



# SANDVIK DS421 CABLE BOLTER

## TECHNICAL SPECIFICATION

Sandvik DS421 is a rock reinforcement drill rig specialized for cement grouted cablebolt installation in underground mines and tunnels.

Sandvik DS421 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 cement mixer, a cement bag platform 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 1/4" 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 (CBH Cable Bolting Head). As all the Sandvik drill rigs based on the NC7 carrier family, the Sandvik DS421 is designed for safety. For example, most of the daily and routine checks are done with both feet on ground.

### KEY FEATURES

Hydraulic rock drill	Sandvik HL510
Bolting head	Sandvik CBH
Boom	Sandvik TBR60
Cablebolt length	25 m
Turning width (T-section)	4,100 mm
Transport / bolting width	2,735 mm / 3,975 mm
Transport height	2,455 mm / 3,200 mm
Transport / bolting length	11,955 mm / 12,415 mm
Total weight	25,000 kg depending on options



Scan or click to see the video.

## HYDRAULIC ROCK DRILL

TECHNICAL SPECIFICATION TS2-237

Rock drill	Sandvik HL510 LH-38
Percussion power	16 kW
Percussion pressure	Max. 175 bar
Percussion rate	59 Hz
Rotation speed	Max. 250 rpm (with OMS 80)
Rotation torque	630 Nm (with OMS 80)
Hole size (bolting)	51 - 64 mm
Recommended rod	R32 - T35
Shank adapter	R32 or T35 (male)
Weight	130 kg
Length	1,024 mm
Profile height	76 mm
Shank lubrication device	Air / oil mist, SLU-1
Air consumption	250 - 350 l/min
Oil consumption	200 - 300 g/h

### Options

- HL510-LH45 rock drill with T35 (male) shank.

## BOOM

TECHNICAL SPECIFICATION 8-5540

Boom type	Sandvik TBR60
Boom extension	1,200 mm
Boom weight, net	2,200 kg
Roll-over angle	358°

### Options

- Harsh water cylinder rods.

## CABLE BOLTING HEAD

TECHNICAL SPECIFICATION 8-5500

Bolting head type	Sandvik CBH
Bolting head length	4', 5', 6'
Rod handling system	RC604, 5 or 6 19 + 1 rods
Centralizer	Pito 11LH
Cuttings collector	3,090 mm
Net weight	2,150 kg

### Options

- Bolting head oiler. Recommended with P-system.

## GROUTING AND CABLING SYSTEM

Cement mixer	TCM200 with cement dust collector (std)
Cement pump	TP8
Cement bags platform	Max. weight 500 kg
Cement hose reel	35 m capacity

## HYDRAULIC SYSTEM

Powerpack	HPP555 (55 kW)
Percussion pump	100 cc (variable)
Rotation pump	33 cc (variable)
Filtration size	20 micron (pressure) 10 micron (return)
Oil tank volume	270 liters
Tank filling	Electric pump
Oil cooler	Water cooled. Cooling capacity 1 x 30 kW

### Options

- Biodegradable oils. Shell Naturelle HFE46 / HFE68.
- Vacuum pump for hydraulic oil.

## CONTROL SYSTEM

Type	Sandvik TPC501 EW
Power control	Adjustable full power Adjustable collaring power
Anti-jamming control	Adjustable anti-jamming pressure
Rotation control	Adjustable rotation speed Reversible rotation
Flushing control	Water flushing flow and pressure control air-mist flushing, option

### Options

- Cable bolting instrumentation TMS DDS.

## ELECTRIC SYSTEM

Total input power	75 kW
Main switch	MSE 10
IP classification	Spec. sheet TS2-132
Standard voltage	380 - 690 VAC (± 10%)
Starting method	Star delta starter 380 - 690 VAC Soft starter 480 - 575 VAC Direct on line (DOL) 1,000 VAC
Automatic cable reel	TCR3E
Cable reel control (in / out)	Operator station
Remote control for reel(s)	At rear machine
Sealed AGM batteries	2 x 12 V, 95 Ah
Front working lights (combined working and driving)	6 x 50 W LED (4,200 lm, 6,000 K)
Rear working lights (combined working and driving)	4 x 50 W LED (4,200 lm, 6,000 K)
Manual search light	1 x 50 W LED (4,200 lm, 6,000 K)
Parking rear brake/park lights	2 x Red LED

## Options

- Optional voltage. 1,000 VAC, 50 Hz.
- Electric cable rubber or PUR. Spec sheet TS2-121.
- Optional outlet. 3-phase outlet 380 - 690 VAC only.
- Optional outlet. 3-phase outlet (415 VAC, Max. 15k).
- Optional outlet. 230 VAC outlet Max. 16 A.
- Cable plug holder for 1,000 VAC.
- Sealed AGM batteries.
- Battery jump start.
- Extra working lights. 2 x 50 W LED (4,200 lm, 6,000 K).
- Amber strobe light. LED (24 V).

