECIFICATION

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Sandvik DD311-40C is a single boom electro-hydraulic jumbo for fast and accurate drilling in drifting and tunneling of 40 m<sup>2</sup> cross sections. The hydraulic controls enable accurate drilling performance with efficient control.

The HLX5 rock drill has proven to be efficient and powerful. Optimal coverage is achieved with the robust 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.



## HYDRAULIC ROCK DRILL

Rock drill	HLX5	
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	1 <sup>3</sup> / <sub>4</sub> - 2 <sup>1</sup> / <sub>2</sub> "
Hole size (cut hole)	76 -127 mm	3" - 5"
Recommended rod	T38 - R32 T38 - Alpha 330 T38 - R35	
Shank adapter	T38 (male)	
Weight	210 kg	462.9 lb
Length	955 mm	37.6 in
Profile height	87 mm	3.4 in
Shank lubrication device	Air / oil mist, SLU-1	
Air consumption	250 - 350 l/min	
Oil consumption	180 - 250 g/h	
Inflating device for accumulator	See spec sheet 2-9110	

## BOOM

Boom	SB40	
Parallel coverage	44.5 m <sup>2</sup>	146 ft <sup>2</sup>
Parallelism	Automatic hydraulic	
Boom extension	1050 mm	41.3 in
Boom weight, net	2100 kg	4630 lb
Roll-over angle	358°	

## FEED

Feed	TF500-12	
Feed force	Max. 25 kN	
Feed extension	1350 mm	53 in

## FEED DIMENSIONS

Feed TF500	Total Length	Hole Length	Rod Length	Net Weight
10 ft*	4660 mm	2830 mm	3090 mm	470 kg
	183.4 in	111.4 in	121.6 in	1036 lb
12 ft	5270 mm	3440 mm	3700 mm	500 kg
	207.4 in	135.4 in	145.6 in	1102 lb
14 ft*	5880 mm	4050 mm	4305 mm	530 kg
	231.4 in	159.4 in	169.4 in	1168 lb
16 ft*	6490 mm	4660 mm	4915 mm	560 kg
	255.5 in	183.4 in	193.5 in	1234 lb

## HYDRAULIC SYSTEM

Powerpack	HPP555 (55kW)	
Percussion pump	100 cc (variable)	
Rotation pump	32 cc (gear)	
Filtration size	20 micron (pressure)	
	10 micron (return)	
Oil tank volume	180 liters (drilling)	47.5 US gal
	55 liters (tramping)	14.5 US gal
Tank filling	Manual pump	
Oil cooler	Water cooled. Cooling capacity 1 x 30 kW	
Tools set for hydraulic adjustment	See spec sheet 2-9100	

## CONTROL SYSTEM

Type	THC560, hydraulic	
Manual boom control	Direct control	
	Fully proportional	
	Hydraulic parallelism	
Drilling control	Manual collaring	
	Feed/percussion control	
	Anti-jamming system	
Automatic cycle	Stop and return automatics	

## ELECTRIC SYSTEM

Total input power	70kW	
Main switch	MSE 5	
IP classification	See spec sheet TS2-132	
Standard voltages	380-690 VAC	
Starting method	DOL Direct on line (not recommended for 380VAC - 480VAC)	
Voltage fluctuation	± 10%	
Automatic cable reel	TCR 1	
Cable reel control (in & out)	Operator station + remote control at rear machine	
Sealed AGM batteries	2 x 12 V, 95 Ah, 850 A	
Front lights (combined working and driving)	2 x 35 W HID + 2 x 70 W (24V)	
Rear working lights	2 x 70 W (24V)	
Rear driving lights	2 x 70 W (24V)	
Parking rear brake/park lights	2 x Red LED	

\*Alternative options features/components \*\* Additional options features/components

## FLUSHING SYSTEM

Flushing	Water	
Water pump type	WBP1	
Water pump capacity	43 l/min	
Water pump inlet pressure	2 bar (Min.)	
Flushing water pressure	10 - 15 bar	
Air compressor	CTN10, 1m <sup>3</sup> /min (7bar)	

