



FRD Furukawa reserves right to change specifications without prior notice.

FRD FURUKAWA ROCK DRILL CO.,LTD.

3-14, 2-chome, Nihonbashi muromachi, Chuo-ku, Tokyo 103-0022, Japan
Phone +81-3-3231-6982 Fax +81-3-3231-6994



HCR1200-ED -E0812-F1
Printed in Japan

FRD
FURUKAWA

Hydraulic Crawler Drill

HCR1200-ED II

Tier3 / Euro Stage - 3



FRD FURUKAWA ROCK DRILL

Drilling Performer, HCR

High-productivity & Durability

THE ULTIMATE COMBINATION OF PERFORMANCE & ECONOMY

With the field proven HD700 series drifter and **IDS**, it's easier than ever before to drill FAST & STRAIGHT.

The Key for market leading drilling performance

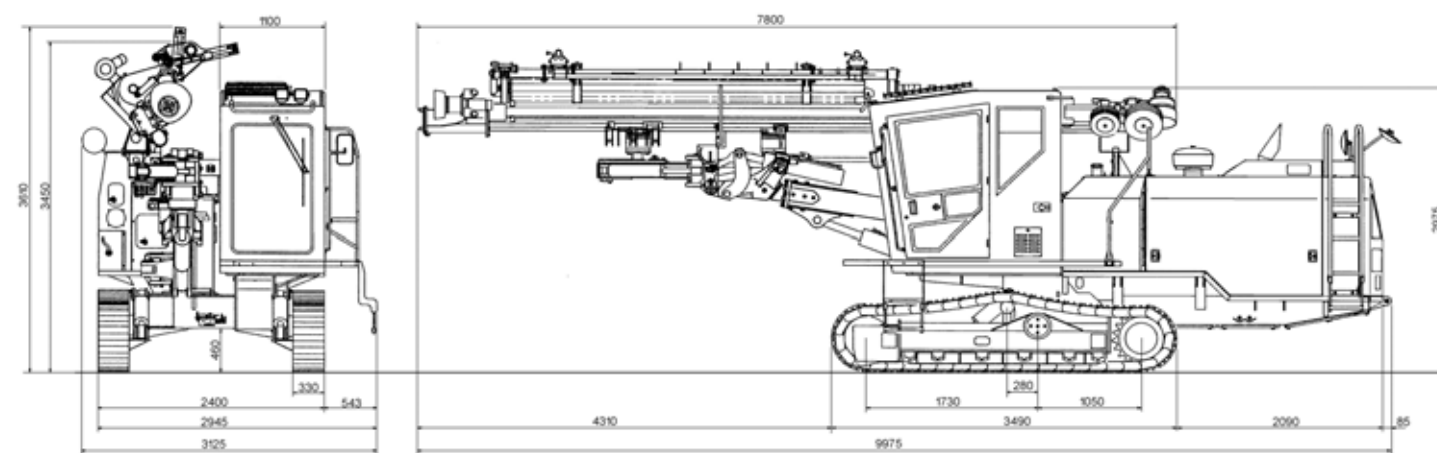
IDS : Integrated Drilling System

DDS : Dual Damper System

Integrated Drilling System

IDS: All-hydraulic drilling controls allow for automatic adjustment of impact force and feed force to match changing of rock formations. IDS-2 as optional devise, is monitoring rock conditions and automatically adjust feed speed. Dual Damper System provides maximum impact energy transfer, and minimizes energy of return shock wave. Working together, these integrated systems are the keys to highest-possible drilling performance at low running cost.

■ Dimensions (mm)



