



# DL422i LONGHOLE DRILL



ROCKTECHNOLOGY.SANDVIK





# FULLY AUTOMATED PRODUCTIVITY

Sandvik DL422i is a fully automated longhole drill, designed for underground mass mining in 4 x 4 m or larger production drifts.

Sandvik DL422i is capable of drilling vertical and inclined fans and single or parallel Ø89-127 mm longholes up to 54 m in depth using ST58 and ST68 tube rods.

Sandvik DL422i features the latest technology in drilling automation, data management and tele-remote operation. Continuous and unmanned operation during shift changes and breaks combined with comprehensive data collection and transfer through wireless networks ensure improved equipment utilization and productivity.





# MAIN BENEFITS

## HIGH LEVEL AUTOMATION

Sandvik DL422i is delivered with Platinum automation package (option) for continuous and automated production drilling allowing maximized productivity and good accuracy in drilling fans and parallel longholes.

Tele-remote drilling is available (option) allowing units or fleets to be operated remotely for improved equipment utilization and fleet efficiency.

In addition, the DL422i can also be equipped (optionally) with an automatic bit changer, making autonomous drilling of complete fans possible as well as working through shift changes.

Up to 10%\* more drilled meters per shift

SHORTER DRILLING CYCLE TIME

INCREASED PRODUCTIVITY

Up to 20%\* improved equipment utilization

15%\* higher net penetration rates

IMPROVED PERFORMANCE



HF1560ST  
ROCK DRILL

BIT CHANGER  
(OPTIONAL)

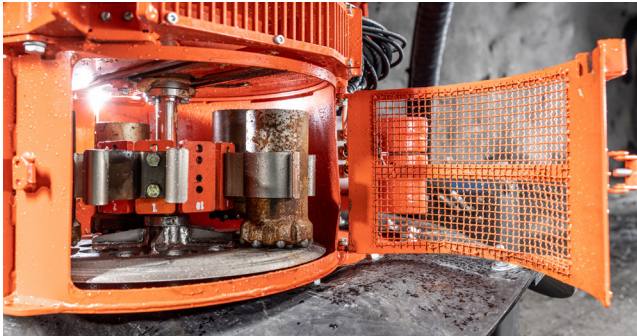




## OPTIMIZED WORKING ENVIRONMENT



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



## DRILL BIT CHANGER



Integrated in the one-hole and fan automation offering, the automatic bit changer allows autonomous drilling of complete fans through shift changes. The capacity of the revolver type carousel is 5 to 10 bits.



## DIGITAL SOLUTIONS



Readiness for: teleremote tramming with AutoMine® integration, teleremote fleet control, DrillConnect mobile application, My Sandvik digital service solutions



## SANDVIK 365 PARTS & SERVICES

### PROUDLY KEEPING YOU ON TRACK!

Sandvik 365 Parts & Services offer a variety of possibilities to enhance your Sandvik DL422i 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.



**ROCK TOOLS AND HOLE LENGTH**

Rod and hole diameter			Rock drill	Max. hole length (m)*		
Thread	Rod Ø (mm)	Hole Ø (mm)		4' rods	5' rods	6' rods
T45	46 (rods)	76	RD927L	37.5	45.5	54.6
T51	52 (rods)	89	RD921S	37.5	45.5	54.6
ST58	76 (tube)	89 -102	HF1560ST	37.5	45.5	54.6
ST68	87 (tube)	102 -127	HL1560ST			

\*) Feed in contact with rock, front stinger retracted

**HYDRAULIC ROCK DRILL**

Type of rock drill	HF1560ST (TS2-419)
Percussion power	33 kW
Percussion pressure	Up to 200 bar
Percussion rate	40 - 45 Hz
Stabilizer	Sleeve type
Rotation speed	0 - 100 rpm
Rotation torque	2 330 Nm (OMT500)
Weight	490 kg
Length with shank adapter	1 505 mm

