



DS311 ROCK SUPPORT BOLTER

TECHNICAL SPECIFICATION

Sandvik DS311 is the most compact mechanized rock bolter on the market. Its unique rock bolting concept delivers the best ratio of rock bolt length to drift height.

Sandvik DS311 is a one-man-operated electro-hydraulic rock bolter for rock reinforcement in underground mines with small and medium cross sections. The operator works below supported ground while protected under a FOPS / ROPS certified cabin structure. Mechanization of the bolting process ensures efficient, constant and durable rock bolt integrity.

Built from proven and reliable components, Sandvik DS311 is designed for high availability. Its core is the reputable Hydrastar 200 rock drill, which enables a fast performance.

Versatility is also one of the rock bolter's key characteristics. Sandvik DS311 can install most common rock bolts ranging in length from 1.5 to 3 meters (5 to 10 feet).

KEY FEATURES

Coverage area	6 180 x 2 100 mm
Hydraulic rock drill	1 x H200, 10 kW
Bolting head	1 x TUC, (5' to 10')
Boom	1 x B26XLB
Turning width (T-section)	4 510 mm (with TUC5)
Transport width	1 875 mm
Transport height (canopy)	2 140 mm / 3 100 mm
Transport height (cabin)	2 920 mm or 2 670 mm
Transport length	11 430 mm (with TUC5)
Total weight	15 000 - 18 000 kg depending on options



HYDRAULIC ROCK DRILL

Type of rock drill	H200 (TS2-234)
Percussion power	10 kW
Percussion pressure	Max. 200 bar
Percussion rate	40 - 65 Hz
Rotation speed	Max. 300 rpm
Rotation torque	Max. 420 Nm
Hole size	33 - 41 mm
Recommended rod	R32 - H25 - R25
Shank adapter	R32 (female)
Weight	95 kg
Inflating device for accumulator	Specification 2-9110

BOLTING HEAD

		TUC5	TUC6	TUC7	TUC8	TUC10
Bolt length	mm	1 525	1 830	2 135	2 440	3 050
Drill steel length	mm	1 870	2 175	2 475	2 795	3 450
Hole depth	mm	1 680	1 980	2 290	2 550	3 200
Total length (drilling)	mm	2 640	2 950	3 310	3 670	4 240
Overall length	mm	2 975	3 355	3 650	4 165	4 765
Operating height (min.)	mm	3 175	3 555	3 850	4 365	4 965
Bolt carousel capacity		10 to 15 rockbolts				
Total weight	kg	1 110	1 150	1 180	1 230	1 300

BOOM

Type of boom	B26XLB (TS2-207)
Boom extension	1 700 mm
Boom weight, net	1 500 kg
Roll-over angle	360°

HYDRAULIC SYSTEM

Powerpack	HPP355 (55 kW)
Filtration size (pressure / return)	20 µ / 10 µ
Oil tank volume	180 liters
Oil tank filling pump	Manual
Cooler for hydraulic oil	OW30 oil-to-water (30 kW)
Tool set for hydraulic adjustment	Specification 2-9100

DRILLING CONTROL SYSTEM

Type of control system	THC560 (TS2-361)
Operating principle	Hydraulic control
Drilling anti-jamming	Automatic
Drilling rotation speed	Adjustable at control panel
Drilling feed thrust pressure	Adjustable at control panel
Drilling percussion pressure	Reduced for collaring Full for drilling (adjustable)
Drilling water flushing	Automatic with percussion start
Drilling water / air flushing	Manual selection
Bolting feed thrust pressure	Dedicated bolt system (split set)
Bolting rotation speed	Adjustable
Bolting tightening torque	Adjustable
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 of unit
Sealed AGM batteries	2 x 12 V, 95 Ah
Cable plug holder	On central rear hood
Front lights (combined working and driving)	4 x 50 W LED (4 200 lm, 6 000 K)
Rear lights (combined working and driving)	4 x 50 W LED (4 200 lm, 6 000 K)
Search light	Remoted with cabin: 1 x 40W LED (2 300 lm, 5 700 K) Manual with canopy: 1 x 17W LED (600 lm, 6 000K)
Rear brake / parking lights	2 x Red LED

