



# DT821-C TUNNELING DRILL

## TECHNICAL SPECIFICATION

Sandvik DT821-C is a two-boom electro-hydraulic jumbo for fast and accurate drilling in tunneling and cavern excavation. The hydraulic controlled drilling system with added automatic functions and optional instrumentation enable productive and high quality excavation. Sandvik RD520 rock drills deliver superior performance with high consumable life.

Sandvik SB90 universal booms have a large optimum shaped coverage and full automatic parallelism. In addition to face drilling the unit can also be used for crosscutting and bolt hole drilling. An optional utility boom for bolting and utility works is available.

The powerful 4-wheel-drive center articulated carrier ensures rapid and safe tramming with a good balance. Noise and vibration insulated cabin provides ergonomic and extremely comfortable working place with excellent visibility during tramming and drilling.

### KEY FEATURES

Coverage area	110 m <sup>2</sup> (14 210 x 8 420 mm)
Hydraulic rock drill	2 x RD520 (20 kW)
Drill feed	2 x TF500-16'
Boom	2 x SB90
Control system	THC561, hydraulic
Hole length	Up to 6 180 mm
Turning width (T-section)	4 840 mm (with TF500-16')
Transport / drilling width	2 500 mm / 3 000 mm
Transport height	3 600 mm (*3 190 mm)
Transport length	14 930 mm (with TF500-16')
Total weight	27 000 kg (without utility boom) depending on options
Total weight	29 400 kg (with utility boom) depending on options

*\*) Low mounted cabin*



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## 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. 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	T38 (male)
Weight	225 kg
Length	1 010 mm
Profile height	90 mm

## FEED

Type of feed	TF500-12' Optional	TF500-14' Optional	TF500-16' Standard	TF500-18' Optional	TF500-20' Optional
Feed force (Max.)	25 kN	25 kN	25 kN	25 kN	25 kN
Total length	5 270	5 880	6 490	7 100	7 710
Hole length	3 440	4 050	4 660	5 270	5 880
Rod length	3 700	4 305	4 915	5 525	6 135
Net weight (kg)	500	530	560	590	620

## BOOM

Type of boom	SB90 (TS2-265)
Parallel coverage	90 m²
Parallelism	Hydraulic
Boom extension	1 800 mm
Feed extension	1 650 mm
Boom weight, net	2 650 kg
Roll-over angle	358°

## UTILITY BOOM (OPTIONAL)

Type of utility boom	SUB3A (TS2-307)
Utility boom pump	60cc (gear)
Boom extension	2 x 2 000 mm
Boom weight, net	2 350 kg
Max allowed load	510 kg
Max allowed load with safety canopy	400 kg

## HYDRAULIC SYSTEM

Powerpack	HPP555 (2 x 55 kW)
Percussion pump	110 cc (variable)
Rotation pump	60 cc (variable)
Filtration size (pressure / return)	20 µ / 10 µ
Oil tank volume	290 liters
Filling pump for hydraulic oil	Electric
Cooler for hydraulic oil	OW30 oil-to-water (2 x 30 kW)

## CONTROL SYSTEM

Type of control system	THC561, hydraulic (TS2-362)
Manual boom control	Direct control Fully proportional Hydraulic parallelism
Drilling control	Feed / percussion control
Automatic cycle	Stop and return automatics

## ELECTRIC SYSTEM

Standard voltage	380 - 690 V (± 10%)
Total input power	135 kW
Main switch	MSE20
IP classification	Specification TS2-132
Starting method	Star-delta starter 380 - 690 V
Automatic cable reel	TCR4E with spooling system
Cable reel control (in / out)	Operator station
Front lights (combined working and driving)	8 x 50 W LED (24V)
Rear lights (combined working and driving)	4 x 50 W LED (24 V)
Rear parking / brake lights	2 x Red LED (24V)
Stair case service lights	LED (24V)

## AIR AND WATER SYSTEM

Flushing of holes	By water
Water booster pump type	WBP2 (11 kW)
Water pump capacity	200 l/min
Water pump inlet pressure	2 - 7 bar
Flushing water pressure	10 - 15 bar
Shank lubrication device	SLU-2 (air / oil mist)
Air compressor	CTN10 (1.0 m³/min at 7 bar)
Oil consumption	180 - 250 g/h
Air consumption	250 - 350 l/min

