SANDVIK DR410i
ROTARY / DTH BLAST HOLE DRILL

TECHNICAL SPECIFICATION

Sandvik DR410i is a diesel-powered, self-propelled, crawler-mounted blasthole drill for surface mining. It is standard equipped for rotary with optional down-the-hole (DTH) hammer drilling power.

HIGHER PRODUCTIVITY THROUGH INNOVATION

Sandvik DR410i uses a CAN bus controlled hydraulic system to monitor the machine, allowing for timely preventative maintenance while delivering higher availability.

RUGGED DESIGN

Sandvik DR410i is equipped to drill 152 to 251 millimeter (6 to 9.875 inch) diameter blastholes with first-pass capacity of 10 meters (33 feet) with the standard mast or 14 meters (46 feet) with the extended mast option.

BUILT TO LAST

Heavy-duty undercarriage designed for mining.

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, angled windows to reduce glare and a safari-style roof to keep the cab cooler.

EASIER ACCESS

An optional hydraulic main-access stairway can be mounted to provide a parallel step onto and off the drill.

DESIGNED WITH SAFETY IN MIND

We designed Sandvik DR410i with worldwide standards in mind, such as Mining Design Guidelines (MDG) for mobile and transportable equipment in mines, Earth Moving Equipment Safety Round Table (EMESRT) Design Philosophies, ISO 3449 Level II and CE conformity marking.



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 CO^2 footprint and extending engine and compressor life

PERFORMANCE

	Metric	Imperial
Hole diameter	152 - 251 mm	6.00 - 9.875 in.
First pass hole depth (Std. Mast)	10 m	33 ft.
First pass hole depth (Ext. Mast)	14 m	46 ft.
Max. hole depth (Std. mast)	46.6 m	153 ft.
Max. hole depth (Ext. mast)	32.3 m	106 ft.
Max. pull down force	222.4 kN	50,000 lbf.
Weight on bit	258 kN	58,000 lbf.

POWER GROUP

	Metric	Imperial
Engine options:		
Cummins QSK19 (Non tier 4)	563 kW	755 HP
CAT C18 (Non tier 4)	521 kW	700 HP
CAT C18 (Tier 4)	563 kW	755 HP
Compressor options:		
Rotary drilling	45.3 m³/min @ 6.9 bar	1600 SCFM @ 100 psi
DTH drilling	41 m³/min @ 24.1 bar	1450 SCFM @ 350 psi
Air pressure	24.1 bar	350 psi
Advanced Compressor management	Standard	
Fuel tank	1,514 lit.	400 gal.
Ambient operating range	-40°C to 50°C	-40°F to 122°F

HYDRAULIC SYSTEM

	Metric	Imperial
Reservoir capacity	757 lit.	200 gal.
Reservoir pressure	0.3 - 0.5 bar	5-7 psi

FRAME AND JACKS

	Metric	Imperial
Main frame	Designed with wide flange beam rails, cross beams and design verified by structural FEA modeling and calculations	
Walkways	Slip resistant FRP Grating on all maintenance areas	
Leveling jacks - Standard	4	
Pad diameter	762 mm	30 in.
Pad to ground clearance	560 mm	22 in.

UNDERCARRIAGE

	Metric	Imperial
Model	S31HD	
Track shoe width	750 mm	26.5 in
Track shoe type	Triple grouser	
Width over tracks	3,867 mm	152.24 in
Tram speed	2.3 / 3.4 kph	1.4 / 2.1 mph

FEED SYSTEM (Standard and Extended Mast)

	Metric	Imperial
Feed type	Twin cylinders and chain drive	
Chain type	Heavy-duty roller type chains with heavy side bars and through hardened pins	
Rated pull down force	222.4 kN	50,000 lbf.
Feed down rate	0-25.6 m/min.	84 ft./min.
Rated pull back force	106.8 kN	24,000 lbf.
Feed up rate	0-33.5 m/min.	0-110 ft./min.
Chain adjustment	Manually adjusted pins - Standard Auto - w/ hydraulic cylinders - Option	

MAST

	Metric	Imperial
Construction	Designed with rectangular structural tubing and design verified by structural FEA modeling and calculations	
Pivot bushings	Alloy steel bushings	
Mast raising cylinders	2	
Angle drilling	0-30° for Standard mast 0-20° for Ext. mast	
Hoist	17.8 kN	4,000 lbf.
Mast locking	2 hydraulic actuated pins	
Pipe loader	4 pod loader for Standard mast 2 pod loader for Extended mast	

ROTARY HEAD

	Metric	Imperial
Rotary power	112 kW	150 HP
Speed / torque (Std.)	8,340 N-m @ 130 rpm	6,150 ft lbs @ 130 rpm
Speed / torque (Option)	10,250 N-m @ @107 rpm	7,558 ft lbs @ 107 rpm
Speed / torque (Option)	6,780 N-m @ 160 rpm	5,000 ft lbs @ 160 rpm
Bull shaft thread	5.5" API REG.	