■ Specifications

Model		HCR1200-ED	
Weight & Dimensions	Operating weight with ROPS FOPS CAB	kg	14,700
	Overall Length	mm	9,975
	Overall width	mm	3,125
	Width over tracks	mm	2,400
	Overall height	mm	3,605
	Overall height (transportation)	mm	2,975
Drifter	Model		HD712
	Weight	kg	220
	Impact rate	min ⁻¹	2300
	Number of Rotation	min ⁻¹	0 ~ 190
Undercarriage	Track length	mm	3,480
	Ground contact length	mm	2,780
	Width of shoe	mm	330
	Grand clearance	mm	460
	Oscillating angle	degree	± 7.5
	Traveling speed	km/h	0-3.1
	Gradability	% (degrees)	57.7 (30 °)
Engine	Model		QSB6.7
	Type		Turbocharged and air to air after cooled diesel, direct fuel injection, electric governor.
	Make		Cummins
	Output/speed	kW/min ⁻¹	179 / 2,500 Meets Tier-3 and EU stage-3.
	Fuel tank capacity	Liter	420
Hydraulic pump	Variable displacement piston pump		2
	Gear pump		3
	Hydraulic oil tank capacity	Liter	215
Compressor	Model		PDS265-S35D (AIRMAN)
	Type		Screw 1-stage Compression oil-cooled type
	Free air delivery	m ³ /min	7.8
	Working air pressure	MPa	1.03
Boom	Model		JE326-132
	Type		Extendable boom
	Boom Lift angle	degree	Up45 ° , Down20 °
	Boom swing angle	degree	Right35 ° , Left5 °
Guide shell	Boom extension length	mm	1,200
	Model		GH832-30
	Length	mm	7,800
	Feed length	mm	4,620
	Feed length with R/P	mm	4,440
	Guide slide length	mm	1,200
	Guide swing	degree	Right30 ° , Left90 °
	Guide tilt angle	degree	170 °
	Guide rotary		OPTION
	Max. Rod pull force	kN	29.5
Dust collector	Feed type		Chain drive with Hydraulic motor
	Suction capacity	m ³ /min	30
	Number of filter	Pcs.	5
	Loaded rod capacity	Pcs.	6
Rod changer	Length of rod	mm	3,660 (12ft)
	Control lever	Pc.	1
	Recommended Bit diameter	mm	76 ~ 102
Bit & Rod	Type of bit		Cross, Button, Ballistic, Conical
	Size of rod		38R,38H,45R,(51R)
	Length of rod	mm(ft)	3,660(12ft)
	Starter rod (Max)	mm(ft)	4,000 (14ft)

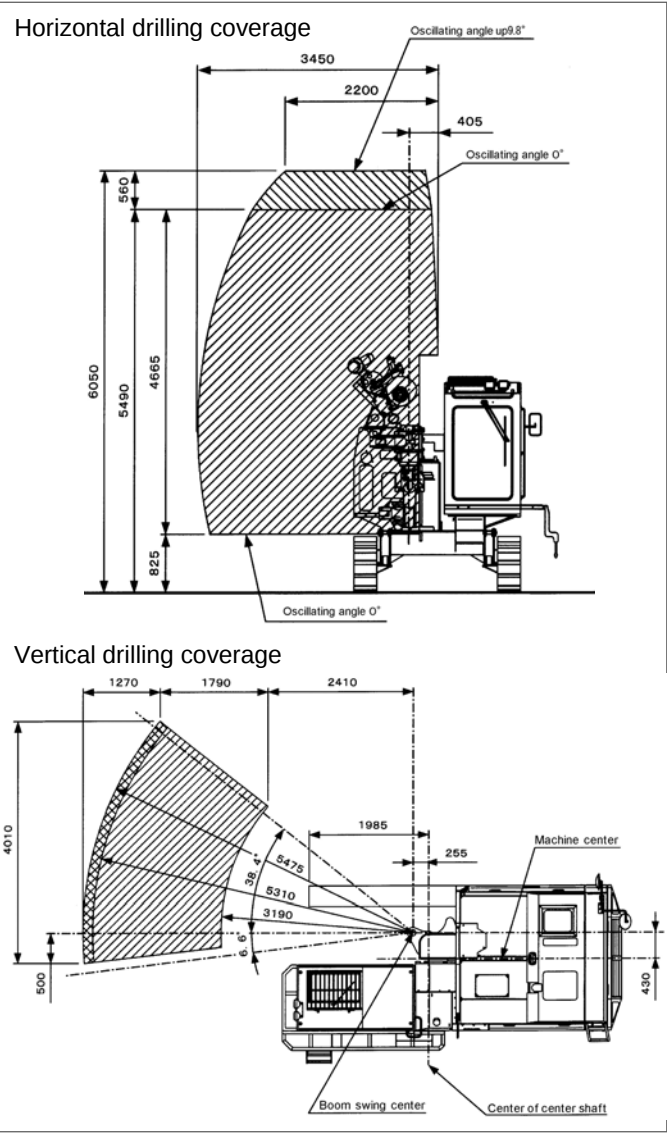
The contents of this specifications are subject to change without notice in the future.

