



DT923i TUNNELING DRILL



ROCKTECHNOLOGY.SANDVIK

STEP TO A NEW LEVEL

Sandvik DT923i is an automated i-series tunneling jumbo able to drill a full face automatically. The drill is equipped with two electro-hydraulic booms designed to provide the highest levels of performance, accuracy and reliability.

The automatic drilling functions and boom positioning make it ideal for high quality face drilling at low operating cost.

A compact tele remote control station (option) allows the drill to be safely operated remotely and the operator to drill more holes during shift changes, blasting and ventilations times.

iSURE® software (four levels available) utilizes the rig's data collection to improve the work cycle and the drill and blast excavation process. The optional toolset GeoSURE, for geological analysis and mapping, as well as the onboard 3D-scanner provide valuable feedback to produce rock mass interpretation, assess reinforcement/injection needs and indicate over- and underbreak.



AUTOMATIC DRILLING FUNCTIONS

DIESEL ENGINE
LOW EMISSIONS

MAIN BENEFITS

FAST AND AUTOMATED DRILLING PROCESS

With the RD5-series high frequency rock drills and rock tools, a fast automatic rod handling system, this drill is designed for high speed drilling and accuracy.

The boom collision prevention and avoidance system is available as option with the Platinum package.

In case of weak ground conditions, Sandvik DT923i can be equipped with the AT - Pipe Umbrella optional kit to install pipes, prior to excavation to create an umbrella/canopy ensuring reliable support and increased stability.

Up to **20%*** higher penetration rate

MAXIMIZED PERFORMANCE

MAXIMIZED USABILITY

Up to **62%*** bigger side coverage

Up to **40%*** better filtration in exhaust particles

IMPROVED ERGONOMICS AND SAFETY



RD535 ROCK DRILL

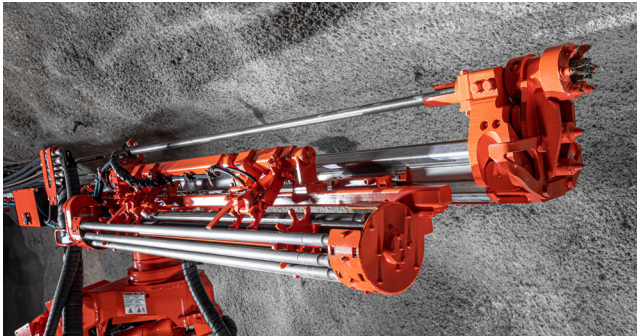
ROD HANDLING SYSTEM

SB110i INSTRUMENTED BOOM



SB110i INSTRUMENTED BOOM

The boom effectively provides up to 62% more side coverage whilst using a fully proportional boom control for accurate and fast manual boom handling delivering operational savings when tunneling.



ROD HANDLING SYSTEM

Sandvik SRH is a fully automatic rod handling system for longhole drilling in tunneling with Sandvik GT38 MF extension rods. The optimal hole size is 64 mm. Typical applications are drilling of injection and probe hole fans heading from tunnel face forward. SRH provides safe, ergonomic and automated way of extension rod handling.



BOOM COLLISION PREVENTION

The boom collision avoidance system improves the reliability of automatic boom movements by identifying the possible collision risks with another boom or carrier. Based on dynamic route recalculation the system not only helps to avoid collisions but helps maintain production rates.



SANDVIK 365 PARTS & SERVICES

PROUDLY KEEPING YOU ON TRACK!

Sandvik 365 Parts & Services offer a variety of possibilities to enhance your Sandvik DT923i drill's performance. As an OEM, we provide the best-suited choices to preserve your machine's high performance throughout its lifetime. These consist of highly skilled service specialists supporting you 365 days a year, all using Sandvik Genuine parts and components complemented by a range of robust tools. In addition, you get to enjoy the benefits of advanced digital services and a global infrastructure dedicated to keeping your Sandvik fleet on track.

TECHNICAL SPECIFICATION

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	SB110i (TS2-487)
Parallel coverage	125 m ² (with two booms)
Parallelism	Electric
Boom extension	2 050 mm
Boom weight, net	2 820 kg
Roll-over angle	360°
Bolt hole drilling	Yes

HYDRAULIC SYSTEM

Powerpack	HPP575 (2 x 75 kW IE3)
Percussion pump	140 cc (variable)
Rotation pump	71 cc (variable)
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	Advanced torque control system, 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®	With configuration readiness
Cable kit	Spare parts programming
Total station navigation set	Excl. total station

ELECTRIC SYSTEM

Standard voltage	380 - 690 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 m ³ /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 EN 16228, 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 V 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	

