Atlas Copco Surface drill rigs

ROC® D3

Technical specification

Ideal for tough pioneering works and urban work sites

• Longest possible reach in most drilling situations
• Easy to maneuver in difficult terrain
• Easy to transport from site to site

The upgraded ROC D3 surface blast hole drill rig, since long well known for its extreme climbing performance and efficient small hole drilling capabilities is growing in capacity, but with maintained recognized qualities. The main components are:

• Crawler type two speed undercarriage with track oscillation system
• Cummins turbo charged diesel engine QSB4.5
• Atlas Copco screw type compressor
• Folding boom system
• Feed mounted drill control panel (ROC D3-03)
• Swing arm mounted control panel (ROC D3-01)
• Hydraulic rock drills COP 1240 alt. COP 1640
• Alternative rod handling systems
• Dust collection system

<table>
<thead>
<tr>
<th>Hole range and hole depth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydraulic carousel type Rod Handling System (RHS) for max hole depth, with 3,6 m (12`) rods</strong></td>
</tr>
<tr>
<td>ROC D3-01</td>
</tr>
<tr>
<td><strong>With extended folding boom and hydraulic Rod Adding System (RAS) for max hole depth, with 4,3 m (14<code>) starter rod and an added 3,6 m (12</code>) extension rods</strong></td>
</tr>
<tr>
<td>ROC D3-03</td>
</tr>
<tr>
<td><strong>With extended folding boom and rod rack for max hole depth, with 3,6 m (12`) extension rods</strong></td>
</tr>
<tr>
<td>ROC D3-03</td>
</tr>
<tr>
<td><strong>Single pass drilling (one rod drilling) max hole depth, with a max 4,31 m (14’ 11/2”) R 32 drifter rod</strong></td>
</tr>
<tr>
<td>ROC D3-01/03</td>
</tr>
</tbody>
</table>
Specifications

**Engine**
Cummins turbo charged, diesel engine, QSB4.5, Tier III/Stage 3
- Power rating at 2000 rpm ......... 116 kW 156 HP
- Fuel consumption, approx ............ 20-22 l/h 5.3-5.8 US gal/h
- Electronic variable engine speed ...... 1500-2000 rpm

**Compressor**
Atlas Copco OIS, screw compressor
ROC D3-01
- Working pressure, max ....................... 8.5 bar 123 psi
- FAD, at normal working pressure...... 95 l/s 201 cfm

ROC D3-03
- Working pressure, max ....................... 8.5 bar 123 psi
- FAD, at normal working pressure...... 80 l/s 170 cfm

**Feed**
ROC D3-01
Hydraulic aluminium cylinder feed with hose guide and double drill steel support with moveable lower guide/dust hood
- Total length................................. 7 140 mm 23’5’’
- Travel length................................. 4 240 mm 14’
- Feed extension............................... 1 200 mm 3’11’’
- Feed rate, max............................... 0.92 m/s 184 ft/min
- Feed force, max.............................. 20 kN 4 400 lbf
- Tractive pull, max............................ 20 kN 4 400 lbf

ROC D3-03
Hydraulic aluminium cylinder feed with hose guide and single drill steel support with fixed dust hood
- Total length................................. 6 000 mm 19’8’’
- Travel length................................. 4 070 mm 13’4’’
- Feed extension............................... 1 000 mm 3’3’’
- Feed rate, max............................... 0.33 m/s 98 ft/min
- Feed force, max.............................. 12 kN 2 160 lbf
- Tractive pull, max............................ 12 kN 2 160 lbf

**Dust collector DCT 140**
- Filter area...................................... 14 m² 151 sq.ft
- Number of filter elements ................. 14 pcs
- Suction capacity at 500 mm wg....... 560 l/s 1 200 cfm
- Suction hose diam........................... 102/127 mm 4’/5’
- Cleaning air pressure, max............ 7.5 bar 109 psi
- Cleaning air consumption................. 2-4 l/pulse 0.06 - 0.12 cu.ft/pulse

**Hydraulic system**
- Anti-jamming
- Rotation pressure control feed RPC-F
- Damper pressure control - impact DPC-I
- Hydraulic oil cooler
  - Max ambient temperature.............. 50°C 122°F

**Pumps**
- Axial piston pump (1).................. 135 l/min 35.7 US gal/min
- Gear pump (2)............................... 68 l/min 18.0 US gal/min
- Gear pump (3)............................... 44 l/min 11.6 US gal/min
- Gear pump (4)............................... 36 l/min 9.5 US gal/min

**Return and drainage filters**
- Filtration rate.............................. 16 µm absolute

**Electrical system**
- Voltage........................................ 24 V
- Batteries........................................ 2 x 12 V, 185 Ah
- Alternator..................................... 24 V, 70 Ah
- Work lights, front.......................... 6 x 70 W
- Work lights, rear............................ 2 x 70 W
- Work lights, feed............................ 2 x 70 W
- Engine diagnostic display for FMI codes