## TRAMMING &amp; OPERATOR STATION

Tramming speed	Horizontal: 12 km/h	7.4 mph
	14% = 1:7 = 8° 5.0 km/h	3.1 mph
Gradeability / Inclination	Max. 15° / 5°	
Safety cabin	FOPS/ROPS (ISO3449 / ISO3471)	
	Height 2920 mm High cabin ROPS < 16000 kg	
Operation	Standing drilling, seated tramming	
Sound pressure level according to EN791	Operator station: 80 db(A)	
Seat	Ergonomic, adjustable for tramming including seat belt	
Air conditioning	Filtration 100µ	
Cabin heating	During drilling and tramming	

## CARRIER

Carrier	NC5	
Carrier type	Wheel mounted, frame steering	
Frame steering	± 40°	
Rear oscillation	± 10°	
Ground clearance	320 mm	12.5 in
Diesel engine	Deutz BF4M2011, 62kW, Tier 2, Stage 2	
Diesel engine control	Electronic, EMR	
Exhaust catalyzer	Standard	
Transmission	Hydrostatic, automotive	
Axles	Spicer 112 with extended differential breathers	
Tires	12.00 - 20	
Service brakes	Hydrostatic and positive braking	
Brakes parking emergency	Hydraulic oil immersed multiple disc brakes on both brakes	
Fuel tank	80 liters	21.1 US gal
Hydraulic jacks	Telescopic (front), Vertical (rear)	
Total weight Depending on options	Around 15500 kg	Around 34170 lb

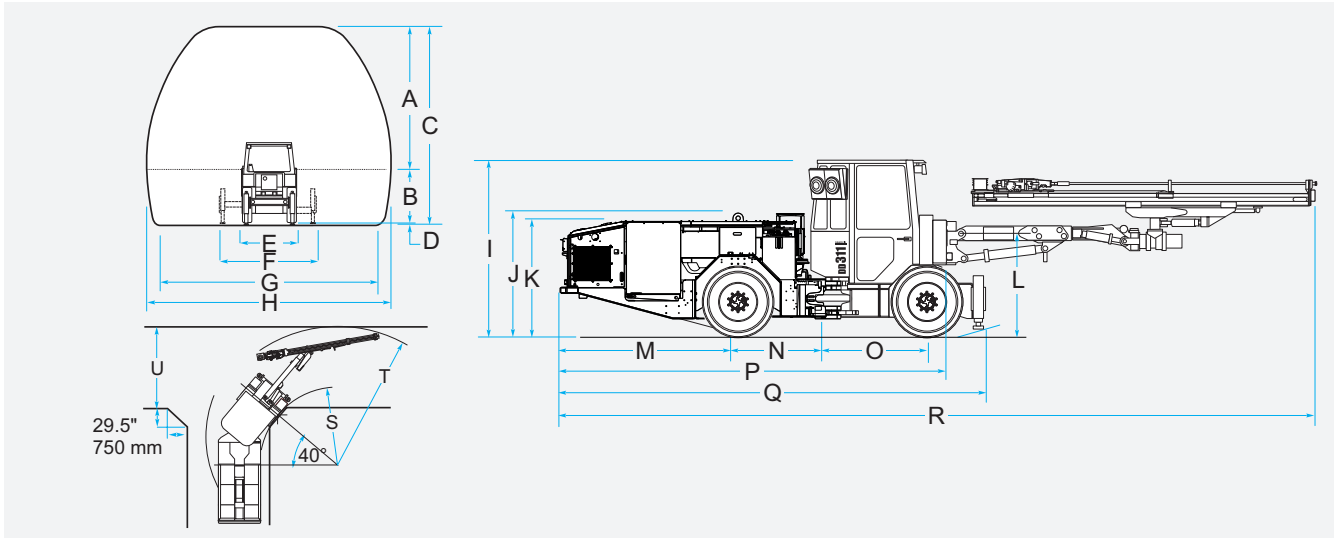
## OPTIONS &amp; PACKAGES

<b>Boom</b> Boom*	SB40NV instead of SB40
<b>Feed</b> TF feed lengths* Telescopic feed*	10, 14, 16 ft TFX6/12, 8/14

