



# DD421 DEVELOPMENT DRILL

## TECHNICAL SPECIFICATION

Sandvik DD421 is a two boom electro-hydraulic jumbo for fast and accurate drilling in drifting and tunneling of 8 - 60 m<sup>2</sup> cross sections.

The improved hydraulic control system with new features enables accurate drilling performance with efficient control.

The new Sandvik RD525 rock drill has proven to be an efficient drill with smooth penetration and powerful drilling performance.

Optimal coverage is achieved with the proven Sandvik SB60 booms. The drilling performance can be improved with optional instrumentation.

### KEY FEATURES

Coverage area	60 m <sup>2</sup> (9 970 x 6 685 mm)
Hydraulic rock drills	2 x RD525, 25 kW
Drill feeds	2 x TF512, 12 - 16 ft
Booms	2 x SB60
Control system	THC561, hydraulic
Hole length	Up to 4 660 mm
Drift size class (H x W)	4 500 mm x 4 500 mm
Turning width (T-section)	3 770 mm
Transport width	2 310 mm
Transport height	3 420 mm / 2 680 mm
Transport length	13 050 mm
Total weight	24 500 kg depending on options



## HYDRAULIC ROCK DRILL

Type of rock drill	RD525 (TS2-236)
Percussion power	25 kW
Percussion pressure	Max. 235 bar
Percussion rate	93 Hz
Stabilizer	Hydraulic
Rotation speed	Max. 280 rpm (with OMS125)
Rotation torque	625 Nm (with OMS125)
Hole size (drifting)	43 - 64 mm
Hole size (cut hole)	76 - 127 mm
Recommended rod	T38 - H35 - R32 T38 - R39 - R35
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	SB60 (TS2-264)
Parallel coverage	54 m <sup>2</sup>
Parallelism	Automatic hydraulic
Boom extension	1 200 mm
Feed extension	1 350 mm
Boom weight, net	2 250 kg
Roll-over angle	358°
Bolt hole drilling	Yes

## HYDRAULIC SYSTEM

Powerpack	2 x HPP575 (75 kW)
Filtration (pressure / return)	20 μ / 10 μ
Oil tank volume	270 liters
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	180 kW
Main switch gear	MSE 20
IP classification	Specification TS2-132
Starting method	Star delta 380 V - 690 V Soft starter 575 V
Automatic cable reel	TCR4E + spooling (in. 135 kW) TCR4EHD + spooling (in. 180 kW)
Cable reel control	Operator station and remote control at rear machine
Auxiliary outlet	1 x 110 V or 1 x 230 V, 16 A
Battery jump start	Standard
Cable plug holder	Hook type holder and cable pull sock
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 ans service light	LED (24 V)

## AIR AND WATER SYSTEM

Flushing of holes	Water flushing flow and pressure control. Air-mist flushing , option
Water booster pump	WBP2HP
Water pump capacity	185 l/min
Water pump inlet pressure	2 bar (Min.)
Flushing water pressure	10 - 15 bar
Shank lubrication device	SLU2 (air / oil mist)
Air compressor	CTN10, 1.0 m <sup>3</sup> /min (7 bar)
Compressed air outlet	Quick coupling
Rock drill oil consumption	180 - 250 g/h
Rock drill air consumption	250 - 350 l/min

## OPERATOR'S SAFETY CABIN

Standard cabin	FOPS / ROPS (ISO 3449)
Type of cabin	Standard height
Unit height in tramming	3 150 mm
Operation	Standing drilling, seated tramming
Operator's seat	For tramming Adjustable with seat belt
Sound pressure level EN 16228	Cabin: 72 dB(A)
Air conditioning	Fluorinated gas : R134a Filled weight: 1.95 kg CO <sub>2</sub> equivalent: 2.7885 tons Global Warming Potential: 1430
Windows	Safety laminated, with wiper Stainless steel windows frames
Front screen protection grill	Standard

