



DT1331i TUNNELING DRILL

TECHNICAL SPECIFICATION

Sandvik DT1331i is a computer-controlled three boom electro-hydraulic jumbo for fast and accurate drilling in tunneling and cavern excavations. Drill rig has automatic drilling functions and boom positioning under supervision of the operator of the drill rig.

Automated drilling of pre-planned drilling pattern combined with extensive data collection and reporting system enables continuous control of productivity, quality and economy. In addition to face drilling the unit can also be used for cross-cutting and bolt hole drilling.

Noise and vibration insulated cabin provides ergonomic and extremely comfortable working place with excellent visibility during tramming and drilling.

KEY FEATURES

Coverage area	232 m ² (19 195 x 13 180 mm)
Hydraulic rock drill	3 x RD525 (25 kW)
Drill feed	3 x TF5i-18'
Boom	3 x SB150i
Control system	iDATA
Hole length	Up to 6 085 mm
Turning radius	11 860 mm
Tramming / drilling width	3 690 mm / 3 860 mm
Tramming / height	4 965 mm
Tramming length	15 780 mm (with TF5i-18')
Total weight	50 000 kg (without utility boom) depending on options
Total weight	54 000 kg (with utility boom) 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	T38 (male)
Weight	225 kg
Length	1 010 mm
Profile height	90 mm

FEED

Type of feed	Feed force (Max.)	Total length (mm)	Hole length (mm)	Rod length (mm)	Net weight (kg)
TF5i-12'	25 kN	5 330	3 440	3 700	500
TF5i-14'	25 kN	5 940	4 050	4 305	530
TF5i-16'	25 kN	6 550	4 660	4 915	560
TF5i-18'	25 kN	7 160	5 270	5 525	590
TF5i-20'	25 kN	7 770	5 880	6 135	620
TF5i-21'	25 kN	8 075	6 180	6 440	640

BOOM

Type of boom	SB150i (TS2-267)
Parallel coverage	159 m ²
Parallelism	Electric
Boom extension	3 200 mm
Feed extension	1 650 mm
Boom weight, net	3 350 kg
Roll-over angle	358°

UTILITY BOOM (OPTIONAL)

Type of utility boom	SUB5iA/B
Boom extension	2 x 3 000 mm
Boom weight, net	2 635 / 2 895 kg
Basket swing	± 45° in B - model
Max allowed load	510 kg
Max allowed load with safety canopy	400 kg

HYDRAULIC SYSTEM

Powerpack	HPP580 (3 x 80 kW)
Percussion pump	140 cc (variable)
Rotation pump	85 cc (variable)
HVAC pump (Heating, Ventilation and A/C)	26 cc (gear)
Filtration size (pressure / return)	20 µ / 10 µ
Oil tank volume	470 liters
Filling pump for hydraulic oil	Electric
Cooler for hydraulic oil	OW55 oil-to-water (3 x 55 kW)

CONTROL SYSTEM

Type of control	Sandvik iDATA automation system (incl. iSURE I tunnel office program)
Manual boom control	Direct control Electric parallelism Manipulator mode
Automatic boom positioning	Automatic boom positioning Lock to target Automatic correct function Boom self collision detection
Drilling control	Feed / percussion control Feed / percussion manual control Torque control
Automatic cycle	One hole automatic Automatic hole length control Automatic round drilling according to pre-designed plan

ELECTRIC SYSTEM

Standard voltage	380 - 690 V (± 10%)
Total input power	270 kW
Main switch	MSE3i
IP classification	Specification TS2-132
Starting method	Star-delta starter 380 - 690 V
Automatic cable reel	TCR6EHD
Cable reel control (in / out)	Operator station
Front lights (combined working and driving)	12 x 50 W LED (24 V)
Rear lights (combined working and driving)	4 x 50 W LED (24 V)
Rear brake / park lights	5 x Red LED
Stair and service lights	LED (24V)

AIR AND WATER SYSTEM

Flushing of holes	By water
Water booster pump type	WBP4 HP
Water pump capacity	400 l/min
Water pump inlet pressure	2 - 7 bar (Min.)
Flushing water pressure	15 - 20 bar
Shank lubrication device	SLU-3 (Air / oil mist)
Air compressor	CT28 (2.8 m ³ /min at 7 bar)
Oil consumption	180 - 250 g/h
Air consumption	250 - 350 l/min

OPERATOR'S SAFETY CABIN

Safety cabin	FOPS (ISO 3449)
Type of cabin	Standard height
Cabin height	4 965 mm
Cabin inside height	2 000 mm
Cabin elevation	1 000 mm
Operation	Seated for one operator
Sound pressure level	According to EN791 Operator station: 75 dB(A) Emitted: 126 dB(A)
Floor	Water-washable
Air conditioning	EU6/7 filtering capacity
Cabin heating	During tramming and drilling
Electricity outlets	1 x 12 V, 2 x 240 V (16 A)

