**Atlas Copco** Face drilling rigs

**Boomer S1 L**

Equipped with COP 1638 or COP 1838ME rock drills

Hydraulically controlled mining and tunnelling face drilling rig for low-profile applications. Equipped with one BUT 28 SL boom. Available with a variety of rock drills to suit customer requirements.

**Standard features**

**» Rock drill**
- COP 1638 or COP 1838ME rock drill with dual-damping system for optimal consumable life
- Pressurized housing and mating surfaces to reduce internal contamination of the rock drill

**» Hydraulic boom**
- BUT 28 SL heavy-duty boom with double tripod suspension for accurate hydraulic parallel holding in all directions

**» Hydraulic feed**
- BMH 2800-series heavy-duty aluminium feed with high bending and torsional resistance for maximum durability
- Snap-on stainless steel sleeves and polymer contacts

**» Control system**
- Hydraulically controlled drilling system which incorporates the anti-jamming function Rotation Pressure Controlled Feed (RPCF)

**» Carrier**
- Sturdy, articulated carrier with four-wheel drive
- Powered by a 4-cylinder, EPA III/COM III (Tier 3/Stage IIIA) approved diesel engine
- Four jacks for stable set up

**» General**
- FOPS-approved telescopic protective roof
- Cable reel
- Hydraulically driven piston compressor
- Hydraulically driven water booster pump
- Working lights
Specifications

**ROCK DRILL**

<table>
<thead>
<tr>
<th></th>
<th>COP 1638</th>
<th>COP 1838ME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shank adapter</td>
<td>R32/R38/T3B</td>
<td>R32/R38/T3B</td>
</tr>
<tr>
<td>Height over drill centre</td>
<td>88 mm</td>
<td>88 mm</td>
</tr>
<tr>
<td>Length without Shank</td>
<td>1 008 mm</td>
<td>1 008 mm</td>
</tr>
<tr>
<td>Impact power</td>
<td>18 kW</td>
<td>18 kW</td>
</tr>
<tr>
<td>Impact rate</td>
<td>60 Hz</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Hydraulic pressure</td>
<td>200 bar</td>
<td>230 bar</td>
</tr>
<tr>
<td>Rotation system</td>
<td>Separate rotation</td>
<td>Separate rotation</td>
</tr>
<tr>
<td>Rotation speed</td>
<td>0–340 rpm</td>
<td>0–340 rpm</td>
</tr>
<tr>
<td>Rotation torque, max</td>
<td>440–1 000 Nm</td>
<td>840–1 000 Nm</td>
</tr>
<tr>
<td>Lub. air consump. at 2 bar</td>
<td>5–7 l/s</td>
<td>5 l/s</td>
</tr>
<tr>
<td>Water consumption</td>
<td>35–120 l/m</td>
<td>40–120 l/m</td>
</tr>
<tr>
<td>Weight</td>
<td>173 kg</td>
<td>170 kg</td>
</tr>
<tr>
<td>Sound level</td>
<td>&lt;106 dB(A)</td>
<td>&lt;106 dB(A)</td>
</tr>
</tbody>
</table>

**FEED**

BMH 2800 | BMH 2831 | BMH 2837 | BMH 2840
---|---|---|---
Total length | 4 677 mm | 5 287 mm | 5 587 mm
Drill steel length | 3 090 mm | 3 700 mm | 4 000 mm
Hole depth | 2 795 mm | 3 405 mm | 3 705 mm
Weight, incl. drill | 475 kg | 495 kg | 515 kg
Feed force | 15.0 kN | 15.0 kN | 15.0 kN

**Boom**

- Boom: L 250 mm
- Feed extension: BUT 28 SL
- Boom extension: 1 250 mm
- Parallel holding: complete
- Feed roll-over: 360°
- Max. lifting angle: +65°/–30°
- Max. swinging angle: +45°/–45°
- Weight, boom only: 1 750 kg

**Air system**

- Hydraulically driven screw compressor: Atlas Copco LE7
- Capacity, max at 7 bar: 11.7 l/s
- Air pressure gauge

**Water system**

- Hydraulically driven water booster pump: Flygt PXR411H
- Water booster pump max capacity at 12 bar: 1.1 l/s
- Min water inlet pressure: 2 bar
- Water flow guard

**Control system**

- Direct-hydraulic Control System, DCS
- Basic functions such as anti-jamming included

**Electrical system**

- Total installed power: 59 kW
- Main motors: 1 x 55 kW
- Voltage: 380–1 000 V
- Frequency: 50–60 Hz
- Starting method: star/delta (1 000 V direct start)
- Thermal overload protection for electric motors
- Percussion hour meter
- Digital voltmeter/amperage meter in electric cabinet
- Phase sequence indicator
- Earth fault indicator
- Battery charger
- Transformer: 4 kVA
- Cable reel

**Hydraulic system**

- Hydraulic pumps: 1 unit
- Pumps unloaded at start
- System pressure, max: 150–230 bar
- Hydraulic oil tank, volume max/min: 140 l
- Oil temperature meter
- Electrical oil filling pump
- Oil filter indicator
- Low oil level indicator
- Water cooled oil
- Filtration: 16 µm
- Mineral hydraulic oil