TECHNICAL SPECIFICATION

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 SRH)
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 TS2-463
Hand held fire extinguisher	1 x 6 kg (type ABC)
Wheel chocks and holders	2 pieces
Tramming alarm	Standard
Knowledge Box™	Connectivity solution (TS2-535)
Colour scheme	Sandvik
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 FEATURES AND PACKAGES

Rock drill

*Rock drill type	RD535 (with 75 kW HPP) RD520 or RDX5 (with 55 kW HPP) For RD525 / RD535 / RD520 and RDX5
Power extractor	
Drilling feed	
Feed length	TFi14', TFi18', TFi20'
*Telescopic feed	TFX6/12, TFX8/14, TFX10/16, TFX12/18
Rod retainer	SCR with TF feed (incl. safety wire) TRR1 with TFX feed (incl. safety wire)
Rod handling system	SRH (incl. SCR + PE for 8' or 10' extension rods, 8 + 1 extension rods)
AT pipe umbrella system	AT-114 or AT-139 (TS2-536)

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 / for camera
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	Manual
By pass oil filter	
Vacuum pump	For hydraulic oils
*Biodegradable oils	Sandvik oils

Control system

Access detector / protector	Mandatory in EUR / Canada (TS2-211)
Boom collision avoidance system	Not compatible with utility boom
User interface	2nd operator (standing)
3D scanning system	Requires iSURE IV
GeoSURE	Requires iSURE IV
iBOLT	Systematic bolting
Data transfer	WLAN including remote GUI view

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 unit	VYK
Dewatering pump outlet	Max. 8 or 16 kW, 380 / 690 / 1 000 V

OPTIONAL FEATURES AND PACKAGES

Electric system

Earth continuity control	1 wire pilot circuit
Indicator light	For jack up / down
Outlet on carrier	1 x 110 V or 1 x 230 V
Spot lights	Remote controlled 2 pcs
Battery jump start	

Air and water system

*Air compressor	CT28 instead of CTN10
*End of hole air flushing	1 x 60 l air receiver requires CT28
*Air mist flushing	CT28, 2 x OA40 cooler, IP5 (requires external air connection)
Water hose reel with hose	THR2.5E with 38 mm (1 1/2"), 65 m
Water loss measurement system	

Cleaning system

HP system with reel	Max. 180 bar (TS2-343)
---------------------	------------------------

Greasing system

Automatic system	Carrier, boom and utility boom
Manual system	Specification TS2-463

Operator's safety cabin

Low height Stainless steel cabin	FOPS
Elevation cabin system	Height min: 3 210 mm (FOPS only)
Safety grill	For cabin

Fire suppression system

Spare hand held fire extinguisher	1 x 7.7 kg or 9 kg (type ABC)
Manual or automatic system	Ansul, DAFO/Forex
Automatic system	Sandvik Eclipse™ (TS2-461)

Carrier

*Diesel engine	B4.5, 121 kW, Stage V B6.7, 194 kW, Stage V For fuel, oil and coolant (Wiggins)
Fast filling system	Rear, side and front
Tramming cameras	On carrier side (max. load 400 kg)
Rod rack	On the feed (left and right)

Power supply for MiniSSE

Extra items

Spare rock drill	RD535, RD525, RD520 or RDX5
Spare wheel assembly	Standard
Special tools for rock drill	Field tool set / complete tool set
Documentation	Extra manuals
iSURE®	iSURE II Plus annual license (Advanced drill and blast design including round reports) iSURE III Premium annual license (MWD including pull out analyses) iSURE IV Pro annual license (Tunnel development KPI's)
Package: Country specific options	LAM, USC, AUS, EUR
*Package: Harsh water	Basic or advanced (TS2-049)
*Package: Automation	Platinum (see below)
Package: Teleremote drilling	Spec sheet TS2-422

**) Replaces standard feature*

AUTOMATION PACKAGE : GOLD (STANDARD)

