Atlas Copco Surface drill rigs

ROC® D5, D7, D9 and D7LF

Technical specification

A true workhorse for the widest range of applications

• Unique, durable cylinder-operated feed system that makes the best use of the rock drill
• Long reach makes it ideal for use also in slope stabilization
• Supreme productivity thanks to the use of the proven COP-series of rock drills

ROC D5, D7, D9 and D7LF (Long Feed) are intended for construction sites and aggregate quarries. The main components are:

• Operator’s cabin, ROPS and FOPS approved
• Automatic feed force control system
• Hydraulic Tophammer Rock Drill
• Caterpillar turbo charged diesel engine CAT C7
• Atlas Copco screw compressor
• Folding Boom system
• Heavy duty track frames with single grouser pads and cleaning holes, hydraulic track oscillation and two speed traction

<table>
<thead>
<tr>
<th>Hole range</th>
<th>ROC D5</th>
<th>ROC D7 and D7LF</th>
<th>ROC D9</th>
</tr>
</thead>
<tbody>
<tr>
<td>R32, T38, T45</td>
<td>35-89 mm</td>
<td>64-115 mm</td>
<td>76-115 mm</td>
</tr>
<tr>
<td>1 3/8”- 3½”</td>
<td>2 ½”- 4 ½”</td>
<td>3”- 4 ½”</td>
<td></td>
</tr>
</tbody>
</table>

Hydraulic rod handling system for max hole depth, with 3,6 m (12’) extension rods

<table>
<thead>
<tr>
<th>ROC D5</th>
<th>ROC D7</th>
<th>ROC D9</th>
</tr>
</thead>
<tbody>
<tr>
<td>R32, T38, T45</td>
<td>T38, T45, T51</td>
<td>T45, T51</td>
</tr>
<tr>
<td>28 m</td>
<td>28 m</td>
<td>28 m</td>
</tr>
<tr>
<td>92'</td>
<td>92'</td>
<td>92'</td>
</tr>
</tbody>
</table>

Hydraulic rod adding system for max hole depth, with 6,1 m + 4,2 m (20’ + 14’) extension rods

| ROC D7LF | T38, T45, T51 | 10 m | 33’ |
### Specifications

#### Engine

Caterpillar turbo charged, diesel engine, CAT C7, Tier III/Stage 3
- **Power rating at 2200 rpm** ................. 168 kW  225 HP
- **Fuel consumption, approx** ............... 26 l/h  6.9 US gal/h

#### Feed

Hydraulic cylinder feed with hose guide and double drill steel support with movable lower guide/dust hood
- **Feed extension** ......................... 1 400 mm  47”
- **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 D5, D7 and D9**
- **Total length** ......................... 7 140 mm  23’5”
- **Travel length** ......................... 4 240 mm  14’

**ROC D7 and D9**
- **Total length** ......................... 8 240 mm  27’7”
- **Travel length** ......................... 5 670 mm  18’7”

#### Dust collector DCT 110D

- **Filter area** ......................... 11 m²  118 sq.ft
- **Number of filter elements** .............. 11 pcs
- **Suction capacity at 500 mm wg** ........ 560 l/s  1 200 cfm
- **Suction hose diameter** .................. 127 mm  5”
- **Cleaning air pressure, max** ........... 7.5 bar  109 psi
- **Cleaning air consumption** .......... 2-4 l/pulse  0.06 - 0.12 cu.ft/pulse

#### Safety cabin

- **ROPS and FOPS approved with rubber vibration dampers**
- **2 x wipers with washer (front shield and roof)**
- **Safety glass**
- **Fully adjustable operator’s seat**
- **Cabin light with dimmer**
- **Rig inclination indicator**
- **Rear view mirror**
- **Fire extinguisher 6 kg (13 lbs) dry chemical ABE class III type**
- **Outlet socket 12 VDC**
- **Prepared for radio/speakers**

