

DT923i Tunneling drill

Technical Specification





Step to a new level

Key features

Coverage	125 m² (H9.0 x W14.8 m)
Drift size class (H x W)	9 000 mm x 9 000 mm
Hydraulic rock drill	RD525 (25 kW)
Drill feed	TF5i, 14 - 20 ft
Boom	SB110i
Hole length	4.05 -5.88 m
Hole diameter (drifting)	43 - 64 mm
Automation package	Gold (std), Platinum (opt)
Turning width (T-section)	4 750 mm (TF5i-16')
Transport width	2 500 mm
Transport height	3 190 mm
Transport length	14 690 mm (TF5i-16')
Total weight (without basket boom)	30 500 kg depending on options
Total weight (with basket boom)	35 500 kg depending on options

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.



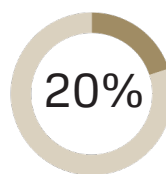
Main benefits

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.

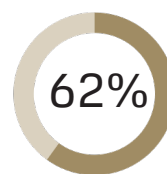
The boom collision prevention and avoidance system is available as option with the Platinum package.

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.



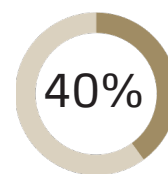
Maximized performance

Up to 20%* higher penetration rate



Maximized usability

Up to 62%* bigger side coverage (vs previous model)



Improved safety

Up to 40%* better filtration in exhaust particles





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

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.



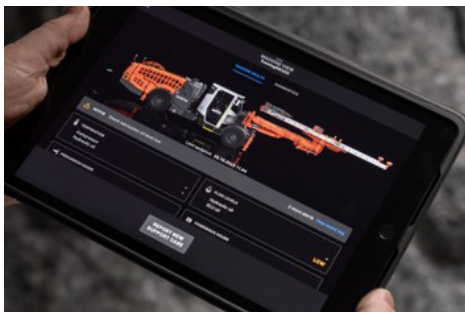
Boom collision prevention

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.



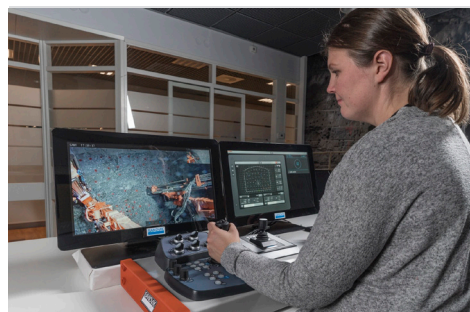
Digital Driller™

Through simulation, operators develop skills fully from basic boom movements and manual drilling to full automated drilling operations using various training scenarios.



Sandvik DrillConnect

Readiness for Sandvik DrillConnect mobile application for improved data management and enhanced maintenance, and My Sandvik digital services.



Teleremote drilling

Teleremote drilling allows a better utilisation of workforce and equipment and improved operator safety and performance.



Sandvik 365 Parts and 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 (bolting)	43 – 64 mm
Hole size (reaming)	76 – 127 mm
Recommended tools 43 - 45 mm: 48 - 51 mm:	T38 – H35 – Alpha 340 T38 – H35 – Alpha 360 T38 – R39 – Alpha 360
Shank adapter	T38 (male)
Weight	225 kg

Drilling feed

Type of feed	TF5i-14' Optional	TF5i-16' Standard	TF5i-18' Optional	TF5i-20' Optional
Feed force (max.)	25 kN	25 kN	25 kN	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	470 kg	500 kg	525 kg	555 kg

Boom

Type of boom	SB110i (TS2-487)
Parallel coverage	125 m² (with two booms)
Parallelism	Electric
Boom extension	2 050 mm
Bolt hole drilling	Yes
Roll-over angle	360°
Boom weight, net	2 820 kg

Hydraulic system

Powerpack	HPP575 (2 x 75 kW IE3)
Percussion and feed pump	140 cc
Rotation pump	71 cc
HVAC (Heating, Ventilation and air conditioning) pump	26 cc (gear)
Filtration size (pressure / return)	20 µ / 10 µ
Oil tank volume	270 liters
Oil tank filling pump	Electric
Cooler for hydraulic oil	OW55 oil to water (2 x 55 kW)

Drilling control system

Type of control system	SICA platform
Higher level in automation	Gold (std), Platinum (opt)
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® Mining Data Platform	With configuration readiness
Cable kit	Spare parts programming
Total station navigation set	Excl. total station

Automation package, Gold level (Standard)