AIR AND WATER SYSTEM

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	CTN10, 1 m ³ /min (7 bar)
Oil consumption	100 g/h
Air consumption	250 l/min

OPERATOR'S SAFETY CABIN

Standard cabin	FOPS / ROPS (ISO 3449 / 3471) Height 2 920 mm High cabin ROPS < 21 000 kg
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

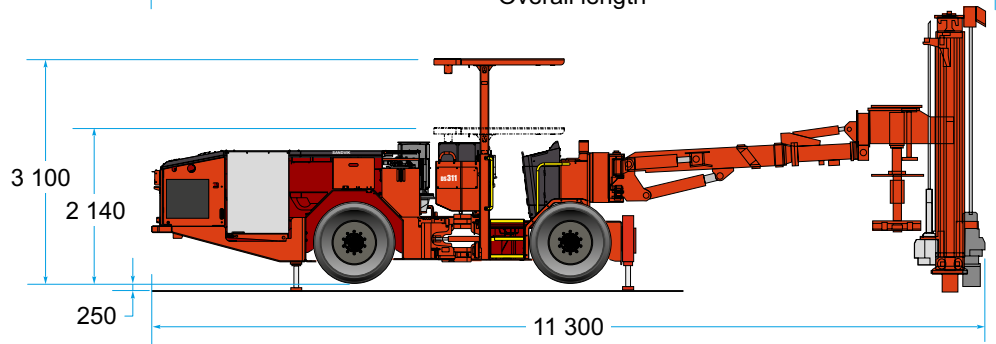
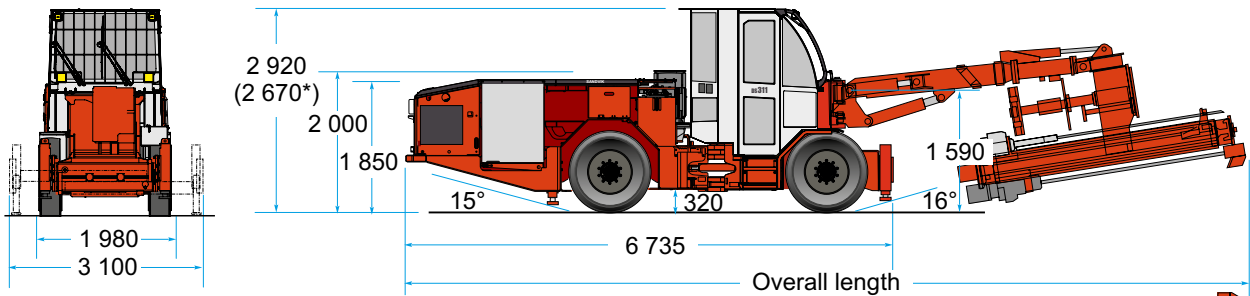
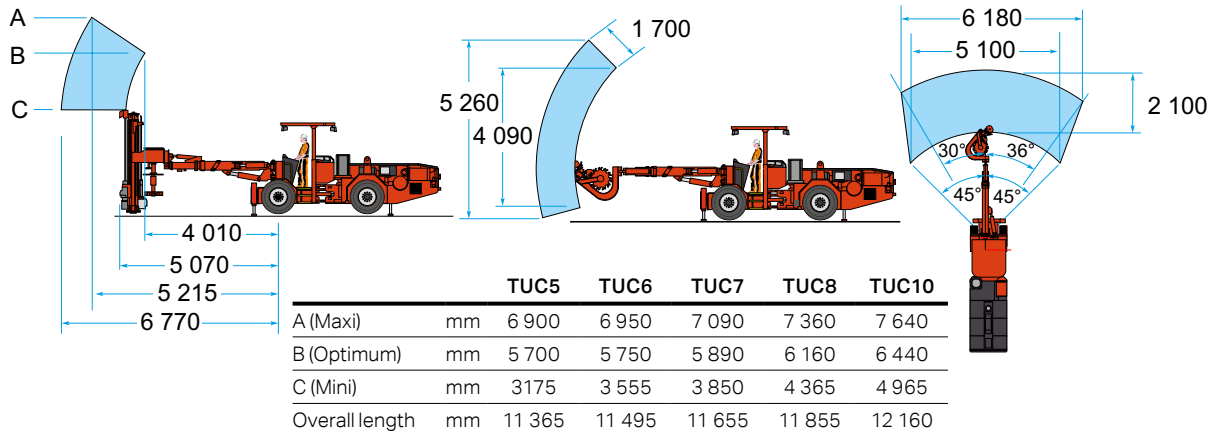
Type of carrier	NC5
Steering system	Frame steering
Carrier articulation	± 38°
Rear axle oscillation	± 10°
Ground clearance	320 mm
Diesel engine	BF4M2011 (EMR), 62 kW, Tier 2, Stage II
Exhaust catalyzer	Standard
Transmission	Hydrostatic, automotive
Axles	Dana spicer 112 with extended differential breathers
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)
Bolt storage	Left side
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

