



DT820 TUNNELING DRILL

TECHNICAL SPECIFICATION

The Sandvik DT820 is a two boom electro hydraulic jumbo for fast and accurate drilling in tunneling and cavern excavation of 12 - 110 m² cross sections.

The hydraulic controlled drilling system with added automatic functions and different optional instrumentation levels enable productive and high quality excavation.

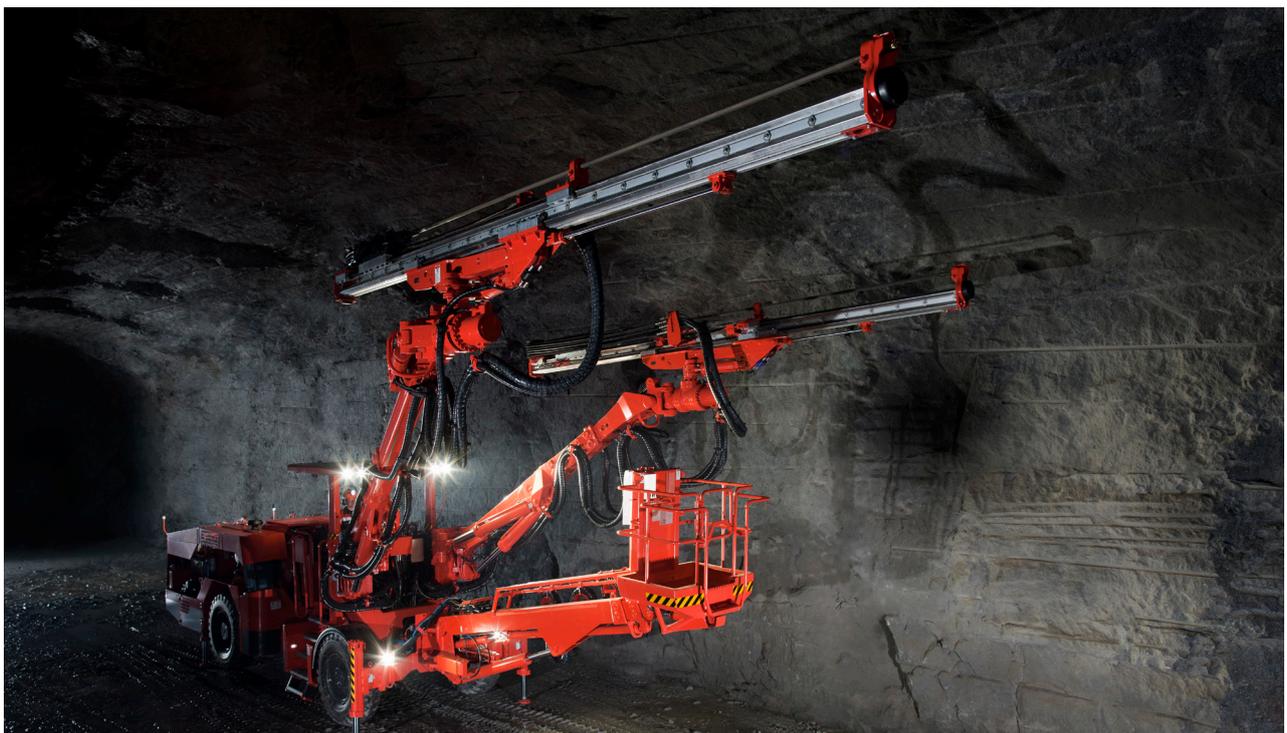
The RDX5 rock drills deliver superior performance with high consumable life, lowering operating costs and giving long service interval.

The SB90 universal booms have a large optimum shaped coverage and full automatic parallelism. The booms can also be used for cross-cutting 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 good balance.

KEY FEATURES

Coverage area	110 m ² (14 210 x 8 420 mm)
Hydraulic rock drill	2 x RDX5 (20 kW)
Drill feed	2 x TF500-16'
Boom	2 x SB90
Control system	THC560, 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 / drilling height	2 750 mm / 3 600 mm
Transport length	14 930 mm (with TF500-16')
Total weight	26 500 kg (without utility boom) depending on options
Total weight	28 900 kg (with utility boom) depending on options



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HYDRAULIC ROCK DRILL

Type of rock drill	RDX5 (TS2-433)
Percussion power	20 kW
Percussion pressure	Max. 220 bar
Percussion rate	67 Hz
Rotation speed	Max. 250 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 - Hex 35 - R32 T38 - Hex 35 - Alpha 330 T38 - Hex 35 -R35
Shank adapter (male)	T38
Weight	210 kg
Length	955 mm
Profile height	87 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				
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 m ²
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)
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)

DRILLING CONTROL SYSTEM

Type of control system	THC560 (TS2-361)
Operating principle	Hydraulic control
Manual boom control	Direct control Fully proportional Hydraulic parallelism
Drilling control	Manual collaring Feed / percussion control Anti-jamming system Flushing 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
Cable reel control (in / out)	Operator station
Front lights (combined working and driving)	8 x 35 W HID (24V)
Rear lights (combined working and driving)	4 x 35 W HID (24 V)
Rear parking / brake lights	1 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	100 l/min at 15 bar (5 bar inlet)
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 m ³ /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

CARRIER

Type of carrier	TC8 (frame-steered)
Carrier articulation	± 37°
Rear axle oscillation	± 8°
Ground clearance	400 mm
Diesel engine	MB OM904LA, 110 kW, Tier 3, 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**Feed**