## OPERATOR'S SAFETY CABIN

Cabin certification	FOPS (ISO 3449)
Type of cabin	Standard height
Cabin height	3 600 mm
Cabin inside height	2 000 mm
Sound pressure level according to EN 16228	Cabin < 79 dB(A) Emitted 125 dB(A)
Operation	Standing drilling, seated tramming
Floor	Water-washable
Air conditioning	During tramming and drilling
Cabin heating	During tramming and drilling
Electricity outlets	1 x 12 V

## CARRIER

Type of carrier	TC8 (frame-steered)
Carrier articulation	± 37°
Rear axle oscillation	± 8°
Ground clearance	400 mm
Diesel engine	Cummins QSB4.5, 124 kW, Stage IIIA
Transmission	Hydrodynamic, Spicer T20 000
Axles	Dana Spicer 113 (front and rear)
Tires	14.00-24 PR28
Service brakes	Hydraulically applied wet disc brakes
Parking / emergency brakes	SAHR type, fail safe wet disc brakes
Fuel tank	150 liters
Tramming speed	Horizontal (0%): 16 km/h 14% = 1:7 = 8°: 5.4 km/h
Gradeability / sideways tilt	Max. 15° / 5°
Carrier stabilization	TJ60 (front), TJ75 (rear)
Hand throttle	Standard
Hand held fire extinguisher	7.7 kg (type ABC)
Carrier centralized greasing	Specification TS2-463
Tramming alarm	Standard
Knowledge Box™	Connectivity solution (TS2-535)
Colour scheme	Sandvik standard
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 ITEMS

### Rock drill

*Type of rock drill	RD525, with 75 kW HPP RDX5, with 55 kW HPP
Power extractor	For RD520, RD525 or RDX5

### Feed

*Feed length	12', 14', 18', 20'
*Telescopic feed	TFX6/12, TFX8/14, TFX10/16
Rod retainer	SCR with TF feed (incl. safety wire) TRR1 with TFX feed (incl. safety wire)

### Utility boom

Safety canopy	FOPS approved Sliding FOPS safety canopy
Spot lights	2 x 17 W LED
Rod racks	For 4 pcs of 10 or 12 ft rods
RX expansion bolt installation kit	D30 mm or D41 mm

### Hydraulic system

*Filling pump for hydraulic oil	Manual
*Biodegradable oils	Sandvik oils

### Control system

Constant speed drilling	Replaces feed / percussion control
Access detector system	Mandatory in Europe (TS2-211)
Instrumentation	TMS+D2 for TF and TFX feeds TMS+DDSS2 for TF feeds only TCAD+ with iSURE I Basic (Drill plan design)
Extra display	For TCAD+

### Electric system

*Voltage option	1 000 V (50 Hz) with DOL starting system
Electric cables	Specification TS2-121
Spooling device for cable reel	For voltages 690 - 1 000 V
Ground fault and overcurrent unit	VYK
Power outlet in front carrier	1 x 400 V or 2 x 230 V
Remote control for reel(s)	At rear machine
Spot lights	2 pcs remoted with joystick
Amber flashing light	LED (24 V)

## OPTIONAL ITEMS

### Air and water system

Flushing flow supervision	
*Air compressor	CTN16 (1.6 m³/min at 7 bar)
Air mist flushing kit	External air / water supply (incl. IP5 air cleaner)
End of hole flushing	2 x 80 liters receiver (incl. IP5 air cleaner)
External air connection	IP5 air cleaner
Water hose reel	THR2.5E with water hose 38 mm (1 ½"), 65 m

### Cleaning system

Low pressure system with reel	Up to 15 bar (TS2-343)
High pressure system with reel	Up to 180 bar (TS2-343)

### Greasing systems

Automatic system	Lincoln (for carrier, boom, rod handler and utility boom)
Manual system	Specification TS2-463

### Operator's safety cabin

Reduced tramming speed	3rd gear lockout
*Stainless steel cabin	FOPS (ISO 3449)
*Low mounted cabin	Height 3 190 mm
Boot washer	At cabin entrance
Audio player	CD / MP3-player, radio and loudspeakers

### Fire suppression system

Manual system	Ansul, 6 nozzles (TS2-460)
Automatic system	Ansul, 6 nozzles (TS2-460)

