



SANDVIK DT922i TUNNELING DRILLS

TECHNICAL SPECIFICATION

Sandvik DT922i is an advanced control system based electro- hydraulic jumbo to provide top-level performance, accuracy and reliability for tunneling. The rig has the widest range of automatic drilling functions to give increased productivity with reduced costs, top-level product safety and access to the future of tunneling.

Sandvik DT922i is equipped with Sandvik Intelligent Control System Architecture (SICA) that is a well-proven and commonly used control system technology across a wide range of Sandvik drills. This technology enables a variety of functions to achieve maximized performance and precision in drilling.

The rig has features for fully-automated face drilling, optimized drilling and boom control systems and comprehensive tools for drill planning, reporting and analyses.

Sandvik DT922i provides maximized operator ergonomics and comfort with a fully *ROPS/FOPS-compliant cabin which has significantly reduced noise and dust levels. With the powerful Sandvik RD525 drifter providing smooth and reliable performance and the widest range of options, the whole concept of underground face drilling is taken to a new level.

KEY FEATURES

Hydraulic rock drill	Sandvik RD525
Drill feed	Sandvik TF5i (14' to 20')
Boom	Sandvik SB100i
Control system	Sandvik SICA
Automation levels	Gold / Platinum packages
Coverage area	14 800 x 9 000 mm (125 m ²)
Hole length	Up to 5 880 mm
Turning width (T-section)	5 300 mm
Transport / drilling width	2 500 mm *** / 3 500 mm
Transport height	3 190 mm** / 3 590 mm
Transport length	14 990 mm
Total weight	30 000 kg depending on options

* ROPS not available with cabin lifting system

** Minimum 3 190 mm with cabin lifting system

*** 2 570 mm with THR



1. SANDVIK DT922i

HYDRAULIC ROCK DRILL

Type of rock drill	Sandvik 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
Shank lubrication device	Air / oil mist, SLU-2
Air consumption	250 - 350 l/min
Oil consumption	180 - 250 g/h

BOOM

Type of boom type	Sandvik SB100i
Parallel coverage	125 m ² (with two booms)
Parallelism	Electric
Boom extension	1 800 mm
Boom weight, net	2 700 kg
Roll-over angle	358°
Bolt hole drilling	Yes

FEED

Type of feed	TF5i-14'	TF5i-16'	TF5i-18'	TF5i-20'
Feed force	Max. 25 kN	Max. 25 kN	Max. 25 kN	Max. 25 kN
Feed extension	1 650 mm	1 650 mm	1 650 mm	1 650 mm
Total length	5 965 mm	6 575 mm	7 185 mm	7 770 mm
Hole length	4 050 mm	4 660 mm	5 270 mm	5 880 mm
Rod length	4 305 mm	4 915 mm	5 525 mm	6 135 mm
Net weight	530 kg	560 kg	590 kg	620 kg

Options

- Telescopic feed Sandvik TFX8/14, TFX10/16
- Rod retainer SCR with TF feed (incl. safety wire)
- Rod retainer TRR1 with TFX feed (incl. safety wire)
- Two rods system TRS + SCR (incl. safety wire)
- Rod handling system TRH (incl. SCR + power extractor)

HYDRAULIC SYSTEM

Powerpack	HPP575 (2 x 75 kW IE3)
Percussion pump	140 cc (variable)
Rotation pump	75 cc (gear)
HVAC pump (Heating, Ventilation and A/C)	26 cc (gear)
Filtration size	20 micron (pressure) 10 micron (return)
Oil tank volume	270 liters
Tank filling	Electric pump
Oil cooler	Water cooled. Cooling capacity 2 x 55 kW

Options

- Separated bypass filtering for hydraulic system
- Manual oil filling pump instead of electric
- Vacuum pump for hydraulic system
- Biodegradable oils. Shell Naturelle HFE46 / HFE68

CONTROL SYSTEM

Type of control system	Sandvik SICA
Higher level in automation	Upgradable
Diagnostic system	Comprehensive
Variety of drilling controls	Torque Feed / percussion Manual control
Boom control	Fully proportional
Touch screen display	15" full color
Control system software	Support and maintenance package include during 12 months (TS15-019)