■ Standard & optional equipments

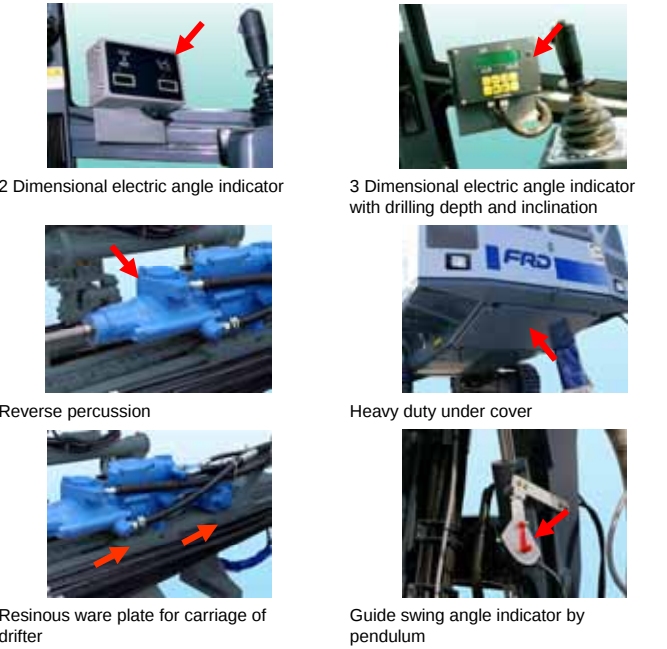
:Standard ●:Optional ▲:Select

Unit		HCR1200-ED
Drifter		
HD712		
Dual Damper System		
Reverse Percussion		●
Guide shell		
Hydraulic centralizer		
Slidable suction hood		
Open-Close + Slidable suction hood		●
Resinous wear plate for carriage		
Rod changer		
Length of rod	12ft 10ft	▲
Rod size	45R (T45)	
	38R/38H(T38), 51R (T51)	●
MM / MF rod		▲
Boom		
Extendable boom		
Guide rotary		●
Undercarriage		
Triple shoe		
Single shoe		●
Lifting eyes for transportation		●
Dust collector		
Pre-cleaner		
Folding bracket for pre-cleaner		●
Exhaust shutter		
Sinter-Lamellar filter		●
Cab		
Standard for ROPS/FOPS cab		
High-backed seat		
Suspension seat		●
AM/FM Radio		
Intelligent Monitoring System		●
Intelligent Monitoring System 2		●
Side door mirror		
Air conditioner		
Rotating light (Yellow)		●
Leveler		
Seat belt (ROPS/FOPS cab: STD)		●
Rear View Monitoring Camera (Black/white)		●
Rear View Monitoring Camera (color)		●
Additional lights (70Wx2)		●
Catwalk		
Folding Catwalk		●
Evacuation hammer		
Control		
Push switch for Boom control		
Lever-operated switch for Boom control		●
Joystick control for impact, feed and rotation		
Integrated Drilling System (IDS)		
Integrated Drilling System (IDS-2)		●
Active Dual Damper		
Anti-jamming system for air flow		
Anti-jamming system for air pressure		
Anti-jamming system for rotation pressure		
Joystick controlled rod changer		
Manual over-ride for rod changer		
2 boom speed		
2 travelling speed		
Automatic equalizer lock		
Back-up Alarm		
Auto throttle control for impact and air flow		
Others		
Guide tilt angle indicator by pendulum		
Guide swing angle indicator by pendulum		●
2 Dimensional electric angle indicator		●
3 Dimensional electric angle indicator		●
3 Dimensional electric angle indicator with drilling depth and inclination		●
Water tank for water injection system		●
Emergency shut down system		●
Hour meter for engine		
Hour meter for drifter		●
Tool box		●
Heavy duty under cover		●
Ladder for access rear engine cover		●
Bumper base		●
Water separator for engine		
Pre cleaner for engine		
Auto air release valve for compressor		●
Winter package for anti-freeze		●
High capacity battery		●
Energy-saving mode selector		●

■ Drilling coverage



Optional equipment



1200-ED



Advanced drifter system
HD712 Dual Damper System

Dual Damper System DDS

FRD has developed Dual Damper System first in the industry. 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 required, produces straighter holes. An additional benefit is greatly improved life of drilling accessories.
(U.S. PATENT No.5,896,937)

Compact Valve Design

A compact shuttle valve minimizes loss of pressure oil and maintains total power out put of the breaker.