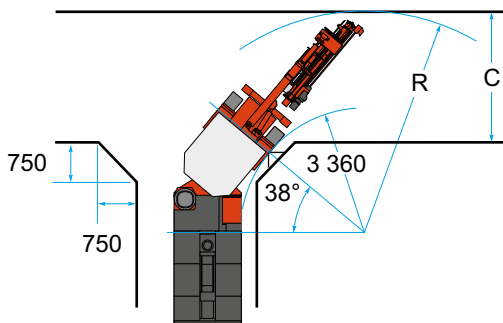
Hydraulic rock drill	
*RHR50 rotary drill	Instead of H200 (drilling line)
Boom	
*Type of boom	B26B boom instead of B26XLB
Bolting option	
*Bolting alternatives	GCR, GCC, WI, S, M
*"In the hole" resin cartridges injection	For GCR bolting system (TS2-290)
*H200 rock drill i/o HH200	For S bolting system
Two bolt lengths carousel	For TUC10 and TUC8
Screen handler	On the main boom (TS2-355) with hooks for mesh on carrier side
Hydraulic system	
*Oil tank filling pump	Electric
Drilling control system	
Access detector system	Mandatory in Europe (TS2-211)
Access protector system	Mandatory in Canada (TS2-211)
MySandik 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
Amber flashing light	N/A USC package LED (24 V)

OPTIONAL FEATURES AND PACKAGES

Air and water system	
Air mist flushing kit	Specification TS2-285
*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 (1¼"), 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 (TS2-322)
Automatic system	Carrier
Operator's safety cabin / canopy	
*Safety canopy	FOPS / ROPS (ISO 3449) ROPS < 15 700 kg FOPS / ROPS certification ROPS < 21 500 kg Height 2 670 mm, During drilling and tramming
*Low cabin	CD player / radio / MP3 and loud-speakers
Cabin heating	For canopy or cabin
Cabin audio system	
Safety grill	
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 system	Complete
Brake release	Manual hand pump
Wheel chocks and holders	2 Sets
Extra Items	
Berg plug and socket	250 A
Automatic brake application	ABA brake
Spare rock drill	H200
Spare wheel assembly	Air or foam-filled
Special tools for rock drill	H200
Warranty extension	One year (excl. Kazakhstan)
Documentation	Extra paper or PDF manuals
Package: Country specific options	LAM, USC, AUS, CE
*Package: Arctic	N/A 1 000 VAC and USC package Specification TS2-195
*Package: Harsh water	Basic or advanced (TS2-049)
*) replaces standard feature	



* With low cabin option
All dimensions in mm



	B26BXL boom		B26B boom**	
	Radius (R)	T-cross (C)	Radius (R)	T-cross (C)
DS311 (TUC5)	mm 7 320	4 640	6 610	4 190
DS311 (TUC6)	mm 7 400	4 690	6 690	4 240
DS311 (TUC7)	mm 7 560	4 790	6 850	4 340
DS311 (TUC8)	mm 7 810	4 950	7 100	4 500
DS311 (TUC10)	mm 8 170	5 180	7 460	4 730

** Optional boom
All dimensions in mm

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4. SANDVIK DS311 - ROCK SUPPORT BOLTER