ELECTRIC SYSTEM

Standard voltage	380 - 1 000 VAC (± 10%)
Total input power	185 - 200 kW
IP classification	Specification TS2-132
Frequency	50 - 60 Hz
Automatic cable reel	Dual control from both cabin and external panel
Electric quality monitoring	Voltage, Amperage, Power, Pf, Energy, Phase - sequence
Motor protection	Intelligent control with power maxi- mization
Diagnostic	Fully integrated and easy to use graphical user interface
Extra low voltage supply	Continuous 80 A 27 VDC with battery backup. Intelligent battery manage- ment system
Front lights (combined working and driving)	8 x 50 W LED (24 VDC) (>125 lx, 20 000 lm, 6 000 k)
Rear lights (combined working and driving)	2 x 50 W + 2 x 17 W LED (24 VDC) (8 000 lm, 6 000 k)
Electric current draw reducer unit	Standard

Options

- Multivoltage basic (380 - 440 VAC, 690 VAC, 50 Hz)
- Multivoltage extended (Multivoltage basic and 1,000 VAC 50 Hz)
- Earth continuity control (1 wire pilot circuit with remote reset / disconnect)

FLUSHING SYSTEM

Type of water pump	WBP3 HP (11 kW)
Water pump capacity	375 l/min
Water pump inlet pressure	2 - 7 bar (Min.)
Flushing water pressure	10 - 15 bar
Air compressor	CTN10, 1m ³ /min (7 bar / 7.5 kW)
Water hose reel with hose	THR2.5E with 38 mm (1½"), 65 m
Water outlet	5 - 15 bar
Air outlet	Air compressed

Options

- Air cleaning of hole (CTN28 compressor instead of CTN10)
- Air mist flushing. CTN28 compressor, OA40 oil/air cooler 40 kW, IP5 air cleaner (Note: requires external air connection)

TRAMMING AND OPERATOR STATION

Tramming speed	12 km/h (Horizontal) 3.5 km/h (14%=1:7=8°)
Gradeability / inclination	Max. 15° / 5°
Safety cabin	FOPS / ROPS (ISO 3449 / 3471)
Operation	Seated tramming Standing and seated drilling
Sound pressure level	According to EN791, ISO4872, ISO1120 Operator station: 69 db(A)
Vibration level	According to EN791, ISO2631-1
Seat	Fully adjustable seat (tramming and drilling)
Optimized dust level	Control via air circulation
Air conditioning	EU6/7 filtering capacity
Cabin heating	During tramming and drilling
Electricity outlets	1 x 12 VDC, 1 x 24 VDC 1 x 120 / 230 VAC 16A
Stairs and indoors lights	LED lights
Cabin audio system	CD/MP3 player with radio
Boot washer	At each cabin entrance
Toolboxes and first aid kit	
Safety lock for movement pre-vention	2 switches
Safety laminated acoustic windows	

Options

- Cabin lifting system
- Remote controlled spotlights for drilling
- Front screen protection bar

CARRIER

Type of carrier	Electro-hydraulic joystick control
Frame steering	± 34°
Rear oscillation	± 8°
Ground clearance	330 mm
Diesel engine	QSB4.5, 119 kW, Tier 3, Stage IIIA
Transmission	Hydrostatic
Axles	Dana spicer
Tires	14.00-24 PR28 17.50-25 (with TRH)
Service brakes	SAHR type, fail-safe wet disc brakes
Fuel tank	100 liters
Hydraulic jacks	SJ650 Telescopic (front) SJ700 Vertical (rear)
Wheel chocks and holders	2 pieces
Manual greasing	Greasing unit with pump, reel and nozzle

Options

- Diesel engine QSB4.5, 122 kW, Tier 4F, Stage IV
- Diesel engine QSB6.7, 205 kW, Tier 4F, Stage IV (Tramming speed in ramp 8 km/h (14%=1:7=8°), not with TRH option, only with WBP2 HP water pump)
- Tramming cameras
- Indicator light for jack up
- HP cleaning system with reel. Max. 180 bar
- Dewatering pump outlet (8 kW), controlled in cabin
- Automatic greasing system. Lincoln
- Utility boom SUB4iB. (Spec. 4-3435)
- Manual fire suppression system. Ansul
- Auto fire suppression system. Ansul / FS1000
- Access protector system. (Specification TS2-211)

Packages

- Regional packages. LAM, USC, AUS, EUR
- Harsh water packages. Basic or advanced (Specification TS2-049)
- Automation packages. Gold or Platinum (see below)