**DRILLING MODULE**

Type of drilling module	LFRC1606 (TS2-342)
Storing capacity	29 + 1 rods (all threads)
Retaining centralizer	Pito 16
Cuttings diverter	CC1016
Set-off from stope face	2 055 mm (minimum)
Feed force	31 kN
Feed and return speed	Up to 0.3 m/s (fast feed)
Front stinger extension	2 180 mm

**DRILLING MODULE DIMENSIONS**

Type	LFRC1606 (Standard)	LFRC1605 (Option)	LFRC1604 (Option)
Rod / tube length	6' (1 830 mm)	5' (1 525 mm)	4' (1 220 mm)
Total feed length*	4 044 mm	3 739 mm	3 434 mm

\*) Remove 45 mm without bit changer

**LONGHOLE BOOM**

Telescopic boom	ZR35 (TS2-465)
Boom support type	Frame (horseshoe)
Boom swing	Left 45° / Right 45°
Boom (fan) tilt (std horseshoe) (long horseshoe)	Back 26° / Forward 45° Back 40° / Forward 38°
Drilling module roll-over	360°
Boom extension	620 mm
Drilling module travel	1 400 mm (6'), 1 100 mm (5'), 1 000 mm (4')
Pivot point height (boom vertical)	2 310 - 2 930 mm
Front and rear stingers	Mounted on the feed
Rear stinger extension	2 180 mm

**HYDRAULIC SYSTEM**

Powerpack	HPP1590 (90 kW)
Filtration size (pressure / return)	20 µ / 10 µ
Oil tank volume	270 liters
Cooler for hydraulic oil	OW45 oil-to-water (45 kW)
Low oil level indication	Low oil level switch

**DRILLING CONTROL SYSTEM**

Type of control system	iSOLO / SICA
Control screen	15" full colour touch screen
Control panel	In safety cabin
Drilling controls	Torque drilling and feed percussion
Flushing control	Water flow and pressure monitoring
Diagnostics system	Comprehensive and interactive

**AUTOMATION PACKAGE (SILVER)**

One-hole automation	Automatic coupling / uncoupling of rods
Stinger control	Full time monitoring and repressurizing
Drilling control selection	Torque Drilling (default) or manual
Selectable hole length	Torque drilling and feed percussion
Feed and hole parallelism	Assisted

**ELECTRIC SYSTEM**

Standard voltages	380-690 V (50 or 60 Hz)
Total installed power	110 - 130 kW
Main switch gear	MSE 10
IP-classification	Main switch gear IP66, junction boxes ≥ IP68
Allowed voltage fluctuation	± 10%
Current reducer unit	Standard (power factor > 0.95)
Starting method	Star-Delta (380-690 V), DOL (1000 V)
Automatic cable reel	TCR4CD and spooling system
Cable reel remote control	At operator station and cable reel
Front lights (combined working and driving)	6 x 50 W (24 V) LED >125 lx / 20000 lm / 6000 K
Rear lights (combined working and driving)	2 x 50 W and 2 x 17 W (24 V) LED 8000 lm / 6000 K
Carrier positioning lights	2 x Laser type
Braking lights and blinkers	LED (24V)
Stair and service lights	LED (24V)
Parking lights	LED (24V)
Sealed AGM batteries	2 x 12 V (100 Ah)
Electric quality monitoring	Voltage, Amperage, Power, Pf Phase-sequence
Motor protection	Intelligent control with power maximization
Extra low voltage supply	Continuous 80 A/27 V DC with battery back-up and management

**AIR AND WATER SYSTEMS**

Flushing of holes	By water
Water booster pump type	WBP3HP (11 kW / 50 Hz)
Water pump capacity	375 l/min at 15 bar (inlet 5 bar)
Flushing water pressure	10 - 20 bar
Shank lubrication device	SLU1 (air / oil mist)
Air compressor	CTN 10 (1.0 m³/min at 7 bar)
Air cleaner for external air supply	IP5 and connection
Rock drill oil consumption	300 - 500 g/h
Rock drill air consumption	400 - 500 l/min



