

DT821

Tunneling drill

Key features

Coverage area	110 m ² (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 5 880 mm
Turning width (T-section)	4 840 mm (with TF500-16')
Transport / drilling width	2 500 mm / 3 000 mm
Transport / drilling height	2 750 mm / 3 600 mm
Transport length	14 930 mm (with TF500-16')
Total weight depending on options	26 500 kg without utility boom
Total weight depending on options	28 900 kg with utility boom

Sandvik DT821 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.

The 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.



Technical Specification

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 tools 43 - 45 mm: 48 - 51 mm:	T38 – H35 – Alpha 340 T38 – H35 – Alpha 360 T38 – R39 – Alpha 360
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 kW	25 kW	25 kW	25 kW	25 kW
Total length	5 270 mm	5 880 mm	6 490 mm	7 100 mm	7 710 mm
Hole length	3 440 mm	4 050 mm	4 660 mm	5 270 mm	5 880 mm
Rod length	3 700 mm	4 305 mm	4 915 mm	5 525 mm	6 135 mm
Net weight (kg)	500	530	560	590	620

Boom

Type of boom	SB90i (TS2-265)
Parallel coverage	90 m²
Parallelism	Hydraulic
Boom extension	1 800 mm
Feed extension	1 650 mm
Boom weight, net	2650 kg
Roll-over angle	358 °

Utility boom (optional)

Type of boom	SUB3A (TS2-307)
Utility boom pump	60 cc
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%), 50 Hz
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 and service lights	LED (24V)

Air and water system

Flushing of holes	By water
Water booster pump type	WBP2 HP (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 canopy

Canopy certification	FOPS (ISO 3449)
Unit height in tramming	3 600 mm
Sound pressure level according to EN 16228	Cabin < 103 dB(A) Emitted 126 dB(A)
Operation	Standing drilling, seated tramming

Technical Specification

Carrier

Type of carrier	TC8 (frame-steered)
Carrier articulation	± 37°
Rear axle oscillation	± 8°
Ground clearance	400 mm
Diesel engine	Cummins B4.5, 129 kW, Tier 4F, Stage V
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 (OMS125), with 55kW HPP For RD520, RD525 or RDX5
Power extractor	
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+ iSURE® software (incl. basic license for one year)
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

Optional items

Electric system	
*Voltage option	1 000 V (50 Hz) with DOL starting system Specification TS2-121 For voltages 690 - 1 000 V VYK 1 x 400 V or 2 x 230 V At rear machine LED (24 V)
Electric cables	
Spooling device for cable reel	
Ground fault and overcurrent unit	
Electricity outlet in front carrier	
Remote control for reel(s)	
Amber flashing light	
Air and water system	
Flushing flow supervision	
*Air compressor	CTN16 (1.6 m³/min at 7 bar)
Air mist flushing	External air / water supply (incl. IP5 air cleaner) 2 x 80 liters receiver (incl. IP5 air cleaner).
End of hole flushing	IP5 air cleaner THR2.5E with water hose 38 mm (1 ½"), 65 m
External air connection	
Water hose reel	
Operator's safety canopy	
Reduced tramming speed	3rd gear lockout
Boot washer	At operator's station entrance
Fire suppression system	
Manual system	Ansul, 6 nozzles (TS2-460)
Automatic system	Ansul, 6 nozzles (TS2-460)
Carrier	
*Tires	Foam filled tires
Fast filling system	For fuel or complete
Rod rack on carrier side	12 to 20 ft rods
Tramming camera	Rear
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 tool set
Tunnel laser set	
Documentation	Extra manuals
Extended warranty	2 years
iSURE®	Complete license (for one year)
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	