OPERATOR'S CAB

Certification	FOPS as per ISO 3449 Level II
Sound level	80 dB or less
Operator's seat	Fully adjustable and swiveling (180°) with adjustable height, lumbar support and pnuematic suspension, shoulder type 3 point seat belt
Helper's seat	Fixed; with seat belt
Camera monitor	Standard for tramming
HVAC	Defrost on front, rear and drilling windows Heat ducts to feet and air to operators face ambient temp. range -40°C to +50°C
Cabin pressurization	HEPA cabin filter with alarm
Sunshades	Standard on all glasses
AM/FM/Sirius XM radio	Standard w/ bluetooth connectivity

CONTROL SYSTEM

System	CAN bus with SICA operating platform
Safety Interlock	Functional safety interlocks for safer operation and to prevent machine damage

OPERATOR'S CONTROLS

Location	Seat mounted Left and Right hand control panels for all drill functions
GUI	Seat mounted touch screen and key pads

DUST SUPPRESSION

	Metric	Imperial
Dry dust collector	127.5 m³/min.	4,500 CFM
Water injection (w/ DC)	757 lit.	200 gal.
Water injection (w/o DC)	1,893 lit.	500 gal.
Water pump	34 lpm	9 GPM
Dust hood	Hyd. Cylinder actuated dust door and curtains	

STANDARD FEATURES

Lighting	12 LED lights
Chain lubrication	Operated from cab
Central lubrication	Automatic
Thread lubrication	Operated from cab
Cameras	2 for tramming 1 for pipe handling
Safety features	Emergency Stops near all ladders and main elec. enclosure Pull type cable stop on mast Fuel fill isolator on fluid service center
Fluid service center	Remote fill points for : Fuel, Hyd. Oil, Central lube, Chain lube, coolant Remote drain points for: Engine oil, Hyd. Oil, compressor oil, coolant
Strobe lights	2 (on Mast and on Frame)
Oil Sampling	Live SOS sampling Points for engine, compressor, coolant, pump drive

OPTIONS

Radio remote	For Tramming and Hoist
Mast access	FRP infill and Lifeline on mast
Machine access ladder	Self levelling hyd. cylinder actuated ladder
Wash down	Pressure water wash hose reel
Hammer lube	114 lit. (30 gal.) tank for DTH drilling
Cab extension deck	On cab side for maintenance
Deck crane	For bit and hammer handling

ARCTIC PACAKGE

Generator	25kW
Electric immersion heaters	Hydraulic oil, water, chain lube, pump drive, comprressor oil, engine coolant, engine oil, batteries
Insulation wrap	On water pump, Receiver tank