**OPERATOR'S SAFETY CABIN**

Cabin certification	FOPS / ROPS (ISO3449)
Cabin inside height	2 020 mm
Sound pressure level	Operator station 69 dB(A) EN791 / ISO4872 / ISO1120
Vibration level	According to EN791/ISO2631-1
Operator's seat	For drilling and tramping
Air conditioning system	EU6/7 filtering capacity
Cabin safety grill	For front screen
Audio system	CD / MP3-player, radio and loudspeakers
Electrical outlets (16 A)	12 / 24 V (DC) and 110 / 230 V (AC)
Cabin boot washer	At cabin entrance
Tramming cameras	Front, side and rear

**CARRIER**

Type of carrier	C400D (frame-steered)
Carrier articulation	± 40°
Rear axle oscillation	± 10°
Ground clearance	330 mm
Diesel engine	Cummins QSB4.5 (119 kW Tier 3)
Exhaust catalyzer	Standard
Transmission	Hydrostatic
Drop box	Dana Spicer 305D
Axles	Dana 114 (front) Dana 113 (rear)
Tires	14.00-24 PR28
Brakes	SAHR fail safe wet disc brakes
Tramming speed	Horizontal (0%): 12 km/h 14% = 1:7 = 8°: 5.5 km/h
Gradeability / sideways tilt	Max. 15° (27 %) / 5° (9 %)
Carrier stabilization	2 x SJ500 telescopic jacks (front) 2 x SJ600 jacks (rear)
Fuel tank	150 liters
Oil tank filling pump	Electric
Hand held fire extinguisher	7.7 or 9 kg (type ABC)
Centralized greasing points	Standard
Tramming alarm	Standard
Tramming cameras	Front, rear and side
Hill holder	Standard
Levelling indicators	Spirit level/monitor indication
Knowledge Box™	Connectivity solution (TS2-535)
Colour scheme	Sandvik standard
Documentation	1 x Operator's manual 1 x Maintenance manual 1 x Technical manual (English only) 1 x Parts manual (English only) 2 x Toolman USB key

**OPTIONAL FEATURES AND PACKAGES**
**Drilling system**

*HL1560ST rock drill	Percussion rate 30 – 40 Hz
*RD921S rock drill	For T38-T51 rods (Ø64–89 mm)
*RD927L rock drill	For T45 and ST58 tube rods (Ø76–89 mm)
*Power extractor	For HL/HF1560ST or RD927L
BC1611 bit changer	For LFRC1600 drilling module
Conversion kit	From one rod/tube size to another
Horizontal zoom	On ZR35 boom head
Long boom (horseshoe) support	With dual feed cradle
Rear stinger extension kit	Extension 1000 mm
Remote drilling control panel	On trolley (including cable)
Tube rod manipulator (cabin units)	Including lifting tool kit

**OPTIONAL FEATURES AND PACKAGES**
**Hydraulic system**

*Cooler for hydraulic oil	OA45 oil-to-air (45 kW) OW55 oil-to-water (55 kW)
Side stream filter	Separated bypass filtering of hydraulic system
Vacuum pump	For hydraulic oil

**Instrumentation**

Access detector or protector	Mandatory in Europe (TS2-211)
Spirit level angle indicators	2 pcs (on boom and feed)
Tele-remote drilling (WLAN/LAN)	Including data transfer

**Automation package (Platinum)**

Data transfer	USB/WLAN (excl. drill plan software)
Drill plan management	In the user interface (create, copy and edit)
Boom automatic positioning	To the next hole
Fan automation	For up- and downhole
DrillConnect mobile application	Connectivity through Knowledge box™ for easy data transfer to and from the rig

**Cleaning system**

Low pressure system	Up to 15 bar (TS2-343)
High pressure system with reel	Up to 220 bar (TS2-343)

**Greasing systems**

Automatic system	Carrier, boom and rod handler
Manual system	Pump reel and nozzle (TS2-463)

