

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

Hole range			
ROC D5	R32, T38, T45	35-89 mm	1 3/8" - 3 1/2"
ROC D7 and D7LF	T38, T45, T51	64-115 mm	2 1/2" - 4 1/2"
ROC D9	T45, T51	76-115 mm	3" - 4 1/2"
Hydraulic rod handling system for max hole depth, with 3,6 m (12') extension rods			
ROC D5	R32, T38, T45	28 m	92'
ROC D7	T38, T45, T51	28 m	92'
ROC D9	T45, T51	28 m	92'
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'

Atlas Copco

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

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|---------------------------|----------|------------|
| • 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 |

ROC D5, D7 and D9

- Total length..... 7 140 mm 23'5"
- Travel length..... 4 240 mm 14'

ROC D7LF

- Total length..... 8 240 mm 27'7"
- Travel length..... 5 670 mm 18'7"

Dust collector DCT 110D

- | | | |
|--------------------------------------|-------------------|-------------------------|
| • Filter area..... | 11 m ² | 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 (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 capacity5,5 kW
- Fan suction capacity125 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

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|--|----------|---------|
| • 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
- 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 |
| • 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 rate16 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

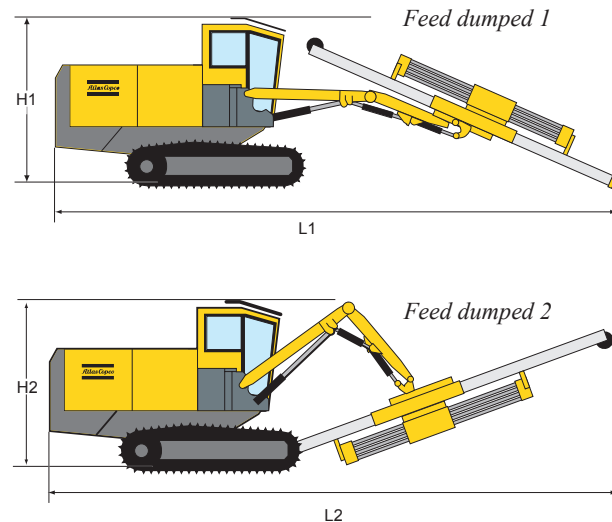
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|--------------------------------------|-------|-----|--------|
| • Hydraulic oil tank | 250 l | 65 | US gal |
| • Hydraulic system, total | 300 l | 79 | US gal |
| • Compressor oil | 24 l | 6.3 | US gal |
| • Diesel engine oil | 28 l | 7.4 | US gal |
| • 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

Rock drill	Drill rig	Impact power		Hydraulic pressure, max		Impact rate	Torque, max		Weight approx	
COP 1238 ME	ROC D5	12 kW	16.3 HP	230 bar	3 336 psi	40-60 Hz	630 Nm	465 lbf/ft	150 kg	330 lb
COP 1838 LE	ROC D5	16 kW	21.8 HP	200 bar	2 900 psi	60 Hz	630 Nm	465 lbf/ft	170 kg	375 lb
COP 1838 ME	ROC D7 and D7LF	18 kW	24.5 hp	230 bar	3 335 psi	60 Hz	630 Nm	465 lbf/ft	170 kg	375 lb
COP 1838 MEX									225 kg	496 lb
COP 1838/40 HE	ROC D7 and D7LF	18 kW	24.5 hp	230 bar	3 335 psi	42-50 Hz	950 Nm	701 lbf/ft	175 kg	385 lb
COP 1838/40 HEX									230 kg	507 lb
COP 2160	ROC D9	21kW	28 hp	220 bar	3 190 psi	36 Hz	1 810 Nm	1 335 lbf/ft	187 kg	412 lb
COP 2160 EX									249 kg	549 lb

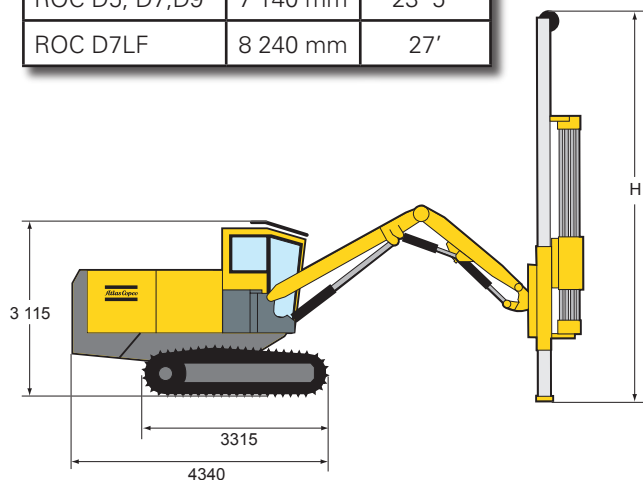
Transport dimensions

Hight and lenght				
Feed dumped 1				
ROC D5, D7, D9	Height (H1)	3 130 mm	10' 3"	
ROC D5, D7, D9	Length (L1)	11 000 mm	36'	
ROC D7LF	Height (H1)	3 200 mm	10' 6"	
ROC D7 LF	Length (L1)	11 970 mm	38' 8"	
Feed dumped 2				
ROC D5, D7	Height (H2)	3 160 mm	10' 5"	
ROC D5, D7	Length (L2)	11 280 mm	37'	

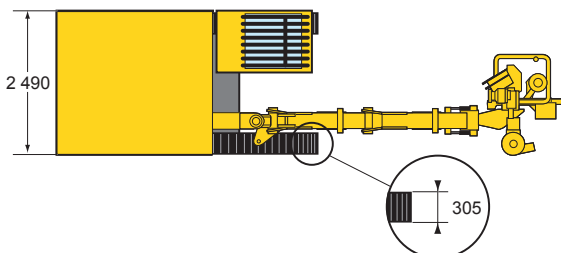


Dimensions and weight

Feed Height (H)		
ROC D5, D7,D9	7 140 mm	23' 5"
ROC D7LF	8 240 mm	27'



