SANDVIK

DT922i
TUNNELING DRILLS

TECHNICAL SPECIFICATION

Sandvik DT922i is an advanced control-system based electro-hydraulic two-boom jumbo to provide top-level performance, accuracy and reliability for tunneling.
The drill 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 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 drill 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	2 x RD525
Drill feed	2 x TF5i16'
Boom	2 x SB100i
Control system	1 x SICA
Automation levels	Gold / Platinum packages
Coverage area	14 800 x 9 000 mm (125 m²)
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 (without basket boom)	30 500 kg depending on options
Total weight (with basket boom)	35 500 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 - TUNNELING DRILLS

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	TF5i-14' Optional	TF5i-16' Standard	TF5i-18' Optional	TF5i-20' Optional
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

BOOM

Type of boom	SB100i
Parallel coverage	125 m² (with two booms)
Parallelism	Electric
Boom extension	1 800 mm
Boom weight, net	2 700 kg
Roll-over angle	358°
Bolt hole drilling	Yes

HYDRAULIC SYSTEM

Powerpack	HPP575 (2 x 75 kW IE3)
Percussion pump	140 cc (variable)
Rotation pump	75 cc (gear)
Heating, Ventilation and A/C pump	26 cc (gear)
Filtration size (pressure / return)	20µ / 10µ
Oil tank volume	270 liters
Filling pump for hydraulic oil	Electric
Cooler for hydraulic oil	OW55 oil-to-water (2 x 55 kW)

CONTROL SYSTEM

Type of control system	SICA platform
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)
OptiMine / FDM / WLAN	Data transfer readiness
Cable kit	Spare parts programming
iSURE I tunnel	
Total station navigation kit	

ELECTRIC SYSTEM

Standard voltage	380 - 1 000 V (± 10%), 50 - 60 Hz
Total input power	185 - 200 kW
IP classification	Specification TS2-132
Automatic cable reel	TCD 4CD with remote control and spooling system
Electric quality monitoring	Voltage, Amperage, Power, Pf (power factor), Energy, Phase - sequence
Motor protection	Intelligent control with power maximization
Diagnostic	Fully integrated and easy to use graphical user interface
Carrier electric system	Continuous 80 A 27 VDC with battery backup. Intelligent battery management system
Front lights (combined working and driving)	8 x 50 W LED (24 V) (>125 lx, 20 000 lm, 6 000 k)
Rear lights (combined working and driving)	2 x 50 W + 2 x 17 W LED (24 V) (8 000 lm, 6 000 k)
Parking rear brake / park lights	2 x Red LED
Amber flashing light	LED (24V)
Electric current draw reducer unit	Standard

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
Water outlet	5 - 15 bar
Air outlet	Air compressed
Shank lubrication device	Air / oil mist, SLU-2
Air compressor	CTN10, 1 m³/min (7 bar)
Rock drill oil consumption	180 - 250 g/h
Rock drill air consumption	250 - 350 l/min

TRAMMING AND OPERATOR STATION

Cabin certification	FOPS / ROPS (ISO 3449 / 3471)
Operation	Seated tramming Standing and seated drilling
Sound pressure level	According to EN16228, ISO4872, ISO1120 Operator station: 69 db(A)
Vibration level	According to EN791, ISO2631-1
Seat	Fully adjustable seat (tramming and drilling)
Optimized air circulation	Keeps the dust on the floor level
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 prevention	2 switches
Safety laminated acoustic windows	

CARRIER

Type of carrier	C900
Carrier articulation	± 34°
Rear axle 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 or 17.50-25 (with TRH)
Service brakes	SAHR type, fail-safe wet disc brakes
Tramming speed	12 km/h (Horizontal) 3.5 km/h (14%=1:7=8°)
Gradeability / sideways tilt	Max. 15° / 5°
Fuel tank	100 liters
Carrier stabilization	SJ650 Telescopic (front) SJ700 Vertical (rear)
Centralized greasing points	Specification 5-2110
Hand held fire extinguisher	1 x 6 kg (type ABC)
Wheel chocks and holders	2 pieces
Tramming alarm	Standard
Colour scheme	Sandvik
Documentation	2 x Operator's, Maintenance, Technical, Parts manuals, Toolman CD