#### Air conditioner

- **Refrigerant** ......................... R134a
- **Cooling capacity** ...................... 5.5 kW
- **Fan suction capacity** ............. 125 l/s  265 cfm

#### Compressor

Atlas Copco OIS K-27-C106 GD, screw compressor
- **ROC D5**
  - **Working pressure, max** .............. 8.5 bar  123 psi
  - **FAD, at normal working pressure** .... 85 l/s  180 cfm
- **ROC D7 and D7LF**
  - **Working pressure, max** .............. 10.5 bar  152 psi
  - **FAD, at normal working pressure** .... 105 l/s  223 cfm
  - **Alternatively** ......................... 127 l/s  270 cfm
- **ROC D9**
  - **Working pressure, max** .............. 10.5 bar  152 psi
  - **FAD, at normal working pressure** .... 136 l/s  288 cfm
  - **Alternatively** ......................... 127 l/s  270 cfm

#### Hydraulic system

- **Anti-jamming**
- **Automatic feed force control RPC-F**
- **Dumper pressure control - impact DPC-I**

**Hydraulic oil cooler**
- **Max ambient temperature** .............. 50°C  122°F

**Pumps**
- **Axial piston pump (1)** ................. 150 l/min  39.6 US gal/min
- **Gear pump (2)** ......................... 80 l/min  21.1 US gal/min
- **Gear pump (3)** ......................... 40 l/min  10.6 US gal/min
- **ROC D5 gear pump (4)** ................. 35 l/min  9.2 US gal/min
- **ROC D7, D9 and D7LF gear pump (4)** .... 40 l/min  10.6 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** ............................. 2 x 70 W
- **Work lights, front** ...................... 4 x 70 W
- **Work lights, rear** ...................... 2 x 70 W
- **Work lights, feed** ...................... 2 x 70 W
- **Warning lamp and reverse buzzer**

#### Volumes

- **Hydraulic oil tank** ...................... 250 l  65 US gal
- **Hydraulic system, total** ............... 300 l  79 US gal
- **Compressor oil** ....................... 24 l  6.3 US gal
- **Diesel engine oil** ..................... 28 l  7.4 US gal
- **Diesel engine, cooling water** ........ 31 l  8.2 US gal
- **Diesel engine, fuel tank** ............. 370 l  98 US gal
- **Traction gear** .......................... 3 l  0.8 US gal
- **Lubrication tank (ECL)** ................ 10 l  2.6 US gal

### 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>Torque, max</th>
<th>Weight approx</th>
</tr>
</thead>
<tbody>
<tr>
<td>COP 1238 ME</td>
<td>ROC D5</td>
<td>12 kW</td>
<td>16.3 HP</td>
<td>230 bar</td>
<td>3 336 psi</td>
<td>40-60 Hz</td>
</tr>
<tr>
<td>COP 1838 LE</td>
<td>ROC D5</td>
<td>16 kW</td>
<td>21.8 HP</td>
<td>200 bar</td>
<td>2 900 psi</td>
<td>60 Hz</td>
</tr>
<tr>
<td>COP 1838 ME</td>
<td>ROC D7 and D7LF</td>
<td>18 kW</td>
<td>24.5 hp</td>
<td>230 bar</td>
<td>3 335 psi</td>
<td>60 Hz</td>
</tr>
<tr>
<td>COP 1838 MEX</td>
<td>ROC D7 and D7LF</td>
<td>18 kW</td>
<td>24.5 hp</td>
<td>230 bar</td>
<td>3 335 psi</td>
<td>60 Hz</td>
</tr>
<tr>
<td>COP 1838/40 HE</td>
<td>ROC D7 and D7LF</td>
<td>18 kW</td>
<td>24.5 hp</td>
<td>230 bar</td>
<td>3 335 psi</td>
<td>42-50 Hz</td>
</tr>
<tr>
<td>COP 1838/40 HEX</td>
<td>ROC D7 and D7LF</td>
<td>18 kW</td>
<td>24.5 hp</td>
<td>230 bar</td>
<td>3 335 psi</td>
<td>60 Hz</td>
</tr>
<tr>
<td>COP 2160</td>
<td>ROC D9</td>
<td>21 kW</td>
<td>28 hp</td>
<td>220 bar</td>
<td>3 190 psi</td>
<td>36 Hz</td>
</tr>
<tr>
<td>COP 2160 EX</td>
<td>ROC D9</td>
<td>21 kW</td>
<td>28 hp</td>
<td>220 bar</td>
<td>3 190 psi</td>
<td>36 Hz</td>
</tr>
</tbody>
</table>
Selection of optional equipment