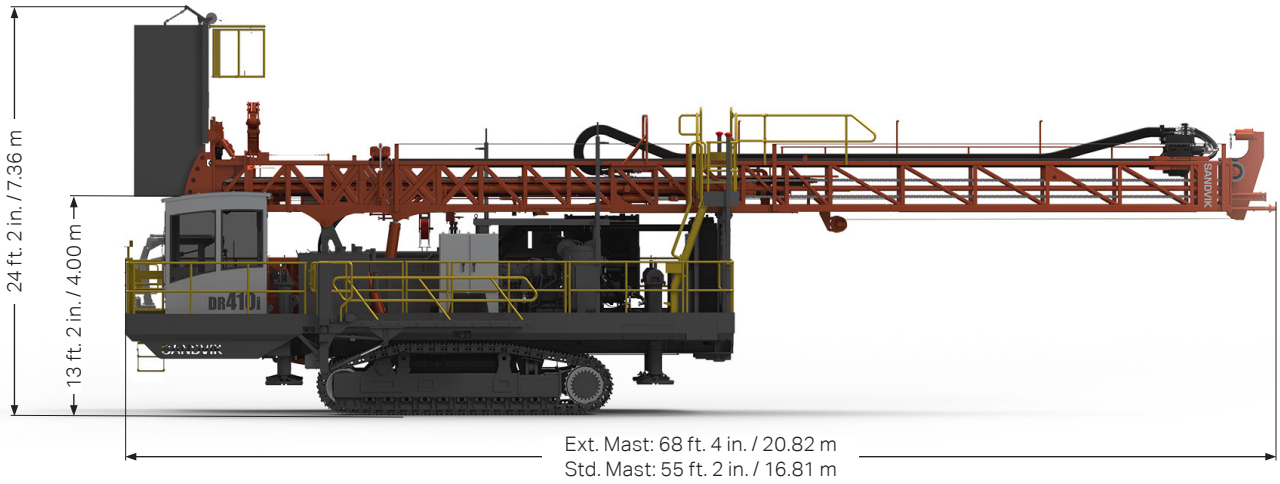
AUTOMATION FEATURES

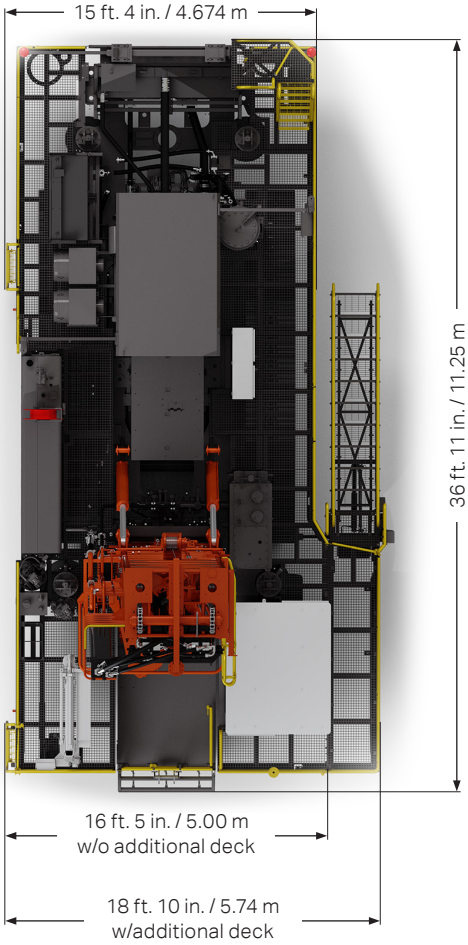
Standard	Automine(R) Onboard™ Auto Level Auto mast
Navigation	TIM3D GPS Navigation
Teleremote	Remote operation
Options	Auto drill, Auto pipe handling

DIMENSIONS AND WEIGHT

	Metric	Imperial
Length - Mast up	11.25 m	36 ft. 11 in.
Length - Mast down (Std. mast)	16.81 m	55 ft. 2 in.
Length - Mast down (Ext. mast)	20.82 m	68 ft. 4 in.
Height - Mast down	7.36 m	24 ft. 2 in.
Height - Mast up (Std. mast)	16.61 m	54 ft. 6 in.
Height - Mast up (Ext. mast)	20.62 m	67 ft. 8 in.
Width w/ additional deck	5.74 m	18 ft. 10 in.
Width w/o additional deck	5.00 m	16 ft. 5 in.
Operating weight range	63.5 - 70.3 t	140,000 - 155,000 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.


24 ft. 2 in. / 7.36 m
13 ft. 2 in. / 4.00 m
Ext. Mast: 68 ft. 4 in. / 20.82 m
Std. Mast: 55 ft. 2 in. / 16.81 m


15 ft. 4 in. / 4.674 m
36 ft. 11 in. / 11.25 m
16 ft. 5 in. / 5.00 m
w/o additional deck
18 ft. 10 in. / 5.74 m
w/additional deck


Ext. Mast: 67 ft. 8 in. / 20.62 m
Std. Mast: 54 ft. 6 in. / 16.61 m
2 ft. 5.5 in." / 0.75 m
12 ft. 8 in. / 3.86 m

Sandvik Mining and Rock Technology reserves the right to make changes to the information on this data sheet without prior notification to users. Please contact a Sandvik representative for clarification on specifications and options.

ROCKTECHNOLOGY.SANDVIK

TS2-467:01/ENG/METRIC © Sandvik Mining 2020 SANDVIK is a registered trademark owned by Sandvik Intellectual Property AB in Sweden and other countries.