

Atlas Copco Surface drill rigs

SmartRig ROC D7C and ROC D9C

Technical specification



High productivity in focus

- The total solution from planning and drilling to full documentation
- High productivity drilling with excellent hole quality and longer life time on consumables
- Substantially lower energy consumption through use of the latest technology

SmartRig ROC D7C and ROC D9C are intended for construction sites and aggregate quarries. The main components are:

- Track frames with single grouser pads and cleanin holes, hydraulic track oscillation and two speed traction
 - size FL 4 HD (ROC D7C)
 - size FL 6 (ROC D9C)
- Caterpillar turbo charged diesel engine C 7
- Atlas Copco screw type compressor
- Operator's cabin, ROPS and FOPS approved
- RCS computerized Rig Control System
- Folding boom system
- Aluminum profile feed beam
- Hydraulic cylinder feed system
- Carousel type rod handling system
- Hydraulic rock drill
- Dust collection system

Hole range			
Recommended hole range			
SmartRig ROC D7C	T38, T45, T51	64-115 mm	2 ½" - 4 ½"
SmartRig ROC D9C	T45, T51	76-115 mm	3" - 4 ½"
Hydraulic rod handling system for max hole depth, with 3,6 m (12') extension rods			
SmartRig ROC D7C	T38, T45	28 m	92'
SmartRig ROC D7C	T51	21 m	69'
SmartRig ROC D9C	T45, T51	28 m	92'

Specifications

Engine

Caterpillar turbo charged, diesel engine, CAT C7, Tier III/stage 3
 • Power rating at 2200 rpm 168 kW 225 HP

Feed

Hydraulic cylinder feed with hose guide and double drill steel support with movable lower guide/dust hood
 • Feed extension 1 400 mm 4'7"
 • 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
 SmartRig ROC D7C/ ROC D9C
 • Total length 7 140 mm 23'5"
 • Travel length 4 240 mm 14'

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 diam 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
- Clear laminated glass (front and roof windows)
- Clear toughened glass (side and rear windows)
- Fully adjustable operator's seat
- Adjustable foot rest
- Cabin light
- Rig inclination indicator
- Rear view mirror
- Fire extinguisher, 6 kg (13 lbs) dry chemical type ABE class III type
- Outlet socket, 24 V
- Prepared with speakers for CD-radio or DVD radio
- Combined front mounted platform/tool box
- Electric combined engine/inclination/hole depth instrument in main computer display

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
 SmartRig ROC D7C
 • Working pressure, max 10.5 bar 152 psi
 • FAD, at normal working pressure 127 l/s 270 cfm
 SmartRig ROC D9C
 • Working pressure, max 10.5 bar 152 psi
 • FAD, at normal working pressure 136 l/s 288 cfm

Hydraulic system

• Anti-jamming
 • Automatic feed force control RPC-F
 • Damper 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
 • 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 28 V, 95 Ah
 • 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

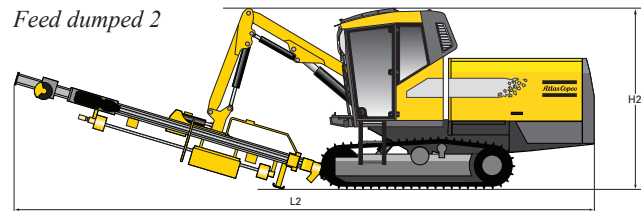
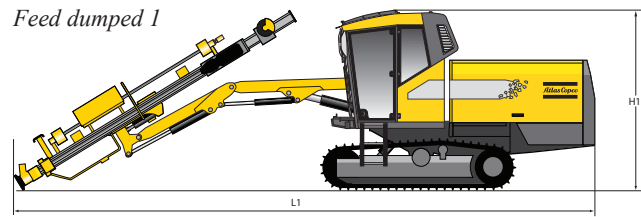
Volumes

• 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 35 l 9.2 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