General
- Diesel engine preheater
- Hydraulic winch remote controlled, including wire with towing eye and wire guides
- Mechanical hole inclination instrument ROC-Angie
- Selection of electronic hole inclination/ hole depths instrument
- Laser receiver upgrading kit
- Thread greasing device ECG (with oil)
- Thread greasing device, brush type (with grease)
- Toe hole drilling kit (not for LF version)
- Hydraulic support leg
- Track chains with triple grouser pads
- Electric refuelling pump
- Service lamps inside canopy
- Air flow switch
- High/low air flushing system
- PROCOM satellite based drill rig monitoring system (only in combination with a written and confirmed Service Agreement)

Sleeve retainer for RHS 51
- Jaw set R32/T38
- Jaw set T45/T51

Oil
- Tropic hydraulic oil 300 l (ISO VG 68)
- Arctic hydraulic oil 300 l (ISO VG 32)
- Environmentally conformed hydraulic oil, 300 l (ISO VG 46)

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

Lubrication and water mist system
- Rock drill lubrication oil collecting system
- Central lubrication system
- Water mist system 120 l tank
- Water mist system exkl tank

Dust control
- Dust pre-separator
- Rubber disc for DCT
- Rubber skirt for DCT

Safety Cabin
- Heating system for cabin
- Wiper on right hand side cabin window
- Radio and CD-player
- Cab windows laminated
- Cab windows tinted
- Window sun shades
- Electric heated operator’s seat

Delivered equipment not mounted
- Conversion kit R32
- Conversion kit R38/T38
- Conversion kit T45
- Conversion kit T51
- Gas charging equipment for rock drill

Dimensions and weight

Feed Height (H)

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Height (H)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC D5, D7, D9</td>
<td>7 140 mm</td>
<td>23' 5&quot;</td>
</tr>
<tr>
<td>ROC D7LF</td>
<td>8 240 mm</td>
<td>27'</td>
</tr>
</tbody>
</table>

Weight

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Weight</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC D5, D7, D9</td>
<td>14 200 kg</td>
<td>31 300 lb</td>
</tr>
<tr>
<td>ROC D7LF</td>
<td>13 900 kg</td>
<td>30 650 lb</td>
</tr>
</tbody>
</table>

Transport dimensions

<table>
<thead>
<tr>
<th>Feed dumped 1</th>
<th>Height (H1)</th>
<th>Length (L1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC D5, D7, D9</td>
<td>3 130 mm</td>
<td>11 000 mm</td>
</tr>
<tr>
<td>ROC D7LF</td>
<td>3 200 mm</td>
<td>11 970 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feed dumped 2</th>
<th>Height (H2)</th>
<th>Length (L2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC D5, D7</td>
<td>3 160 mm</td>
<td>11 280 mm</td>
</tr>
<tr>
<td>ROC D7 LF</td>
<td>3 200 mm</td>
<td>11 970 mm</td>
</tr>
</tbody>
</table>

ROC D5, D7, D9 and D7LF
Coverage areas

Feed swing angles

Feed with toe-hole kit

Feed without toe-hole kit but after reconnection for horizontal feed

Feed with toe-hole kit

ROC D7LF

ROC D5, D7, D9 and D7LF

Coverage areas

Horizontal reach (mm)

Vertical reach (mm)