SANDVIK

DD423i Development drill

Technical Specification



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Built on legacy. Driven by the future.

Key features

Coverage	80.7 m² (W11.6 x H7.7m)
Drift size class (H x W)	4 500 mm x 4 500 mm
Hydraulic rock drill	RD525 (25kW)
Drill feed	TF5i, 12 - 20 ft
Boom	SB75i
Automation package	Gold (std), Platinum (opt)
Transport width	2 310 mm
Transport height	3 150 mm / 3 050 mm
Transport length	13 250 mm
Total weight	26 000 kg depending on options

Sandvik DD423i is an intelligent development drill providing a high level of performance for underground mine development and small scale tunneling, including comprehensive drilling and ground support features.

It is equipped with an intelligent torque optimized drilling control system which helps to minimize hole deviation during drilling, reduce jammings, and maximize the tool life and penetration rate.

The Sandvik DD423i comes standard with advanced automation features and offers scalable automation options, up to tele-remote operation with drill bit changers and fully automated drilling.

Comprehensive drill planning, reporting, and analysis tools ensure high drilling and blasting precision, maximizing pull-out per blast.

Thanks to the upgraded cabin with full glass doors, operator visibility is improved, enhancing overall safety by reducing the need for the operator to leave the cabin during operation. It also enables continuous drilling, eliminating the need to stop and check hole placement when operating in manual mode.



Main benefits

Better Face coverage

DD423i has extra coverage that allows more drilling without moving the machine or using a benching method to drill the face.

Improved crosscut drilling

DD423i can drill wider crosscuts and more slashing holes without moving the machine several times.

One setup can do more drilling

Can drill easily in 3 directions with one machine setup.

Improved operator vision

Improved safety, less requirements for operator to leave the cabin during operation. Continuous drilling no stopping to check hole placement when in manual mode.

Improved air quality (cabin)

Reduced airborne particles.
Healthier environment for operators.



Optimized working environment

Modern and ergonomic cabin for maximum operator comfort with reduced noise level and improved visibility with full glass door.



Larger coverage with SB75i

Sandvik SB75i boom is a hydraulic universal double roll-over boom for face drilling. It offers larger coverage than the SB60i boom.



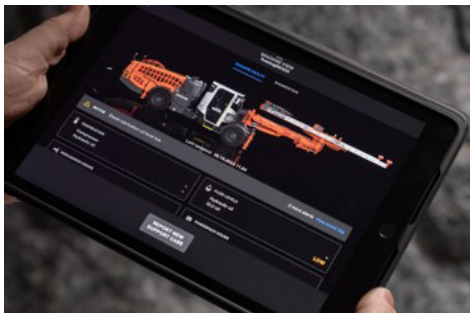
Scalable automation

Maximize drilling efficiency and extend the lifetime of drilling tools with scalable automation packages.



Drill bit changer

The patented semi-automatic drill bit changer allows bit changing from a safe location.



Sandvik DrillConnect

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



Tele-remote operations with AutoMine® for Underground Drills

Remotely control or supervise multiple automated machines simultaneously.



Sandvik 365 Parts and Services

Proudly keeping you on track!

Sandvik 365 Parts & Services offer a variety of possibilities to enhance your Sandvik DD423i 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. 220 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

Fixed drilling feed

Type of feed	TF5i-12' Standard	TF5i-14' Optional	TF5i-16' Optional	TF5i-18' Optional	TF5i-20' Optional
Feed force (max.)	25 kN	25 kN	25 kN	25 kN	25 kN
Feed extension	1 650 mm	1 650 mm	1 650 mm	1 650 mm	1 650 mm
Total length	5 355 mm	5 965 mm	6 575 mm	7 185 mm	7 710 mm
Hole length	3 440 mm	4 050 mm	4 660 mm	5 270 mm	5 880 mm
Rod length	3 700 mm	4 305 mm	4 915 mm	5 525 mm	6 135 mm
Net weight	500 kg	530 kg	560 kg	590 kg	620 kg

Telescopic drilling feed (options)

Type of feed	TFX6/12	TFX8/14	TFX10/16
Feed force (max.)	25 kN	25 kN	25 kN
Feed extension	1 650 mm	1 650 mm	1 650 mm
Total length	3 560 / 5 390 mm	4 170 / 6 000 mm	4 780 / 6 610 mm
Hole length	1 610 / 3 440 mm	2 220 / 4 050 mm	2 830 / 4 660 mm
Rod length	1 830 / 3 700 mm	2 440 / 4 305 mm	3 050 / 4 915 mm
Net weight	640 kg	680 kg	730 kg

