

DD312i Development drill

Technical Specification





Intelligent
drilling control

Ergonomic and
comfortable cabin

Low emissions
diesel engine

Intelligent single boom drill

Sandvik DD312i is an advanced development drill providing a high level of performance, accuracy and safety, for underground mine development and small scale tunneling.

Equipped with a wide range of automatic drilling functions, it enables increased productivity with reduced costs.

Sandvik DD312i is equipped with Sandvik Intelligent Control System Architecture (SICA), a well-proven and commonly used control system across various Sandvik drill rigs. This technology enables a wide range of functions for achieving maximized performance and precision in drilling. This drill rig has automatic drilling functions helping to achieve reduced over-breaking with maximized pull-out per blast.

Comprehensive drill planning, reporting, and analyzing tools provided along with the drill rig will help to achieve high quality results in drilling and blasting precision.

Key features

Coverage	Up to 48.2 m ² (H 6.67 m x W 8.07 m)
Drift size class (H x W)	3 000 mm x 3 000 mm
Hydraulic rock drill	RDX5 (OMS100)
Drill feed	TF500, 10 - 16 ft
Boom	SB40NV SB55i (option)
Automation package	Silver (option) Gold (option)
Transport width	2 020 mm
Transport height	2 620 mm / 2 770 mm
Transport length	12 700 mm (TF512)
Total weight	16 500 kg depending on options



RDX5
Rock drill

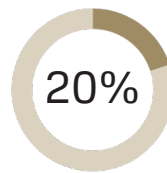
SB55i (OPTION) -
Robust and strong
instrumented boom for automation

Main benefits

High level automation

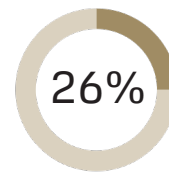
Sandvik DD312i has features from one rod automation, angles and hole depth measurements and reporting, drill plan visualization, up to full face automation and tele-remote drilling.

Intelligent torque optimized drilling control system minimizes hole deviation during drilling, reduces jamming and maximizes tool life consistently.



Improved productivity

Up to 20% improved productivity with gold package versus hydraulic non instrumented drill



Drilling coverage

Up to 26% bigger coverage with SB55i versus SB40 boom



Improved comfort

Up to 100% improved comfort and safety with seated drilling in FOPS/ROPS cabin or canopy



Optimized working environment

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



SB55i instrumented boom (option)

The SB55i instrumented boom ensures precise and fast positioning of the drill feed and rock tools, with electronic parallelism and instrumentation for hole angles, depth, and positioning measurements.



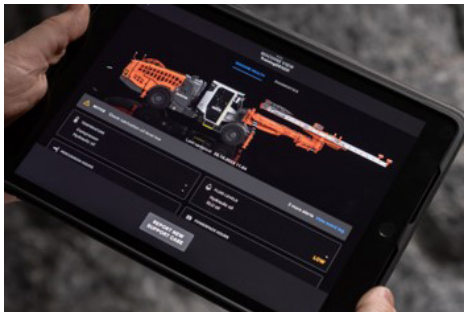
Low emissions diesel engine

To improve the underground working conditions, DD312i can be equipped with engines certified to the most restrictive environmental norms, such as to Tier 4F, Stage V, China 4 and CANmet certification.



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.



Drill plan visualization

Sandvik Gold package delivers with your drill rigs significant improved drilling accuracy. Therefore, it also decreases the amount of over and under excavation.



Sandvik 365 Parts and Services

Proudly keeping you on track!

Sandvik 365 Parts & Services offer a variety of possibilities to enhance your Sandvik DD312i 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	RDX5 (TS2-433)
Percussion power	20 kW
Percussion pressure	220 bar
Percussion rate	67 Hz
Rotation speed (max.)	330 rpm (OMS100)
Rotation torque	545 Nm (OMS100)
Hole diameter (drilling)	43 – 64 mm
Hole diameter (reaming)	76 – 127 mm
Recommended tools	
43 - 45 mm:	T38 – H35 – Alpha® 340
48 - 51 mm:	T38 – H35 – Alpha® 360 T38 – R39 – Alpha® 360
Shank adapter	T38 (male)
Weight	210 kg

Fixed drilling feed

Type of feed	TF500-10' Optional	TF500-12' Standard	TF500-14' Optional	TF500-16' Optional
Feed force (max.)	25 kN	25 kN	25 kN	25 kN
Feed extension	1 350 mm	1 350 mm	1 350 mm	1 350 mm
Total length	4 690 mm	5 355 mm	5 965 mm	6 575 mm
Hole length	2 830 mm	3 440 mm	4 050 mm	4 660 mm
Rod length	3 090 mm	3 700 mm	4 305 mm	4 915 mm
Net weight	470 kg	500 kg	530 kg	560 kg