**Electric system**

*Multivoltage Pro (50 Hz)	380-575 V (YD) or 660-1000 V (DOL)
*Multivoltage Pro (60 Hz)	440-575 V (YD) or 690-1000 V (DOL)
Dewatering pump outlet	Site voltage 380 - 690 V (7.5 kW) Site voltage 1000 V (8 kW)
Powerpack tramming	For transfers less than 25 m
Electric cables	Specification TS2-121
Earth continuity control	For power cable (1-wire pilot circuit)
Ground fault and overcurrent unit	VYK (excluding CAN/USA)
Indicator light for jacks up / down	For front hydraulic jacks
Power outlet on carrier	110 V (16 A, single phase, 1.6 kW) 230 V (15 A, single phase, 2 kW)
Amber flashing light	LED (24 V)
Battery jump start	CAT

**Air and water system**

*End-of-hole flushing	CT28, (2.8 m³/min, 18.5 kW)
1 x 60-liter air receiver	End-of-hole flushing (with CT28)
Air mist flushing kit	For external air and water supply
Compressed air outlet	Quick coupling for pneumatic tools
Thermostats	High and low ambient temperature
Water hose reel and hose	THR2.5E + Ø38 mm hose (65 m)

**Operator's safety cabin/canopy**

*Stainless steel cabin	FOPS/ROPS (ISO3449)
*Low height cabin and safety grill	FOPS/ROPS (ISO3449), H:2900 mm
Cabin heating system	For drilling and tramping

**Fire suppression system**

Spare hand held fire extinguisher	7.7 or 9 kg (type ABC)
Automatic system	DAFO / Forrex / Ansul (6 nozzles)
Manual system	Ansul (6 nozzles)

**Carrier**

*Foam filled tires	Set of four
Carrier speedometer	For C400D-series
Wheel chocks and holders	One set each side

**Extra items**

Spare rock drill	HF1560ST, HF1560ST or RD927L
Spare wheel assembly	Standard or foam filled tires
Special tools for rock drill	Field kit or complete set
Documentation	Extra manuals
Packages	Country, environment, water, temperature or altitude specific

