

Leopard DI650i RC T3 SURFACE DRILLS

Technical specification

Leopard DI650i is a diesel powered, self-contained crawler mounted intelligent down-the-hole drill rig designed for demanding high-capacity production drilling applications in surface mining, as well as large-scale quarry applications.

Leopard DI650i reverse circulation (RC) sampling option provides reliable grade control in opencast mining. The reverse circulation system is fully integrated into the Leopard DI650i platform maximizing the drill rig utilization and increasing productivity.

KEY FEATURES

Hole diameter:	RC: 115 - 140 mm 4 1/2" - 5 1/2" DTH: 115 - 229 mm (4 1/2" - 9")
Drill pipes:	RC: 102 mm and 114 mm (4" and 4 1/2") DTH: 89, 102, 114, 127 and 140 mm* (3 1/2", 4", 4 1/2", 5" and 5 1/2"*)
DTH-Hammer	RC: 4-5" (optimum size) DTH: 4", 5", 6", 7" (6" optimum size)
Engine output:	403 kW (Tier 3)
Air delivery	28,3 m ³ /min at 24 bar (1000cfm at 348 psi)
Production capacity:	2,1 Mt/a, one shift operation





ROTARY HEAD

Rotary head	MRH6-RC
Drill pipes	RC: 102 mm and 114 mm (4" and 4½") DTH: 89 / 102 / 114 / 127 / 140 mm* (3½" / 4" / 4½" / 5" / 5½"*)
Operating pressure	180 bar
Rotation speed	0...100 rpm
Maximum rotation torque	5800 Nm
Hammer lubrication	Air / oil mist
Flushing	Air
Weight	965 kg with RC accessories + RC floating spindle 70kg

FEED

Feed type	Chain feed
Total length	11400 mm
Rotary head travel	6550 mm
Length of tubes	6000 mm
Hose reel	Standard
Feed extension travel	1100 mm
Feed/pull out force	54 kN
Feed swing	+30°/-30°
Feed tilt	(-32°/+93°)

PIPE CHANGER

Pipechanger type	Carousel
Storage capacity	RC: 8+1 pcs (102 & 114 mm pipes) DTH: 8+1 pcs (89 to 114 mm pipes), 4+1 pcs (127 to 140 mm pipes)
Pipe length	6000 mm
Max. hole depth	RC: 53,6 m (102/114 mm pipes) DTH: 53,6 m (from 89 to 114 mm pipes) / 29,6 m (127 and 140 mm pipes)

BOOM

Boom type	Fixed
Boom reach	4,2 m
Boom swing	0/+20°
Collaring height	+0.7 m/-3.5 m

CABIN

Cabin type	iCab
Certificates	FOPS and ROPS
Noise level in the cabin	below 78 dB(A)
Air conditioning	Intelligent air condition safety + *
Pressurization	Standard
Seat	Ergonomic, multiposition
Vibration dampening	Standard
Windows	Safety laminated, tinted, with

wipers

Power take-off	12 VDC and 24 VDC
* Air condition system contains fluorinated greenhouse gases HFC-134a	

POWERPACK

Engine type	Caterpillar C15 (Tier 3)
Engine output	403 kW / 1800 rpm
Transmission type	Direct
Screw compressor type	GHH CF 1000H
Air filters	2 pcs, dry type
Fuel tank	890 litres

HYDRAULIC SYSTEM

Number of gear pumps	2 pcs. for PTO
Number of piston pumps	3 pcs. for drilling, trammimg, boom and pipehandling, dust collector
Filtration rate	10 micron
Cooling capacity	Up to +50°C ambient
Hydraulic oil tank	290 l
Shank lubrication device	SLU 50

