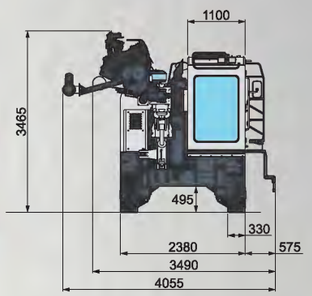
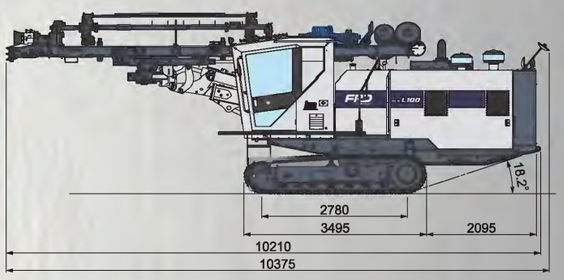
Specifications

HCR L100	
Dimensions & Weight	
Operating Weight *1 ROPS/FOPS Cab (1100mm Wide)	17,370 kg
Operating Weight *1 ROPS/FOPS Cab (1300mm Wide)	17,470 kg
Overall Length (Shipping)	10,210 mm (10,345 mm)
Overall Width with Pre-cleaner / without Pre-cleaner (Shipping)	4,055 mm / 3,490 mm (2,670 mm)
Overall Height (Shipping)	3,465 mm (3,310 mm)
Drifter	
Model	HD715
Weight (with Reverse Percussion)	269 kg (304 kg)
Impact Rate	2,250 - 2,500 min^{-1}
Rotating Speed	0 ~ 150 min^{-1}
Undercarriage	
Track Length	3,495 mm
Track Length on Ground	2,780 mm
Track Width	330 mm
Ground Pressure *2	92.8 kPa (ROPS/FOPS Cab: 1100mm Wide) 93.3 kPa (ROPS/FOPS Cab: 1300mm Wide)
Ground Clearance	495 mm
Frame Oscillation Angle	±7.5°
Tramming Speed	0 ~ 3.7 km/h
Gradeability	57.7 % (30°)
Maximum Traction Force	99 kN
Engine	
Model	C9.3B
Type	Diesel, Water-cooled, 6 Cylinders
Make	CATERPILLAR
Power Output	280 kW / 2,200 min^{-1}
Fuel Capacity	640 L
Hydraulic Equipment	
Variable Displacement PV Pump	PV Pump x 2
Fixed Displacement Pump	Gear Pump x 3
Hydraulic Oil Reservoir Capacity	240 L
Boom	
Model	JE326
Type	Extension Boom
Boom Lift Angle	Up 41°, Down 19°
Boom Swing Angle	Right 38°, Left 7° (ROPS/FOPS Cab: 1100mm Wide) Right 38°, Left 0° (ROPS/FOPS Cab: 1300mm Wide)
Boom Slide Length	900 mm
Guide Rotary Angle	90°
Guide Shell	
Model	GH832
Length	8,015 mm
12 Feet Feed Length (with Reverse Percussion)	4,700 mm (4,520 mm)
Feed Type	Hydraulic Motor Driven Chain
Guide Slide Length	1,500 mm
Guide Swing Angle	Right 30°, Left 45°
Guide Tilt Angle	170°
Maximum Rod Pull-Out Force	31 kN
Compressor	
Model	PDSF290-S16
Type	1 Stage Screw Compressor
Free Air Delivery	13.5 m^3/min
Discharge Pressure	1.03 MPa
Dust Collector	
Model	A885
Suction Capacity	40 m^3/min
Number of Filter Element	6
Type of Dust Ejection	Automatic Air Pulse Jet
Rod Changer	
Model	GR802
Rod Diameter	T51
Number of Rod Storage	6
Rod Length	3,660 mm
Bit and Rod	
Bit Range	90 ~ 127 mm
Rod Diameter	T51
Rod Length	3,660 mm (12 Feet)
Maximum Starter Rod Length	4,270 mm (14 Feet)
Electrics	
Battery	12V; 160 Ah / 5 h x 2
Light	24V; 70 W x 4
Voltage	DC 24 V
Operating Environment	
Ambient Temperature Range	-15 °C ~ +45 °C
Maximum Altitude	Max. 2,500 m