Telescopic drilling feed (options)

Type of feed	TFX6/12	TFX8/14
Feed force (max.)	25 kN	25 kN
Feed extension	1 350 mm	1 350 mm
Total length	3 560 / 5 390 mm	4 170 / 6 000 mm
Hole length	1 610 / 3 440 mm	2 220 / 4 050 mm
Rod length	1 830 / 3 700 mm	2 440 / 4 305 mm
Net weight	640 kg	680 kg

Boom

Type of boom	SB40NV (TS2-257)
Parallel coverage	44.5 m ²
Parallelism	Automatic hydraulic
Boom extension	1 050 mm
Boom swing, left and right	40° (left), 40° (right)
Roll-over angle	358°
Feed swing angle	± 90°
Boom weight, net	2 100 kg

Hydraulic system

Powerpack	1 x 75 kW, IE3 motors
Filtration size (pressure / return)	20 μ / 10 μ
Hydraulic oil kidney filtration	2 x push pulls
Oil tank volume	167 liters (140 liters oil)
Oil tank filling pump	Electric
Cooler for hydraulic oil	OA58 Oil-to-air combicooler for tramming and drilling (1 x 58 kW)

Drilling control system

Type of control system	SICA
Drilling control modes	Torque optimized, or Feed percussion follow up, both with flushing flow control
Comprehensive diagnostic system	
Electronic joystick controls	
12" full color touch screen	
Safety lock for movement prevention	2 x switches
Automation	One rod automation assisted collaring, all rods drilling, auto-return, flushing, end of hole cleaning and retract

Electric system

Standard voltage	380 – 1 000 V (±10%)
Total installed power	80 kW
IP classification	Specification TS2-132
Starting method	Star delta starter 380 V - 575 V Direct on line 660 V - 1 000 V
Automatic cable reel	TCR4CD with spooling system
Cable reel control	1 x Operator station and 1 x Remote control (machine rear)
Earth continuity control	1 x Wire pilot circuit with remote reset / disconnect
Front lights	6 x 50 W LED (24V), 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	2 x LED (24 V)
Battery isolation switch	1 x Rear frame (lockable) 1 x Operator station
Electric quality monitoring	Voltage, Amperage, Power, Pf Energy, Phase-sequence alarm
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	WBP1
Water pump capacity	33 l/min at 15 bar
Water pump inlet pressure	2 - 7 bar
Flushing water pressure	10 - 15 bar
Shank lubrication device	SLU1 (air / oil mist)
Air compressor	2.4 m ³ /min hydraulically powered variable speed air compressor
Compressed air and water outlet	Quick coupling
Hooks	2 x Small, for hanging plugs
Oil consumption	150 - 250 g/h
Air consumption	250 - 350 l/min

Operator's safety cabin

Safety cabin certification	FOPS / ROPS (ISO 3449 / 3471)
Safety grill	For standard cabin
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	T-back seat, adjustable (tramming, drilling)
Optimized dust level control via air circulation	
Air conditioning	EU6/7 filtering capacity
Electricity outlets	1 x 12 V and CD player readiness
Auxiliary outlet	1 x 12 V (10 A), USB outlet 1 x 5 V (5 A)

Technical Specification

Carrier

Type of carrier	C300D (frame-steered)
Carrier articulation	± 41°
Rear axle oscillation	± 8°
Ground clearance	300 mm
Diesel engine	Deutz TCD 3.6 diesel engine, 100 kW (Tier 3, Stage IIIA, MSHA, CANmet)
Transmission	Hydrostatic
Axles	Dana Spicer with ABA brakes
Tires	12.00-20 PR20
Brakes	SAHR type, fail-safe wet disc brakes
Tramming speed	12 km/h on flat ground 15% = 1/7 = 8° approx. 5,5 km/h
Gradeability / sideways tilt	Max.15° / 5° (according to EN 16228-2)
Fuel tank	150 liters
Hydraulic jacks	2 x SJ500 (front), 2 x SJ500 (rear) with power pack activation
Manual greasing system	Specification TS2-463
Tramming cameras	1 x at rear, 2 x on each side
Reverse tramming alarm	Standard
Knowledge Box™	Connectivity solution (TS2-535) My Sandvik readiness
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 USB key of manual (PDF format) 1 x Online Parts manuals

Instrumentation (Option)

Drilling instrument: holes & drilled meters counter
Counter & recommended change intervals for drill bits & tools

