

DL420-15C UNDERGROUND DRILL RIG

TECHNICAL SPECIFICATION



APPLICATION

The DL420-15C 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.

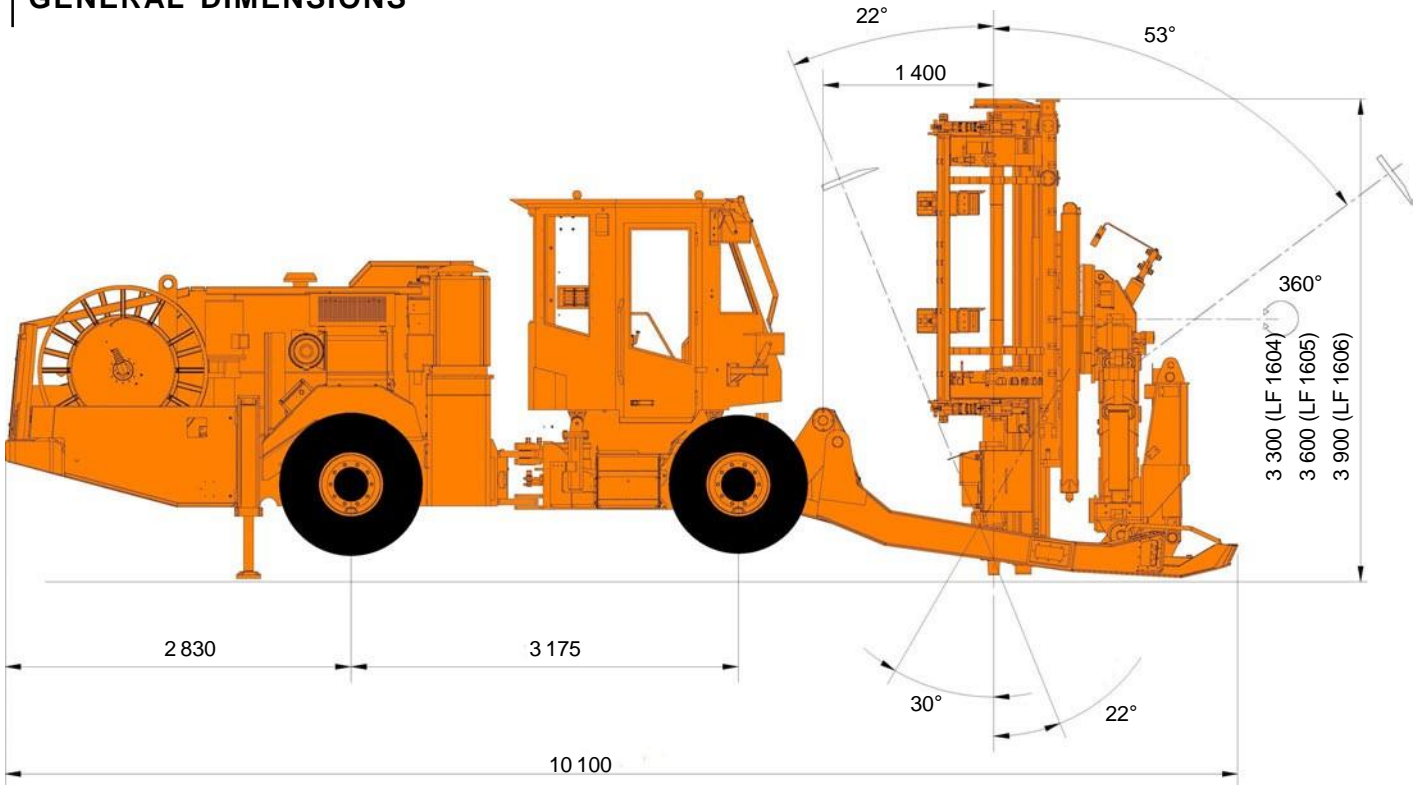
Instrumentation and data drilling with one hole or uphole fan automation options allow maximum performance with superior drilling accuracy. Built in and proven CAN-based technology on board allow operator to set the unit for any rock conditions. The CAN technology also makes the upgrade of automation 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 HL1560T
Drilling module	1 x LF 1600 / Pito 16
Rod handling system	1 x RC 1600
Boom	1 x ZR 30
Control system	1 x TPC LH
Powerpack	1 x HP 1590 (90,0 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 3ER
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 WCARRIER

Diesel engine	MB OM904LA 110 kW (149 hp)
Transmission	Spicer T20 000 Hydrodynamic
Axles	Spicer 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
Greasing	Centralized nipples

