



DS422i CABLE BOLTER

TECHNICAL SPECIFICATION

Sandvik DS422i is a rock reinforcement drill rig specialized for cement grouted cable-bolt installation in underground mines and tunnels.

Sandvik DS422i is capable of installing up to 25 meter long cable bolts with several steel strands per hole. The drill rig is provided with an on board automatic cement mixer, a cement silo and a steel strand reel. It is therefore autonomous for more than a shift.

The drill rod handling system has a capacity for 19 pieces of 1 3/8" (T35) diameter, round MF drill rods. The recommended drill hole size for this application is 51 mm. However alternative hole size can be selected with advice from your local Sandvik contact. The steel strand diameter is normally 15.2 mm, of either plain steel or bulb anchor strand.

The bolting operation is performed by a single operator located away from the drilling, grouting and cable installing module (CBHi Cable Bolting Head).

Sandvik DS422i is designed for safety. For example, most of the daily and routine checks are done with both feet on ground.

KEY FEATURES

Optimum bolting coverage	5 m x 5 m
Hydraulic rock drill	1 x RD414, 14 kW
Bolting head	1 x CBHi
Boom	1 x SBR60i
Automation package	Silver (Standard), Gold (Optional)
Maximum hole length	38 m
Cablebolt length	25 m
Turning width (T-section)	4 100 mm
Transport / bolting width	2 730 mm / 3 290 mm
Transport height	3 050 mm
Transport / bolting length	13 500 mm / 13 700 mm
Total weight	29 000 kg depending on options



1. SANDVIK DS422i - CABLE BOLTER

HYDRAULIC ROCK DRILL

Type of rock drill	RD414 (TS2-178)
Percussion power	14 kW
Percussion pressure	Max. 220 bar
Percussion rate	78 Hz
Stabilizer	Sleeve type
Rotation speed	Max. 300 rpm (with OMS160)
Rotation torque	570 Nm (with OMS160)
Hole size (bolting)	54 - 57 mm
Recommended rod	T35
Shank adapter	T35 (male)
Weight	180 kg

CABLE BOLTING HEAD

Type of bolting head	CBHi (TS2-477)
Bolting head length	4', 5', 6'
Rod handling system	RC604, 5 or 6 19 + 1 rods
Centralizer	Pito 11LH
Total length	3 190 - 3 800 mm
Net weight	2 150 kg

GROUTING AND CABLING SYSTEM

Cement mixer	TCM200i (incl. cement dust collector)
Cement pump	TP8
Cement hose reel	35 m capacity
Cement silo	600 kg
Steel strand reel	
Steel strand feeding unit	

BOOM

Type of boom	SBR60i (TS2-478)
Boom extension	1 200 mm
Boom weight, net	2 200 kg
Roll-over angle	358°

HYDRAULIC SYSTEM

Powerpack	HPP575 (1 x 75 kW)
Filtration size (pressure / return)	20 µ / 10 µ
Oil tank volume	270 liters
Oil tank filling pump	Electric
Oil cooler (water actuated)	OW30 oil-to-water (1 x 30 kW)

DRILLING CONTROL SYSTEM

Control system type	SICA
Drilling control modes	Intelligent Torque control / Feed percussion / manual
Upgradeable automation levels	
Comprehensive diagnostic system	
Electronic joystick controls	
15" full color touch screen	
Cable kit for spare part programming	
Safety lock for movement prevention	2 switches

ELECTRICAL SYSTEM

Standard voltage	380 – 1 000 V (±10%)
Main switch gear	MSE20
IP classification	Specification TS2-132
Starting method	Direct on line 380 V - 1 000 V
Automatic cable reel	TCR4EC with spooling system
Cable reel control	Operator station and remote control at rear machine
Front lights	6 x 50 W LED (24V) >125lx, 20 000 lm; 6 000 k
Rear lights	2 x 50 W LED (24V) and 2 x 17 W LED (24V) 8 000 lm; 6 000 k
Parking rear brake / park lights	2 x Red LED
Stair and service lights	LED (24 V)
Amber flashing light	LED (24 V)
Electric quality monitoring	Voltage, Amperage, Power, Pf Energy, Phase-sequence
Motor protection	Intelligent control with power maximization
Extra low voltage supply	Continuous 80 A (27 VDC) with battery back-up and management

AIR AND WATER SYSTEM

Flushing of holes	By Water
Water booster pump type	WBP2
Water pump capacity	100 l/min
Water pump inlet pressure	2 bar (Min.)
Flushing water pressure	10 - 15 bar
Shank lubrication device	SLU-1 (Air / oil mist)
Air compressor	CTN10 (1.0 m³/min at 7 bar)
Oil consumption	150 - 250 g/h
Air consumption	250 - 350 l/min
Compressed air outlet	Quick coupling