Automation package, Silver level (Option)

All instrumentation features
SB55i boom with electronic autoparallelism and dual roll overs
Feed angles measurement
Presettable angles and depth indications for reference hole
Drilling depth measurement & drilling speed (penetration rate)

Automation package, Gold level (Option)

All Silver package features
Drill plan visualization onboard
Display of drill bit location vs. given drill plan
iSURE® (Drill plan design / Drill & Blast optimization)
Drill rig suitable for drill bit navigation
Advanced Measure While Drilling (MWD) data collection with analyses tool (iSure)
Display of drill bit location vs. given drill plan
DrillConnect mobile application : Connectivity through Knowledge box™ for easy data transfer to and from the rig

Optional features and packages

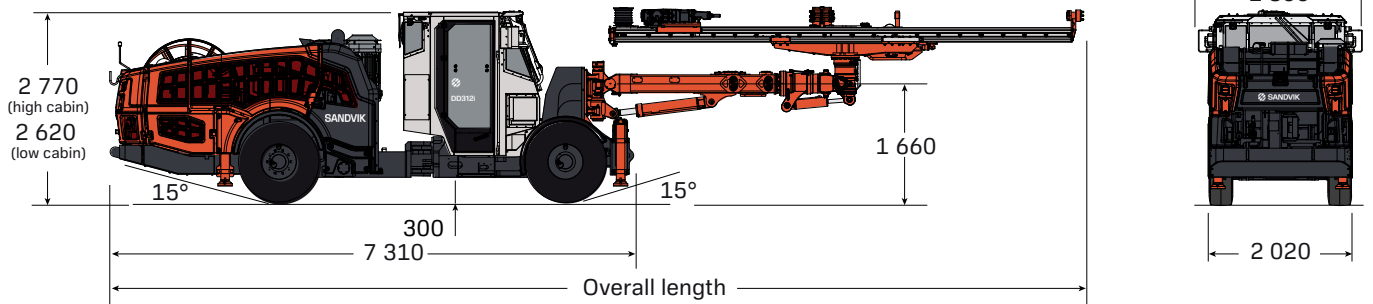
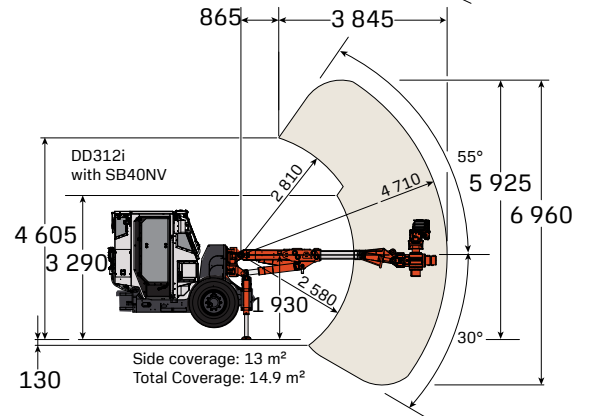
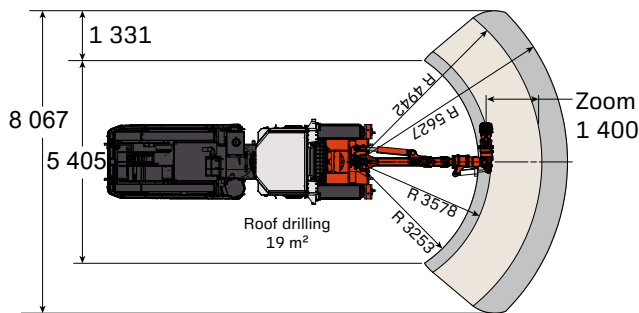
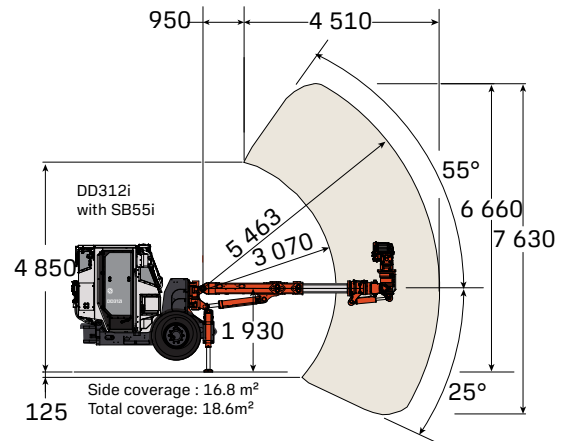
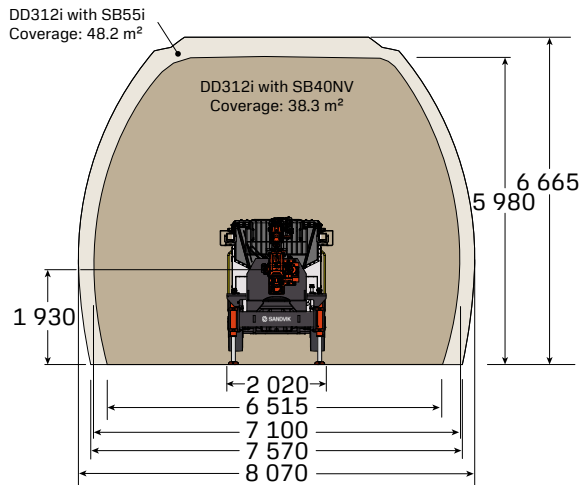
Rock drill	
*Type of rock drill	RD520 (OMS100)
Power extractor	for RDX5 or RD520
Stabilizer diagnostics indicator	for RD520
Feed	
Type of feed	10', 14', 16', TFX6/12, 8/14
Rod retainer	TRR1 incl. safety wire, add 35 mm length of the feed
Boom	
Type of boom	SB55i instead of SB40NV
Boom control while tramming	With SB55i only
Boom suspension system	With SB40NV boom only
Hydraulic system	
Vacuum pump	For hydraulic system
*Biodegradable hydraulic oil	Condat HFDU 68 flameproof
By pass oil filter	For improved oil filtration