CABIN

Safety cabin	FOPS (ISO 3449) ROPS (ISO 3471)
Cabin air conditioning	Drilling and tramming
Front screen protection bar	
Brake pressure gauges in control panel	

HL1560T ROCK DRILL

Weight	450 kg
Length	1 335 mm
Height	385 mm
Profile height	285 mm
Power class	30 kW
Max working pressure	
Percussion	200 bar
Rotation	200 bar
Max torque	
500 cm³ motor	2 330 Nm
Hole size	89 – 127 mm
Flushing water pressure	5 – 20 bar

LF 1600 DRILLING MODULE

LF 160x / Pito 16	x = 4' / 5' / 6'
Cuttings collector	CC 1016

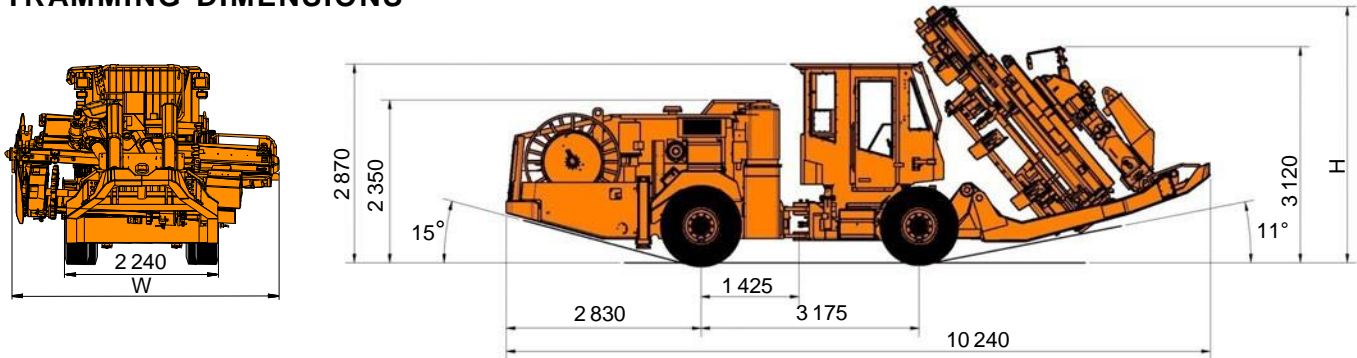
RC 1600 TUBE HANDLING SYSTEM

RC 160x	x = 4' / 5' / 6'
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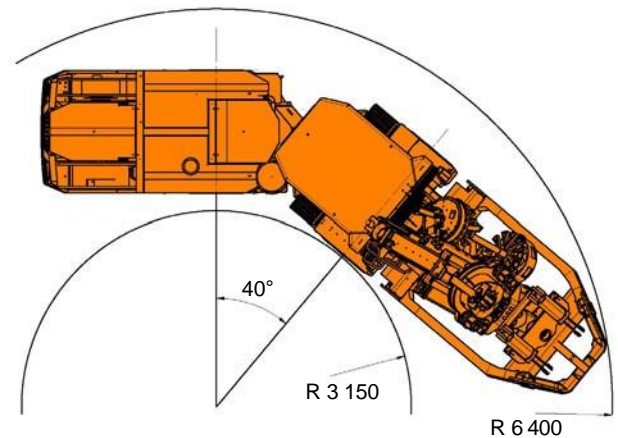
ZR 30 BOOM

Parallel coverage	3 000 mm
Feed extension	
LF 1604	1 000 mm
LF 1605	1 100 mm
LF 1606	1 400 mm
Boom weight, net	2 800 kg
Rotation angle	360°
Stinger extension	
LF 1604	1 500 mm
LF 1605, 1606	1 700 mm

TRAMMING DIMENSIONS



Drilling module	H	W
LF 1604	3 100	3 300
LF 1605	3 400	3 600
LF 1606	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 1590 POWERPACK

Electric motor	1 x 90 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 m³/min (7 bar)
Shank lubricating device	1 x SLU 1
Air consumption	250 – 350 l/min
Oil consumption	250 – 400 g/h
Air cleaner	IP 5

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	119 kW
Main switch	1 x MS-10
Standard voltages	380 – 690 VAC 50 or 60 Hz
Voltage fluctuation	Max ±10 %
Lighting	
Combined working and driving lights (24 VDC)	6 x 35 W (HID) front
Working lights (24 VDC)	2 x 35 W (HID) rear
Driving lights (24 VDC)	2 x 35 W (HID) rear
Rear brake lights	LED
Positioning lights	2 x Lasertype
Automatic cable reel	1 x TCR 3ER
Spooling device for cable reel	