Boom

Type of boom	SB75i (TS2-577)
Parallel coverage	74.5 m^2 (for one boom) 80.7 m^2 (with two booms on DD423i)
Parallelism	Electric
Boom extension	1 700 mm
Bolt hole drilling	Yes
Roll-over angle	360 °
Boom weight, net	2 400 kg

Hydraulic system

Powerpack	HPP575 (2 x 75 kW)
Percussion and feed pump	110 cc
Rotation pump	60 cc
HVAC (Heating, Ventilation and air conditioning) pump	26 cc
Filtration size (pressure / return)	20 µ / 10 µ
Oil tank volume	270 liters
Oil tank filling pump	Electric
Cooler for hydraulic oil	OW100PF oil-to-water

Drilling control system

Type of control system	SICA
Drilling control modes	Torque optimized/feed percussion/manual
Comprehensive diagnostic system	
Electronic joystick controls	
Advance carrier functions	
15" full color touch screen	
Basic angle & drilling depth measurement	
Reference hole & penetration rate information	
Advanced boom manipulator mode	
Counters for drilling consumables	
Cable kit for spare part programming	
Safety lock for movement prevention	2 switches
Newtrax MDP	With configuration readiness

Automation package, Gold level (Standard)

Drill plan visualization onboard
Display of drill bit location vs. given drill plan
iSURE® Basic license
Drill rig suitable with various navigation methods
Advanced MWD data collection with analyses tool (iSure)
DrillConnect mobile application : Connectivity through Knowledge box™ for easy data transfer to and from the rig

Automation package, Platinum level (Option)

Automation Gold package content
Hole end correction from different start point
Semi-automatic boom movements
Automatic boom movements (full face automation)
Boom collision avoidance system (separate option)

Electric system

Multivoltage	380 – 1 000 V (±10%)
Total installed power	170 - 200 kW
Main switch gear	MSE20
IP classification	Specification TS2-132
Starting method	Direct on line 380 V - 1 000 V
Automatic cable reel	TCR4CD with spooling system
Cable reel control	Operator station and remote control at rear machine)
Front lights	6 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
Stair and service lights	LED (24 V)
Amber flashing light	LED (24 V)
Electric quality monitoring	Voltage, Amperage, Power, Pf Energy, Phase-sequence
Motor protection	Intelligent control with power maximization
Extra low voltage supply	Continuous 80 A (27 VDC) with battery back-up and management

Air and water flushing

Flushing of holes	By Water
Water booster pump type	WBP2 HP
Water pump capacity	185 l/min
Water pump inlet pressure	2 bar (Min.)
Flushing water pressure	10 - 15 bar
Shank lubrication device	SLU2 (air / oil mist)
Air compressor	CTN10 (1.0 m^3/min at 7 bar)
Compressed air and water outlet	Quick coupling
Oil consumption	150 - 250 g/h
Air consumption	250 - 350 l/min

Technical Specification

Operator's safety cabin

Safety cabin certification	FOPS / ROPS (ISO 3449 / 3471) with safety grill
Operation	Seated tramming Standing and seated drilling
Sound pressure level	According to EN16228, ISO1120. Operator station: 69 db(A)
Vibration level	According to EN16228, ISO2631-1 ISO5349-1, ISO5349-2
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 V and MP3 player readiness
Boot washer	At each cabin entrance
Safety laminated acoustic windows	

Carrier

Type of carrier	C403D (frame-steered)
Carrier articulation	± 40°
Rear axle oscillation	± 8°
Ground clearance	350 mm
Diesel engine	QSB4.5, 127 kW, Tier 3, Stage IIIA
Transmission	Hydrostatic
Axles	Dana Spicer
Tires	14.00–24 PR28
Brakes	SAHR type, fail-safe wet disc brakes
Tramming speed	12 km/h (limited)
Gradeability / sideways tilt	Max.15° / 5° (according to EN 16228-2)
Fuel tank	150 liters
Hydraulic jacks	2 x SJ500 (front) 2 x SJ600 (rear)
Wheel chocks and holders	2 Sets
Centralized greasing points	Specification TS2-463
Manual greasing system	Unit with pump, reel and nozzle
Hand held fire extinguisher	1 x 7.7 or 9 kg (type ABC)
Tramming alarm	Standard
Toolboxes and first aid kit	
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 E-manuals on USB

Optional features and packages

Rock drill	
*Type of rock drill	RD520, RDX5 (OMS80) with HPP555
Power extractor	for RD525, RD520, RDX5
Stabilizer diagnostics indicator	for RD520 or RD525
Feed	
Type of feed	14', 16', 18', 20', TFX6/12, 8/14, 10/16
Rod retainer	TRR1 incl. safety wire, add 35 mm length
Two rods system	TRS included TRR1 with safety wire
Drill bit changer	12 x std bits (45 / 48 / 51mm bits) + 2 reaming bits incl. SCR rod retainer
Hydraulic system	
*Powerpack	HPP555 (2x55 kW) with RDX5, RD520
Vacuum pump	For hydraulic system
By pass oil filter	