## OPTIONS &amp; PACKAGES

<b>Bolting option</b> Rod retainer**  Two rod system**	TRRI included safety wire Adds 35mm length of the TF-Feed TRS included TRR1 & Safety wire
<b>Instrumentation</b> Angle, position and depth measurement with data logging** MWD analysis**	TCAD + LOG with iSure I - II design reporting iSure III Analysis (with TCAD option)
<b>Hydraulic system</b> Tank filling* Biodegradable oils*	Electric pump Shell Naturelle HFE46/HFE68
<b>Control system</b> Constant speed drilling**	Replaces feed / percussion control
<b>Cleaning system</b> Pressure cleaning system with reel** HP cleaning system with reel**	Max. 15 bar Max. 180 bar
<b>Greasing system</b> Centralized greasing points** Greasing unit with pump, reel and nozzle** Automatic greasing system**	Carrier Manual Carrier and booms
<b>Electric system</b> Optional voltage* Starting method*  Automatic phase inverter Electric cable rubber or PUR** Auxiliary outlet** Sensors in the jacks** Battery jump start** Extra working lights (front)** Amber strobe light**	1000 VAC, 50 Hz Star delta starter (N/A for 660/690VAC and 1000VAC) Soft starter N/A >600VAC N/A for US/CAN and 1000 VAC Depending on voltage (specTS2-121) 1 x 230 VAC on main switchgear door Indicator light for jacks up  2 x 35 W HID (24V) LED (24V)
<b>Flushing system</b> Air mist flushing** Water flushing with air cleaning of hole** External air connection** Water hose reel with water hose** Water hose with hooks** Additional air for hole cleaning with air**	See spec 5-9510 External water + 2x60l air receivers External water + CTN16 (11kW) IP5 air cleaner THR + 32 mm (1 <sup>1</sup> / <sub>4</sub> ); 80 meters 32 mm (1 <sup>1</sup> / <sub>4</sub> ); 80 meters 2 x 60l air receiver
<b>Fire suppression system</b> Handheld fire extinguisher** Manual fire suppression system** Auto fire suppression system**	1 x 6kg, Type ABC, Desautel Ansul, 6 nozzles (incl. 1 x extinguisher) Ansul, 6 nozzles (incl. 1 x extinguisher)
<b>Tramming &amp; operator station</b> Lowered cabin* (Seated operation) Seat* CD player/radio/MP3** Front screen protection bar**	Height 2670 mm Low cabin ROPS < 18000 kg T back seats Requires 12VAC outlet
<b>Carrier</b> Diesel engine* Tires* Fast filling systems** Wheel chocks and holders** Brake release** Reversal rotation for cleaning**	Deutz TCD2012, 74kW, Tier 3, Stage 3A Foam filled tires Complete 2 pieces Manual hand pump Engine cooler and fan tramming oil cooler fan
<b>Extra items</b> Ground fault and overcurrent protection** Spare rock drill** Spare wheel assembly** Special tools for rock drill** Documentation**	VYK Standard or foam filled Extra manuals
<b>Packages</b> Regional packages** Harsh water package**	LAM, USC, AUS, EUR Basic or advanced (spec TS2-049)

\*Alternative options features/components \*\* Additional options features/components



DIMENSIONS - DRILLING									
Model	Units	COVERAGE AREA							
		A	B	C	D	E	F	G	H
DD311-40	mm	3990	1590	5830	250	1875	3070	6860	7210
	in	157	62.5	229.5	9.8	73.8	120.8	270	283.8

DIMENSIONS - TRAMMING														
Model	Units	MACHINE DIMENSIONS										CORNERING		
		I	J	K	L	M	N	O	P	Q	R	S	T	U
DD311-40C TF510*	mm	2920	1950	1830	1590	2810	1500	1500	6075	6735	11820	3180	6168	4245
	in	115	76.7	72	62.5	110.6	59	59	239.1	265.1	465.3	125.2	242.8	167.1
DD311-40C TF512	mm	2920	1950	1830	1590	2810	1500	1500	6075	6735	12370	3180	6290	4245
	in	115	76.7	72	62.5	110.6	59	59	239.1	265.1	487	125.2	247.6	167.1
DD311-40C TF516*	mm	2920	1950	1830	1590	2810	1500	1500	6075	6735	13020	3180	7000	4800
	in	115	76.7	72	62.5	110.6	59	59	239.1	265.1	512.5	125.2	275.5	188.9
DD311-40C TFX6/12	mm	2920	1950	1830	1590	2810	1500	1500	6075	6735	11905	3180	6230	4245
	in	115	76.7	72	62.5	110.6	59	59	239.1	265.1	468.6	125.2	245.2	167.1
DD311-40C TFX8/14	mm	2920	1950	1830	1590	2810	1500	1500	6075	6735	11905	3180	6230	4245
	in	115	76.7	72	62.5	110.6	59	59	239.1	265.1	468.6	125.2	245.2	167.1

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