## FLUSHING SYSTEM

Flushing	Water
Water pump type	WBP2
Water pump capacity	100 l/min
Water pump inlet pressure	2 bar (Min.)
Flushing water pressure	10 - 15 bar
Air compressor	CTN10, 1 m³/min (7 bar)
Mine air connection	IP5 air cleaner

## Options

- Hole cleaning with air. CTN16 air compressor 1.6 m³/min (7 bar).
- Water hose reel. THR2.5E with water hose 38 mm (1 ½"), 65 m.
- Water hose 32 mm (1 ¼"), 100 meters.

## TRAMMING AND OPERATOR STATION

Tramming speed	16 km/h (Horizontal) 5 km/h (14%=1:7=8°)
Gradeability / inclination	Max. 15° / 5°
Safety canopy	FOPS (ISO 3449)
Operation	Standing drilling, seated tramming
Sound pressure level according to EN791	Operator station: 100 dB(A)
Seat	Ergonomic, adjustable for tramming including seat belt
Front screen protection bar	

## Options

- Reduced tramming speed. 3rd gear lockout.
- Reversing camera at the rear and side of the machine.
- Boot washer.

## CARRIER

Carrier	Sandvik NC7S
Carrier type	Wheel-mounted, frame steering
Frame steering	± 35°
Rear oscillation	± 10°
Ground clearance	420 mm
Diesel engine	MB OM904LA, 110 kW, Tier 3, Stage IIIA
Exhaust catalyzer + muffler	Standard
Transmission	Hydrodynamic, Spicer T20 000
Axles	Dana Spicer
Tires	12.00-20
Service brakes	Hydraulic wet disc brakes
Parking and emergency brakes	SAHR type, fail safewet disc brakes
Fuel tank	140 liters
Hydraulic jacks	Telescopic (front) Vertical (rear)
Hand throttle	Standard