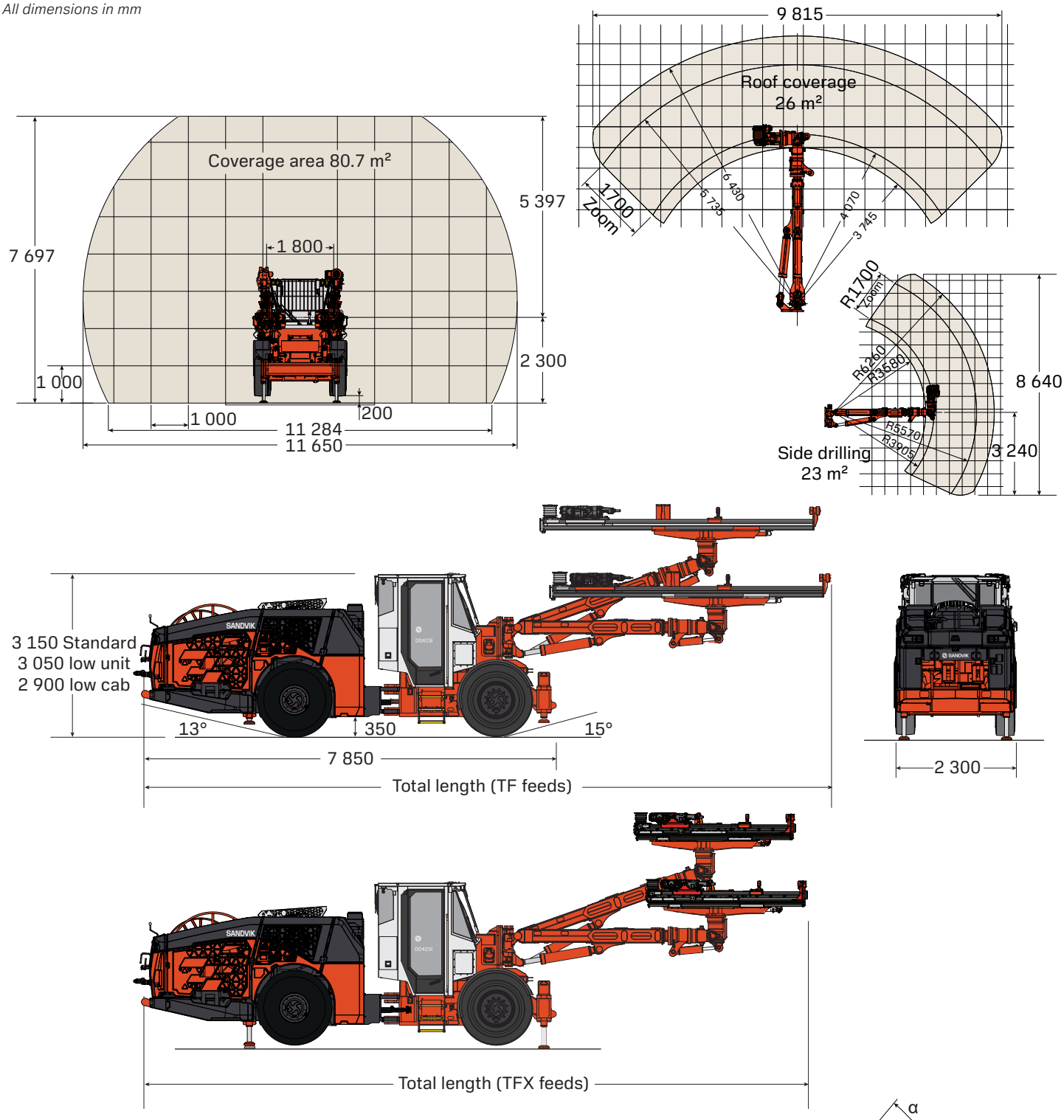
Optional features and packages

Drilling control system	
Boom collision avoidance system	
Boom control while tramming	
Reversed bolt joint	
Data transfer	WLAN including remote GUI view
Access detector and protector	Mandatory in Europe (TS2-211)
DrillConnect mobile application	Connectivity through Knowledge box™ for easy data transfer to and from the rig
Air and water system	
Air mist flushing kit	2 x OA40, IP5 air cleaner and flow control
*End of hole air flushing	Including CT28 air compressor
Water hose reel with water hose	THR2.5E with 38 mm (1 ½"), 65 m
Cleaning system	
HP system with reel	Up to 180 bar (TS2-343)
Greasing systems	
Automatic system	Lincoln (complete)
Electric system	
*Optional voltage	1 000 V (50/60 Hz) with DOL starter
*Electric cables	Specification TS2-121
Ground fault and overcurrent protection	VYK (excl. USA/Canada)
Dewatering pump outlet	8kW, site voltage 380 - 690 V, 50/60Hz 8kW, 400 V, 50/60Hz with transformer 8kW, 1 000 V
Multi voltage basic	380 – 440 V, 690 V 50 Hz
Multi voltage pro	380 – 1 000 V, 50 or 60 Hz
Electric current draw reducer unit	
Remote controlled spot lights	2 pcs
Indicator lights	For jacks up / down
Earth continuity control	1 wire pilot circuit with remote reset / disconnect
Auxiliary outlet	1 x 110 V or 1 x 230 V, 16 A
Battery jump start	Optional
Jack leg movement flashing light	LED
Indicator light for boom movement prevention switch status	2 x on both sides, 1 x inside cabin (green or red depending status)
Cable plug holder	For 1 000 V electric system
Operator's safety cabin	
*Low height FOPS/ROPS cabin	Height 2 900 mm with safety grill
*Low height unit	Height 3 050 mm (incl. tram camera) (std cabin w/o 100 mm ex. pieces)
Safety grill lifting mechanism	400i serie Cabin