OPTIONAL FEATURES AND PACKAGES

Rock drill	
*Rock drill type	RD520 or HLX5 (with 55 kW HPP)
Power extractor	For RD525/RD520 and HLX5
Drilling feed	
Feed length	TFi14', TFi18', TFi20'
*Telescopic feed	TFX6/12, TFX8/14, TFX10/16
Rod retainer	SCR with TF feed (incl. safety wire) TRR1 with TFX feed (incl. safety wire)
Two rods system	TRS + SCR (incl. safety wire)
Rod handling system	TRH (incl. SCR + power extractor)
Utility boom	
Utility boom type	SUB4iA/B (TS2-310)
Safety canopy	FOPS canopy (static or sliding)
Spot lights	2 x 17 W LED
Remote control for spot lights	2 pcs
Rod racks	For 4 pcs of 10 or 12 ft rods
RX expansion bolt kit	D30 mm or D41 mm
Hydraulic system	
*Filling pump for hydraulic oil By pass oil filter	Manual
Vacuum pump	For hydraulic oils
*Biodegradable oils	Sandvik oils
Instrumentation options	
iSURE II report	Drill steel consumption monitoring
iSURE III analysis	MWD analysis
iSURE IV bolt plan	Design and data collection analysis
iBOLT systematic bolting	iSURE IV bolting
3D scanning system	Specification TS2-388
Data transfert	WLAN including remote GUI view
Access protector	Mandatory in Canada (TS2-211)
Electric system	
*Multivoltage basic	380 - 440 V, 690 V, 50 Hz
*Multivoltage pro	380 - 1 000 V, 50 or 60 Hz
*Electric cables	Specification TS2-121
Ground fault and overcurrent protection	VYK
Dewatering pump outlet	Max. 8 kW, 380 / 690 / 1 000 V
Earth continuity control	1 wire pilot circuit
Indicator light	For jack up / down
Outlet on carrrier	1 x 110 V or 1 x 230 V
Spot lights	Remote controlled 2 pcs
Battery jump start	

OPTIONAL FEATURES AND PACKAGES

Air and water system	
*Air compressor	CT28 compressor instead of CTN10
*End of hole air flushing	2 x 60L air receivers requires CT28
*Air mist flushing	CT28, 2 x OA40 cooler, IP5 air cleaner (requires external air connection)
Water hose reel with hose	THR2.5E with 38 mm (1"½), 65 m
Cleaning system	
HP system with reel	Max. 180 bar
Greasing system	
Automatic system	Carrier, boom and utility boom
Manual system	Specification 5-2110
Operator's safety canopy	
Elevation cabin	Height min: 3 190 mm
Safety grill	For cabin
Fire suppression system	
Spare hand held fire extinguisher	1 x 7.7 kg or 9 kg (type ABC)
Manual system	Ansul (6 nozzles)
Automatic system	Ansul (6 nozzles), Sandvik Eclipse™ DAFO/Forex
Carrier	
Diesel engine	QSB4.5, 122 kW, Tier 4F, Stage IV 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)
Fast filling system	Complete
Tramming cameras	Rear, side and front
Rod rack	On carrier side (max. load 400 kg) On the feed (left and right)
Power supply for MiniSSE	
Extra items	
Spare rock drill	RD525, RD520 or HLX5
Spare wheel assembly	Standard
Special tools for rock drill	Field kit
Documentation	Extra manuals
Package: Country specific options	LAM, USC, AUS, EUR
*Package: Harsh water	Basic or advanced (TS2-049)
*Package: Automation	Silver (Angle, depth measurement) Gold or Platinum (see below)

*) replaces standard feature

AUTOMATION GOLD PACKAGE

Boom 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)**

**) Licence for one year included

AUTOMATION PLATINUM PACKAGE

Automation Gold package content

Semi-automatic face drilling

Full automatic face drilling

iBOLT SYSTEMATIC BOLTING (OPTIONAL)

