



APPLICATION

The Sandvik DL420-10C is an electro-hydraulic long-hole drilling rig for large-scale production drilling in underground mines. The rig is capable of drilling 89 – 127 mm (3 ½” – 5”) holes up to 54 meters.

The rig has been designed for vertical and inclined plane rings and fans and also for parallel long production holes as well as for long single holes. The robust ZR 30 boom has 3 meters parallel drilling coverage. The 360° rotation in full parallel coverage area and wide tilt angle ranges forward and backwards make the boom suitable to various drilling applications.

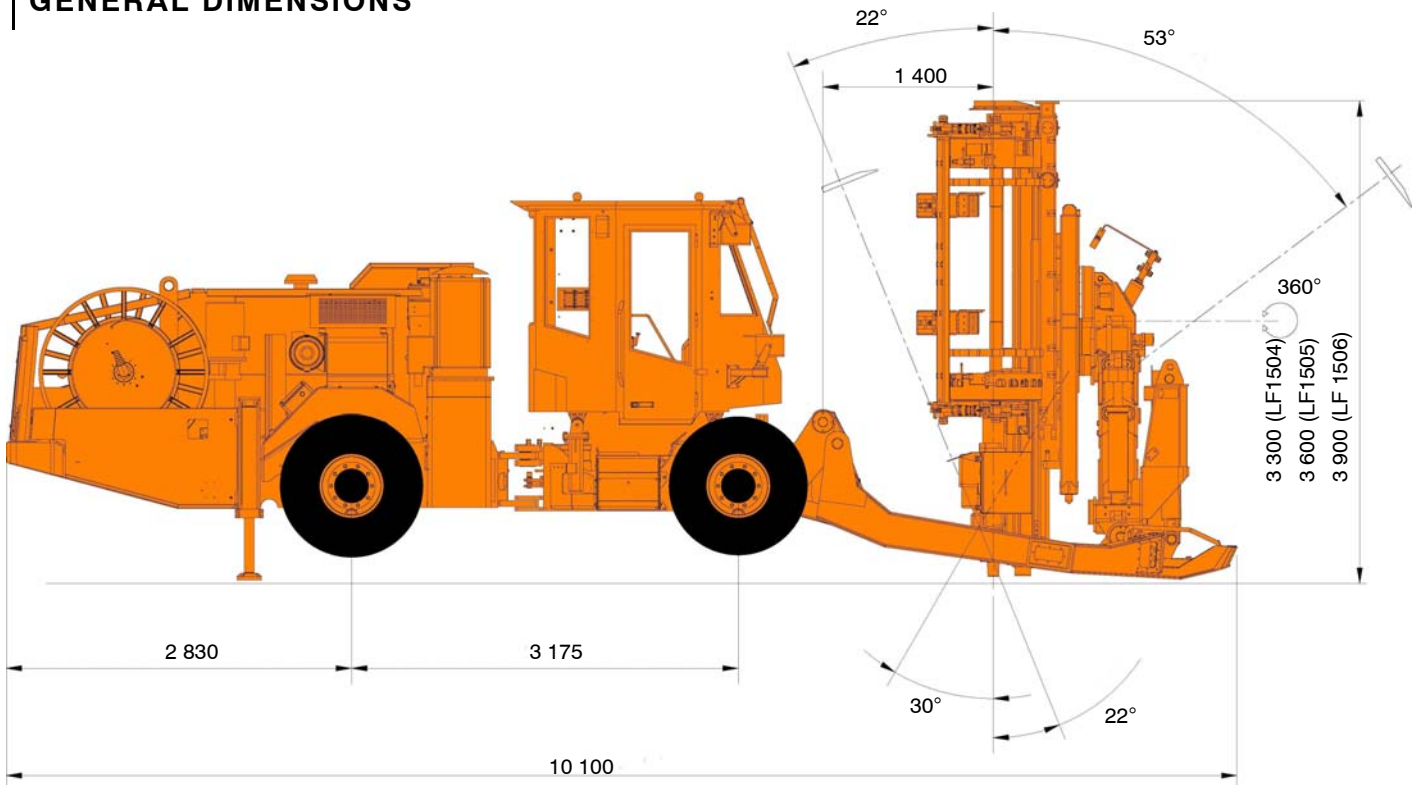
Instrumentation and data drilling with one hole or up-hole fan automation options allow maximum performance with superior drilling accuracy. Built in and proven CAN-based technology on board allow operator to set the unit for any rock conditions. The CAN technology also makes the upgrade of automation level easy. The control system has a sophisticated fault finding system, which enables minimum downtimes.