## Options

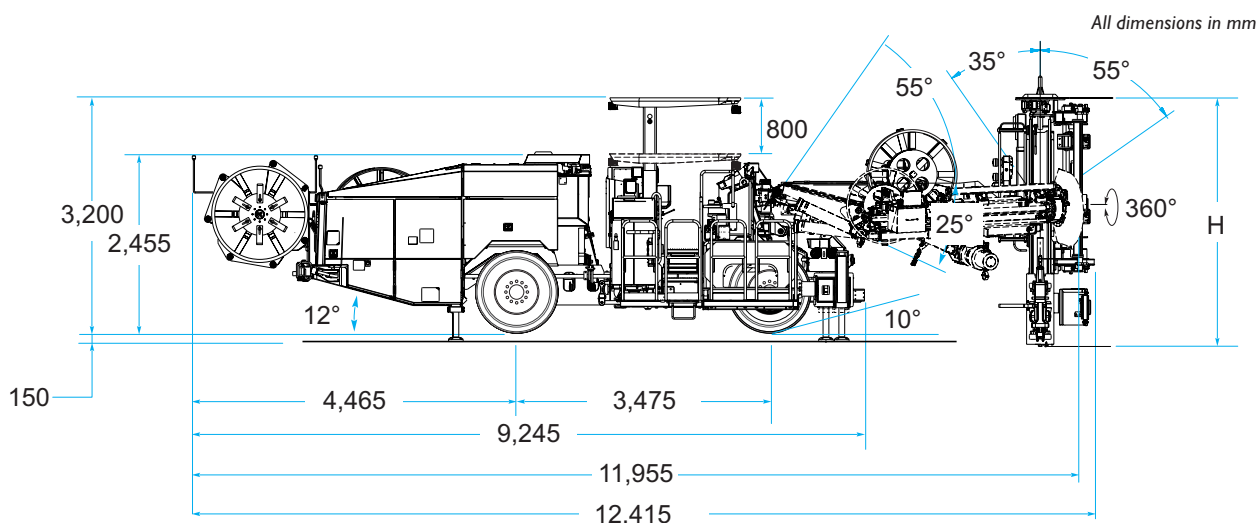
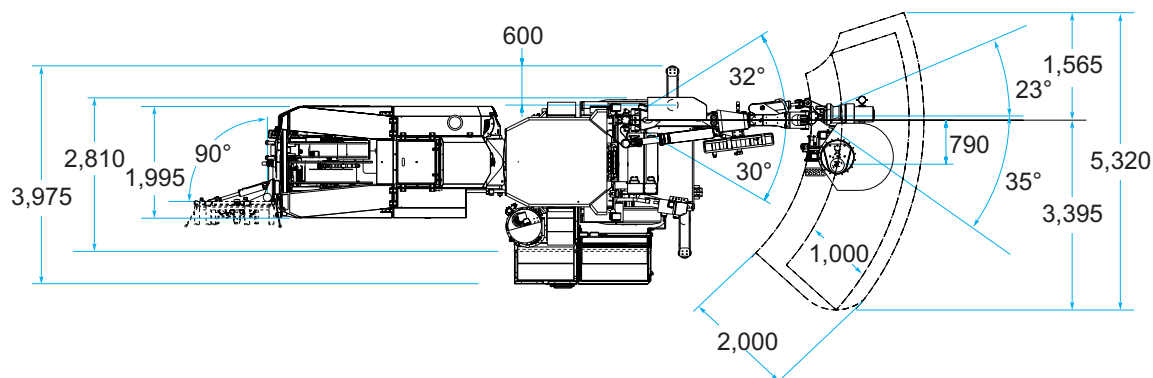
- Foam-filled tires.
- Fast filling systems. Complete.
- Wheel chocks and holder (2 pieces).
- LP cleaning system with reel. Max. 15 bar.
- HP cleaning system with reel. Max. 180 bar.
- Greasing unit with pump, reel and nozzle. Manual.
- Automatic greasing system. Booms and carrier.
- Handheld fire extinguisher. 1 x 7.7 kg Type ABC.
- Manual fire suppression system. 6 nozzles (incl.1 x extinguisher).
- Auto fire suppression system. 6 nozzles (incl.1 x extinguisher).
- FS1000 fire suppression system (above 0°C).
- Access detector system.

## Packages

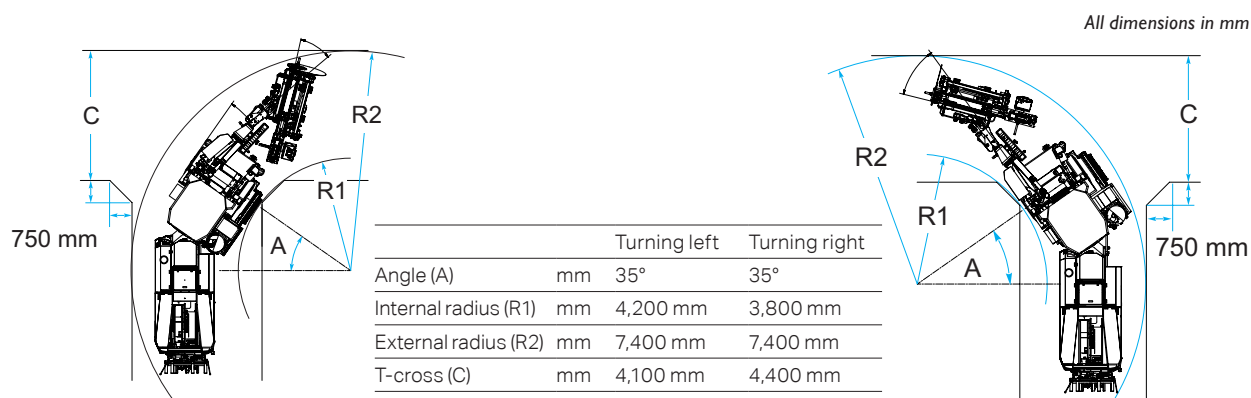
- Regional packages. USC, AUS, EUR.
- Harsh water packages. Basic or advanced (Spec. TS2-049).
- Anti-freezing package: Block heater for engine, heater for hydraulic oil, water circuit flushing with air, antifreeze adding in water circuit.

## Extra items

- Ground fault and overcurrent protection (VYK).
- Spare rock drill.
- Spare wheel assembly. Standard or foam-filled.
- Special tools for rock drill.
- Documentation. Extra manuals.



	CBH4	CBH5	CBH6
Height (H) mm	3,190	3,495	3,800



Sandvik Mining 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.

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