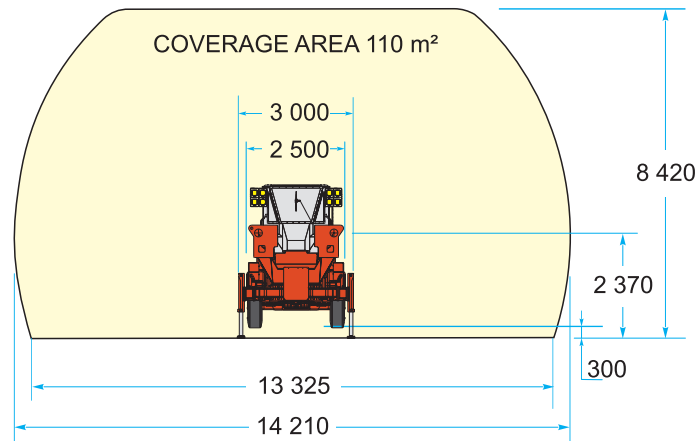
### Carrier

*Diesel engine	B4.5, 121 kW, Tier 4F, Stage V
Exhaust catalyzer	For Tier 3 engines
*Tires	Foam filled tires
Fast filling system	For fuel or complete
Rod rack on carrier side	12 to 20 ft rods
Tramming camera	Rear and side
Wheel chocks and holders	2 pieces

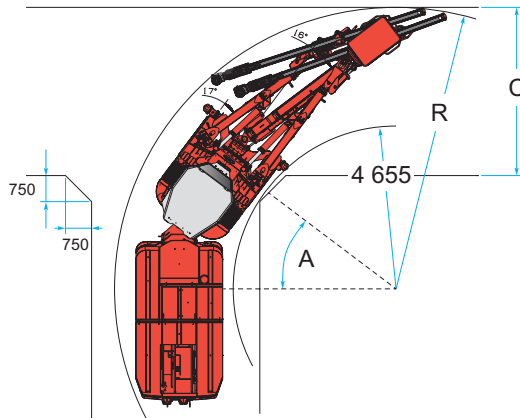
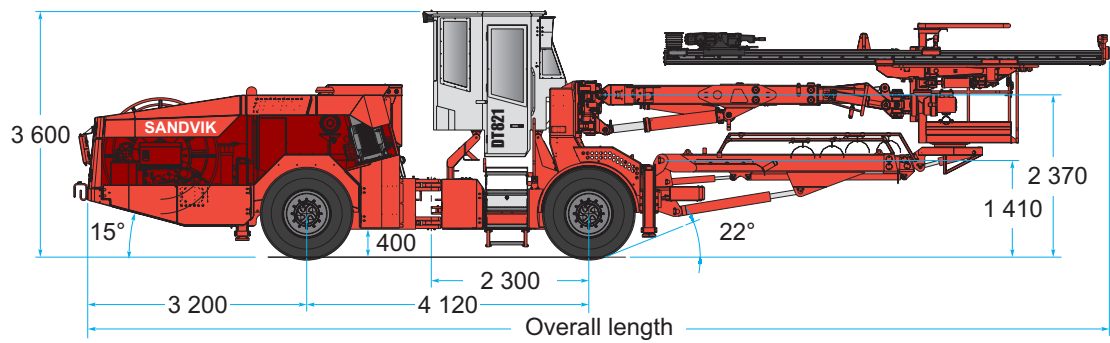
### Extra items

Spare rock drill	RD520, RD525 or RDX5
Spare wheel assembly	Standard or foam filled tires
Special tools for rock drill	Field tool set Complete set
Tunnel laser set	
Documentation	Extra manuals
Extended warranty	2 years
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	EUR package
Package: Anti-freezing	Block heater for engine, heater for hydraulic oil, water circuit flushing with air, antifreeze adding in water circuit.

*\*) Replaces standard feature*



	TF500-12'	TF500-14'	TF500-16'	TF500-18'	TF500-20'
Feed length	5 330 mm	5 940 mm	6 550 mm	7 160 mm	7 770 mm
Overall length	14 680 mm	14 900 mm	14 900 mm	15 350 mm	16 400 mm
Overall length with TRR1	14 710 mm	14 930 mm	14 930 mm	15 380 mm	16 430 mm



	Angle (A)	Radius (R)	T-cross (C)
DT821-C (TF500-12')	mm 37°	7 940	4 730
DT821-C (TF500-14')	mm 37°	7 940	4 730
DT821-C (TF500-16')	mm 37°	8 050	4 840
DT821-C (TF500-18')	mm 37°	8 190	4 980
DT821-C (TF500-20')	mm 37°	8 300	5 090

All dimensions in mm

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