The unit is based on a proven jumbo carrier for high mobility. Both drilling and tramming are done from the operator's platform. Operator comfort is achieved by enclosed sound proof cabin.

MAIN SPECIFICATIONS

Carrier	1 x TC 7 W
Safety cabin	1 x FOPS (ISO 3449) ROPS (ISO 3471)
Rock drill	1 x HL1010S
Drilling module	1 x LF 1500 / Pito 14
Rod handling system	1 x RC 1000
Boom	1 x ZR 30
Control system	1 x TPC LH
Powerpack	1 x HP 1075 (75,0 kW)
Shank lubricating device	1 x SLU 1
Air compressor	1 x CT 10 (7,5 kW)
Water pump	1 x WBP 3 (7,5 kW)
Main switch	1 x MS-10
Cable reel	1 x TCR 3E
Length	10 240 mm
Width	2 240 mm
Height (with LF 1506)	3 700 mm
Weight	23 000 kg
Tramming speed	
Horizontal	15,0 km/h
14 % = 1:7 = 8°	6,5 km/h
Max grade allowed	28 % = 1:3,5 = 15°
Noise level (EN 791, free field condition)	
In cabin	LpA = 80 dB
Emitted	LwA = 127 dB

GENERAL DIMENSIONS



TC 7 W CARRIER

Diesel engine	MB OM904LA 110 kW (149 hp)
Transmission	Clark 20 000 Hydrodynamic
Axles	Clark-Hurth Wide front axle
Brakes	
Service	Hydraulically operated wet disc brakes
Parking and emergency	SAHR type, fail-safe wet disc brakes
Tyres	12.00 – 20 PR 20
Steering	Frame steering, Orbitrol
Articulation	± 40°
Rear oscillation	± 10°
Ground clearance	320 mm
Fuel tank	150 l
Hydraulic jacks	
Front	1 x Front frame stabilizer
Rear	2 x TJ 60
Safety cabin	FOPS (ISO 3449) ROPS (ISO 3471) Pressurized
Greasing	Centralized nipples

HL1010S ROCK DRILL

Weight	300 kg
Length	1 165 mm
Height	348 mm
Profile height	247 mm
Power class	25 kW
Max working pressure	
Percussion	160 bar
Rotation	175 bar
Max torque	
315 cm ³ motor	1 380 Nm
Hole size	89 – 127 mm
Flushing water pressure	5 – 15 bar

