

Boltec MC

Technical specification



A fully mechanized rock bolting rig with RCS based 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

- Rig Control System (RCS)
- Interactive operator control panel with full-colour display
- Auto-collaring and anti-jamming protection
- Improved regulation of the rock drill
- Integrated diagnostic and fault location system
- Proportionell movements of the hydraulic components
- PC-card for transfer of data and for service engineers to store optimal drill settings

» 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 boom 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 adapter R25, 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 separate rotation
- Rotation speed 0–300 rpm
- Rotation torque, max 225 Nm
- Lub. air consump. (at 3 bar) 6 l/s
- Water consumption 1.25 l/s
- Weight 75 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 only 2,870 kg

» Electrical system

- Total installed power 63 kW (auto cement, 83 kW)
- Main electrical motor 1x55 kW (auto cement, 1x75 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 L4 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 rpm 618 Nm
- 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 system 24 V
- Batteries 2x125 Ah
- Tramming lights 8x70 W, 24 V DC
- Spotlight 1x70 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

- Atlas Copco 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

- Rig Control System (RCS), versatile and upgradeable to a higher degree of automation
- Ergonomic operator panel with colour display
- All needed information and settings can be viewed on display i.e. pressure gauges, logging hole depth etc.
- PC-card for transfer of data and for storage of optimal drill settings
- Integrated diagnostic system
- Exposed components are designed and tested acc. to IP 65 standard

» 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, automatic
- 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 transfered, 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

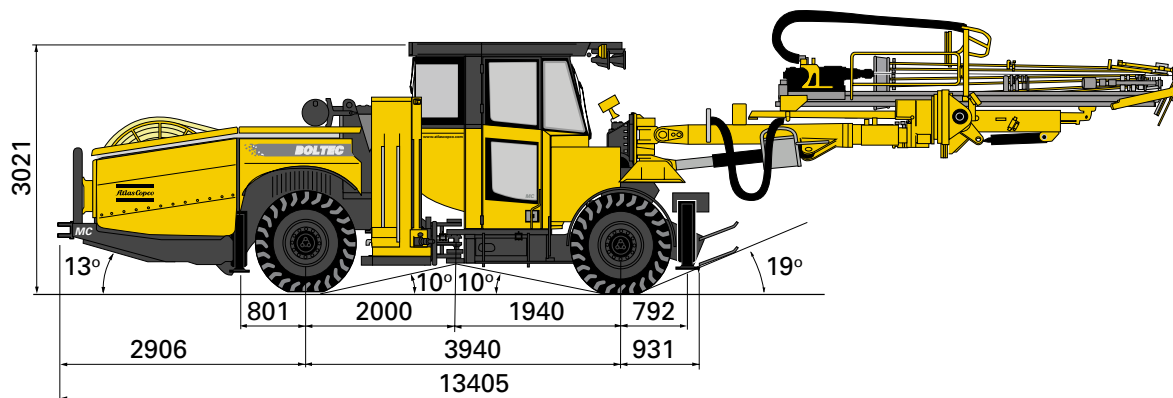
- Soft start for electrical motors, for 400–700 V (not for CSA approved rigs)
- 1,000 V electric system, direct start only
- Electric cable, see recommendations
- Dual controls for cable reel
- Electric plugs 400–660 V, max 250 or 420 A
- Electric plugs and socket
- Plug and switch gear
- Connector
- 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

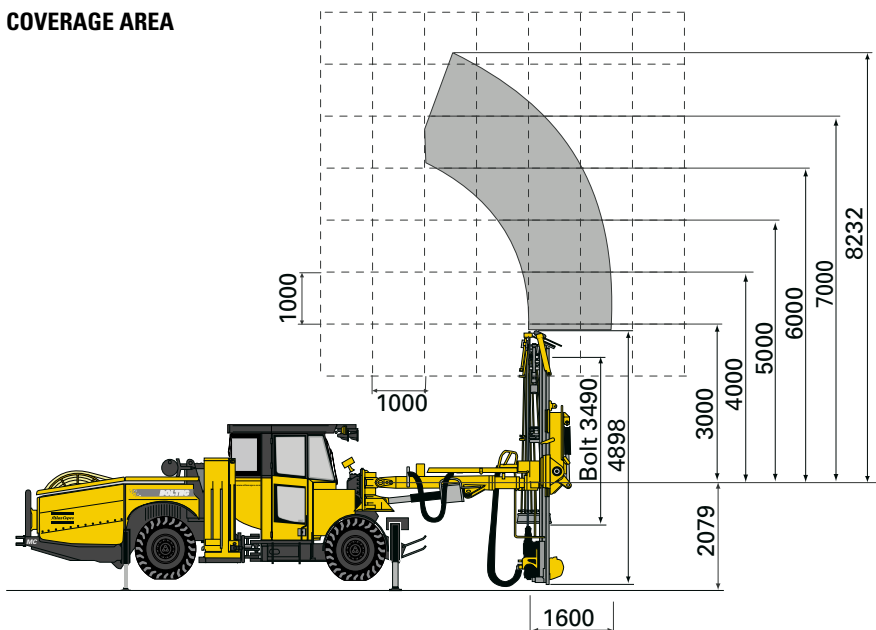
- Service platform HL 256
- FOPS approved protective roof for HL 256
- Water and air outlet in service platform basket
- Screen handling arm
- Hose and/or cable guide at water/cable reel
- Remote operating kit
- Ni-Cr plated piston rods
- Service tool box for electronic system

Measurements

LENGTH / HEIGHT



COVERAGE AREA



RECOMMENDED CABLE SIZE AND LENGTH

Voltage	Type	Dimension	Diameter	Length
400 V	H07RN-F	4G50 mm ²	49 mm	150 m
400 V	Buflex	3x70+3G16 mm ²	42 mm	200 m
440 V	H07RN-F	4G50 mm ²	44 mm	150 m
440 V	Buflex	3x70+3G16 mm ²	37 mm	200 m
460-500 V	H07RN-F	4G35 mm ²	44 mm	200 m
460-500 V	Buflex	3x50+3G16 mm ²	37 mm	200 m
500-550 V	H07RN-F	4G35 mm ²	44 mm	200 m
500-550 V	Buflex	3x50+3G16 mm ²	37 mm	200 m
660-700 V	H07RN-F	4G35 mm ²	38 mm	200 m
660-700 V	Buflex	3x35+3G10 mm ²	32 mm	200 m
1,000 V	Buflex	3x35+3G10 mm ²	28 mm	200 m

G = Protection yellow/green
Valid for ambient temperature below 30°C

DIMENSIONS

mm		
	Width, without bolt rack	2,245
	Height, standard	3,021
	Length tramming MBU34.9	13,405
	Ground clearance	254
	Turning radius, outer	6,600
	Turning radius, inner	4,100

WEIGHT

gross weight		
kg		
	Total	21,600
	Boom side	15,500
	Engine side	6,100

TRAMMING SPEED

km/h		
	On flat ground (rolling resistance 0.05)	> 15
	On incline 1:8	> 5