

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

Hole range and hole depth

Hydraulic carousel type Rod Handling System (RHS) for max hole depth, with 3,6 m (12') rods

ROC D3-01	R32, T38, T45	48 - 89 mm	1 7/8" - 3 1/2"	17,5 m	57'
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With extended folding boom and hydraulic Rod Adding System (RAS) for max hole depth, with 4,3 m (14') starter rod and an added 3,6 m (12') extension rods

ROC D3-03	R32, T38	48 - 76 mm	1 7/8" - 3"	6,7 m	46'
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With extended folding boom and rod rack for max hole depth, with 3,6 m (12') extension rods

ROC D3-03	R32, T38	48 - 76 mm	1 7/8" - 3"	14 m	46'
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Single pass drilling (one rod drilling) max hole depth, with a max 4,31 m (14' 11/2") R 32 drifter rod

ROC D3-01/03	R32	41 - 64 mm	1 5/8" - 2 1/2"	3,8 m	12,5'
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Atlas Copco

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

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



Easy to manoeuvre

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

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

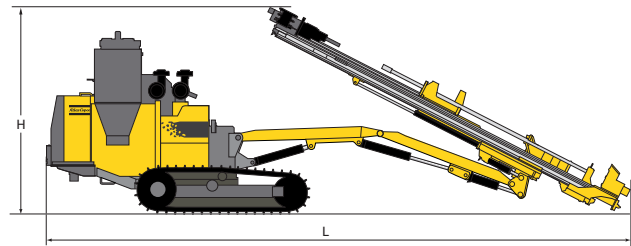
Hydraulic rock drill

Rock drill	Drill rig	Impact power		Hydraulic pressure, max		Impact rate	RPM, max	Torque ¹ , max		Weight approx	
		kW	HP	bar	psi			Nm	lbf/ft	kg	lb
COP 1240	ROC D3-01	12	16	210	3 045	40-60 Hz	340	545 Nm	400 lbf/ft	170	375
	ROC D3-03										
COP 1640	ROC D3-01	16	22	200	2 900	60 Hz	140	980 NM	725 lbf/ft	193	425
	ROC D3-03										

¹Subject to rock drill variant

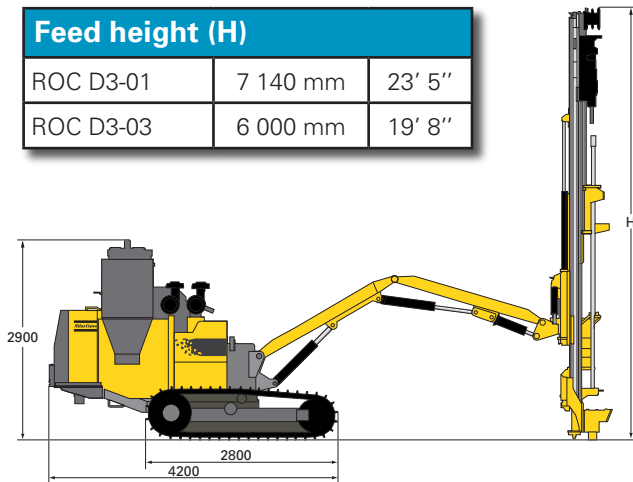
Transport dimensions

Height and length		
ROC D3-01		
Height (H)	3 600 mm	11' 10"
Length (L)	10 000 mm	32' 9"
ROC D3-03		
Height (H)	2 900 mm	9' 6"
Length (L)	10 000 mm	32' 9"

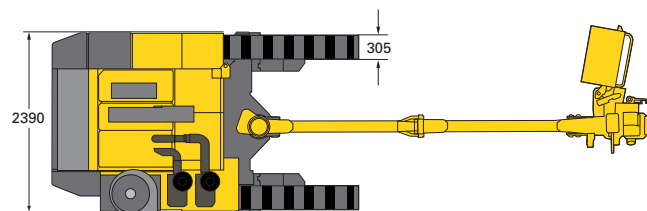


Dimensions and weight

Feed height (H)		
ROC D3-01	7 140 mm	23' 5"
ROC D3-03	6 000 mm	19' 8"



Weight		
<i>Standard unit excluding all options and drill steel</i>		
ROC D3-01	10 500 kg	23 150 lb
ROC D3-03	9 500 kg	20 950 lb



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
- Artic hydraulic oil, ISO VG 32
- Environmentally conformed hydraulic oil, ISO VG 46
- Water mist system excluding tank, (ROC D3-01)

