



SANDVIK DR416i ROTARY BLAST HOLE DRILL

TECHNICAL SPECIFICATION

Sandvik DR416i 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 DR416i uses a CAN bus controlled hydraulic system to monitor the machine, allowing for timely preventative maintenance and delivering higher availability.

RUGGED DESIGN

Sandvik DR416i is equipped to drill 270 to 406 millimeter (10 5/8 to 16 inch) diameter blastholes with single-pass capacity of 21 meters (69 feet) and a total depth capacity of 42.4m (139 feet).

BUILT TO LAST

Heavy-duty undercarriage designed for mining.

INNOVATION FOR SAFER MAINTENANCE

Pipes can be handled from within the cab using the hydraulic breakout wrench.

OPERATOR COMFORT AND CONTROL

The new-generation ergonomically-designed cab includes controls on the armrests, touchscreens, angled windows to reduce glare 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 mounted to provide a parallel step onto and off of the drill.



DESIGNED WITH SAFETY IN MIND

We designed Sandvik DR416i 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 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 CO₂ footprint and extending engine and compressor life

PERFORMANCE

	Metric	Imperial
Hole diameter	270-406 mm	10 ³ / ₁₆ "
First pass hole depth - Ext. Mast	21 m	69 ft
Maximum hole depth - Ext. mast	42.4 m	139 ft
Maximum pull down force	534 kN	120,000 lbs

POWER GROUP

	Metric	Imperial
Engine options		
Cummins QSK50 (Non tier 4)	1,118 kW	1,500 hp
Compressor options		
Rotary drilling	109 m ³ /min 5.9 bar	3,850 CFM 85 psi
Advanced compressor management		Standard
Ambient operating range	-40° C to 50° C	-40° F to 122° F

HYDRAULIC SYSTEM

	Metric	Imperial
Reservoir capacity	1,514 l	400 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 and calculations	
Walkways	Slip resistant FRP gratings	
Leveling jacks	4	
Pad diameter	1,219 mm	48 in
Pad ground clearance front/back	622 mm	24 ¹ / ₂ in

UNDERCARRIAGE

	Metric	Imperial
Model	S61HD	
Track shoe width	750 mm	29 ¹ / ₂ in
Track shoe type	Triple grouser	
Width over tracks	5.46 m	214.9 in
Tram speed	1.6/0.8 kph	1/0.4 mph

FEED SYSTEM (Extended Mast)

	Metric	Imperial
Feed type	Hydraulic motor gearbox	
Chain type	Heavy-duty roller type chains	
Rated pull down force	534 kN	120,000 lbf
Feed down rate	0-41.1 m/min	0-135 ft/min
Rated pull up force	258 kN	58,000 lbf
Feed up rate	0-41.1 m/min	0-135 ft/min
Chain adjustment	Grease cylinder	

MAST

	Metric	Imperial
Mast	Designed with rectangular structural tubing and design verified by structural FEA and calculations	
Pivot bushings	Alloy steel bushings	
Mast raising cylinders	2	
Angle drilling	0° to 20° in 5° increments	
Hoist/Winch	30.2 kN	6,500 lbf
Mast locking	2 hydraulic actuated pins	
Pipe Loader	2 pod loader	

ROTARY HEAD

	Metric	Imperial
Rotary power	193 kW	260 hp
Standard rotary speed / torque (Std.)	25,700 Nm @90 rpm	19,000 ft.lbs @90 rpm
Alternate rotary speed / torque (Option)	20,864 Nm @110 rpm	18,389 ft.lbs @110 rpm
Alternate rotary speed / torque (Option)	12,774 Nm @180 rpm	9,422 ft.lbs @180 rpm

OPERATOR'S CAB

	Metric	Imperial
Certification	FOPS as per ISO3449 LEVEL II	
Sound level rating	80 dB or less	
Operator's seat	Fully adjustable and swiveling (180°) with adjustable height, lumbar support, and pneumatic suspension shoulder type 3-point seat belt	
Helpers seat	Fixed with seat belt	
HVAC	Ambient temp. range -40°C to +50°C	
Sunshades	Standard on all glass	
AM/FM Sirius XM radio	Standard w/bluetooth connectivity	

OPERATOR'S CONTROLS

	Metric	Imperial
Type	Seat mounted left and right hand control panel for all drill functions	
Type	12" touch screen display	

CONTROL SYSTEM

	Metric	Imperial
Type	CAN bus w/ SICA operating platform	
Safety Interlock	Functional safety interlocks for safer operation and to prevent machine / personnel damage	

DUST SUPPRESSION

	Metric	Imperial
Dry dust collector	254 m ³ /min	9,000 CFM
Water injection (w/ DC)	3,407 l	900 gal
Water injection (w/o DC)	3,407 l	900 gal
Water pump	34 lpm	9 GPM
Dust hood	Hyd. Cylinder actuated dust door and curtains	

STANDARD FEATURES

	Metric	Imperial
Lighting	LED Lights Qty 18	
Central lubrication	Automatic	
Thread lubrication	Operated from cab	
Chain lubrication	Operated from cab	
Cameras	2 for tramming, 2 for pipe handling	
Safety features	Emergency stops near all ladders and main electric. enclosure; Pull type cable stop on mast; Fuel fill isolator on fluid service center	
Fluid service center	Remote fill points: Fuel, Hyd. Oil, Central lube, Chain lube, Engine coolant Remote drain points: Engine oil, Hyd. Oil, Compressor oil, Engine coolant, Pimp drive oil	
Scrobe light	2 (on mast and on frame)	
Oil Sampling	Live SOS sampling points for engine, compressor, engine coolant, hydraulic oil	
Diagnostics package	Sensor package for key pump parameters for the ease of troubleshooting	