Optional features and packages

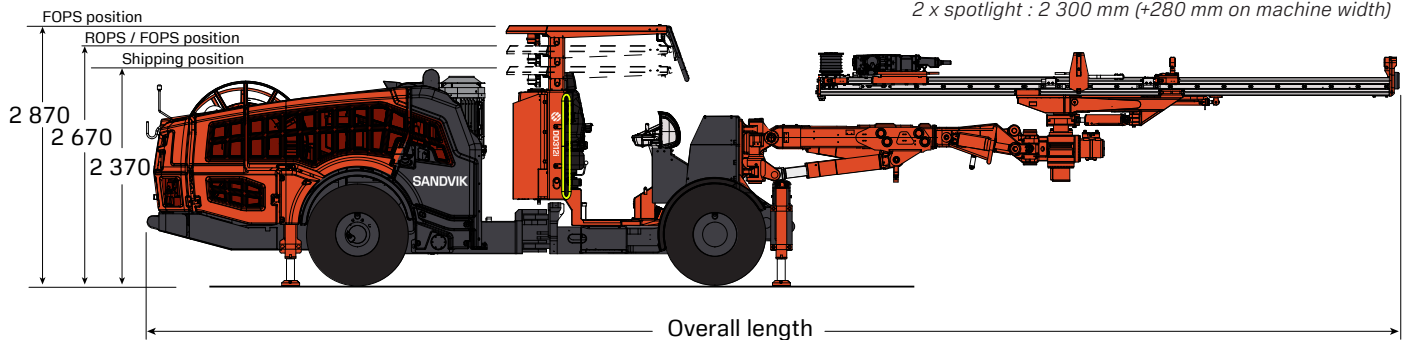
Drilling control system	
Data transfert (USB/WLAN)	Including DrillConnect
Access detector and protector	Mandatory in Europe (TS2-211)
Air and water system	
Air mist flushing kit:	
- External air / external water	IP5 air cleaner + air inlet
- Onboard air / external water	Air compressor + WBP1
- Onboard air / onboard water	Air compressor + 430 liters onboard water tank + WBP1
*End of hole air flushing	Automatic air flushing
1 x 60 liters air receiver	For end of hole air flushing
Additional harsh water cooler	On SLU air line
Water hose reel with water hose	THR2.5E + hose Ø32 mm(1¼"), lg 80 m
Water hose	Hose Ø32 mm(1¼"), lg 80 m with hooks
Cleaning system	
High pressure system with reel	Up to 180 bar (TS2-343)
Greasing systems	
Automatic system	Lincoln (complete)
Centralized greasing point	Carrier and boom
Electric system	
*Electric cables	Specification TS2-121
Ground fault and overcurrent protection	VYK, VYK 1 000
Dewatering pump outlet	8kW, site voltage 380 - 690 V, 50/60Hz 8kW, 400 V, 50/60Hz with transformer 8kW, site voltage 1 000 V
Remote joystick-controlled spotlight (cabin)	1 x Left (+140 mm on machine width) 1 x Right (+140 mm on machine width) For jacks up / down
Indicator lights	For jacks up / down
Auxiliary outlet (cabin or canopy)	1 x 110 V (15 A) or 1 x 230 V (16 A)
Auxiliary outlet (carrier)	2 x 110 V (15 A) or 2 x 230 V (16 A)
Battery jump start	Optional
Indicator light for boom movement prevention switch status	2 x on both sides, 1 x inside cabin (green or red depending upon status)
Extra working lights	2 x 50 W LED (24V)
Stairs and service lights	LED (24 V)
Turn lights + braking/parking lights	Blinkers, front and rear
Additional lights (for automation)	2 x side lights + 2 x service lights
Operator's safety cabin	
*Low height cabin with safety grill	FOPS/ROPS (ISO 3449), H= 2620 mm
Safety canopy	FOPS / ROPS (ISO 3449), H= 2670 mm
Safety grill	For canopy
Audio system (cabin)	MP3 player, USB, Bluetooth® and radio
Heating system (cabin)	For drilling and tramming
Air filter (cabin)	H13 cabin filter, HEPA
Boot washer and stairs lights	At each cabin entrance
Swing mechanism for T-back seat	For standing and seated drilling
Seat with armrest and swing mechanism	For standing and seated drilling
Seatbelt alarm & interlock	Tramming stop and steering lock
Fire suppression system	
Handheld fire extinguisher	1 or 2 x 6 kg (CE) or 7.7 kg (Ansul) (type ABC)
Manual or automatic system	Ansul, 6 nozzles (TS2-460)
Automatic system	Sandvik Eclipse™ (TS2-461)
Carrier	
*Diesel engine	Deutz TCD3.6 L4 (105 kW Stage V) Deutz TCD3.6, (95 kW, China IV)
*Foam filled tires	4 pieces
Fast filling system	Complete
Rod rack and shank holder	On carrier side (max. 400 kg)
Wheel chocks and holders	2 pieces
Proximity detection system	CANbus Level 9
Extra items	
Spare rock drill	RDX5, RD520
Spare wheel assembly	12.00-20 PR20 or foam filled tire
Filling device for accumulators	Specification TS2-430
Warranty extension	One year (excl. Kazakhstan)
Special tools for rock drill	Field tool set
Documentation	Extra, Link one manuals
Packages: Country	LAM, China, CE, USA, Canada, Australia
Packages: Harsh water	Basic or advanced
*) Replaces standard feature	