Tramming camera	Rear and side
Fire suppression system	
Spare hand held fire extinguisher	1 x 7.7 or 9 kg (type ABC)
Manual or automatic system	Ansul, 6 nozzles (TS2-460)
Automatic system	Sandvik Eclipse™ (TS2-461)
Carrier	
*Diesel engine	B4.5, 121 kW, Tier 4F, Stage V F3.8, 129 kW China 4
*Foam filled tires	4 pcs
Hydraulic jacks	Horizontal expandable jacks
Fast filling system	Complete
Rod rack	On carrier side (Max. 400 kg)
Extra items	
Spare rock drill	RD525, RD520, RDX5
Spare wheel assembly	14.00-24 PR28 or foam filled tire
Warranty extension	One year (excl. Kazakhstan)
Special tools for rock drill	Field tool set, complete tool set
Documentation	Extra, Catbase, Link one manuals
iSURE®	Complete for one year
iSURE® Geo	ProStart or Perpetual (incl. iSURE® Complete)
Packages: Automation	Platinum
Packages: Extreme environment	Specification TS2-166
Package: Tele-remote operations with AutoMine® for Underground Drills	Specification TS2-422
Package: iNav total station	Specification TS2-575
Package: Operator cabin comfort	Air suspension set, extra storage, adjustable drilling panel, 110 V / 230V outlet, radio player and loudspeakers, rubber floor mat

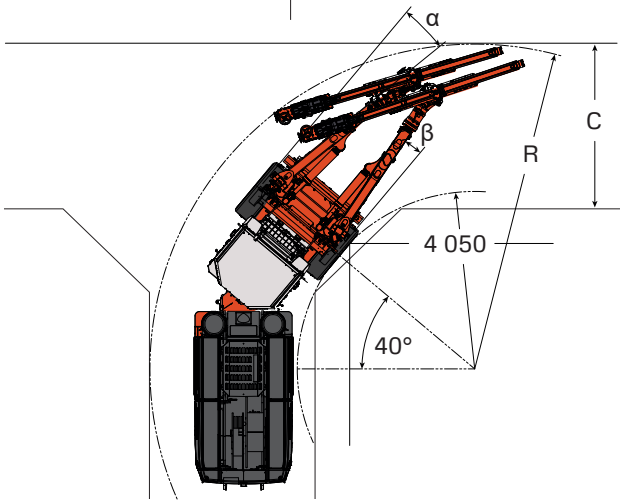
**) Replaces standard feature*

Technical drawings

All dimensions in mm



Type of feed	Radius (R)	T-cross (C)	Left boom angle (α)	Right boom angle (β)	Overall length
TFi500-12’	7 470 mm	3 790 mm	10°	3°	13 185 mm
TFi500-14’	7 580 mm	3 900 mm	10°	3°	13 385 mm
TFi500-16’	7 400 mm	4 030 mm	10°	3°	13 835 mm
TFi500-18’	7 550 mm	4 177 mm	10°	3°	14 585 mm
TFi500-20’	8 300 mm	4 315 mm	10°	3°	15 190 mm
TFX6/12	6 850 mm	3 710 mm	7°	6°	13 145 mm
TFX8/14	6 900 mm	3 785 mm	7°	6°	13 220 mm
TFX10/16	7 000 mm	3 863 mm	7°	6°	13 830 mm



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