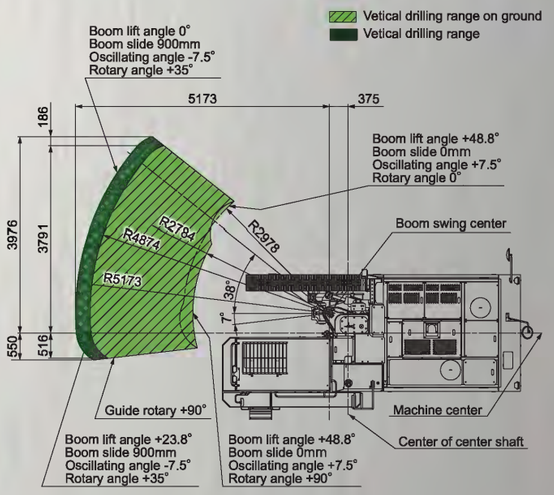
Note: *1 "Operating Weight" includes weight of fuel and oils (full).
*2 Ground pressure is calculated by Operating Weight.

Dimensions (mm)





Drilling Coverage (mm)



- The colors in the photos may be different from the actual colors due to photographing and printing factors.
- The machine and equipment in this catalog may differ from the products delivered due to ongoing improvements.
- FRD Furukawa Rock Drill reserves the right to change specifications without prior notice.
- The photos shown include optional equipment. There may be some differences to the sales specifications.

FRD FURUKAWA ROCK DRILL
2-6-4, Otemachi, Chiyoda-ku, Tokyo 100-8370, Japan
Tel +81-3-6636-9521 Fax +81-3-6636-9555
https://www.furukawa-rockdrill.com/

HCR L100-E2303-F3

FRD FURUKAWA

HCR L100

Tier 3 / Stage III

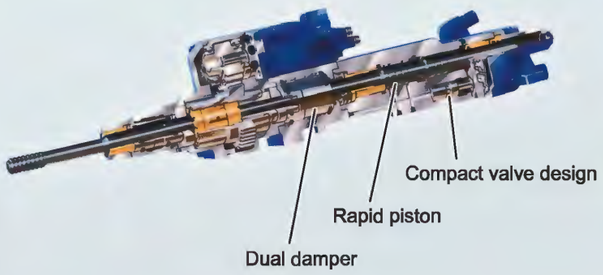
FRD FURUKAWA ROCK DRILL

THE ULTIMATE COMBINATION OF PERFORMANCE AND ECONOMY

To achieve more powerful and speedy drilling

Evolutional High-Beat Drifter (HBD) HD715

FRD has developed the industry's first Dual-Damper System. For maximum energy transfer, active DDS minimizes return of shock waves by keeping the bit firmly against the rock at all times during drilling. Active DDS minimizes percussion energy loss and by optimizing the overall feed force. An additional benefit is greatly improved life of drilling accessories.

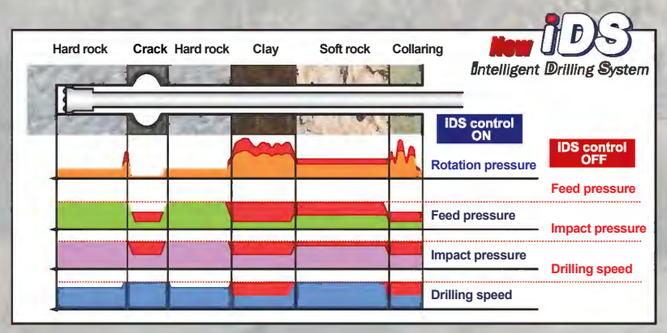


Compact valve design
The HD715 drifter maximizes energy transmission and drills effectively in a variety of rock types.