**CARRIER**

Type of carrier	NC7W (frame-steered)
Carrier articulation	± 40°
Rear axle oscillation	± 8°
Ground clearance	420 mm
Diesel engine	MB OM904LA, 110 kW, Tier 3, Stage IIIA
Exhaust catalyzer	Standard
Transmission	Hydrodynamic, Spicer T20000
Axles	Spicer
Tires	14.00-24 PR28
Service brakes	SAHR type, fail safe wet disc brakes
Parking and emergency brakes	SAHR type, fail safe 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
Knowledge Box™	Connectivity solution (TS2-535)
Colour scheme	Sandvik
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 Toolman USB Key

**OPTIONAL FEATURES AND PACKAGES****Rock drill**

*Type of rock drill	RDX5 instead of RD525 RD520 instead of RD525
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**Feed**

*Feed length	14', 16'
*Telescopic feed	TFX6/12, TFX8/14, TFX10/16
Rod retainer	TRR1 incl. safety wire, add 35 mm length of the feed
Two rods system	TRS included TRR1 with safety wire.

**Hydraulic system**

*Powerpack	HPP555 (55 kW) with RD520
*Oil tank filling pump	Manual
Cooler for hydraulic oil	OA30 oil-to-air (2 x 30 kW)
Vaccum pump	For hydraulic system

**Drilling control system**

Constant speed drilling	Replaces feed / percussion control
Reaming mode switch	Selection switch between standard / reaming hole drilling
Instrumentation	TMS D2 for TFX-feed TMS DDSS2 for TF-feed TCAD+ with iSURE I Basic (Drill plan design)
Access detector	Mandatory in Europe (TS2-211)

**OPTIONAL FEATURES AND PACKAGES****Electric system**

*Optional voltage	1 000 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)
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 1/2"), 65 m

**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	Lincoln (complete)

**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
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	Sandvik Eclipse™ (TS2-461)

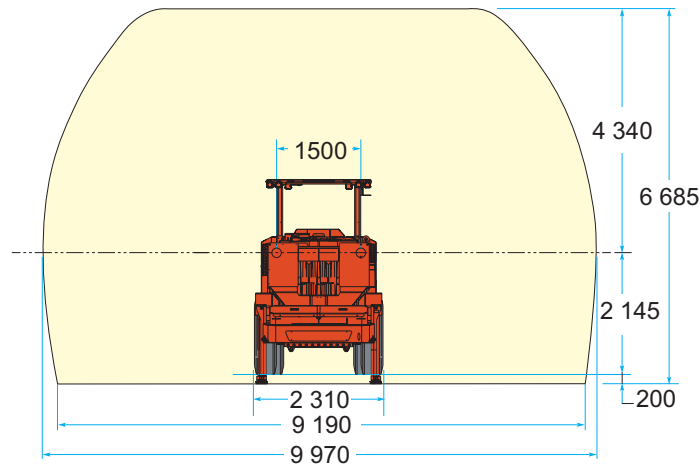
**Carrier**

Reduced tramming speed	3 rd gear lockout
*Diesel engine	QSB4.5, 119 kW, tier 4i, Stage IIIB
*Foam filled tires	4 pcs
Fast filling and evacuation system	Wiggins (complete)
Wheel chocks and holders	2 Sets
Tramming camera	Rear and side
Rod rack	On carrier side