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

Electric system

Multivoltage	380 – 1 000 V (±10%), RD525 575 - 1 000 V (±10%), RD535
Total installed power	200 / 230 kW (RD525 / RD535)
Main switch gear	MSE20
IP classification	Specification TS2-132
Automatic cable reel	TCR4CD with remote control and spooling system
Front lights	8 x 50 W LED (24V) >125lx, 20 000 lm; 6 000 k
Rear lights	2 x 50 W LED (24V) and 2 x 17 W LED (24V) 8 000 lm; 6 000 k
Parking rear brake /park lights	2 x Red LED
Amber flashing light	LED (24 V)
Electric current reducer	Standard
Electric quality monitoring	Voltage, Amperage, Power, Pf 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 back-up and management

Air and water flushing

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

Operator's safety cabin

Safety 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 in cabin	1 x 12 VDC, 1 x 24 VDC 1 x 120 / 230 V 16A
Stairs and indoors lights	LED lights
Audio player	MP3 player, radio, and bluetooth
Boot washer	At each cabin entrance
Toolboxes and first aid kit	
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 (127 kW, Tier 3, Stage IIIA)
Transmission	Hydrostatic
Axles	Dana Spicer
Tires	14.00-24 PR28 or 17.50-25 (with SRH)
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° (according to EN 16228-2)
Fuel tank	100 liters
Hydraulic jacks	SJ650 Telescopic (front) SJ700 Vertical (rear)
Wheel chocks and holders	2 Sets
Centralized greasing points	Specification TS2-463
Hand held fire extinguisher	1 x 7.7 kg (type ABC)
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

Automation package, Platinum level (Option)

Automation Gold package content
Semi-automatic face drilling
Full automatic face drilling
Boom collision prevention & avoidance

Optional features and packages

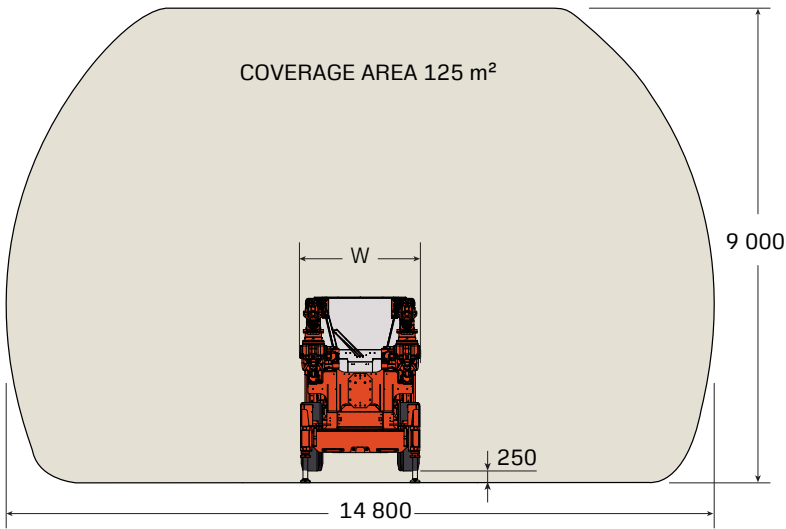
Rock drill	
*Type of rock drill	RD535, 75 kW HPP RD520 or RDX5 (OMS125), 55 kW HPP For RD525 / RD535 /RD520 and RDX5
Power extractor	
Drilling feed	
Feed length	TFi14', TFi18', TFi20'
*Telescopic feed	TFX6/12, TFX8/14, TFX10/16, TFX12/18
Rod retainer	SCR with TF feed (incl. safety wire) TRR1 with TFX feed (incl. safety wire)
Rod handling system	SRH (incl. SCR + PE for 8' or 10' extension rods, 8 + 1 extension rods)AT-114 or AT-139 (TS2-536)
AT pipe umbrella system	
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

Optional features and packages

Hydraulic system	
*Powerpack	HPP575 (2x75 kW)
*Filling pump for hydraulic oil	Manual
By pass oil filter	
Vacuum pump	For hydraulic oils
*Biodegradable oils	Sandvik oils
Drilling 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® Complete
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, RD525 575 - 1 000 V, 50 or 60 Hz, RD535
*Electric cables	Specification TS2-121
Ground fault and overcurrent unit	VYK
Dewatering pump outlet	Max. 8 or 16 kW, 380 / 690 / 1 000 V
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 (1½"), 65 m
Water loss measurement system	
Cleaning system	
HP system with reel	Up to 180 bar (TS2-343)
Greasing systems	
Automatic system	Carrier, boom and utility boom
Manual greasing 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
Fast filling system	For fuel, oil and coolant (Wiggins)
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	RD535, RD525, RD520 or RDX5
Spare wheel assembly	Standard
Special tools for rock drill	Field tool set / complete tool set
Documentation	Extra manuals
iSURE®	Complete for one year
iSURE® Geo	ProStart or Perpetual (incl. iSURE® Complete)
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	

