

BOLTEC MD UNDERGROUND DRILL RIGS

TECHNICAL SPECIFICATION



A fully mechanized rock bolting rig with direct control system for high productivity and precision. For bolt lengths 1.5-3.5 m and effective in roof heights up to 9.5 m.

Standard features

»Control system

- Direct Control System (DCS)
- Simple operator control panel
- Built-in anti-jamming protection.
- Easy to operate, easy to maintain

»Bolting unit

- MBU bolting unit
- Unique design based on a single feed system which utilizes a cradle indexer at the rear end and a centralizer at the top with 3 positions – drilling, injecting and bolting
- The magazine for 10 bolts is low mounted and designed for maximum flexibility during drilling and bolting operations

»Rock drill

- COP 1132 with hydraulic dual-damping system
- 11 kW impact power

»Hydraulic boom

- BUT 35HB heavy-duty booms for direct, fast and accurate positioning between holes
- Improved linkage bearings in main boom joints and new axial bearings in all boom joints reducing maintenance requirements.

»Carrier

- Sturdy, articulated carrier with turbocharged water-cooled, low emission diesel engine
- High ground clearance, four wheel traction and articulated steering for easy manoeuvring in narrow drifts and fast tramming in steep ramps

»General

- Basic rig includes telescopic FOPS-approved protective roof, fixed seat, hydraulic driven compressor and water booster pump, cable reel, bolt rack, air receiver and working lights

Specifications

»Rock drill/drill system

- COP 1132
- Shank adapterR25, R28, R32
- Height over drill centre 77 mm
- Length without shank adapter 735 mm
- Impact power, max 11 kW
- Impact rate..... 100 Hz
- Hydraulic pressure, max..... 200 bar
- Rotation system..... separatorotation
- Rotation speed 0–300 rpm
- Rotation torque, max.....225 Nm
- Lub. air consump. (at 3 bar)......6 l/s
- Water consumption1.25 l/s
- Weight75 kg
- Sound level.....<106dB(A)
- Rock drill lubrication warning kit
- Rock drill lubrication surveillance system
- Hole blowing kit

»Bolting unit

- Mechanical Bolt Unit, MBU
- Magazine capacity.....10 bolts
- Max. size of face plates, rectangular 150x150 mm
- Max. size of face plates, round..... Ø 200 mm
- Bolt length..... 1.5–3.5 m
- Adapted for all commonly used bolt types on the market, see options
- Drill steel and coupling according to MBU, delivered with rig
- Chain feed adapted according to bolt length

»Boom

- BUT 35HBE
- Feed extension..... 0–1,000 mm
- Boom extension..... 1,600 mm
- Feed roll-over..... 360°
- Max. lifting angle.....+65°/-30°
- Max. swinging angle.....±45°
- Weight, boom only2,870kg

»Electrical system

- Total installed power 63 kW
- Main electrical motor 1x55 kW
- Voltage (as per customer specification) 400–1,000 V
- Frequency (as per customer specification) 50–60 Hz
- Starting method - star/delta (400–700 V), direct start 1,000 V
- Electronic overload protection for electric motors
- Digital voltage and current meter in electrical cabinet
- Phase sequence indicator
- Earth fault indicator
- Battery charger
- Transformer 8 kVA
- Working lights, halogen 2x1,000 W, 230 V
- Working lights for CSA 4x500 W, 110 V
- Cable reel, diameter 1,600 mm
- Rain cap(s) for main electrical motor(s)
- Limit switch for cable reel with signal lamp and brake connection
- Earth connectors (EMC grounding straps)

»Carrier

- Deutz TCD 2013 L04 2V, Tier 3/Stage III A (EPA III/COM III) approved, water-cooled, turbo-charged diesel engine
- Power rating at 2,300 rpm..... 120 kW (173 hp)
- Torque at 1,600 rpm618Nm
- Exhaust catalyser
- Exhaust silencer
- FOPS approved protective roof
- Fixed seat for tramming, incl. safety belt
- Articulated steering with ±38 degree steering angle
- Four wheel drive
- Hydrostatic power steering system
- Hydrodynamic Dana/Clark 24000 transmission
- Dana/Hurth 123 front axle
- Dana/Hurth 123 rear axle with ± 8 degree oscillation
- Automatic differential lock on front axle, limited slip
- Tyres front and rear, 12.00 R24
- Hydraulic jacks (2 extendable at front and 2 at rear)
- Large plates for boom frame hydraulic jacks
- Service brakes: two separate circuits, hydraulically applied, fully enclosed wet disc brakes
- Emergency and parking brakes: SAHR (Spring Applied Hydraulic Released)
- Control panel for roof, jacks and cable reel
- Fuel tank, volume..... 100 l
- Electric system24 V
- Batteries.....2x125 Ah
- Tramming lights8x70 W, 24 V DC
- Spotlight1x70 W, 24 V
- Diod illumination, stairs for platform
- Spirit levels, one for longitudinal and one for sideways
- Central lubrication system
- Fire extinguisher
- Gradeability at max load on drive wheels..... 1:4
- Beacon warning lamp and reverse alarm
- Break light
- Warning horn
- Boltrack
- Shelf for drill bits and tools
- Manual lubrication kit
- Dual controls for cable/water hose reel (if included)
- Bolt/rod holder