*\*) Replaces standard feature*



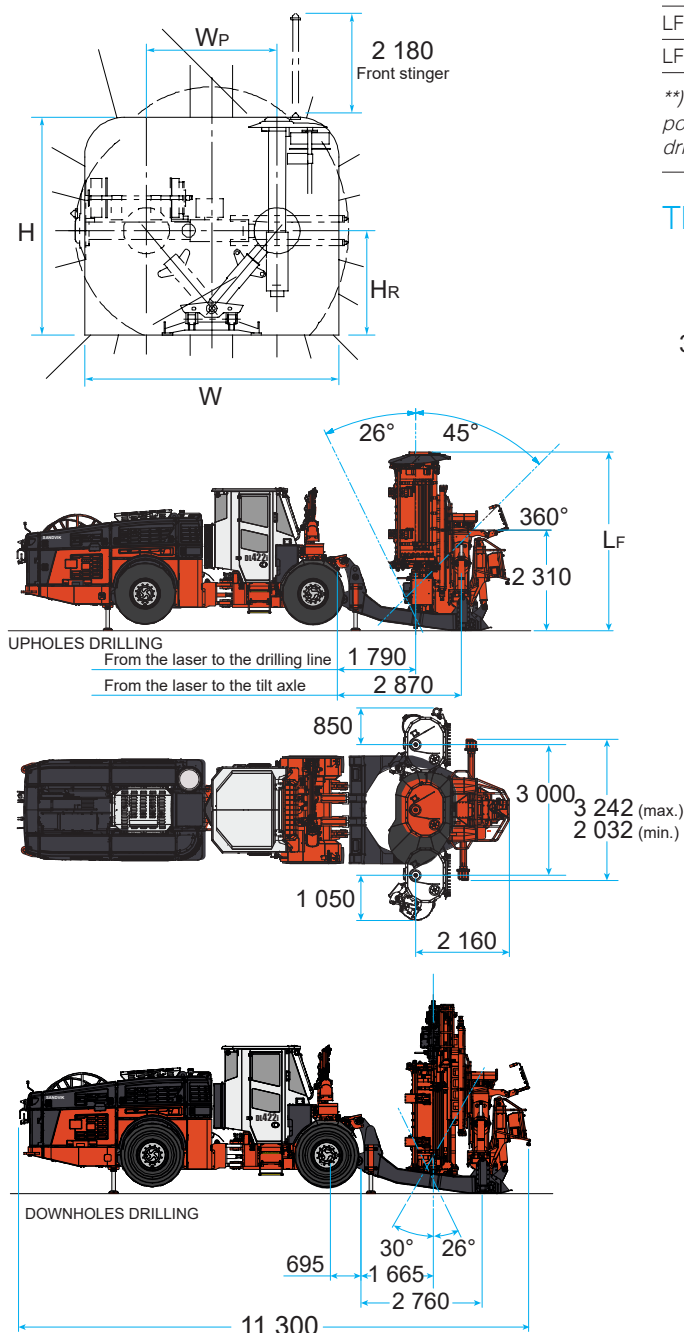
## MAIN DIMENSIONS

The dimensions are indicative only - All dimensions in mm

### KEY FEATURES

Minimum drift size (H and W)	4 000 - 3 500 mm
Minimum drift width in T-section	4 200 mm
Boom coverage (vertical holes)	3 000 mm
Transport height (with cabin)	3 100 mm
Transport width	2 480 mm
Transport length	10 960 mm
Transport weight	22 000 kg

### DRILLING POSITION



	LF1604	LF1605	LF1606
Length (Lf)	mm 3 500	3 800	4 100
Height (Hf)	mm 3 300	3 500	3 700
Width (Wf)	mm 3 450	3 750	4 050
External radius (R1)	mm 7 250	7 350	7 600
Internal radius (R2)	mm 3 650	3 650	3 650
Cornering (C)	mm 4 300	4 450	4 700

### MINIMUM PRODUCTION DRIFT SIZE\*

	H	W	Wp	Hr
LFRC1604	mm 4 000	3 500	1 600	2 310
LFRC1605	mm 4 300	3 800	1 900	2 310
LFRC1606	mm 4 600	4 100	2 200	2 310