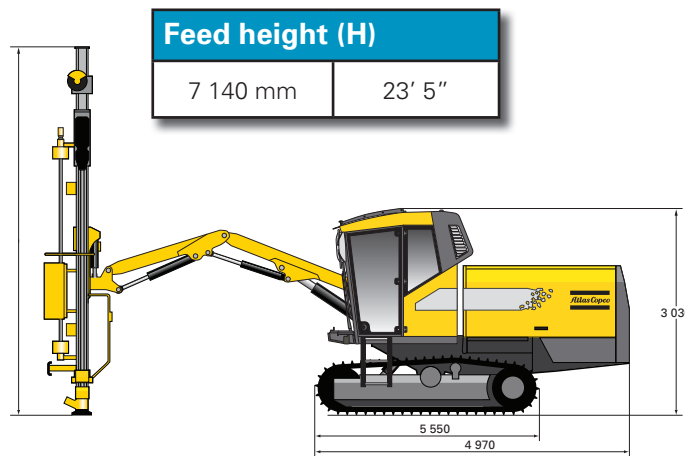
Hydraulic rock drill										
Rock drill	Drill rig	Impact power		Hydraulic pressure, max		Impact rate	Torque, max		Weight approx	
COP 1840	SmartRig ROC D7C	20 kW	26.8 hp	230 bar	3 335 psi	42-50 Hz	1 180 Nm	870 lbf/ft	175 kg	385 lb
COP 1840 EX									230 kg	507 lb
COP 2560	SmartRig ROC D9C	25 kW	33.5 hp	230 bar	3 190 psi	44 Hz	1 810 Nm	1 335 lbf/ft	187 kg	412 lb
COP 2560 EX									249 kg	549 lb

Transport dimensions

Height and length		
Feed dumped 1		
Height (H1)	3 200 mm	10' 6"
Length (L1)	11 000 mm	36'
Feed dumped 2		
Height (H2)	3 500 mm	11' 6"
Length (L2)	10 900 mm	35' 9"

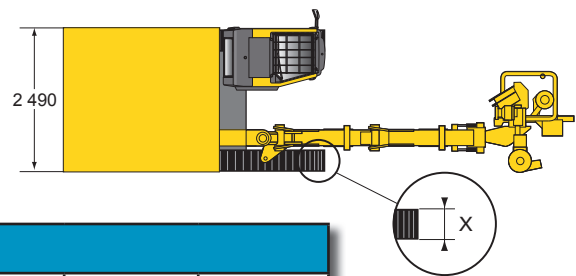


Dimensions and weight



Feed height (H)	
7 140 mm	23' 5"

Weight		
<i>Standard unit excluding all options and drill steel</i>		
SmartRig ROC D7C	14 500 kg	32 000 lb
SmartRig ROC D9C	15 100 kg	33 290 lb



Track shoe width (X)		
SmartRig ROC D7C with FL 4 HD	305 mm	1'
SmartRig ROC D9C with FL 6	330 mm	1' 1"

Selection of optional equipment

Carrier

- Track chains with tripple grouser pads (FL4 HD)
- FL 6 track frames (ROC D7C)
- Hydraulic support leg
- Hydraulic winch, remote controlled with towing eye and wire guides
- Diesel engine preheater
- Cooling fan and DCT speed regulating system
- Air flow switch
- High/low air flushing system
- Electric refuelling pump
- Service hand lights inside canopy, 2 pcs
- Xenon work lights, 2 pcs on top of cab pointing forward and 2 pcs on top of cab pointing to the rear
- Combined warning sound and warning light
- ProCom satellite based drill rig monitoring system (only in combination with a written service agreement)

Safety cabin

- Clear laminated glass (front and roof windows)
- Tinted toughened glass (side and rear windows)
- Wiper for right hand side window
- Sun shade kit (rear side and rear windows)
- Cab heating
- Electric heated operator's seat
- Radio/CD
- Reverse camera with cab mounted monitor. May also be used for monitoring DVD

Feed

- Toe hole drilling kit
- Silencing kit
- 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

SmartRig upgrading functions

- Laser receiver upgrading kit
- Automatic feed alignment
- Automatic rod adding system
- Hole Navigation System (HNS) sensors and soft ware
- GPS compass for parallel holes

Lube oil, lube system and water mist system

- Rock drill oil collecting system (standard on ROC D9C)
- Central lubrication system, type Lincoln
- Thread greasing devise ECG (with oil)
- Thread greasing device, brush type (with grease)
- Artic hydraulic oil, VG 32
- Tropical hydraulic oil, VG 68
- Biological hydraulic oil, VG 46
- Water mist system, 120 l water tank
- Water mist system, excluding tanik