LF 1500 DRILLING MODULE

LF 150x / Pito 14	x = 4' / 5' / 6'
Cuttings collector	CC 1014

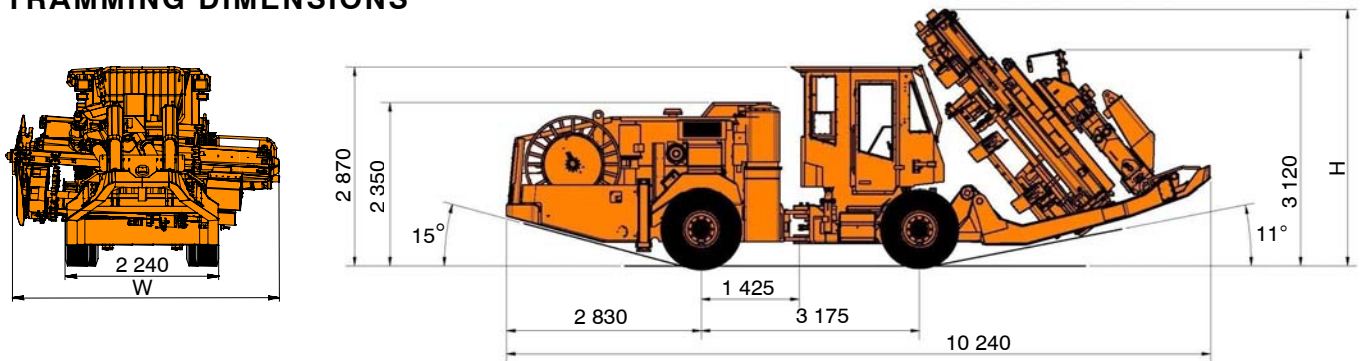
RC 1000 TUBE HANDLING SYSTEM

RC 100x	x = 4' / 5' / 6'
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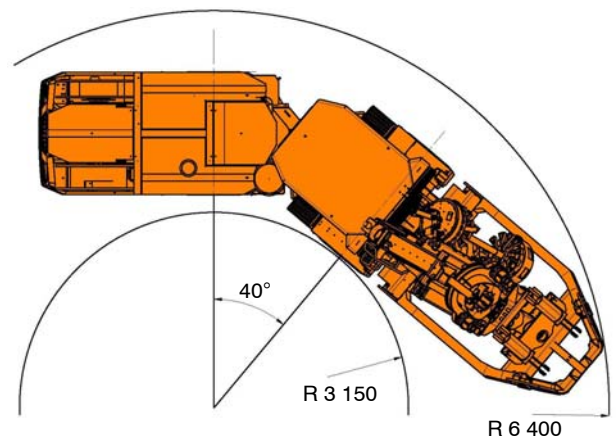
ZR 30 BOOM

Parallel coverage	3 000 mm
Feed extension	
LF 1504	1 000 mm
LF 1505	1 100 mm
LF 1506	1 400 mm
Boom weight, net	2 800 kg
Rotation angle	360°
Stinger extension	
LF 1504	1 500 mm
LF 1505, 1506	1 700 mm

TRAMMING DIMENSIONS



Drilling module	H	W
LF 1504	3 100	3 300
LF 1505	3 400	3 600
LF 1506	3 700	3 900



TPC LH CONTROL SYSTEM

Power control	Adjustable full power Adjustable collaring power
Anti-jamming control	Adjustable anti-jamming pressure
Rotation control	Adjustable rotation speed
Flushing control	Water flushing flow and pressure control Air-mist flushing (option)

HP 1075 POWERPACK

Electric motor	1 x 75 kW 3-phase motor
Pump types	
Percussion and feed	1 x 200 l/min variable displacement axial piston pump
Rotation	1 x 100 l/min variable displacement axial piston pump
Boom movements and tube handling	1 x 40 l/min variable displacement axial piston pump
Filtration	
Pressure	1 x 20 micron
Return	1 x 12 micron
Oil tank volume	Max. 230 l, min. 140 l
Tank filling	1 x electric filling pump
Oil cooling	1 x OW 45 water cooler

AIR CIRCUIT

Compressor type	1 x CT 10 (7,5 kW)
Capacity	1.0 m ³ /min (7 bar)
Shank lubricating device	1 x SLU 1
Air consumption	250 – 350 l/min
Oil consumption	250 – 400 g/h

WATER CIRCUIT

Water pump type	1 x WBP 3 (7,5 kW)
Capacity	200 l/min (12 bar) With 2 bar inlet pressure
Inlet pressure	2 – 7 bar (while drilling)
Inlet pressure control valve	1 x WP 70

ELECTRICAL SYSTEM

Total input power	102 kW
Main switch	1 x MS-10
Standard voltages	380 – 690 VAC 50 or 60 Hz
Voltage fluctuation	Max ±10 %
Lighting	
Working lights (24 VDC)	Front 4 x 35 W (H.I.D.) Rear 2 x 70 W
Driving lights (24 VDC)	Front 2 x 35 W (H.I.D.) Rear 4 x 70 W
Positioning lights	2 x Laser type
Automatic cable reel	1 x TCR 3E