OPTIONS

	Metric	Imperial
Radio remote	For tramming and hoist	
Mast access	Infill for access on mast bottom	
Machine access	Self levelling hydraulic cylinder. actuated stairway	
Wash down	Pressure water wash hose reel	
Hammer lube	Not applicable	
Deck crane	For bit handling	

ARCTIC PACKAGE

	Metric	Imperial
Generator	25kW	
Electric immersion heaters	Hydraulic oil, water, chain lube, pump drive, compressor oil, engine coolant, engine oil, batteries	
Insulation wrap	On water pump	

AUTOMATION FEATURES

	Metric	Imperial
Standard	Auto Level Auto Mast	
Options	-	
Navigation	TIM3D GPS	
Drilling	Auto drill	
Teleremote	Automine off board remote operation	



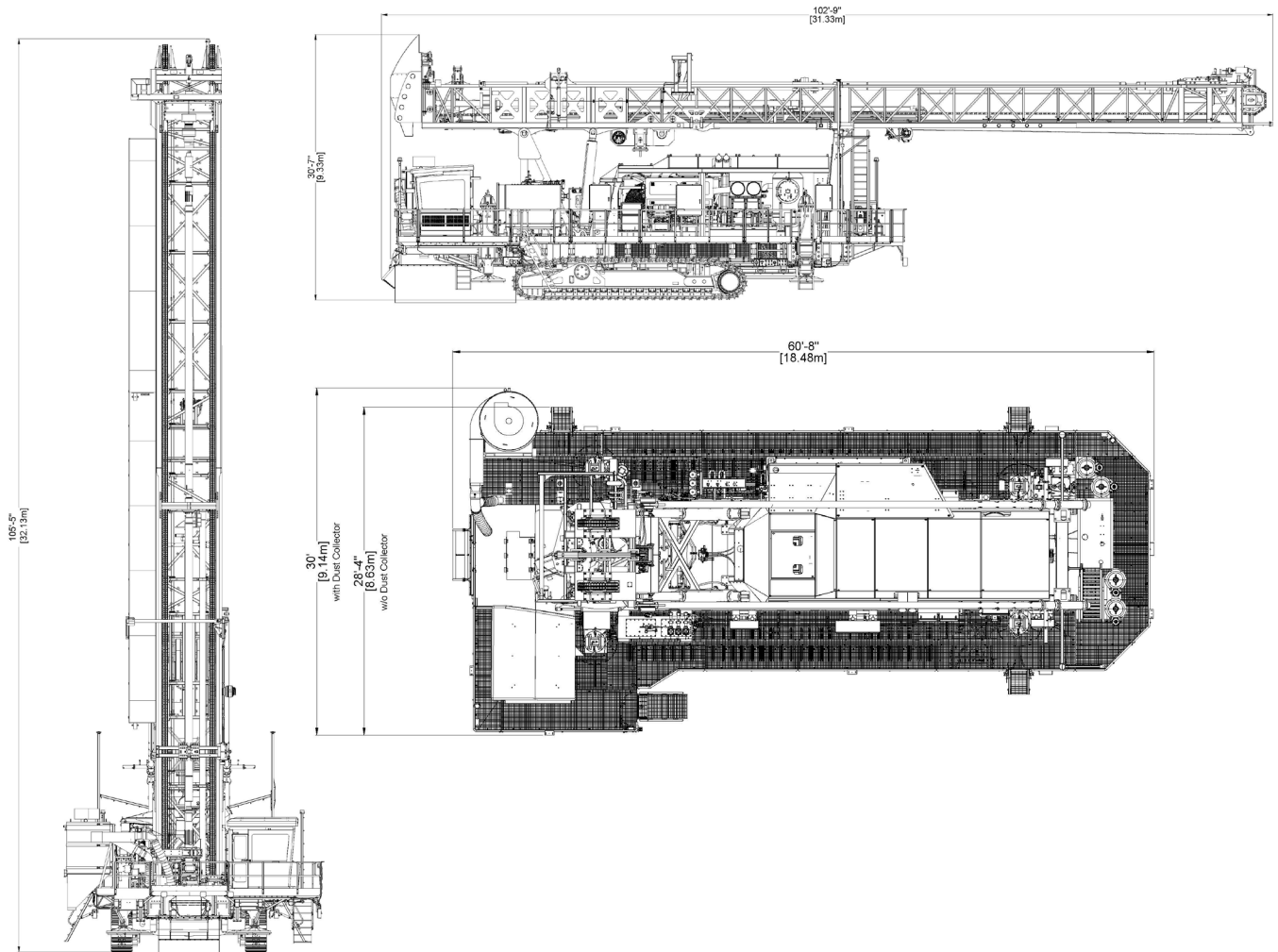
DIMENSIONS

	Metric	Imperial
Length - Mast up	18.19 m	59 ft. 8 in.
Length - Mast down (Std. mast)	31.04 m	101 ft. 10 in.
Height - Mast down	9.35 m	30 ft. 8 in.
Height - Mast up (Std. mast)	32.13 m	105 ft. 5 in.
Width w/ additional deck	9.04 m	29 ft. 8 in.

WEIGHT

	Metric	Imperial
Estimated operating weight	190 - 215.4 t	430,000 - 475,000 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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