»Air system

- GAR 5 screw compressor
- Capacity, max 20 l/s at 7 bar and 5,400 rpm
- Air receiver 50 l
- Hydraulic drive, axial piston motor 10 cc
- Adjustable speed
- Air pressure gauge
- Hole blowing kit

»Water system

- Water booster pump, CR5-13
- Max capacity at 7 bar 80 l/min
- Min water inlet pressure..... 2 bar
- Hydraulic drive, axial piston motor 5 cc
- Water pressure gauge
- Water flow guard, flushing water
- Water pressure switch
- Rig washing kit

Specifications

»Control system

- Direct Control System, DCS 1400
- All drilling and bolting functions controlled hydraulically

»Hydraulic system

- Hydraulic pump unit consisting of two variable pumps for percussion and positioning, and two constant flow pumps for rotation and compressor

- Pumps unloaded at start
- System pressure 150–240 bar
- Hydraulic oil tank, volume max 250 l, min 200 l
- Low oil level indicator and shut down
- Oil temperature gauge on oil tank, electronically supervised
- Filtration, 16 µm absolute
- Oil filter indicator
- Water cooled, stainless steel oil cooler
- Mineral hydraulic oil
- Electrical oil filling pump
- Hydraulic oil thermostat

Optional Equipment

»Rock drill/drill system

- Air-water mist flushing, external air
- Water mist flushing with external water and air supply (incl. extra hydraulic driven fan for oil cooling or water-oil cooling)

»Boom

- Automatic boom lubrication system, rear part
- Manual boom lubrication kit

»Bolting unit

- Swellex, Mn 12, Mn 16, Mn 24
- Split-Set, SS33, SS39, SS46
- Mechanical anchor bolts, CT, Kiruna, including boltrotator
- Split Wedge
- Rebar - manual resin / cement cartridge, including boltrotator
- Rebar - resin cartridge injection system, automatic, including boltrotator
- Rebar - cement injection system, manual
- Hose injection system for resin cartridges
- Dual bolt lengths
- Dual bolt types
- Extension drilling kit

»Air/water system

- Water hose reel
- Water hose
- Dual controls for hose reel
- Booster pump CR16-80 at cement use

»Hydraulic system

- Heater kit
- Smart oil leakage shut down system
- Biogradable oil

»Automation

- Rig remote access
- Bolt quality log (BQL)
- Bolt angle indication
- Bolt plan navigation

»Protective roof

- Rig height roof up 3,070 mm, roof down 2,570 mm

»Cabin

- Cabin, FOPS approved with sound level <80 dB(A) including
 - Fixed seat
 - CD player
 - Air condition
 - Front window 16 mm
 - Rear windshield wiper
 - Joystick controlled spot light, 70 W (left side)
 - 12 V outlet for communication radio
 - Boot washing kit
- Heating function for air conditioning (water transferred, 2 kW)
- Swingable operator seat
- Additional operator's control panel
- Alternative mounting height: 140 mm (rig height 2,900 mm) or increased 250 mm (rig height 3,410 mm)
- FOPS approved grizzly bar for front window
- Cabin body made of stainless steel
- Electrical joystick steered spotlights, 1x75 W
- Cabin lift/tilt, 375 mm/15 degrees
- Reversing camera with monitor

»Carrier

- Fire suppression system
 - Manual release
 - Automatic (Checkfire)
 - Full Automatic
- Particle filter UNIKAT
- Brake lights
- Solid tyres

»Electrical system

- Soft start for electrical motors, for 400–700 V (not for CSA approved rigs)
- 1,000 V electric system, direct start

only

- Electric cable, see recommendations
- Dual controls for cable reel
- Electric plugs 400–660 V, max 250 or 420 A
- Electric plugs and socket
- Plug and switch gear
- Connector
- Electric outlet for accessories, 16 Amp (Voltage = main supply voltage if no extra transformer is chosen. Not for 1,000 V)
- Extra transformer 15 kVA
- CSA approved electrics (Canadian regulations)
- UL approved electrics (US standard)
- Australian electrics according to AUS 3,000
- Metal halogen working lights 2x400 W

»Miscellaneous

- Service platform HL 256
- FOPS approved protective roof for HL 256
- Water and air outlet in service platform basket
- Screen handling arm
- Hose and/or cable guide at water/cable reel
- Remote operating kit
- Ni-Cr plated piston rods
- Service tool box for electronic system