Reverse Percussion (RP)
The RP facilitates recovery of a lodged bit and steel by applying repetitive impacting force. (Optional equipment)

New iDS (Intelligent Drilling System)

iDS is equipped as standard. It helps with drilling in various kinds of rock formations. In addition to conventional function which is auto-stop and auto-back at abnormal rotation pressure due to a bit jamming, iDS controls drilling automatically by balancing the 3-key elements, such as feed, rotation and percussion. The New iDS is an evolution of the current iDS that monitors and controls rotation pressure to automatically perform the same careful drilling that is performed by skilled workers.



New iDS
Rotation pressure rises:
to 6.5MPa ⇒ Drifter feed stop
to 8.0MPa ⇒ Drifter reverses
+ Collaring pressure is applied

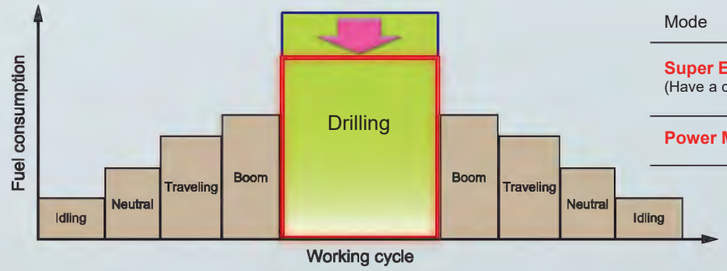
*There is no anti-jamming feed retraction control when operating in H mode

Super economy mode PLUS (SEP)

HCR L100 enabled reduction of fuel consumption with integration of the fuel saving functions.

1. Super Economy Mode

Super Economy Mode has four drilling engine speeds. Super Economy Mode helps reduce fuel consumption while maintaining performance by selecting the optimum engine speed according to the rock properties or production volume.

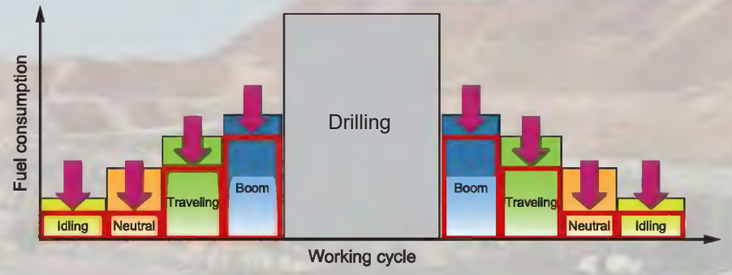


Mode	Engine Speed
Super Economy Mode (Have a choice from 3 types of power)	1,600 min^{-1} 1,800 min^{-1} 2,000 min^{-1}
Power Mode	2,200 min^{-1}

Minimize fuel consumption by engine throttle control, auto idling & compressor low-pressure standby other than drilling work.

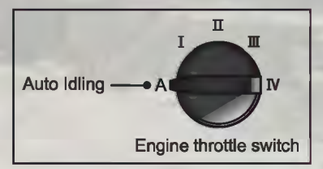
2. Automatic Throttle Control

Automatic Throttle Control switches engine speed automatically between the pre-set drilling engine speed and the rod changing engine speed.



3. Auto Idling

Auto idling automatically switches to 1600min during feed operation, drifter rotation operation, and rod changer operation.



4. Compressor Low-pressure Standby

Compressor Low-pressure Standby function minimizes compressor standby power at all times other than flushing. This reduces both fuel consumption and engine load.

Easy operation and improved – reliability

Pillar mounted gauges

Pressure gauge installed to center pillar.
Easily checkable from sitting position.

① Monitor panel
② Drilling position indicator
③ Compressor discharge temperature gauge
④ Hydraulic oil temperature gauge
⑤ Digital engine indicator
⑥ Impact pressure gauge
⑦ Feed force pressure gauge
⑧ Rotation pressure gauge
⑨ Flushing air pressure gauge

Digital engine indicator

- Engine rpm
- Engine hour meter
- Engine coolant temp
- Engine oil pressure etc

Comfortable operator seat

Suspension seat is available as an standard.

Adjustable items
- Weight
- Fore and aft position
- Seat height
- Bottom cushion angle
- Backrest angle
- Headrest height
- Armrest height

Dual action travel control lever

To prevent running due to incorrect operation, this model is equipped with a safety device that prevents running even if the travel control levers (pedals) are operated once.

