

DD321 UNDERGROUND DRILL RIG

TECHNICAL SPECIFICATION

DD321 is a compact two-boom jumbo for demanding conditions and multiple applications. The jumbo is capable of face drilling, cross-cut drilling and bolt hole drilling.

The drill's various options make it suitable for a range of conditions and tasks. The proven and robust SB40 boom provides coverage of 49 m². A selection of fixed and telescopic feeds are available for a variety of applications.

The new rock drill RD520 provides smooth and efficient drilling.

DD321 offers a new look and improved serviceability and usability over predecessors DD320 and DD420.

KEY FEATURES

Coverage area	49 m ² (8 820 x 6 060 mm)
Hydraulic rock drills	2 x RD520, 20 kW
Drilling feeds	2 x TF512, 12 - 16 ft
Booms	2 x SB40
Control system	2 x THC561
Hole length	Up to 4 660 mm
Drift size class (H x W)	4 000 mm x 4 000 mm
Turning width (T-section)	3 500 mm
Transport width	2 150 mm
Transport height	2 350 mm / 3 200 mm
Transport length	12 350 mm
Total weight	22 000 kg depending on options



HYDRAULIC ROCK DRILL

Type of rock drill	RD520 (TS2-235)
Percussion power	20 kW
Percussion pressure	Max. 220 bar
Percussion rate	74 Hz
Stabilizer	Hydraulic
Rotation speed	Max. 270 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 - R32 - H35 T38 - R35 - R39
Shank adapter (male)	T38
Weight	225 kg
Length	1 010 mm
Profile height	90 mm

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	2 x HPP555 (55 kW)
Filtration (pressure /return)	20 µ /10 µ
Oil tank volume	270 liters (drilling)
Oil tank filling pump	Electric
Cooler for hydraulic oil	OW30 oil-to-water (2 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	Feed /percussion control Flushing control
Automatic cycle	Stop and return automatics

ELECTRIC SYSTEM

Standard voltage	380 - 690 V (± 10%)
Total installed power	135 kW
Main switchgear	MSE 20
IP classification	Specification TS2-132
Starting method	Star delta 380 V - 690 V Soft starter 575 V
Automatic cable reel	TCR3E with spooling system
Cable reel control	Operator station and remote control at rear machine
Batteries	2 x 12 V, 145 Ah
Front and rear lights (combined working and driving)	10 x 50 W LED (4 200 lm, 6 000 K)
Parking rear brake /park lights	2 x Red LED
Stair and service light	LED (24 V)

AIR AND WATER SYSTEM

Flushing of holes	By water
Water booster pump	WBP2
Water pump capacity	100 l/min
Water pump inlet pressure	2 bar
Flushing water pressure	Min. 15 bar
Shank lubrication device	SLU2 (air / oil mist)
Air compressor	CYN10, 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)
Type of cabin	Standard height
Unit height in tramming	2 950 mm
Operation	Standing drilling, seated tramming
Operator's seat	For tramming Adjustable with seat belt
Sound pressure level according to EN 16228	Operator station: 80 dB(A)
Air conditioning	Standard
Windows	Safety laminated, with wiper Stainless steel windows frames
Front screen protection grill	Standard

CARRIER

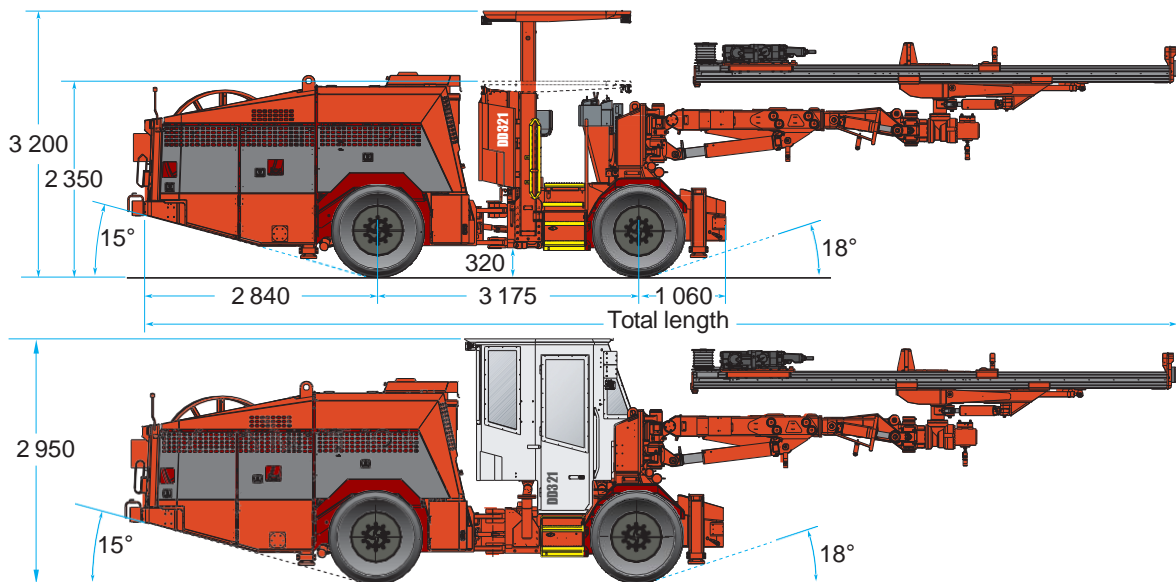
Type of carrier	NC7 (frame-steered)
Carrier articulation	± 40°
Rear axle oscillation	± 10°
Ground clearance	320 mm
Diesel engine	MB OM904LA, 110 kW, Tier 3, Stage IIIA
Exhaust catalyzer	Standard
Transmission	Hydrodynamic, Spicer T20 000
Axles	Spicer
Tires	12.00-20
Service brakes	SAHR type, fail save wet disc brakes
Parking and emergency brakes	SAHR type, fail save wet disc brakes
Tramming speed	16 km/h (Horizontal) 6 km/h (14% = 1:7 = 8°)
Gradeability /sideways tilt	Max. 15° /5° (according to EN 16228-2)
Rod rack on carrier side	For 10 - 16 ft rods and two shank adapters
Fuel tank	140 liters
Carrier stabilization	2 x Vertical (front) 2 x Vertical (rear)
Centralized greasing points	Specification (TS2-463)
Hand held fire extinguisher	1 x 7.7 or 9 kg (type ABC)
Tramming alarm	Standard
My insight	Remote monitoring system
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 Toolman USB key