Technical drawings

All dimensions in mm

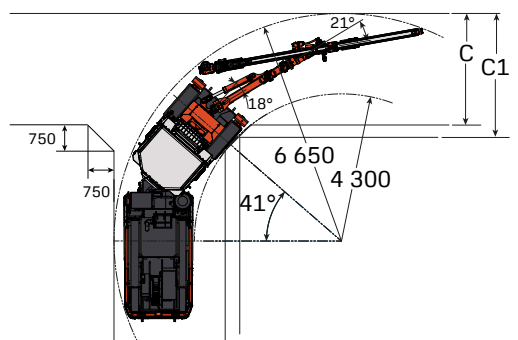


*) 1 x spotlight : 2 160 mm (+140 mm on machine width)
2 x spotlight : 2 300 mm (+280 mm on machine width)



Type	Overall length	External radius (R)	Cornering (C1)	Cornering (C)
SB40NV + TF510	11 900 mm	6 650 mm	3 610 mm	3 258 mm
SB40NV + TF512	12 700 mm	6 650 mm	3 610 mm	3 258 mm
SB40NV + TF514	13 280 mm	6 650 mm	3 610 mm	3 258 mm
SB40NV + TF516	13 585 mm	6 650 mm	3 610 mm	3 258 mm
SB40NV + TFX6/12	12 500 mm	6 650 mm	3 610 mm	3 258 mm
SB40NV + TFX8/14	12 500 mm	6 650 mm	3 610 mm	3 258 mm
SB55i + TF510	12 330 mm	6 650 mm	3 610 mm	3 258 mm
SB55i + TF512	12 910 mm	6 650 mm	3 610 mm	3 258 mm
SB55i + TF514	13 130 mm	6 650 mm	3 610 mm	3 258 mm
SB55i + TF516	13 710 mm	6 650 mm	3 610 mm	3 258 mm
SB55i + TFX6/12	12 630 mm	6 650 mm	3 610 mm	3 258 mm
SB55i + TFX8/14	12 630 mm	6 650 mm	3 610 mm	3 258 mm

Values realised with 5° of the sideways tilt (according to ISO 18758)



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