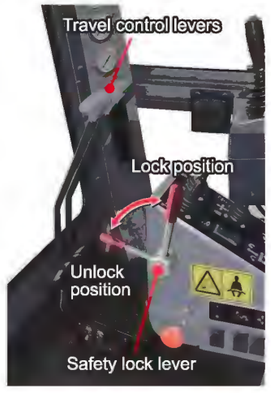
Safety lock lever

Stops the traveling function and the function of the rod changer operation.

Touch panel boom control box

The boom can be easily operated with the panel boom control box. It can be removed from the console and operated at hand.

❶ Hydraulic cylinder control panel
❷ 2 boom speed
❸ Operating speed selector



Right control panel
The drill and the boom control is located on this panel.
Left control panel
Operation switches for rod changer control are located on this panel.

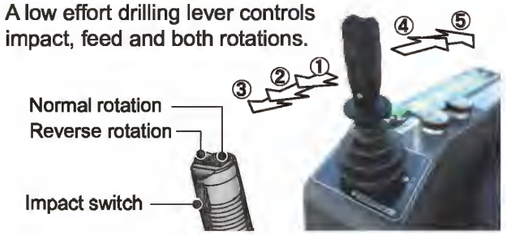
Comfort and convenience to keep operator productive

A 1,100 mm wide cab has ROPS/FOPS as standard. The cab comes with an automotive air conditioning system as standard, with air ducts on the left side and right to provide temperature-controlled air. The traditional FRD forward-cab roof design provides greater head space, and large doorways allow the operator to get in and out even while wearing a thickly insulated jacket. The roof-mounted skylight allows the operator to see screw connection and disconnection during rod changing.

Improvement of work efficiency

Multi function drilling lever

A low effort drilling lever controls impact, feed and both rotations.



① Impact (collaring) and feed forward position
② Impact (regular drilling) and feed forward position
③ Feed forward position (fast)
④ Feed backward position
⑤ Feed backward position (fast)
＊ In case of push drill specification.

Anti-jamming device

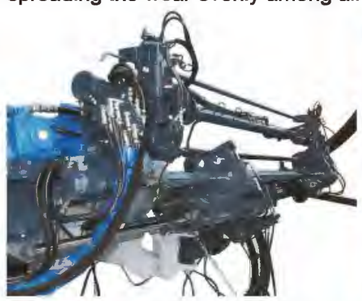
For drilling work with the feed speed controlled activated. This performs control to ensure that the drifter forward speed does not become excessive such as when the bedrock is porous.

Mode selector

A mode switching hydraulic circuit performs switching between N mode for homogeneous rocks and H mode for fracture zones and argillaceous.

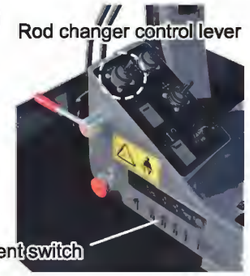
Easy handling rod changer

Permits the operator to add and withdraw rods using a single lever, and to select which rods in the rack to use, thereby spreading the wear evenly among all the rods in the rack and helping to reduce costs.



Rod changer adjustment switch

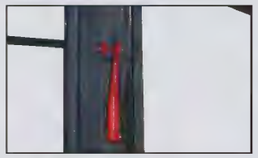
The side of the left console box is equipped with a rod changer adjustment switch used to check the operation of the rod changer and to make centering adjustments.



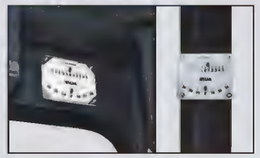
Other equipment

Emergency shutdown button

Evacuation hammer

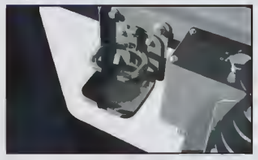


Clinometer (level meter)



AM/FM radio

Cup holder



Front Lights

Head guards

Catwalk

Further Improvement of drilling Performance

High-capacity compressor and dust collector

13.5 m³ free air delivery air compressor and 40 m³ capacity dust collector. High out-put compressor increases flushing air, provides faster drilling and decreases bit wear. The upgraded dust collector has a suction capacity. The dust collector includes an effective pre-cleaner to reduce the escape available for difficult drilling conditions.