CARRIER

Type of carrier	TC12
Rear oscillation	± 8°
Ground clearance	400 mm
Diesel engine	MB OM904LA, 170 kW, Tier 3, Stage IIIA
Transmission	Hydrodynamic, Spicer HR32 000
Axles	Dana Spicer 43R (front) / 213 (rear)
Tires	14.00-24 28RL
Service brakes	Hydraulically operated wet disc brakes
Parking / emergency brakes	SAHR type, fail safe wet disc brakes
Fuel tank	150 liters
Tramming speed	15 km/h (Horizontal) 4.5 km/h (14%=1:7=8°)
Gradeability / sideways tilt	Max. 15° / 5°
Carrier stabilization	TJ60 (front), TJ75 (rear)
Hand throttle	Standard
Handheld fire extinguisher	1 x 7.7 kg, Type ABC
Carrier centralized greasing	Specification 5-2110
Manual greasing system	Greasing unit with pump, reel and nozzle
Tramming alarm	Standard
Colour scheme	Sandvik standard
Documentation	2 x Operator's manual 2 x Maintenance manual 2 x Technical manual (in English only) 2 x Parts manual (in English only) 1 x Toolman CD

OPTIONAL FEATURES AND PACKAGES**Rock drill**

*Type of rock drill	RD520 instead of RD525
Power extractor	For RD525 or RD520

Feed

*Feed length	12', 14', 16', 20', 21'
Rod retainer	SCR with TF feed (incl. safety wire)
Two rods system	TRS (incl. SCR for 10-12 ft extension rods)
Rod handling system	TRH (incl. SCR + power extractor for 12 - 16 ft extension rods)
Start-up drilling tools	For 45 - 51 mm holes
Casing drilling set	For 90 mm (3 ½") or 115 mm (4 ½") pipes

Utility boom option

Safety canopy for utility boom	FOPS approved Sliding canopy
Spot lights for utility boom	2 x 17 W LED
Remote joystick	Controlled spot lights
Rod racks for utility boom	For 4 pcs of 10 or 12 ft rods
RX expansion bolt kit	D30 mm or D41 mm

Hydraulic system

*Powerpack	HPP555 (3 x 55 kW) with RD520
*Filling pump for hydraulic oil	Manual
*Cooler for hydraulic oil	OA30 oil-to-air (3 x 30 kW)
By pass oil filter	
*Biodegradable oils	Shell Naturelle HFE46/68
Vacuum pump	For hydraulic system

Control system

Access protector system	Mandatory in Europe (TS2-211)
User interface	2nd operator (standing)
iPROF automation system	
iSURE II report	Drill steel consumption monitoring
iSURE III analysis	MWD analysis
iSURE IV bolt plan	Design and data collection analysis

OPTIONAL FEATURES AND PACKAGES**Control system (continue)**

Online MWD	Required WLAN package
Calibration and accuracy measurement set	Excl. total station
Total station navigation set	Excl. total station
Remote monitoring and data transfer	With WLAN
Measurement adapter kit	Cables and connectors for spare parts programming and maintenance measurements

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)
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Electric system

*Optional voltage	1 000 V, 50 Hz with DOL starting method
Spooling device	For cable reel
Ground fault and overcurrent protection	VYK
*Electric cables	Specification TS2-121
Electricity outlet in front carrier	1 x 400 V + 2 x 230 V (16A)
Remote control for reel(s)	At rear machine
Amber flashing light	LED (24V)

Air and water system

Flushing flow supervision	
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	THR5E incl. water hose 45 mm (1 ¾"), 60 m
Water hose with hooks	45 mm (1 ¾"), 60 m

Operator's safety cabin

Reduced tramming speed	3rd gear lockout
Electricity outlets	1 x 12 V and CD player readiness
Boot washer	At cabin entrance
Audio player	CD / MP3-player, radio and loudspeakers

Fire suppression system

Manual system	Ansul (8 nozzles)
Automatic system	Ansul (8 nozzles)

Carrier

*Diesel engine	QSB6.7, 164 kW, Tier 4i, Stage IIIB
Exhaust catalyzer	For Tier 3 engines
Power supply	for MiniSSE
Rod rack under carrier	For 12 - 21 ft rods
Tramming cameras	Rear and side
Wheel chocks and holders	2 pieces