Weight		
Standard unit excluding all options and drill steel		
ROC D5,D7,D9	14 200 kg	31 300 lb
ROC D7LF	13 900 kg	30 650 lb



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 tripple 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

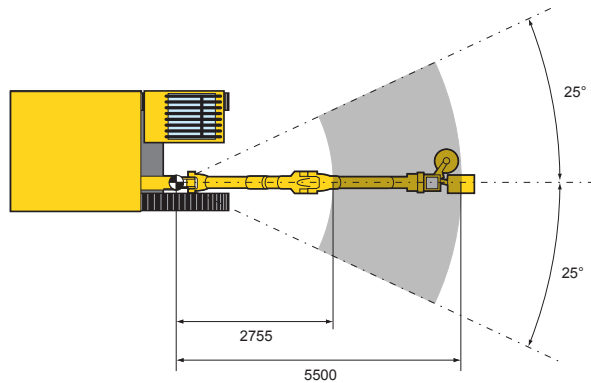
Safety Cabin

- 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

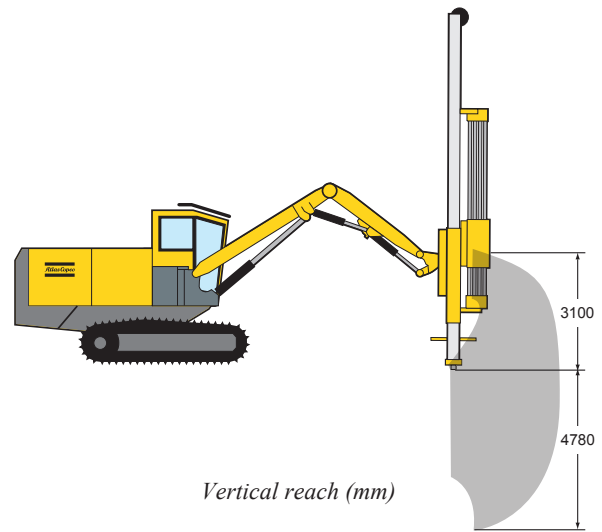
Delivered equipment not mounted

- Conversion kit R32
- Conversion kit R38/T38
- Conversion kit T45
- Conversion kit T51 (only ROC D7, D9)
- Gas charging equipment for rock drill

Coverage areas

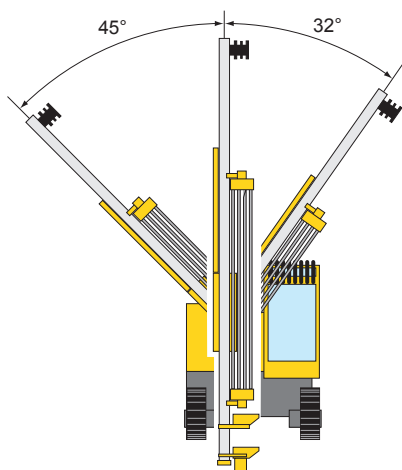


Horizontal reach (mm)

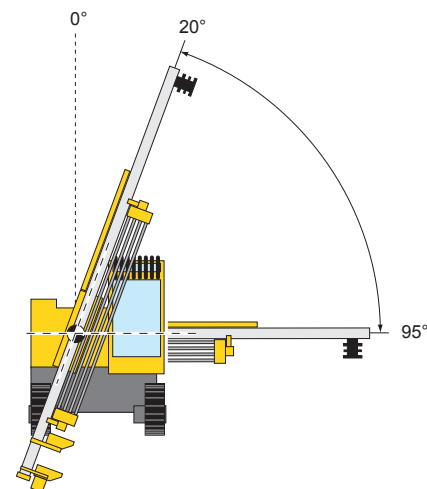


Vertical reach (mm)

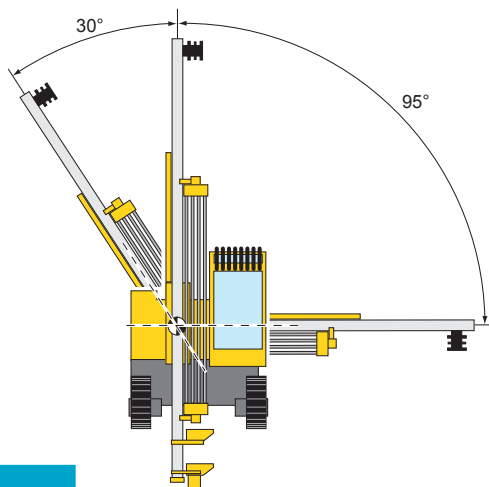
Feed swing angles



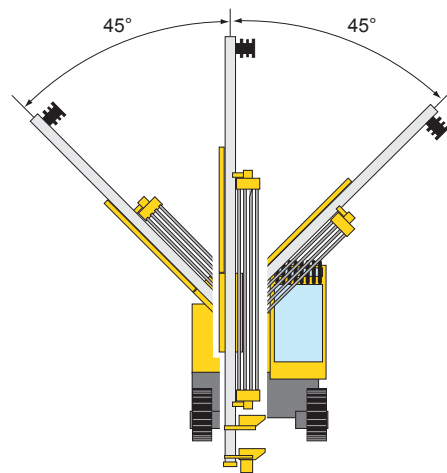
Feed without toe-hole kit



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



Feed with toe-hole kit



ROC D7LF