Dust collector


Pre-cleaner

FEATURES

- ✓ High performance suction sapacity
- ✓ Waterproof type element
- ✓ Pre-cleaner
- ✓ Slidable suction cap

*Build-in dust collector makes excellent external view.

Mouth treatment

The suction cap adopts the guide rod mechanism. Durability and visibility of the drilled hole mouth are improved. Drilled hole mouth can be treated securely. The hydraulic centralizer holds the rod securely.

Tough under carriage with hydraulic oscillation

The machine can travel on uneven terrain with sufficient ground clearance and track oscillation. The rear end of the machine frame has been raised to increase departure angle. The entire machine oscillates up-down 7.5 degrees total 15 degree to maintain machine level.

Stability is achieved due to the left and right tracks contacting the ground independently as a result of track oscillation.

Easy maintenance and safety functions

Accessibility for maintenance

All daily maintenance can be performed at ground level. Gas spring cylinders allow the hinged service doors to be opened easily for access to all required maintenance requirements.

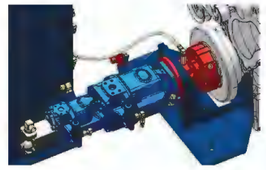
Thanks to advanced hydraulic and pneumatic technology, output energy can be transferred to each component with minimum power loss. These systems support high productivity.

Powerful CAT engine

The C9.3B engine is EPA Tire3 equivalent emission standards. It gives full control for easy drilling.

Advanced hydraulic system

Employed Variable displacement pump with load sensing system for main pump.



Extension boom

Boom extension length : 900mm
Extension boom increases pattern flexibility.

Employed double hose reel makes better hose tension & longer life.

Hoses and piping clearly accessible for maintenance

For Safety equipment

Oil Supply Pump

Fan guards

Standard & optional equipment

Model		HCR L100
Drifter		
HD715		Standard
Dual damper system		Standard
Reveres percussion		Optional
Guide shell		
Hydraulic centralizer		Standard
Sliding suction cap		Standard
Open-Close + Sliding suction cap		Optional
Synthetic wear plate for carriage		Standard
Rod changer		
Rod length	12ft	Standard
Rod size	51R (T51)	Standard
MM/MF rod		Select
Boom		
Extension boom		Standard
Guide rotary		Standard
Undercarriage		
Triple shoe		Standard
Single shoe		Optional
Lifting eyes for transportation		Optional
Dust collector		
Pre-cleaner		Standard
Folding bracket for pre-cleaner		Optional
Exhaust shutter		Standard
Sinter-lamellar filter		Optional
Cab		
ROPS/FOPS cab		Standard
Suspension seat		Standard
Seat belt		Standard
Air conditioner		Standard
FM/AM radio		Standard
iMS (Intelligent Monitoring System)		Optional
Clinometer (Leveler)		Standard
Side door mirror		Standard
Rotating light (Yellow)		Optional
Rear view monitoring camera		Optional
Additional lights (70Wx2)		Optional
Catwalk		Standard
Folding catwalk		Optional
Control		
Push switch for boom control		Standard
Joystick control for impact, feed and rotation		Standard
iDS (Integrated Drilling System)		Standard
Anti-jamming system		Standard
2 boom speed		Standard
2 travelling speed		Standard
Back-up alarm		Standard
Auto throttle control for percussion and air flow		Standard
Others		
Tilt guide angle indicator		Standard
Swing guide angle indicator		Optional
2 dimensional electric angle indicator		Optional
3 dimensional electric angle indicator		Optional
Water tank for water injection system		Optional
Emergency shut down system		Optional
Hour meter for engine		Standard
Hour meter for drifter		Optional
Tool box		Optional
Ladder for access rear engine cover		Optional
Bumper base		Optional
Water separator for engine		Standard
Pre cleaner for engine		Standard
Winter package for anti-freeze		Optional
High capacity battery		Optional