

Hydraulically Operated

**JRD**  
JUPITER ROCK DRILLS

# CRAWLER DRILL JRD MODEL CD-450

Heavy Duty Self-propelled Crawler mounted Drilling Rig

CD-450 is Hydraulic self-propelled, self-contained, Crawler mounted surface drilling Rig. CD-450 is special used in Iron Ore ,Limestone, Coal Mines etc.. With all Safety Standards.

Hole Diameter	115 - 140 mm (4½" – 5½")
Mode of Drilling	DTH (Down the Hole Air Hammer)
Drill Pipe Diameter	76mm (3") or 88.9mm (3 ½")
Drill Pipe Length	3mtrs. (10ft) / 3.5mtrs. (12ft)
On-Board Compressor	450cfm at 14Kg/cm2 (14Bar)
Weight	14500 kg



## Safety Standards

- Dust Prevention or Suppression system by Water Injection System.
- Dust Collector System (Optional).
- Emergency "Stop" Push button in- Operator's cabin, Main Frame & Rear End.
- Operator Cabin with Air Conditioning System , Lighting, Front wind shield Guard, Safety Switches etc..
- Safety interlock system between Drilling mode and tramming mode (any one can be in operation at once).
- High Air discharge temperature trip Switch.
- Low Lube Oil pressure Cut-off Switch ( engine and compressor).
- Oil Stop Valve (Electronic Solenoid valve in compressor lubrication line).
- Unloader valve provided in the compressor.
- Lock check valves provided on Boom and Drill Guide cylinders for preventing creeping in Drill.
- Stabilizers provided at the Rear of the Rig.
- All Controls Valves / Switches are centralized in operator cabin.
- Hose pipe are provided with Hose protectors.
- Rear Vision Camera system with 7" LCD Monitor in cabin.
- Audio Visual Alarm while the Rig in tramming mode.
- AFDSS (Automatic fire detection & suppression system).
- Breakout wrench for Drill Rods.
- Hydraulically operated Drill Rod Changer to accommodate two/three Drill pipes.
- Seat Belt & Reminder.
- Propel Joystick –Spring Loaded Type to return to Neutral (Dead man safety)
- Automatic Shutdown of Drilling i.e. shutdown of Hammer & Rotary Head operation when water in the Water Tank is empty.

CD-450 excels even in difficult terrain where its low center of gravity provide rugged mobility in all conditions. The operator has full control over tramming and drilling while working.



## Technical Specification

Hole Diameter	115 - 140 mm (4½" – 5½")
Drill Pipe Diameter	76mm (3") or 88.9mm (3½")
Drill Pipe Length	3mtrs. (10ft) / 3.5mtrs. (12ft)

## Rotary Head

Speed	0~90 RPM
Torque	2250 Nm
Operating Pressure	175 Bar
Weight	190kgs

## Feed

Total Length	5800mm
Travel Length	4070mm
Feed Extension	750mm
Type of Feed	Chain
Pull Down Force	0~2500 kgf
Pull Up Force	0~2500 kgf
Pull Up & Pull Down Speed	0~ 25mtrs./min

## Hydraulic System

Number of Pumps	2 for Drilling & Trimming
	1 for AC, DCT and WIP
	1 for Auxiliary
Filtration rate	10micron
Hydraulic Oil Tank	350litres

The hydraulic system is designed for high productive capacity. All hydraulic elements like Pumps, Motors, Valves and cylinders shall be of adequate capacity and of reputed make Fixed displacement Hydraulic Pumps with heavy duty Controls are used for Rotation Unit, Feed Unit (for fast & micro feeding), Trimming and diversion valves are used for auxiliary drives like for Boom and Mast Operation etc.. All hoses shall withstand high pressure and high temperature. The Hydraulic oil shall be filtered during suction and return lines with operating pressure maximum 175bar.

## Water Injection System

WIP consists of Water Pump coupled to Hydraulic Motor delivering water into Hammer Line at pressure 450PSI and is with 150litres Water tank.

## Dust Collector DCT (Optional)

Filter Area	8m <sup>2</sup>
Suction Capacity at 500mm wg	580 l/s
Cleaning air pressure (max)	7.0bar
Cleaning air Consumption at 7bar	15 l/pulse
Filter Cleaning while drilling	

## Engine-Hydraulic Power Pack

<b>Engine Make : Ashok Leyland</b>	
Model	ALHT4CTIC3
Power	75kW (101H.P)
Speed range	900~2100rpm
Bore & Stroke in mm	96x122mm
Max Torque at 1400~1600rpm	390Nm
Emission Standard	BS-III (CEV)
No. of cylinders	4
Engine configuration	Inline
Governor class	Mechanical A2
Aspiration	Turbocharger

## On-Board-Compressor

Screw Compressor Model: 450-200	
Working Pressure	14 Bar (200psi)
Free Air Delivery	12.7m <sup>3</sup> /min (450cfm)
<b>Engine Make : Ashokleyland, Model : ALUW06DTI</b>	
Coolant	Ethylene Glycol
Number of cylinders	6
Bore	104mm
Stroke	113mm
Swept volume	5.76
Engine power	170H.P
Full load	2200RPM
Unload	1350RPM
Capacity of oil Sump	16.0litres
Capacity of Cooling system	31.5litres
Capacity of compressor oil	35.0litres
Net capacity of air receiver	76.0litres
Standard fuel tanks	190.0litres

## Undercarriage System

Max. Speed	2.0 Km/h
Gradeability	75%
Track Shoe Type	Triple Grouser Shoe
Wheelbase	2900mm
Track Shoe Width	450mm (18")
Ground Pressure	9.5 psi (0.65 kgf/cm <sup>2</sup> )
Oscillation	+/- 6°
No. of Roller (Lower)	8 (for each track)
No. of Roller (Upper)	2 (for each track)
Ground Clearance	450mm



### Weight & Dimensions

	Metric	US
Weight:	14500kg	
Length (Guide Horizontal position):	8200mm	27'
Width (Overall)	3050mm	10'
Height (Guide Horizontal Position and with Cabin):	3450mm	10' 9"

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