OPERATOR'S SAFETY CABIN

Safety cabin certification	FOPS / ROPS (ISO 3449 / 3471)
Operation	Seated tramming Standing and seated drilling
Sound pressure level	According to EN791, ISO4872, ISO1120 Operator station: 69 db(A)
Vibration level	According to EN791, ISO2631-1
Seat	Fully adjustable seat (tramming and drilling)
Optimized dust level control via air circulation	
Air conditioning	EU6/7 filtering capacity
Cabin heating	During tramming and drilling
Electricity outlets	1 x 12 V and CD player readiness
Stairs and indoors lights	LED
Audio player	CD / MP3 player with radio
Boot washer	At each cabin entrance
Safety laminated acoustic windows	

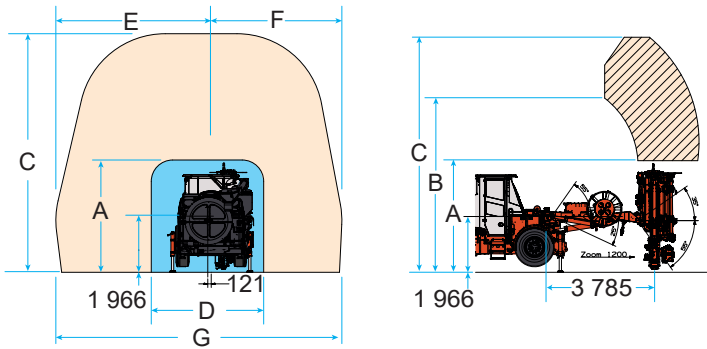
CARRIER

Type of carrier	C400D (frame-steered)
Carrier articulation	± 35°
Rear axle oscillation	± 8°
Ground clearance	330 mm
Diesel engine	B4.5, 119 kW, Tier 3, Stage IIIA
Transmission	Hydrostatic
Axles	Dana Spicer
Tires	14.00–24 PR28
Brakes	SAHR type, fail-safe wet disc brakes
Tramming speed	12 km/h (limited)
Gradeability / sideways tilt	Max.15° / 5°
Fuel tank	150 liters
Hydraulic jacks	2 x SJ500 (front) 2 x SJ600 (rear)
Wheel chocks and holders	2 Sets
Centralized greasing points	Specification TS2-463
Manual greasing system	Specification TS2-463
Hand held fire extinguisher	1 x 7.7 or 9 kg (type ABC)
Tramming alarm	Standard
Tramming camera	Rear and side
Toolboxes and first aid kit	
Knowledge Box™	Connectivity solution (TS2-535)
Colour scheme	Sandvik 1 x Operator's manual 1 x Maintenance manual
Documentation	1 x Technical manual (in English only) 1 x Parts manual (in English only) 2 x USB key of manuals (PDF files)

OPTIONAL FEATURES AND PACKAGES

Rock drill	
*HL710S rock drill	With T35 - T45 (male) shank
Cable bolting head	
Bolting head oiler	BC and BCS system (TS2-291)
Front stinger	
Cement transfer screw	
Hydraulic system	
Vacuum pump	For hydraulic system
By pass oil filter	
Drilling control system	
Access detector, or protector	Mandatory in Europe (TS2-211)
Automation	
Automation package	Gold (TS2-539)
Air and water system	
*Air compressor	CT28 (2.8 m ³ /min, at 7 bar)
Compressed air outlet	Quick coupling
Water hose reel and hose	THR2.5E with Ø38 mm (1 ½"), 65 m
Cleaning system	
LP system with reel	Up to 15 bar (TS2-343)
HP system with reel	Up to 180 bar (TS2-343)
Bolting module continuous washing system	Remote controlled
Greasing systems	
Manual system	Specification TS2-463
Automatic system	Lincoln (complete)
Electric system	
*Option voltage	1 000 V (50 / 60 Hz) with DOL starter
*Electric cables	Specification TS2-121
Ground fault and overcurrent protection	VYK
Dewatering pump outlet	8 kW, Site voltage 380 - 690 V
Multivoltage basic	380 - 440 V, 690 V 50 or 60 Hz
Multivoltage pro	380 - 1 000 V, 50 or 60 Hz
Current draw reducer unit	
Remote controlled spot lights	2 pcs
Indicator lights for jacks	Up and down
Earth continuity control	1 wire pilot circuit with remote reset / disconnect
Auxiliary outlet	1 x 110 V or 1 x 230 V, 16 A
Battery jump start	Optional
Operator's safety cabin	
*Low height cabin	FOPS/ROPS (ISO 3449/3471) height 2 900 mm
Tilting system	Max. 15° (+ 100 mm total height)
Safety grill	Lifting mechanism (400i-class)
Fire suppression system	
Spare hand held fire extinguisher	1 x 7.7 or 9 kg (type ABC)
Manual or automatic system	Ansul, 6 nozzles (TS2-460)
Fire suppression system	Sandvik Eclipse™ (TS2-461)
Carrier	
*Diesel engine	B4.5, 121 kW, Stage V
*Foam filled tires	4 pcs
Fast filling system	Complete
Wheel chocks and holders	2 pcs
Rod rack (max. load 400 kg)	Carrier side
Extra items	
Spare rock drill	RD414, HL710
Spare wheel assembly	Standard or foam filled tire
Special tools for rock drill	Field kit (TS2-181) Complete set (TS2-180)
Documentation	Extra, Catbase, Link one manuals
Warranty extension	One year (excl. Kazakhstan)