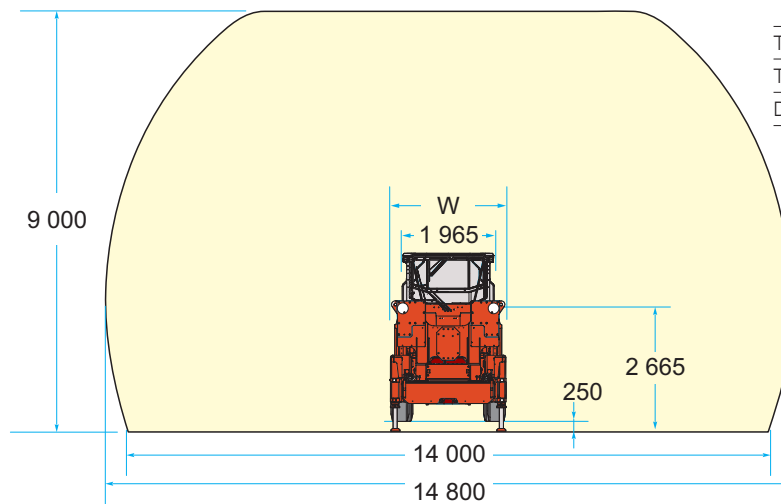
Extra items

- Ground fault and overcurrent protection (VYK)
- Spare rock drill
- Spare wheel assembly. Standard or foam-filled
- Special tools for rock drill
- Documentation. Extra manuals

Automation packages

- Automation gold package (standard)
 - SB100i boom with electric parallelism
 - Drill plan visualisation on-board
 - Display of drill bit location vs. given drill plan
 - iSure office tool for planning of drilling, charging and blasting*
 - Drill rig suitable with various navigation methods
 - Advanced MWD data collection with reporting and analyses tool (iSure option)*
 - Counters and recommended change levels for bits and tools
- Automation platinum package (optional)
 - Automation Gold package content
 - Semi-automatic face drilling
 - Full automatic face drilling
- Bolt systematic bolting (optional)
 - Bolting navigation with tunnel laser or total station
 - Assisted boom control for the bolt hole drilling
 - Bolt hole position locking
 - MWD data collection for bolt plans (iSURE)*

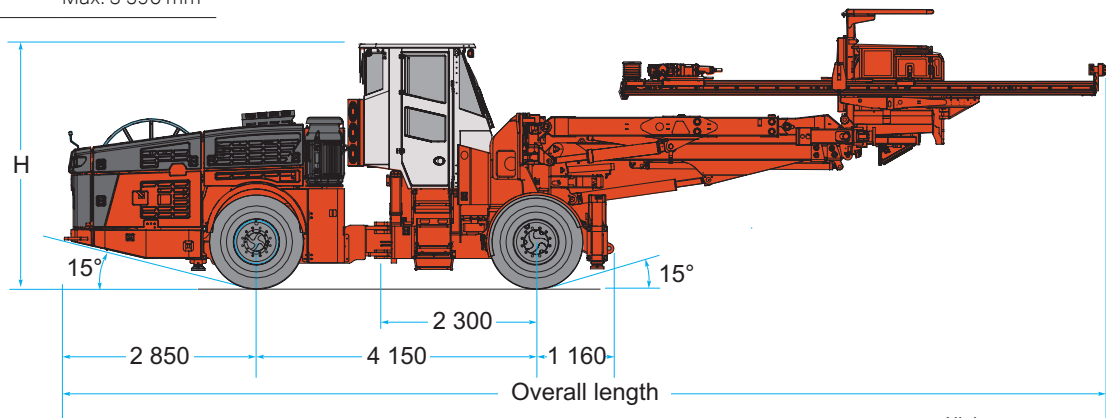
*Licence for one year included



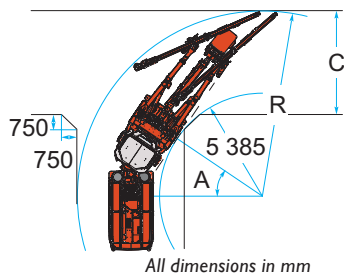
Width (W)	
Tramming	2 500 mm
Tramming with TRH	2 570 mm
Drilling with extended jacks	3 500 mm

All dimensions in mm

	H		TF5i-14'	TF5i-16'	TF5i-18'	TF5i-20'	TFX8/14	TFX10/16
Standard cabin	3 590 mm	Overall length	mm 14 990	14 990	15 450	16 025	15 240	15 440
Cabin with lifting system	Min. 3 190 mm Max. 3 590 mm							



All dimensions in mm



All dimensions in mm

	Angle (A)	Radius (R)	T-cross (C)
DT922i (TF5i-14')	mm 34°	9 400	5 300
DT922i (TF5i-16')	mm 34°	9 500	5 400
DT922i (TF5i-18')	mm 34°	9 600	5 500
DT922i (TF5i-20')	mm 34°	9 800	5 700

Sandvik Construction reserves the right to make changes to the information on this data sheet without prior notification to users. Please contact a Sandvik representative for clarification on specifications and options.

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4. SANDVIK DT922i