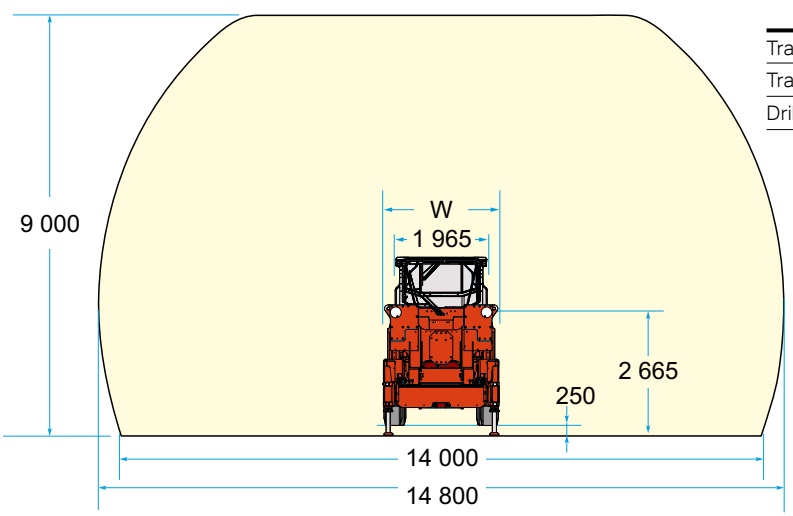
Bolting navigation with tunnel laser or total station

Assisted boom control for the bolt hole drilling

Bolt hole position logging

MWD data collection for bolt plans (iSURE)**

**) Licence for one year included

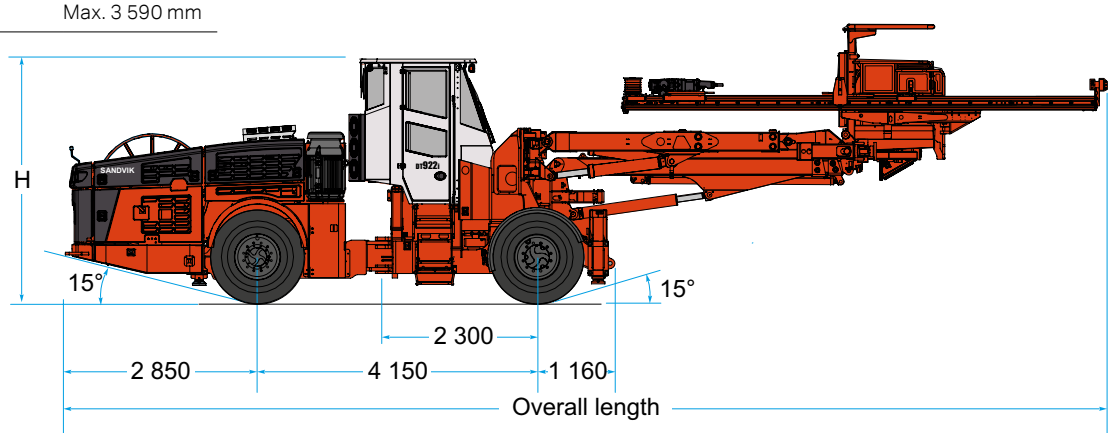


	Width (W)
Tramming	2 500 mm
Tramming with TRH	2 570 mm
Drilling with extended jacks	3 500 mm

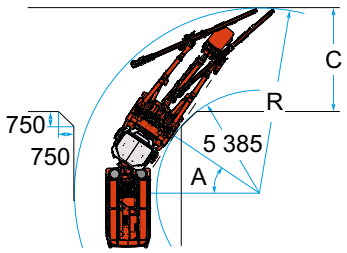
All dimensions in mm

	H
Standard cabin	3 590 mm
Cabin with lifting system	Min. 3 190 mm Max. 3 590 mm

		TF5i-14′	TF5i-16′	TF5i-18′	TF5i-20′	TFX8/14	TFX10/16
Overall length	mm	14 990	14 990	15 450	16 025	15 240	15 440



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

All dimensions in mm

Sandvik Mining and Rock Technology 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.

ROCKTECHNOLOGY.SANDVIK

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