Sandvik DR413i

Rotary blast hole drill



Sandvik DR413i is a diesel-powered, self-propelled, crawler-mounted blasthole drill for surface mining. It is standard equipped for rotary drilling.

Higher productivity through innovation
Sandvik DR413i uses a CAN bus controlled hydraulic system to monitor the machine, allowing for timely preventative maintenance while delivering higher availability.

Rugged design
Sandvik DR413i is equipped to drill 251 to 349 millimeter (9.88 to 13.75 inch) diameter blastholes with single-pass capacity of 17 meters (55.7 feet) and a total depth capacity of 24.6 meters (80.7 feet).

Innovation for safer operation
Pipes can be handled from within the cab using the Sandvik carousel and breakout system, with optional Hands free bits changing capability.

Operator comfort and control
The ergonomically designed cab includes controls and touchscreen integrated into the operators seat and a safari-style roof to keep the cab cooler.

Easier access
Wider, 360-degree walkways enable superior drill access for routine maintenance. An optional hydraulic main-access stairway can be optionally installed to offer a parallel step for accessing and exiting the drill.

Designed with safety in mind
We designed Sandvik DR413iE with worldwide standards in mind, such as ISO standards, Mining Design Guidelines (MDG) for mobile and transportable equipment in mines, Earth Moving Equipment Safety Round Table (EMESRT) Design Philosophies.

Compressor management
Advanced compressor management reduces the compressor load allowing the operator to manage air volumes and pressures to maximize efficiency and reduce fuel burn reducing your carbon footprint and extending compressor life.

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Performance	
Hole diameter	249 – 349 mm / 9.88 – 13.75 in
First pass hole depth	17 m / 55.7 ft.
Max. hole depth	24.6 m / 80.7 ft.
Pull down force	444 kN / 100,000 lbf.
Weight on bit	52,100 kg / 115,000 lbs.
Power group	
Engine options:	
CAT C32 (Tier 4 / Non Tier 4)	839 kW / 1,125 HP
Cummins QST 30 (Tier 4 / Non Tier 4)	783 kW / 1,050 HP
Compressor	73.6 m^3/min. @ 5.5 bar / 2,600 SCFM @ 80 psi
Fuel tank	3,407 l / 900 gal.
Ambient operating range	-40° to 50°C / -40° to 122°F
Hydraulic system	
Reservoir capacity	1,181 l / 312 gal.
Frame and integral jacks	
Main frame	Designed with wide flange beams and design verified by structural FEA calculations
Walkways	Slip resistant steel grip strut material
Leveling jacks	4
Pad diameter	762 mm / 30 in
Pad to ground clearance	584 mm (rear) / 23 in 558 mm (front) / 22 in
Undercarriage	
Model	S46HD
Track shoe width	900 mm / 35.4 in
Track shoe type	Triple grouser
Width over tracks	4,573 mm / 180 in
Track length	6,454 mm / 254.12 in
Tram speed	2.1 kmph / 1.3 mph

Mast	
Construction	Designed with rectangular structural tubing and design verified by structural FEA calculations
Angle drilling	0 - 20° for ext. mast
Hoist	30.2 kN / 6,500 lbf.
Pipe loader	1 pod
Pipe size	194 mm / 7.63 in, 219 mm / 8.63 in, 235 mm / 9.25 in, 245 mm / 9.63 in 273 mm / 10.75 in
Pipe length	7.62 m / 25 ft.
Feed	
Feed type	Hydraulic motor with heavy duty roller chains
Pull down force	444 kN / 100,000 lbf.
Feed rate	0 – 42.6 m/min. / 0 - 140 fpm
Pull back force	178 kN / 40,000 lbf.
Chain tensioning	Manual - grease cylinders
Rotary head	
Model	MRH 12
Rotary power	193 kW / 260 HP
Speed	0 - 150 RPM
Bull shaft thread	5.5 in API REG.
Operator's cab	
Certification	FOPS rated (ISO 3449 level II)
Sound level	80 dB or less
Operator's seat	Fully adjustable and swiveling with lumbar support, pnuematic suspension and 3 point seat belt
Helper's seat	With 2-point seat belt
Camera display	Tramming and pipe handling
HVAC system	-40° to 50°C / -40° to 122°F Standard – Single system Optional – Dual system
Cabin filtration	HEPA filtration with pressure / CO_2 monitoring system
Sunshades	Standard on all windows – retractable
AM/FM radio	Standard w/ bluetooth

Operator's controls	
Location	Seat mounted left and right hand control panels for all drill functions
GUI	Seat mounted 12" touch screen
Dust suppression	
Dust collector	198 m^3/min. / 7,000 CFM
Water injection (w/ or w/o DC)	3,028 l / 800 gal.
Water pump	34 lpm / 9 GPM
Dust hood	Hyd. cylinder actuated dust door and curtains
Standard features	
Lighting	LED lights for access and maintenance
Chain lubrication	Electric, operated from cab
Central grease lubrication	Electric, automatic
Thread lubrication	Electric, operated from cab
Cameras	2 for tramming 2 for pipe handling
Safety features	Emergency stops near all ladders and on main elec. enclosure; pull type cable stop on mast; fuel fill isolator on fluid service center
Fluid service center	Remote fill points: fuel, engine coolant, hyd. oil, central lube, chain lube Remote drain points: engine oil, engine coolant, hyd. oil, compressor oil, pump drive oil
Strobe lights	2 (on mast and on frame)
Oil Sampling	Live SOS sampling points for: hydraulic oils and compressor oils
Diagnostics package	Sensor package for key pump parameters
Options	
Radio remote	For tramming and hoist
Mast access	Steel grating infill on mast with mast access ladder
Machine access	Self levelling hyd. stair
Wash down	Water wash hose reel
Hammer lube / bit lube	115 l / 30 gal.
Deck crane	For bit handling
Fire suppression	Sandvik eclipse wet fire suppression system
Additional cameras	360° camera package for an all-around view of the machine