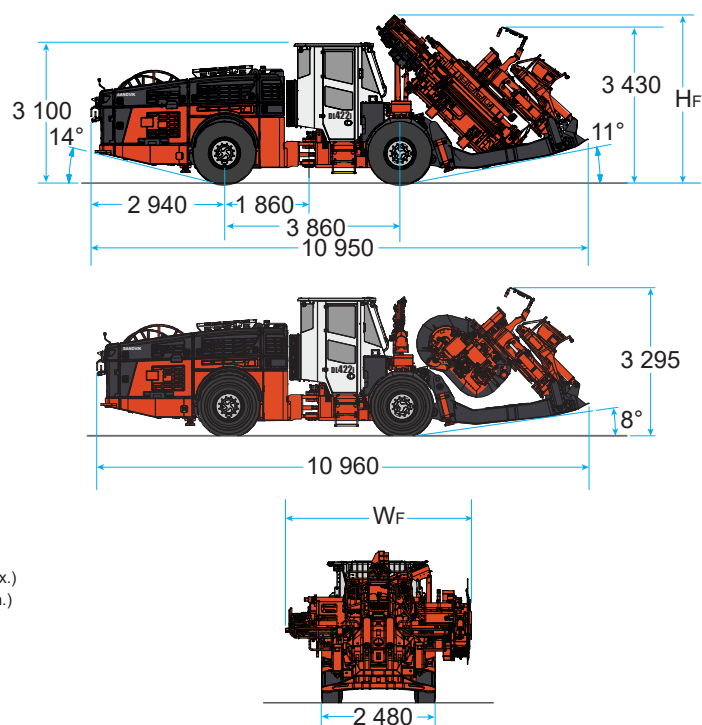
\*) 100 mm clearance

### MAXIMUM PRODUCTION DRIFT SIZE\*\*

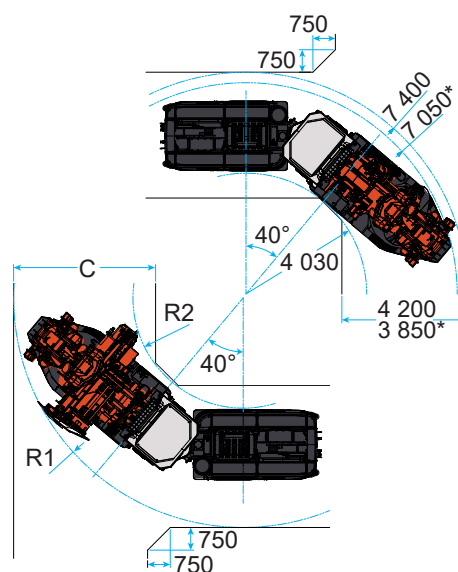
	H	W	Wp	Hr
LFRC1604	mm 4 400	5 800	3 000	2 350
LFRC1605	mm 4 700	6 100	3 000	2 350
LFRC1606	mm 5 000	6 400	3 000	2 350

\*\*) Rear stinger extended, front stinger retracted and feed in forward position; the use of front stinger may increase the maximum production drift size

### TRAMMING POSITION

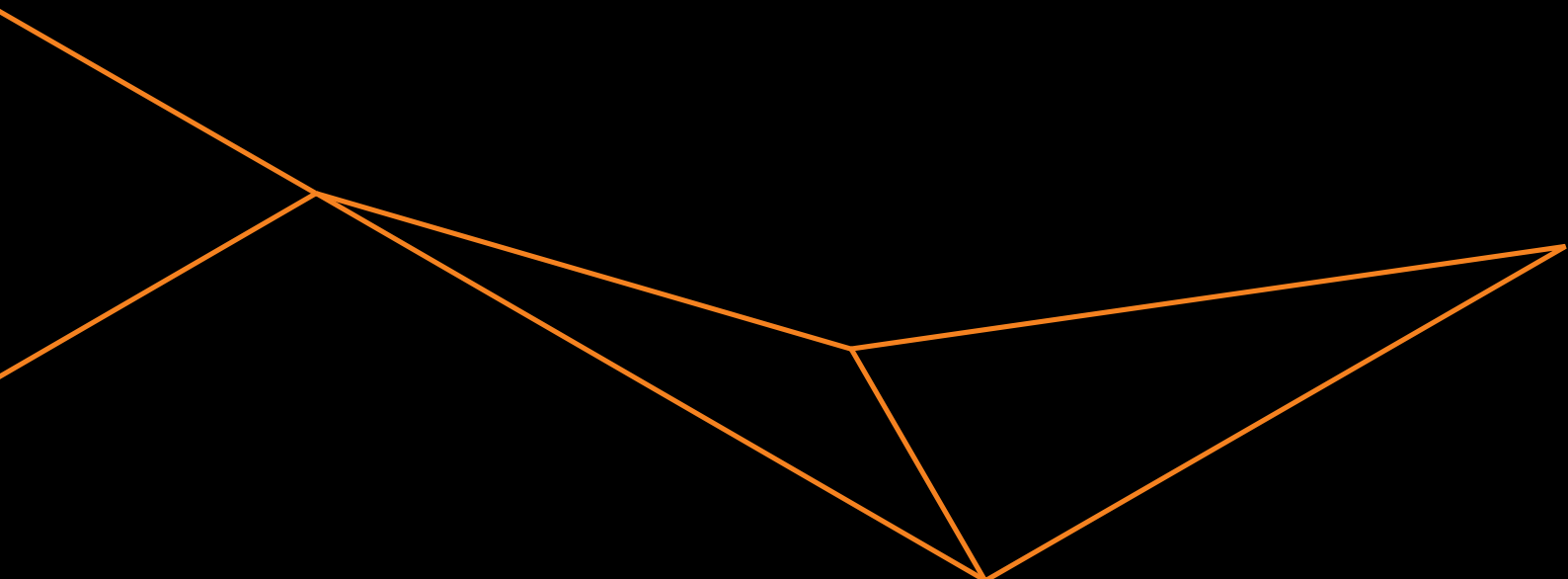


\*) 2 900 mm with low height cabin (option)



\*Without the front ground support  
All dimensions in mm





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