**) Replaces standard feature*

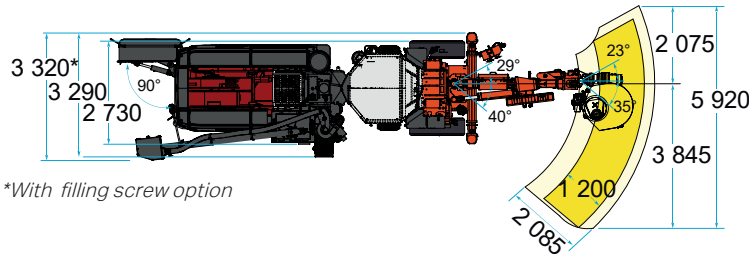


COVERAGE (HEIGHT)

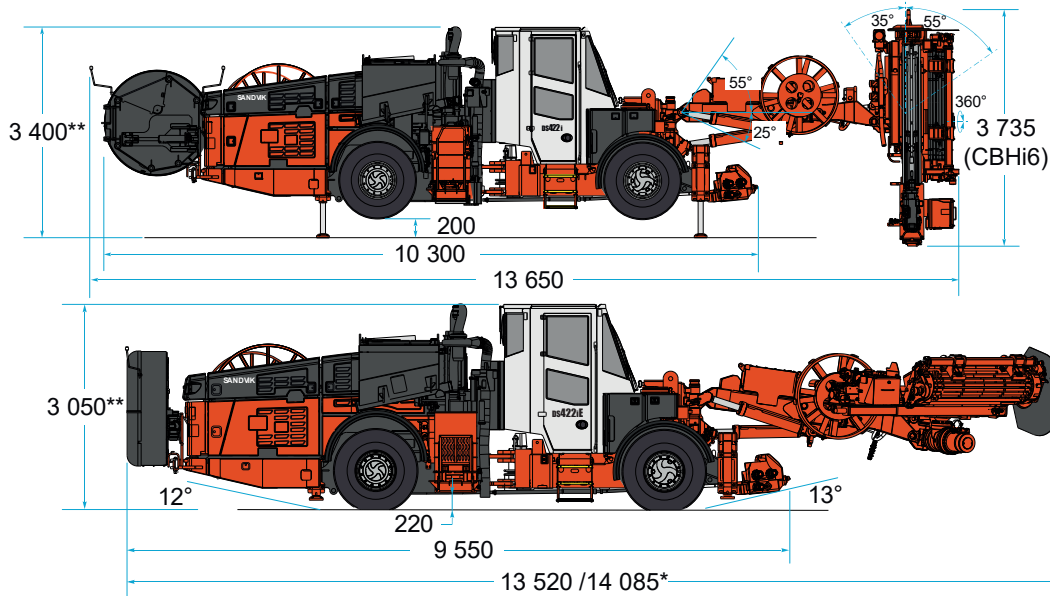
Drilling module	Minimum operating height (A)	Optimum operating height (B)	Maximum operating height (C)
CBHi6	3 935	6 138	8 284
CBHi5	3 630	5 833	7 979
CBHi4	3 325	5 928	7 713

COVERAGE (WIDTH)

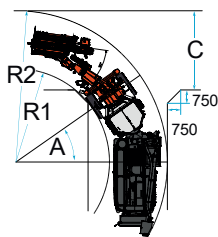
Drilling module	Minimum operating width (D)	Left maximum width (E)	Right maximum width (F)	Maximum width (G)
CBHi6	3 935	5 438	4 572	10 010
CBHi5	3 630	5 133	4 267	9 400
CBHi4	3 325	4 867	4 001	8 868



*With filling screw option

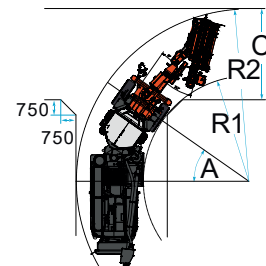


*With filling screw option; ** +100 mm with cabin tilt option



	Turning left	Turning right
Angle (A)	mm 35°	35°
Internal radius (R1)	mm 5 250 mm	5 200 mm
External radius (R2)	mm 8 250 / 8 500* mm	8 500 mm
T-cross (C)	mm 4 200 / 4 450* mm	4 500 mm

All dimensions in mm
*With filling screw option



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.

ROCKTECHNOLOGY.SANDVIK

4. SANDVIK DS422i - CABLE BOLTER