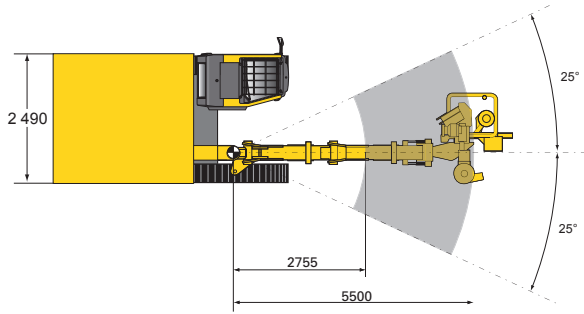
Dust control

- Dust pre-separator (standard on ROC D9C)
- Rubber disc for DCT
- Rubber skirt for DCT

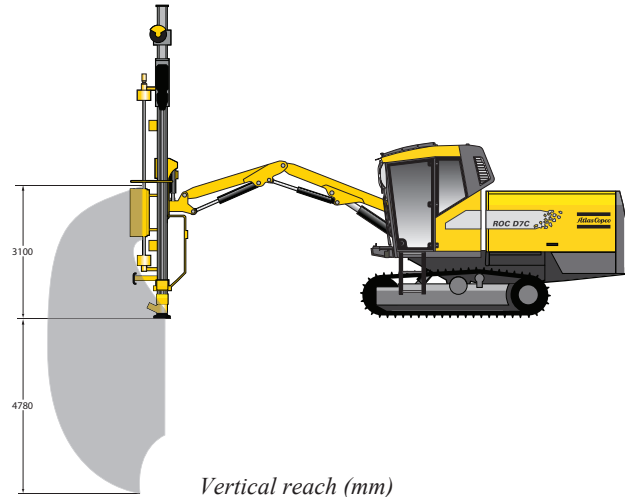
Delivered equipment, not mounted

- Gas charging equipment for rock drill
- First 50 hours service kit for compressor
- Conversion kit R38/T38 (not for ROC D9C)
- Conversion kit T45
- Conversion kit T51
- ROC Manager with bench plan - PC soft ware
- RCS service tool box

Coverage areas

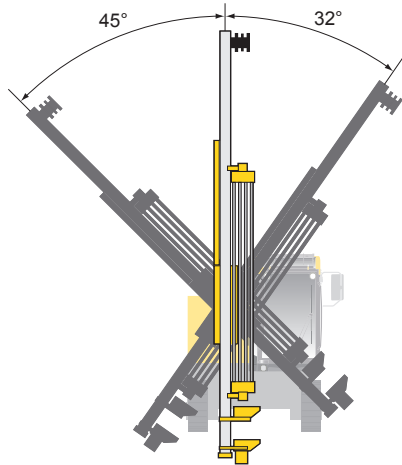


Horizontal reach (mm)

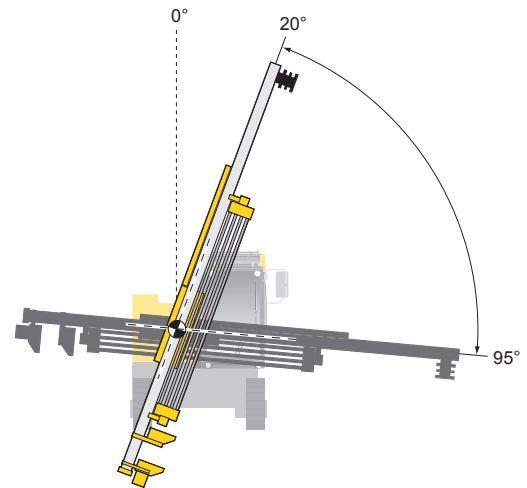


Vertical reach (mm)

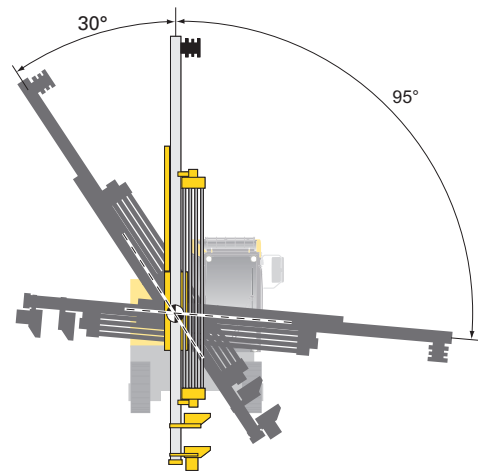
Feed swing angles



Feed without toe-hole kit



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



Feed with toe-hole kit