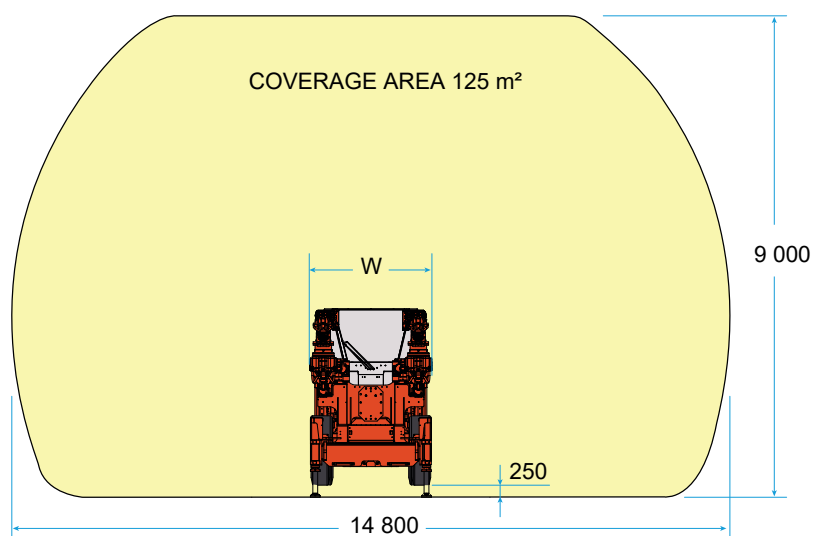
Boom electric parallelism
Drill plan visualisation on-board
Display of drill bit location vs. given drill plan
iSURE I Basic (Drill plan design)
Drill rig suitable with various navigation methods
Advanced MWD data collection with reporting and analyses tool (requires iSURE III)
DrillConnect mobile application : Connectivity through Knowledge box™ for easy data transfer to and from the rig

AUTOMATION PACKAGE : PLATINUM (OPTION)

Automation Gold package content
Semi-automatic face drilling
Full automatic face drilling

MAIN DIMENSIONS

The dimensions are indicative only - All dimensions in mm

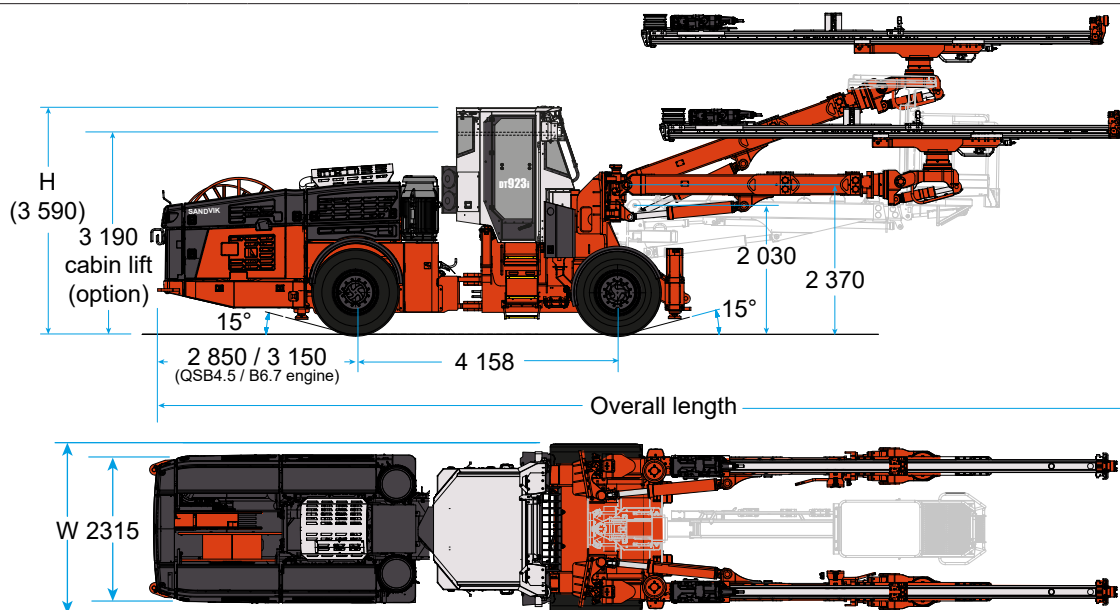


Width (W)	
Rear frame	2 315 mm
Tramming	2 500 mm
Wheels 17.5-25 for SRH and / or SUB4	2 570 mm

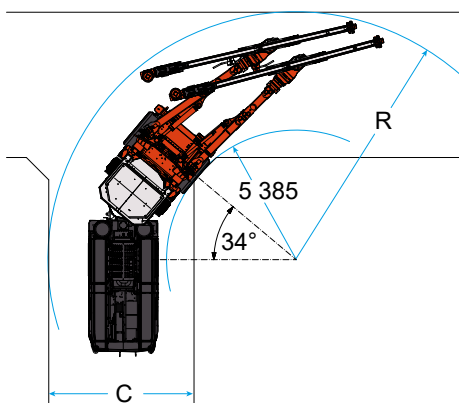
Height (H)	
Standard cabin	3 590 mm
Cabin with lifting system	Min. 3 190 mm Max. 3 590 mm

Weight	
Total weight (without basket boom)	30 500 kg depending on options
Total weight (with basket boom)	35 500 kg depending on options