Dust control

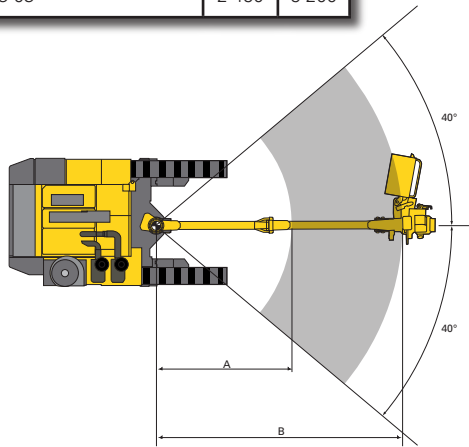
- Rubber disc for dust collector hood
- Rubber skirt for dust collector hood

Delivered equipment, not mounted

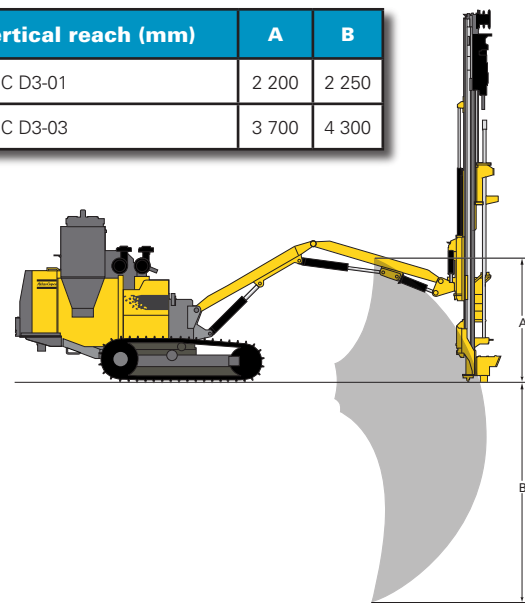
- Gas charging equipment for rock drill
- Conversion kit R32
- Conversion kit T38
- Conversion kit T45

Coverage areas

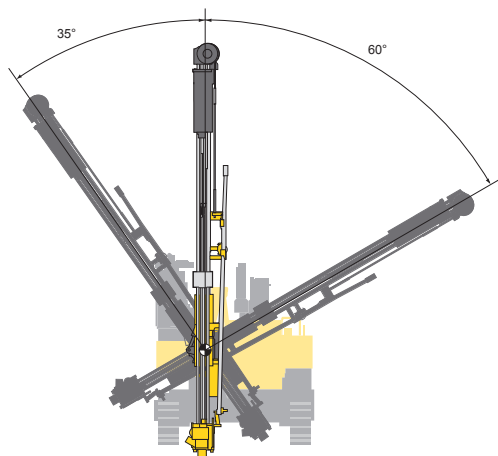
Horizontal reach (mm)	A	B
ROC D3-01	2 100	4 430
ROC D3-03	2 450	5 200



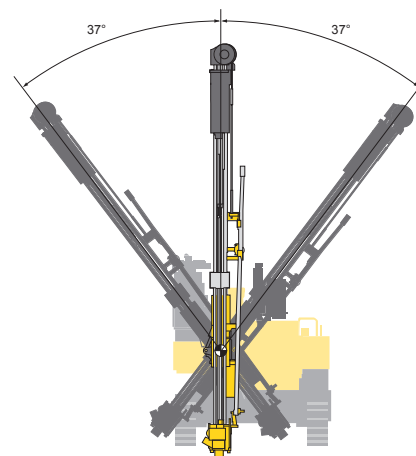
Vertical reach (mm)	A	B
ROC D3-01	2 200	2 250
ROC D3-03	3 700	4 300



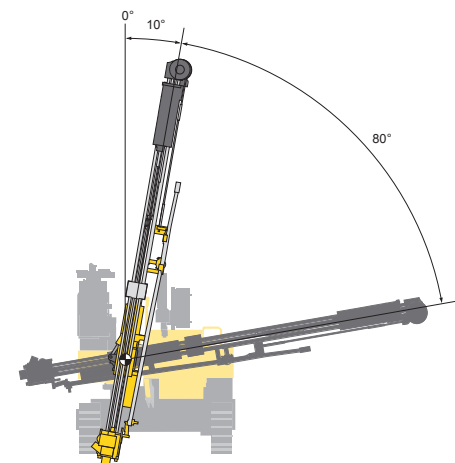
Feed swing angles



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)