**Carrier**

- Deutz 4-cylinder, TD 2011 L04 diesel engine
- Power rating at 2 600 rpm: 58 kW (78 hp)
- Torque at 1 500 rpm: 210 Nm
- Articulated steering: ±41° steering angle
- Fixed seat for tramming
- Four-wheel drive
- Articulated steering
- Hydrostatic transmission
- Front axle: Dana 112
- Rear axle: Dana 112, ±6° oscillation
- Tyres: R15
- Clearance outside axles: 12” rear
- Hydraulic jacks, front: 2 extendable
- Hydraulic jacks, rear: 2
- Service brakes: 2 separate circuits
- Emergency and parking brakes: SAHR
- Fuel tank, volume: 60 l
- Exhaust catalyst
- Silencer
- Electric system: 24 V
- Batteries: 2 x 12 V, 70 Ah
- Tramming lights: 4 x 70 W
- Working lights: 6 x 200 W, 230 V
- Brake lights
- Fire extinguisher
- Central lubrication system
- Spirit level
- Gradeability at max. load on drive wheels: 1:4
- Horn, beacon and reverse alarm
- Rock drill lubrication warning kit
Optional equipment

»**Rock drill/Drilling system**
  - Big hole drilling kit
  - Hole blowing kit with 2x20 l air receiver
  - Hole blowing kit with external air supply

»**Feed**
  - Extension drilling set BSH 110 (BMH feeds only)

»**Boom**
  - Feed Angle Measurement system (FAM 1)
  - Automatic boom lubrication kit, rear part of boom
  - Boom suspension system

»**Protective roof**
  - Outlet for communication radio, 12V

»**Cabin**
  - FOPS-approved cabin, noise level <85 dB(A), including:
    - Air conditioning unit
    - Fixed seat

»**Water system**
  - Water hose reel

»**Hydraulic system**
  - Hydraulic oil thermostat

»**Carrier**
  - Fire suppression system ANSUL (manual or Checkfire)

»**Electrical system**
  - Electric cable type H07RN-F or Buflex
  - Plug for cable
  - Switch gear

»**Miscellaneous**
  - Manual lubrication kit
  - Rig washing kit
  - Ni-Cr plated piston rods (limitations exist)
  - Warning stripes
### Measurements

**SID VIEW**

**COVERAGE AREA**

<table>
<thead>
<tr>
<th>DIMENSIONS</th>
<th>5375</th>
<th>8375</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>2400</td>
<td>5475</td>
</tr>
<tr>
<td>Height with cabin</td>
<td>1700</td>
<td>8375</td>
</tr>
<tr>
<td>Height roof up</td>
<td>1300/1700</td>
<td>8375</td>
</tr>
<tr>
<td>Length with BMH 2837 feeds</td>
<td>13065 (BMH 2837)</td>
<td>8375</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>260</td>
<td>8375</td>
</tr>
</tbody>
</table>

**WEIGHT**

<table>
<thead>
<tr>
<th></th>
<th>5375</th>
</tr>
</thead>
<tbody>
<tr>
<td>gross weight, depending on configuration</td>
<td>12500</td>
</tr>
<tr>
<td>kg Total</td>
<td>8200</td>
</tr>
<tr>
<td>Boom side</td>
<td>4300</td>
</tr>
</tbody>
</table>

**TRAMMING SPEED**

| km/h On flat ground (rolling resistance 0.05) | >15 |
| km/h On incline 1:8                           | >5.5 |

**RECOMMENDED CABLE SIZE AND LENGTH**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Type</th>
<th>Dimension, mm$^2$</th>
<th>Diameter, mm</th>
<th>Length, m</th>
</tr>
</thead>
<tbody>
<tr>
<td>380–400 V</td>
<td>H07RN-F</td>
<td>4G50 3x70+3x16</td>
<td>44 39</td>
<td>40 55</td>
</tr>
<tr>
<td>440 V</td>
<td>H07RN-F</td>
<td>4G50 3x70+3x16</td>
<td>44 39</td>
<td>40 55</td>
</tr>
<tr>
<td>500–525 V</td>
<td>H07RN-F</td>
<td>4G35 3x50+3x16</td>
<td>38 33</td>
<td>60 85</td>
</tr>
<tr>
<td>550–575 V</td>
<td>H07RN-F</td>
<td>4G35 3x50+3x16</td>
<td>38 33</td>
<td>60 85</td>
</tr>
<tr>
<td>660–690 V</td>
<td>H07RN-F</td>
<td>4G25 3x35+3x16</td>
<td>38 33</td>
<td>65 90</td>
</tr>
<tr>
<td>1,000 V</td>
<td>H07RN-F</td>
<td>N/A 3x15+3x6</td>
<td>29 29</td>
<td>N/A N/A</td>
</tr>
</tbody>
</table>

Recommendations are given for surrounding temperature of 40°C and up to a height of 2,000 m.

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