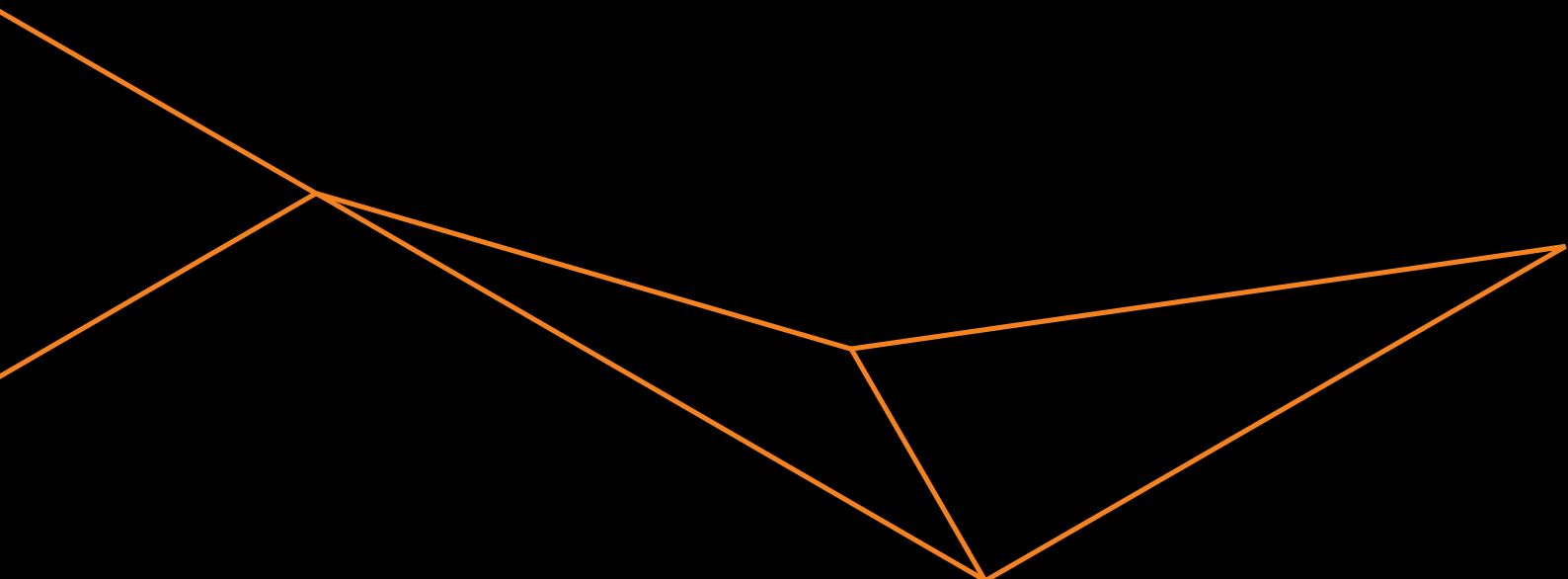
OVERALL LENGTH		TF5i-14'	TF5i-16'	TF5i-18'	TF5i-20'	TF5i-21'	TFX6/12	TFX8/14	TFX10/16
DT923i (QSB4.5)	mm	14 690	14 690	15 150	15 725	15 740	14 790	14 940	15 140
DT923i (B6.7)	mm	14 990	14 990	15 450	16 025	16 040	15 090	15 240	15 440



All dimensions in mm



		Angle (A)	Radius (R)	T-cross (C)
Without utility boom	DT923i (TF5i-12')	mm 34°	8 700	4 550
	DT923i (TF5i-14')	mm 34°	8 800	4 650
	DT923i (TF5i-16')	mm 34°	8 900	4 750
	DT923i (TF5i-18')	mm 34°	9 000	4 850
	DT923i (TF5i-20')	mm 34°	9 200	5 050
	DT923i (TF5i-21')	mm 34°	9 400	5 250
		Angle (A)	Radius (R)	T-cross (C)
With utility boom	DT923i (TF5i-12')	mm 34°	9 300	5 200
	DT923i (TF5i-14')	mm 34°	9 400	5 300
	DT923i (TF5i-16')	mm 34°	9 500	5 400
	DT923i (TF5i-18')	mm 34°	9 600	5 500
	DT923i (TF5i-20')	mm 34°	9 800	5 700
	DT923i (TF5i-21')	mm 34°	10 000	5 900



TS2-441:06ENG ©Sandvik Mining and Rock Solutions 2023 SANDVIK is a trademark owned by the Sandvik group of companies. Strömberg, 2023

Test results and calculations are to be considered as results reached under certain and controlled conditions. These test results and calculations should not be treated as specifications and Sandvik does not guarantee, warrant or represent the outcome of test results or calculations in any or all circumstances.