CONTROL SYSTEM

Control system type	PLC controlled proportional electro-hydraulics
Trammimg/boom/ drilling control	PLC controlled
User interface	Electro-proportional joysticks and touchscreen
Control system diagnostics	Graphical flow chart type
Drilling control system type	iTorque
Half percussion/minimum percussion	Three adjustable flushing and percussion levels
Antijamming system	Standard
Collaring control	Automatic
Preset drilling parameters	Adjustable for fine tuning for different rock conditions
Auto-stop to preset hole depth	Optional one hole automatics
Voltage	24 VDC

DUST COLLECTOR

Dust collector type	X-200-4-D
Capacity/vacuum	76 m3/min at 500 mm WG
Filter elements/material	4 pcs , length 750mm / fiber
Total filter surface	24 m2
Primary cyclone	Standard
Movable suction head	Standard

CARRIER

Track type	FL 7
Grouser plate width	400 mm
Ground contact length	2450 mm
Ground pressure	1.25 kg/cm2
Ground clearance	360 mm
Oscillation angles	+/- 10°
Trammimg force	168 kN



Max. tramping speed 2 / 3.6 km/h



STANDARD COMPONENTS

Rotary head MRH6-RC
Chain feed
Pipe changer, carousel type
Fixed boom
Cabin iCAB
Carrier, track mounted
Hydraulic rear ground support
Guides for grousers
Powerpack, diesel driven, hydraulic pumps and onboard compressor
Dust collector X-200
Hydraulic system, load sensing
Control system, PLC controlled proportional electro- hydraulics
Working lights, 9 pcs
Service lights in engine compartment, 5pcs
iFold, Feed to trammung supports assist
iBalance, Trammung guard
1 Set Operator manual, paper copy
SanRemo Mobile, Bluetooth connectivity

THE JAWS FOR DRILL STEELS

DRILL STEEL TYPE	DRILL STEEL DIAMETER	RECOMMENDED HOLE DIAMETER
Pipes	89 mm	115 - 127 mm 4½" - 5"
Pipes	102/114 mm	130 - 190(203) mm 5 1/8" - 7½" (8")
Pipes	127/140 mm	'