COVERAGE AREA MINIMUM DRIFT SIZE

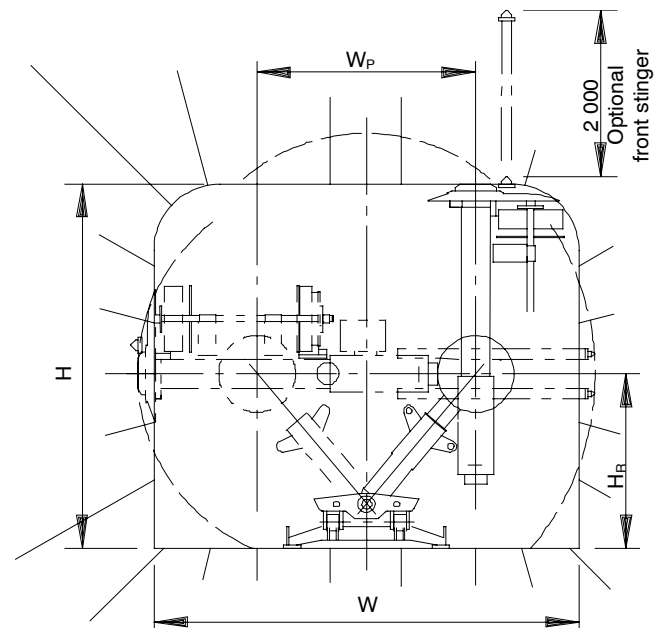
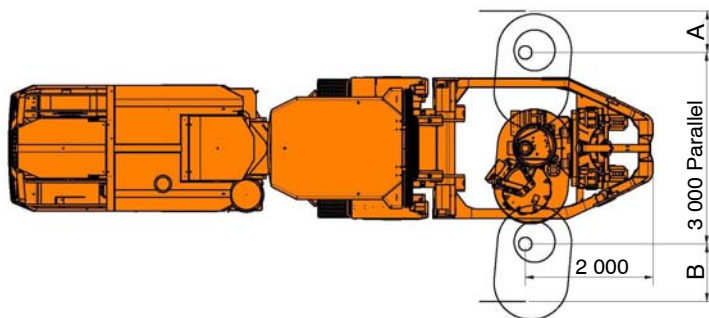
Drilling module	H	W	W _P	H _R
LF 1504	3 800	3 500	1 750	2 100
LF 1505	4 100	3 800	2 050	2 100
LF 1506	4 400	4 100	2 350	2 100

Included 100 mm clearance on each side

MAXIMUM DRIFT SIZE

Drilling module	H	W	W _P	H _R
LF 1504	4 250	4 900	3 000	2 100
LF 1505	4 370	5 100	3 000	2 100
LF 1506	4 670	5 400	3 000	2 100

With rear stingers in use without optional front stinger



	A	B
RC 1000	650	900
RC 1100	650	1055

OPTIONAL EQUIPMENT DRILLING SYSTEM

- Rod / tube handling system RC 1100
- Readiness for double tools system; rods and tubes
- Drilling instrumentation TMS
 - TMS D (Drilling direction)
 - TMS DD (Drilling direction and depth)
 - TMS DDS (Drilling direction, depth and speed)
- Sequence control for rod changer
- One hole data drilling system (front stinger required)
- Uphole fan automation (front stinger required)
- Front stinger (needed for downholes)
- Long front frame for $\pm 45^\circ$ tilt angle
- Air mist flushing with outer compressed air feed
- Double control system (two panels)
- Tele Remote drilling
 - cable
 - wireless
- Power extractor for HL1010S

ELECTRICAL SYSTEM

- Electric cable rubber or PUR
- Ground fault and over current unit VYK
- *) 1 000 V electric system
- Star-Delta starting (380 – 690 VAC only)
- 230 VAC power outlet max 4 500 VA
- 3-phase outlet network voltage

CARRIER

- Cabin air conditioning (drilling and tramming)
- Cabin heating (drilling and tramming)
- 12 VAC electric outlet and CD-player/radio readiness
- CD-player / radio in cabin
- *) Stainless steel cabin (FOPS only)
- Exhaust scrubber
- Exhaust catalyzer
- Complete spare wheel

OTHER OPTIONAL EQUIPMENT

- Fire extinguisher (bottle only)
- Manual fire suppression system, 6 nozzles
- Automatic fire suppression system, 6 nozzles
- Pressure cleaning system (15 bar) with reel
- High pressure cleaning system with reel and handset
- Automatic water hose reel THR 2.5E
- Water hose 1 1/2" (60 m)
- Greasing unit with pump, reel and nozzle
- Centralized greasing system for boom and cassette
- Automatic greasing for carrier, boom and cassette
- Biodegradable oils
- Fast filling and evacuation system (Wiggins) for fuel
- Fast filling and evacuation system (Wiggins) for fuel, transmission, engine and hydraulic oil
- * EU, UL, CSA, AUS norms package

*) = Replaces standard component

Sandvik Mining and Construction reserves the right to change this specification without further notice.