OPTIONAL FEATURES AND PACKAGES

Electric system	
*Optional voltage	1000 V (50 or 60 Hz) with Direct-On-Line starter
*Electric cable	Specification TS2-121
Ground fault and overcurrent protection	VYK
Auxiliary outlet	1 x 110 V or 1 x 230 V, 16 A
Battery jump start	Option
Dewatering pump outlet	Site voltage 380 - 690 V (Max. 8 kW)
readiness Amber flashing light	LED (24 V)
Light indicator for boom movement prevention switch status	2 x on both sides (green or red depending status), 1 x indicator inside cabin
Air and water system	
Air mist flushing kit	IP5 air cleaner and flow control
Flushing flow control	2 booms
*End of hole air flushing	Including CT28 air compressor
Water hose reel with water hose	THR2.5E with 38 mm (1 ½"), 65 m Quick coupling
Compressed air outlet	
Cleaning system LP system with reel	Up to 15 bar (TS2-343)
HP system with reel	Up to 180 bar (TS2-343)
Greasing systems	
Manual system	Greasing unit with pump, reel and nozzle (TS2-463)
Automatic system	Carrier and booms (TS2-463)
Operator's safety cabin / canopy	
*Safety canopy	FOPS (ISO 3449)
*Stainless steel cabin	FOPS (ISO 3449)
Cabin heating	During tramming and drilling
Cabin audio system	CD player / radio / MP3 and loud- speakers and 12V outlet
Boot washer	At cabin entrance
Fire suppression system	
Additional fire extinguisher	1 x 7.7 or 9 kg (type ABC)
Manual or automatic system	Ansul, 6 nozzles (TS2-460)
Automatic system	Eclipse™ (TS2-461)
Carrier	
Reduced tramming speed	3 rd gear lockout
*Diesel engine	QSB4.5, 119 kW, tier 4i, Stage IIIB Cummins B4.5, 129 kW, Stage V 4 pcs Wiggins (complete)
*Foam filled tires Fast filling and evacuation system	
Wheel chocks and holders	2 Sets
Tramming camera	Rear and side
Rod rack and shank holder	On carrier side
Extra items	
Spare rock drill	RD520, RDX5
Spare wheel assembly	12.00-20 or foam filled tire
Special tools for rock drill	Complete tool set
	Field tool set
Warranty extension	One year (excl. Kazakhstan)
Documentation	Extra paper, CATbase, Link one manuals
iSURE®	iSURE II Plus annual license (Advanced drill and blast design including round reports) iSURE III Premium annual license (MWD including Pull out analyses)
Package: Country specific options	LAM, USC, AUS package
*Package: Harsh water	Basic or advanced (Spec. TS2-049)
*) Replaces standard feature	

OPTIONAL FEATURES AND PACKAGES

Rock drill *Type of rock drill	RDX5 (OMS80) instead of RD520
Drilling feed *Feed length *Telescopic feed Rod retainer	14', 16' TFX6/12, TFX8/14 TRR1 incl. safety wire, add 35 mm length of the feed TRS included TRR1 with safety wire.
Two rodssystem	
Boom *Type of boom	SB40NV instead of SB40
Hydraulic system *Oil tankfilling pump Vaccum pump	Manual For hydraulic system
Drilling control system Constant speed drilling Reaming modeswitch	Replaces feed /percussion control Selection switch between standard / reaming hole drilling TMS D2 for TFX-feed TMS DDSS2 for TF-feed TCAD+ with iSURE I Basic (Drill plan design)
Instrumentation	Mandatory in Europe (TS2-211)
Access detector	



Drilling feed	Radius (R)	T-cross (C)
TF500-12'	6 300 mm	3 700 mm
TF500-14'	6 450 mm	3 850 mm
TF500-16'	6 600 mm	4 000 mm
TFX6/12	6 250 mm	3 600 mm
TFX8/14	6 250 mm	3 600 mm

