

Atlas Copco RD20



OIL & GAS

Atlas Copco

The RD20. The standard by which all others are measured.



A Focus on Your Profitability

Enhancing your profitability is the focus of Atlas Copco Drilling Solutions. Continuous innovation coupled with proven technology help you improve drilling and non-drilling performance, reduce manual labor content and enhance safety.

Atlas Copco has been drilling gas & CBM wells since 1972. The RD20 and its predecessors were developed to meet the requirements of small, independent contractors who survived and prospered by increasing productivity

Powerful Feed System

The patented carriage feed system is the heart of the RD20. It delivers a full 110,000 lb. (49,896 kg) of pullback to the RD20II and 120,000 lb. (54,446 kg) to the RD20III. This system delivers rapid feed speeds as well as precise weight and speed control. You'll benefit from optimal mechanical efficiency not available with competitive machines. The derrick eliminates compressive loads on the upper derrick, even at full pullback.

Superior Pipe Handling

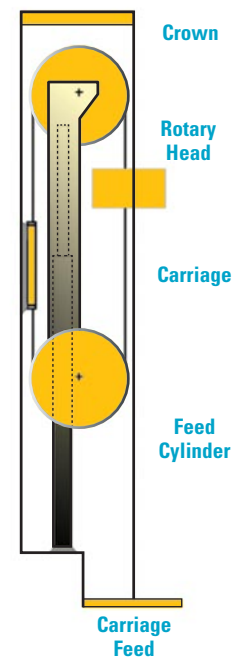
One of the primary advantages of the RD20 is its simplicity and effectiveness handling drill pipe. The whole process of changing or adding drill pipe with the RD20 normally takes between 45 and 60 seconds. This is much quicker than handling drill pipe on a conventional drill rig.

The RD20 uses either a standard 2-pod loader or an optional 7-pipe carousel. During the drill-in process, either the carousel or loader can be loaded continuously from the pipe

Tough Mobile Carrier

Mobility is another key advantage of the RD20, a completely self-contained drill mounted on a 10 X 6 tridem carrier. The separate 380-hp engine and drive train move the rig down the road at standard highway speeds while providing

and reducing cost. Today's Atlas Copco drills are self-contained, powerful and mobile. Drill functions are hydraulically driven to provide a combination of quick response and precise control. All drills are designed to provide maximum productivity while operating as efficiently as possible, even in the most extreme drilling conditions.



tubs or trailers behind the drill rig using the dedicated pipe handling hoist and jib boom. To change drill pipe, the RD20 uses a square chuck, which is set into a recessed opening in the master bushing. This not only holds the drill string so it doesn't drop back into the hole, but acts as a back-up tong to prevent the drill string from turning during wakeup and breakout.

ample power for off-the-road maneuverability. A Jake brake and dual, no-spin rear axles further enhance off-road mobility. This ability to get to the job ready to work reduces set up time and costs.

Equipped to Drill

A variety of standard and optional components equip the RD20 to handle a wide range of drilling applications including three-inch/1500psi circulation piping. Connections for an auxiliary

compressor and booster are standard equipment. Optional water-injection systems, as well as oil injection for DHD operation are available.

Heavy-duty Derrick and Tophead Drive

The derrick and table on the RD20 are designed to handle Range II or Range III casing with ease. A 41 ft.-7 in. (12.67 m) clearance between the spindle and the table on the RD20II provides plenty of room for 30 ft. (9 m) drill pipe.

The RD20III boasts a full 51 ft. 7 in. (15.72 m) clearance for Range III casing. The 8,000 ft.-lb. (10.848 Nm) spur gear tophead drive maintains full torque regardless of changes in speed.



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Floating Power Pack

A Cummins QSK-19C, 755-hp deck engine powers the RD20. An optional CAT C27, 800-hp engine is also available. Coupled with an Ingersoll-Rand HR2.5 over/under air end that supplies 1,250 cfm at 350 psi, the RD20 provides plenty of power to get the job done.

An in/out box enables the operator to disconnect the compressor from the engine, allowing for easier start-up in cold weather and saving fuel during tripping or mud drilling.

The engine, compressor and hydraulic pumps are mounted on a floating power-pack base rather than directly onto the chassis mainframe. This arrangement assures proper alignment of power components and decreases wear. A high ambient cooling system for engine coolant, compressor oil and hydraulic oil is rated for 125° F (52° C) to assure long, trouble-free component life.



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Specifications

RD20II

RD20III

CARRIER			
Custom tandem chassis built to Atlas Copco specifications, 226 in. / 5,740 mm wheelbase, 86,000 lb. / 39,010 kg GVWR		Custom tridem chassis built to Atlas Copco specifications, 281 in. / 7,137 mm wheelbase, 90,000 lb. / 40,824 kg GVWR	
POWERPACK			
Cummins QSK-19C engine, 755 HP / 522KW @ 1800 RPM, IR HR2.5 over/under screw air end 1250 / 350 @ 1800 RPM, engine silencer		Cummins QSK-19C engine, 755 HP / 522KW @ 1800 RPM IR, HR2.5 over/under screw air end 1250 / 350 @ 1800 RPM, engine silencer	
DERRICK DIMENSIONS			
51 ft. 1-1/2 in. L X 48-1/2 in. W X 41 in. D 15.57 m X 1231.9 mm X 1041.4 mm		61 ft. 11-1/2 in. L X 48-1/2 in. W X 4 in. D 18.88 m X 1231.9 mm X 1041.4 mm	
FEED SYSTEM			
Pullback:	110,000 lb. / 49,896 kg	Pullback:	120,000 lb. / 54,446 kg
Pulldown:	30,000 lb. / 13,608 kg	Pulldown:	30,000 lb. / 13,608 kg
Drill Feed Rate:	22 fpm / 6.7 m/m	Drill Feed Rate:	29 fpm / 8.8 m/m
Fast Feed Up (regen on):	63 fpm / 19.2 m/m	Fast Feed Up (regen on):	106 fpm / 32.3 m/m
Fast Feed Down:	154 fpm / 46.9 m/m	Fast Feed Down:	192 fpm / 58.5 m/m
ROTARY HEAD			
4SF-2-10 spur gear head, 0-110 RPM, 8,000 ft.-lb. torque, Piping: 3 in. / 76 mm circulation rated at 1,500 psi working pressure		4SF-2-12 spur gear head, 0-120 RPM, 8,000 ft.-lb. torque, Piping: 3 in. / 76 mm circulation rated at 1,500 psi working pressure	
JIB BOOM & HOIST			
Lifting Capacity: 4,000 lb. / 1,814 kg bare drum Line Speed: 100 fpm / 30.5 m/m bare drum		Lifting Capacity: 4,000 lb. / 1,814 kg bare drum Line Speed: 225 fpm / 68.5 m/m bare drum	
CASTING HOIST			
Lifting Capacity: 7,500 lb. / 3,402 kg maximum Line Speed: 60 fpm 18.3 m/m maximum		Lifting Capacity: 7,500 lb. / 3,402 kg maximum Line Speed: 106 fpm / 32.3 m/m maximum	
OPTIONS			
Collar-Handling Package	Drill-Pipe Carousel	Water Injection	Step and Storage Area
Compressor Disconnect	Mud Manifold	DHD Lube	CAT C27 800 HP Deck Engine