Technical drawings

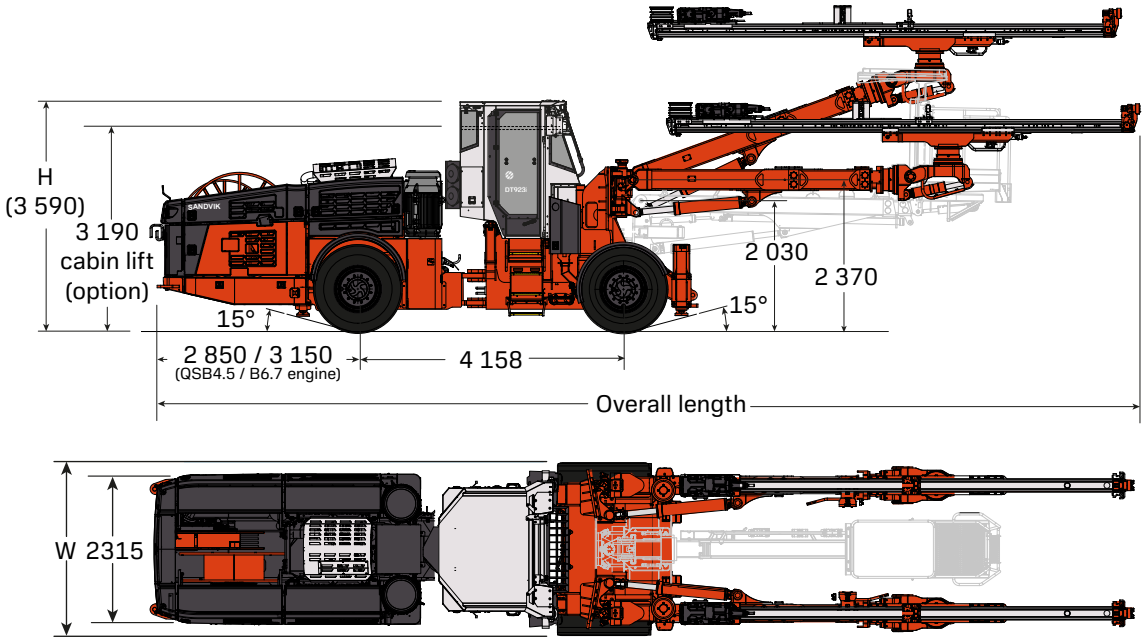
All dimensions in mm



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

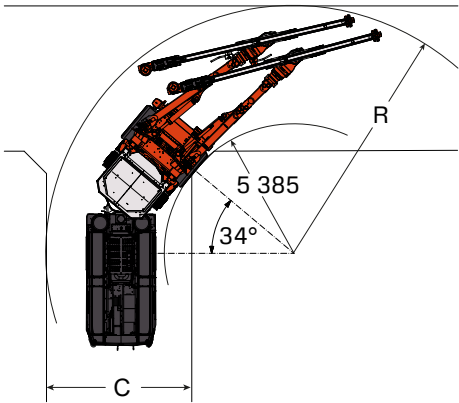
	Height (H)
Standard cabin	3 590 mm
Cabin with lifting system	Min. 3 190 mm Max. 3 590 mm

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



	Type of feed	Angle (A)	Radius (R)	T-cross (C)
Without utility boom	TFi5-14'	34°	8 800 mm	4 650 mm
	TFi5-16'	34°	8 900 mm	4 750 mm
	TFi5-18'	34°	9 000 mm	4 850 mm
	TFi5-20'	34°	9 200 mm	5 050 mm
	TFi5-21'	34°	9 400 mm	5 250 mm

	Type of feed	Angle (A)	Radius (R)	T-cross (C)
With utility boom	TFi5-14'	34°	9 400 mm	5 300 mm
	TFi5-16'	34°	9 500 mm	5 400 mm
	TFi5-18'	34°	9 600 mm	5 500 mm
	TFi5-20'	34°	9 800 mm	5 700 mm
	TFi5-21'	34°	10 000 mm	5 900 mm



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