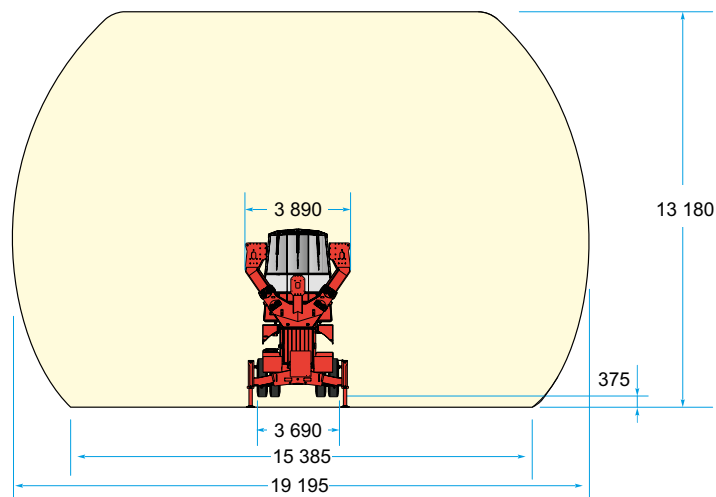
Packages

Regional packages	EUR package
Anti-freezing package	Block heater for engine, heater for hydraulic oil, water circuit flushing with air, antifreeze adding in water circuit

Extra items

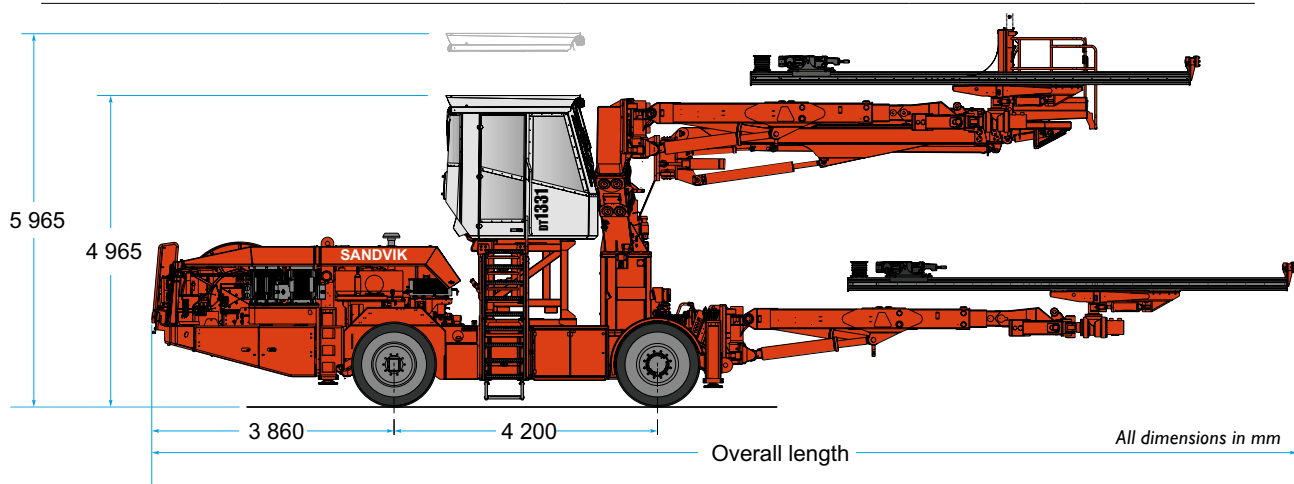
Spare rock drill	RD525 or RD520
Spare wheel assembly	
Special tools for rock drill	
Tunnel laser set	
Documentation	Extra manuals

*) replaces standard feature

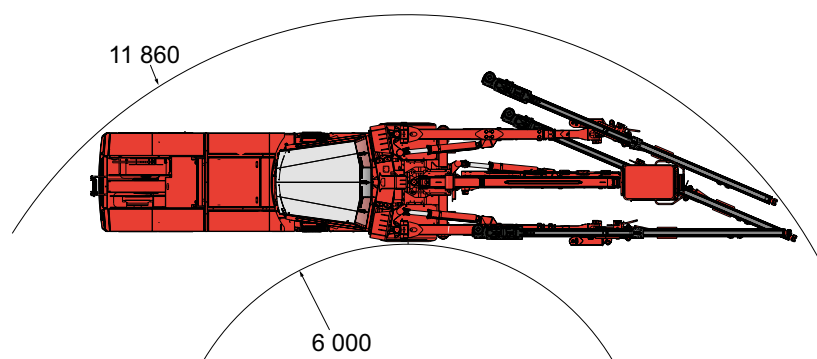


All dimensions in mm

	TF5i-12'	TF5i-14'	TF5i-16'	TF5i-18'	TF5i-20'	TF5i-21'
Feed length	5 330 mm	5 940 mm	6 550 mm	7 160 mm	7 770 mm	8 075 mm
Overall length	15 850 mm	16 740 mm	17 340 mm	17 780 mm	18 540 mm	18 740 mm



All dimensions in mm



All dimensions in mm

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