**Volumes**
- Hydraulic oil tank...................... 200 l 52.8 US gal
- Hydraulic system, total............... 250 l 66.0 US gal
- Compressor oil............................ 20 l 5.3 US gal
- Diesel engine oil......................... 11 l 2.9 US gal
- Diesel engine, cooling water .......... 25 l 6.6 US gal
- Diesel engine, fuel tank............... 270 l 71.3 US gal
- Traction gear................................ 3 l 0.8 US gal
- Lubrication tank (ECL).................. 5 l 1.3 US gal

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**Easy to manoeuvre**

**Hydraulic rock drill**

<table>
<thead>
<tr>
<th>Rock drill</th>
<th>Drill rig</th>
<th>Impact power</th>
<th>Hydraulic pressure, max</th>
<th>Impact rate</th>
<th>RPM, max</th>
<th>Torque¹, max</th>
<th>Weight approx</th>
</tr>
</thead>
<tbody>
<tr>
<td>COP 1240</td>
<td>ROC D3-01</td>
<td>12 kW 16 HP</td>
<td>210 bar 3 045 psi 40-60 Hz</td>
<td>340 545 Nm 400 lbf/ft</td>
<td>170 kg 375 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COP 1640</td>
<td>ROC D3-03</td>
<td>16 kW 22 HP</td>
<td>200 bar 2 900 psi 60 Hz</td>
<td>140 740 Nm 725 lbf/ft</td>
<td>190 kg 425 lb</td>
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<td></td>
</tr>
</tbody>
</table>

¹Subject to rock drill variant
Selection of optional equipment

**Carrier**
- Hydraulic support leg
- Hydraulic winch
- Cold start kit
- Diesel engine preheater
- ProCom satellite based drill rig monitoring System (only in combination with a written and confirmed Service Agreement)

**Feed**
- Sleeve retainer for RHS 51 (ROC D3-01)
  - Jaw set for R32/T38 sleeves
  - Jaw set for T45 sleeves
- Hydraulic drill steel support with moveable dust hood (ROC D3-03)

**TAC guide tube guides for drill steel support**
- TAC 45 mm for 45 mm guide tube
- TAC 56 mm for 56 mm guide tube
- TAC 64 mm for 64 mm guide tube
- TAC 76 mm for 76 mm guide tube

**Hole measuring systems**
- Mechanical hole inclination instrument – ROCANGIE
- Electronic hole inclination instrument – HQS 9

**Lube oil, lube system and water mist system**
- Thread greasing devise, type ECG (with oil)
- Thread greasing device, brush type (with grease and for ROC D3-01)
- Central lubrication system
- Tropical hydraulic oil, ISO VG 68
- Arctic hydraulic oil, ISO VG 32
- Environmentally conformed hydraulic oil, ISO VG 46
- Water mist system excluding tank, (ROC D3-01)

**Dust control**
- Rubber disc for dust collector hood
- Rubber skirt for dust collector hood

**Delivered equipment, not mounted**
- Gas charging equipment for rock drill
- Conversion kit R32
- Conversion kit T38
- Conversion kit T45

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**Transport dimensions**

<table>
<thead>
<tr>
<th>Hight and lenght</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>ROC D3-01</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height (H)</td>
<td>3600 mm</td>
<td>11’10”</td>
</tr>
<tr>
<td>Length (L)</td>
<td>10000 mm</td>
<td>32’9”</td>
</tr>
<tr>
<td><strong>ROC D3-03</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height (H)</td>
<td>2900 mm</td>
<td>9’6”</td>
</tr>
<tr>
<td>Length (L)</td>
<td>10000 mm</td>
<td>32’9”</td>
</tr>
</tbody>
</table>

**Dimensions and weight**

<table>
<thead>
<tr>
<th>Feed height (H)</th>
<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td><strong>ROC D3-01</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7140 mm</td>
<td>23’5”</td>
<td></td>
</tr>
<tr>
<td><strong>ROC D3-03</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6000 mm</td>
<td>19’8”</td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Weight</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROC D3-01</strong></td>
<td>10500 kg</td>
<td>23150 lb</td>
</tr>
<tr>
<td><strong>ROC D3-03</strong></td>
<td>9500 kg</td>
<td>20950 lb</td>
</tr>
</tbody>
</table>
Coverage areas

<table>
<thead>
<tr>
<th>Horizontal reach (mm)</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC D3-01</td>
<td>2 100</td>
<td>4 430</td>
</tr>
<tr>
<td>ROC D3-03</td>
<td>2 450</td>
<td>5 200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vertical reach (mm)</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC D3-01</td>
<td>2 200</td>
<td>2 250</td>
</tr>
<tr>
<td>ROC D3-03</td>
<td>3 700</td>
<td>4 300</td>
</tr>
</tbody>
</table>

Feed swing angles

- **Normal position in downwards directed drilling (ROC D3-01)**
- **Normal position in downwards directed drilling (ROC D3-03)**
- **After reconnection of feed (only ROC D3-01)**