*Feed length	12', 14', 18', 20'
*Telescopic feed	TFX6/12, TFX8/14, TFX10/16
Rod retainer	TRR1 with TF or 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

Utility boom pump	60cc (gear)
*Filling pump for hydraulic oil	Manual
*Biodegradable oils	Shell Naturelle HFE46/68

Control system

Constant speed drilling	Replaces feed / percussion control
Drilling instrument	TMS+

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), 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
Electricity outlet on front carrier	1 x 400 V or 2 x 230 V 16A
Remote control for reel(s)	At rear machine
Amber flashing light	LED (24 V)

Air and water system

Flushing flow supervision	2 booms
*Air compressor	CTN16 (1.6 m³/min at 7 bar)
Air mist flushing	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 38 mm (1 ½"), 65 m
Water hose	38 mm (1 ½"), 65 m

Operator's safety canopy

Reduced tramming speed	3rd gear lockout
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Fire suppression system

Additional fire extinguisher	7.7 kg (type ABC)
Manual system	Ansul, 6 nozzles (TS2-460)
Automatic system	Ansul, 6 nozzles (TS2-460)

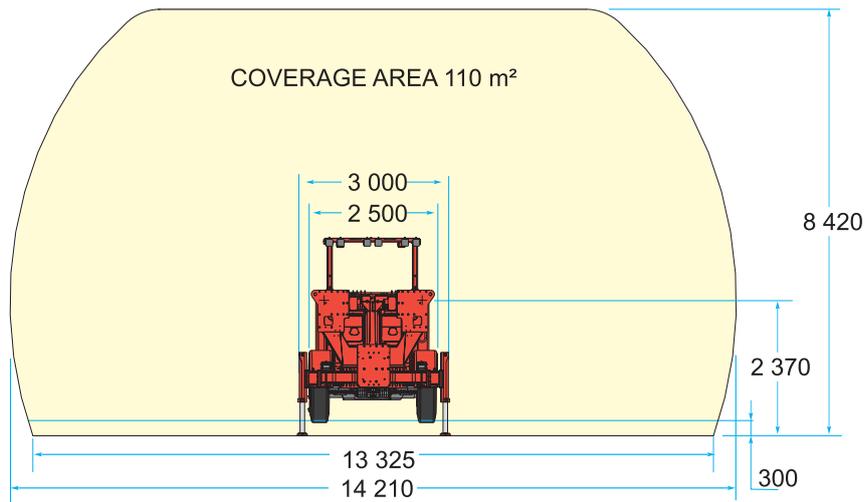
Carrier

*High speed carrier	TC8, incl. MB OM906LA, 170 kW, Tier 3, Stage IIIA, with Spicer T32 000 transmission
Exhaust catalyzer	For Tier 3 engines
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

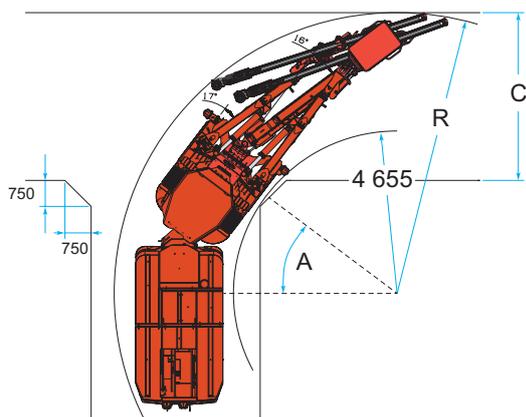
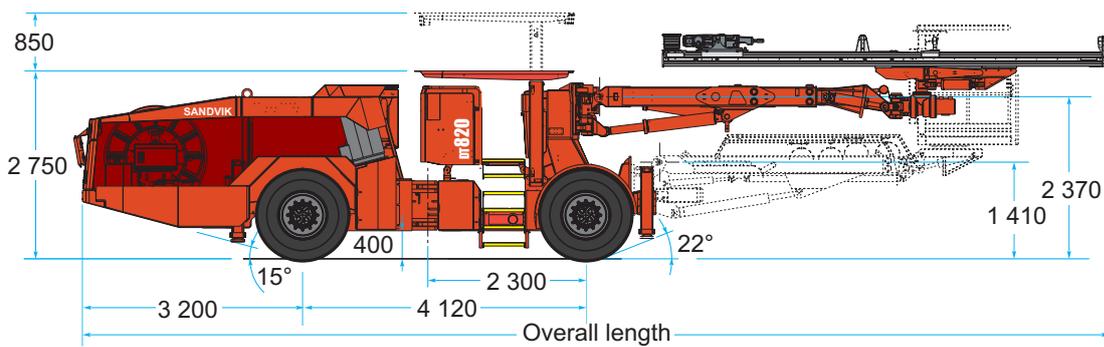
Extra items

Spare rock drill	RDX5
Spare wheel assembly	Standard
Special tools for rock drill	Field tool set (TS2-434) Complete tool set (TS2-435)
Tunnel laser set	
Documentation	Extra manuals

**) 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)
DT820 (TF500-12')	37°	7 940	4 730
DT820 (TF500-14')	37°	7 940	4 730
DT820 (TF500-16')	37°	8 050	4 840
DT820 (TF500-18')	37°	8 190	4 980
DT820 (TF500-20')	37°	8 300	5 090

All dimensions in mm

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