Reverse Percussion System

Make it easier to free a stuck rod. A substantial increase in extraction force allows field proven Reverse Percussion System to remove stuck rod quickly. (Optional device)

ECO-friendly, Energy-Saving,



LOW –EMISSION ENGINE

Powerful Cummins engine is fully compliant with Tier 3 / EURO stage-3 emission control.



Power-saving selector

By using power-saving selector, fuel consumption rate is reduced during light work condition

Standard mode : 2,500min⁻¹

Power-saving mode : 2,200min⁻¹

Advanced Hydraulic & Pneumatic system

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

Extension Boom



Accessibility for Maintenance

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

• Access to the right side cover

Fully opened access cover makes access to the radiator, the dust collector, the grease can and the drilling control valves easier.



• Access to the left side cover

Service for the engine, the electric control panel and the compressor can be made from the left side access cover.



• Access to the radiator grille

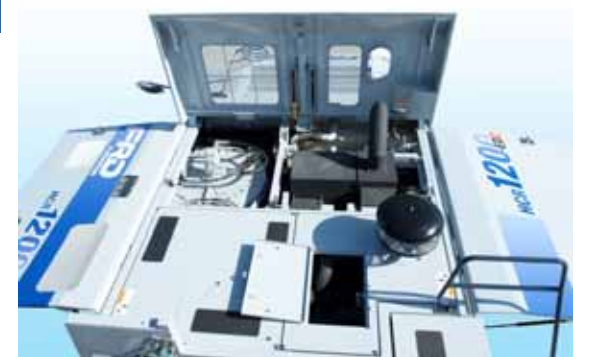
Services for all the heat-exchangers and the batteries are carried out form the rear access cover. Cleaning of the radiator or the cooler fins can be made form the ground level.

Showing pictures including optional equipments.



• Access to the upper cover

Service for the engine top and the dust collector drive are within the reach.



Maintenance

& High-Productivity



High capacity out put Compressor & Dust Collector

High-out put AIRMAN compressor increase flushing air, provides faster drilling and decrease wear of drilling accessories. It also reduces re-drilling of cuttings, and improves drilling speed. Large suction capacity of the dust collector maintains environment.



Dust collector

Pre-cleaner



Easy handling rod changer

Joystick operated rod changer assures fast rod changing.



Joystick control lever



Heavy duty undercarriage

Heavy-duty track frames provide strength and durability. They feature a pentagonal section design to reduce dirt build up and track wear. One-pieces drive sprockets are manufactured with hardened wear surfaces for longer life. Track rollers and carrier rollers are forged and hardened for durability, and lifetime-lubricated to reduce maintenance requirements. Heavy-duty track links are forged from high-manganese alloy steel, and pins and bushings are induction-hardened. Alloy steel front idlers are hardened, and lifetime-lubricated. Standard full track guards protect undercarriage. Track tension can be adjusted easily with a grease gun.



Maneuverability, Safety & Visibility

Minimizes operator fatigue



ROPS/FOPS Cab



Joystick Operation

A single multi-function lever controls all the drilling functions.



Right side Control Box



- | | |
|--------------------------------------|----------------------------------|
| Joystick drilling lever | Push switch for boom control |
| Back-up alarm | Air conditioner |
| Engine throttle control | Pressure control adjusting dials |
| Feed speed adjusting control dial | 2 boom speed |
| Feed pressure adjusting control dial | Boom control ON/OFF switch |

IMS (Intelligent Monitoring System)

IMS is always monitoring machine conditions and supports trouble shoots for operator and mechanics. IMS support to reduce daily maintenance time and down time. (optional equipment)



Left side Control Box



- | | |
|------------------------|--------------------------|
| Joystick rod changer | 2 speed traveling lights |
| Air flushing | Compressor starting |
| Remote grease | Wipers |
| Centralizer open/close | Safety lever |
| High-speed rotation | Emergency stop |
| Anti-jamming | |

Comfortable Cab

1100mm wide cab provides large windows at the front and on the right side maximize operator visibility. Cab is air-conditioned and pressurized with filter air to keep out dust.

Control panel for Air-conditioner



AM/FM Radio



Pillar Mounted Gauges

- Drilling position indicator
- Impact pressure
- Feed force pressure
- Rotation pressure
- Flushing air pressure



Meter Panel



- | | |
|----------------------------|---------------------|
| Starter switch | Fuel gauge |
| Temp. gauge, Compressor | Temp. gauge, Engine |
| Temp. gauge, Hydraulic oil | Tachometer, Engine |
| Warning lights | |