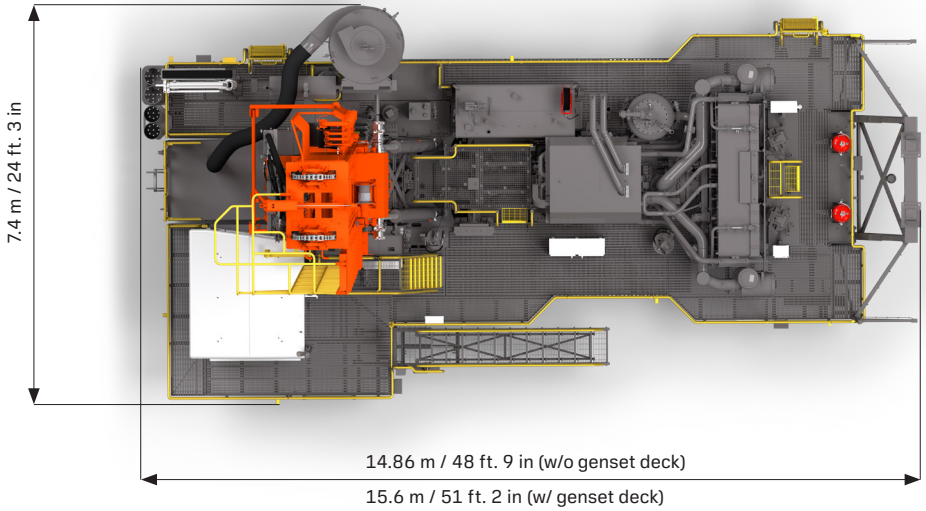
Arctic package	
Genset	30 kW / 40 HP
Electric heaters	Hydraulic oil, water, chain lube, pump drive, compressor oil, engine oil, battery warmer
Fuel fire heaters	Water, engine coolant
Insulation wrap	On water pump and receiver tank
Arctic enclosure	Steel enclosure to cover engine, compressor and hydraulic area with LED lighting inside
Water purging	Automatic water purging system to prevent water freezing during idle, maintenance and shutdown
Automation & technology features	
iDrill Performance	Auto level Auto Mast Adaptive Auto Drill
iDrill Navigation	High precision TIM 3D navigation (Trimble / Leica)
Automine® readiness package	Line of sight Control Room Autonomous
Connectivity	Onboard Knowledge box® (4G / LTE , Wifi)
iLink interface	3rd party interface through Rest API
Digital solutions	Driller's office My Sandvik Onsite My Sandvik Productivity Remote Monitoring Service

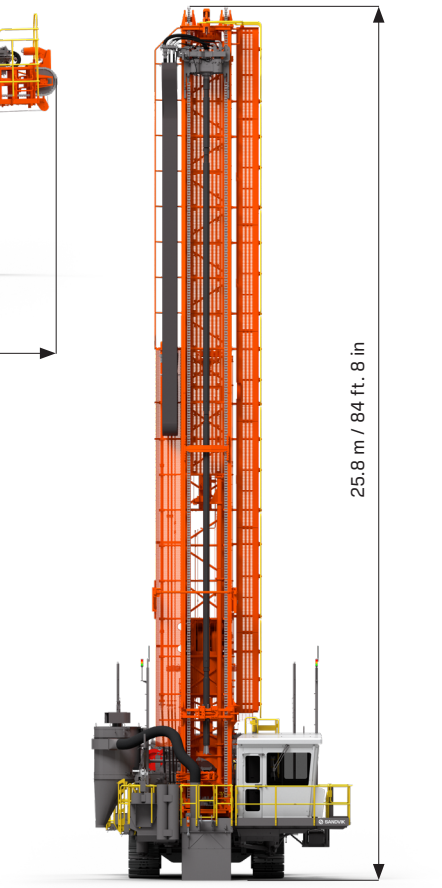
Dimensions	
Length - Mast up (w/o genset deck)	14.86 m / 48 ft. 9 in
Length - Mast up (w/ genset deck)	15.6 m / 51 ft. 2 in
Length - Mast down	26.7 m / 87 ft. 7 in
Height - Mast down	8.13 m / 26 ft. 8 in
Height - Mast up	25.8 m / 84 ft. 8 in
Width	7.4 m / 24 ft. 3 in

Weight	
Estimated operating weight	116.5 – 127 tonnes / 257,000 – 280,000 lbs.

Dimensions are per engineering drawings, actuals may vary slightly. Weights are approximate and subject to change without notice. All performance figures are theoretical and at 100% systems efficiency.







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