**Extra items**

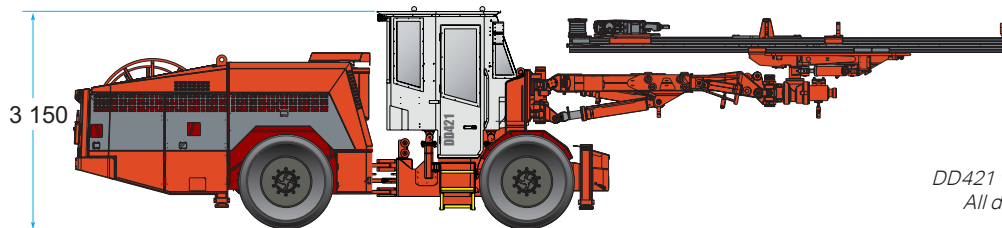
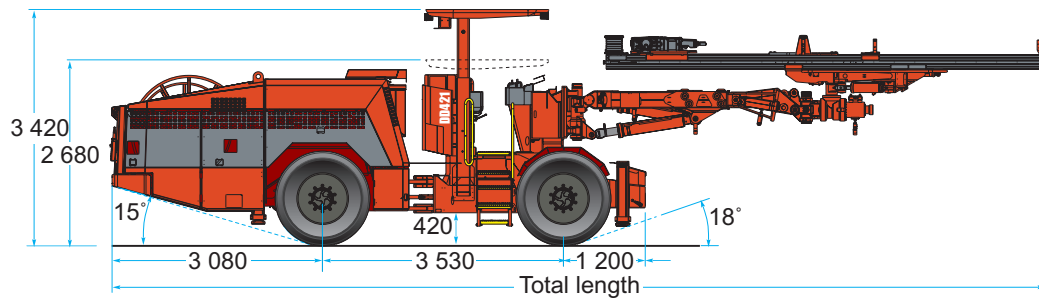
Spare rock drill	RD525, RD520, RDX5
Spare wheel assembly	14.00-24 PR28 or foam filled tire
Special tools for rock drill	Complete tool set Field tool set
Warranty extension	One year (excl. Kazakhstan)
Documentation	Extra, CAT base, Link one manuals
iSURE®	iSURE II Plus annual license (Advanced drill and blast design including round reports) iSURE III Premium annual license (MWD including Pull out analyses LAM, USC, AUS, EUR)
Package: Country specific options	
*Package: Harsh water	Basic or advanced (TS2-049)
*Package: Arctic	To operate in extremely temperature
Package: Anti-freezing	Block heater for engine, heater for hydraulic oil, Water circuit flushing with air, antifreeze adding in water circuit.

\*) Replaces standard feature



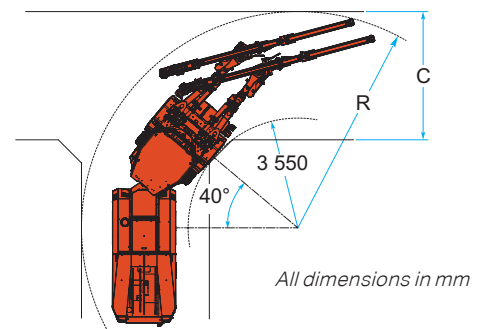
All dimensions in mm

		TF512	TF514	TF516	TFX6/12	TFX8/14	TFX10/16
Total length	mm	13 050	13 250	13 700	12 800	12 900	13 500

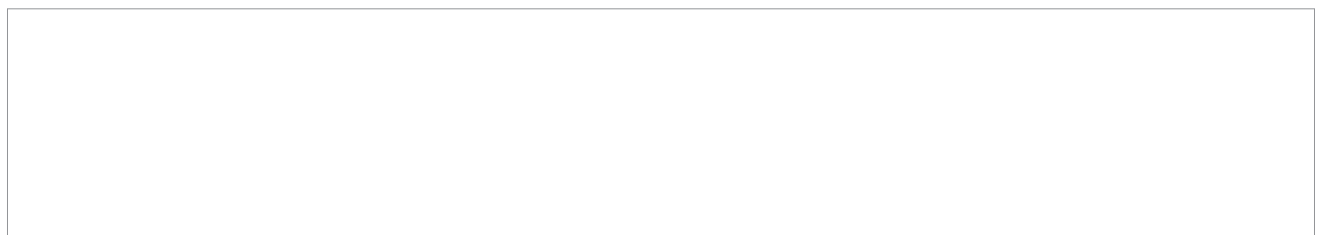


DD421 with cabin option  
All dimensions in mm

FEED	Radius (R)	T-cross (C)
TF500-12'	6 800mm	3 920 mm
TF500-14'	6 950 mm	4 070 mm
TF500-16'	7 100 mm	4 250 mm



All dimensions in mm



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