SELECTION OF OPTIONS

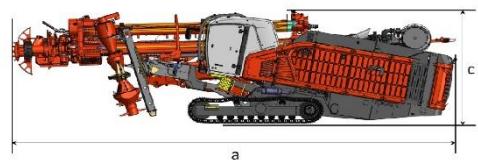
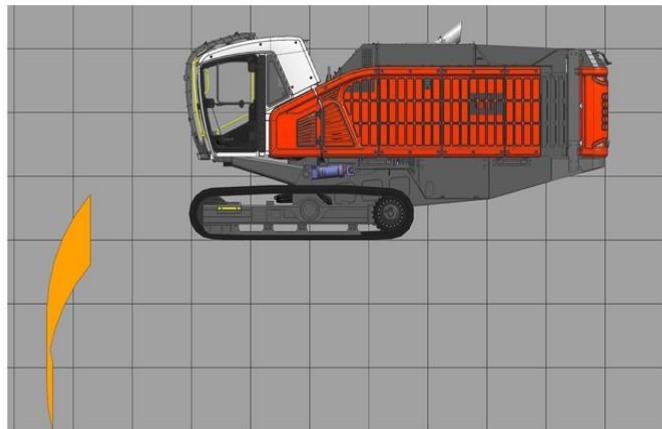
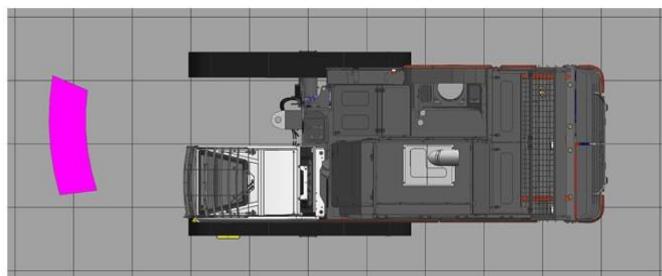
Alternative seat with 3-point seat belt and air cushioning
H13 Cabin filter, HEPA
Cooler bag in cabin
Radio CD/MP3 Bluetooth, Handsfree, DAB
Radio with CD-MP3 player
Reversing camera
Roller blinds for cabin windows
Explosion proof cabin window
Heated mirrors
Emergency glass breaker hammer (additional outside of the cabin installation)
PERFORMANCE iDRILL on-board automation package
NAVIGATION iDRILL on-board automation package
LINE-OF-SIGHT Automine (Automine ready iDRILL)
CONTROL ROOM AUTOMINE (AUTOTRAM READY iDRILL)
CONTROL ROOM Automine (Autotram ready iDRILL)
AUTONOMOUS Automine (Autotram ready iDRILL)
TIMi for inclined holes and hole depth measurement
GPS aiming device for TIMi inclined holes
Automatic feed alignment for TIMi
TIMi for inclined holes with TIM3D readiness (Leica/Trimble)
Feed to trammung support assist (requires 3D-readiness or TIM3D)
TIM3D drill navigation system (Leica)
TIM3D drill navigation system (Trimble)
Automatic feed alignment and positioning for TIM3D
Driller's Notes - MWD Data Collection for TIM3D
Driller's Office planning software (one-year license)
Knowledge Box (4G/LTE and WiFi for My Sandvik)
My Sandvik Insight and SanRemo Gold connectivity (3G modem)
My Sandvik Insight and SanRemo Gold connectivity (3G / SAT modem)
+ My Sandvik Insight, 1-yr license, BG01722724
+ My Sandvik Productivity and Drill Plan Transfer, 1-yr license, BG01765055
SanRemo Premium wireless data transfer for TIM3D (3G Modem)
SanRemo Premium wireless data transfer for TIM3D (3G/SAT modem)
Kit for alternative pipes, each
Service winch (requires remote control-, or full-radio option)
Thread greasing
Full cycle one hole automatic drilling
Full cycle one hole automatic drilling with iClean
Compressor flow control system
Central lubrication system Lincoln
Electric fuel filling pump
Electric hydraulic oil filling pump
Fast fill connection for engine coolant, hydraulic and engine oils
Fast fill connection for fuel Wiggins
Fluid service fill safety lock out
Fire suppression, Eclipse Sustain, automatic 0°C to +60°C
Fire suppression, Eclipse Extreme, automatic 0°C to -40°C
Fire suppression Ansul (hybrid), automatic
Guides for grousers
Hydraulic rear ground support
Remote Screen interface (Tablet or mobile phone not included).
Pressure washer (requires water injection option)
Radio remote control for service winch
Radio remote control for service winch (not with teleremote option)
Full-radio remote for trammung, drilling and service winch
Led lights, 9 pcs
Led lights 15 pcs.
Disengagement clutch for compressor, manual
Extra heat protection for exhaust gas muffler
Fuel powered engine heater, extra large
Heating for pipe transfer arm
Jump start device (high current el. socket)
Metzke cone splitter retrofit kit (Metzke delivery)
Metzke cone splitter retrofit kit installation at factory



Dustmizer (requires water injection)
Dust collector noise silencer
Water injection system
Extra water tank 500 l / 132 gal. (replaces dry dust collector and not available when using RC option)
Extra water tanks 2 x 150 l / 39 gal. (undercarriage mounted)
Extra manuals, price will be added according to pricing sheet
Drill bit opening device for 4 1/2" - 5 1/8" drill bits
Drill bit opening device for 6" - 8" drill bits



Coverage area and dimensions



DIMENSIONS

Weight	RC Fully equipped 30 800 kg (67,902 lbs) dry weight RC Readiness 29 000 kg (63,934 lbs) dry weight
Width	3.00 m
Height	a/b, 3.5/4.2 m
Total length	c/d, 12.4 m/12.4 m

Sandvik Mining and Rock Solutions 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.