

Hydraulic Crawler Drill

HCR1200-ED II

Tier3 / Euro Stage - 3





The ultimate combination of performance

**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

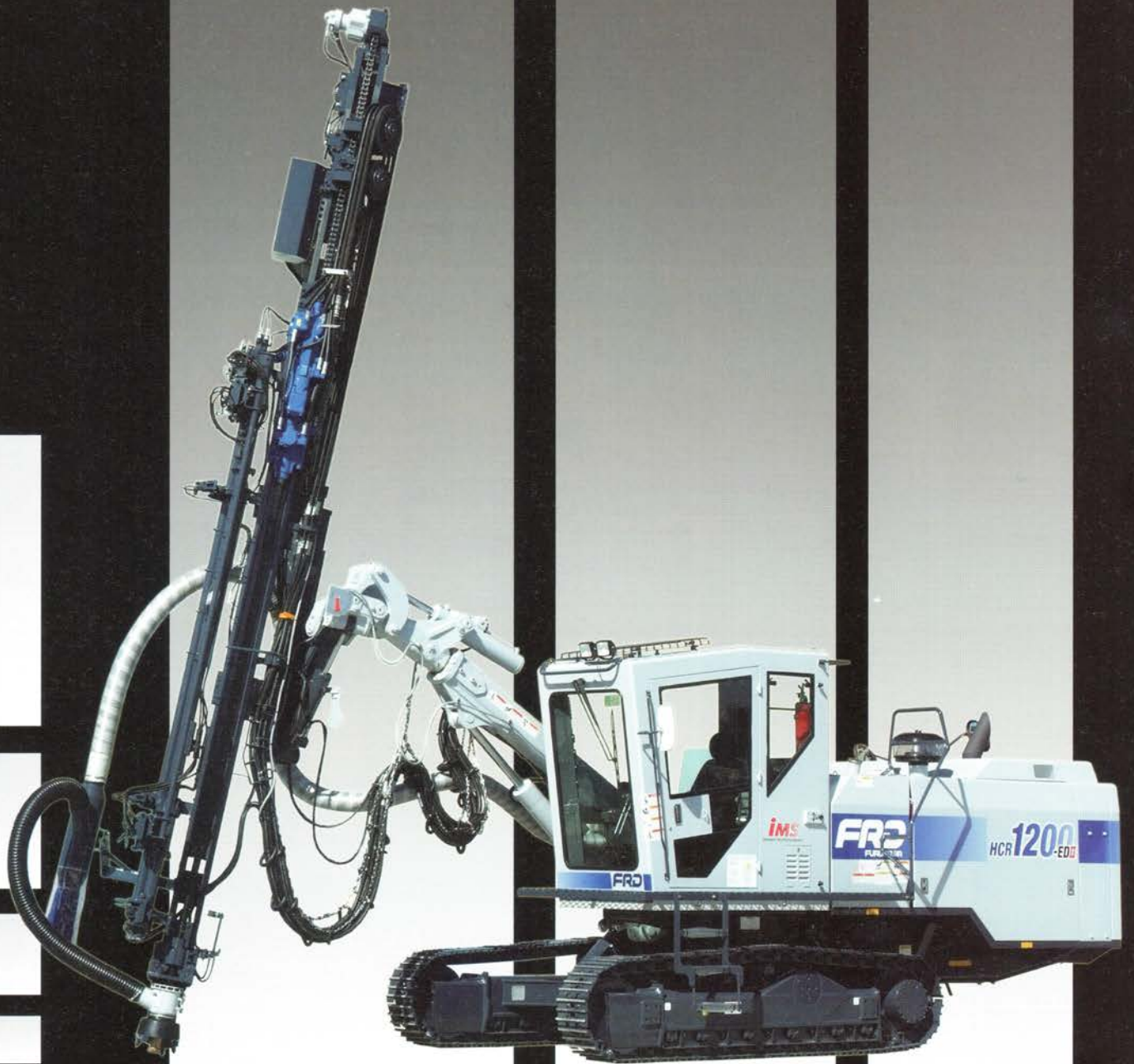
DDS : Dual Damper System



and economy

HCR1200-ED II

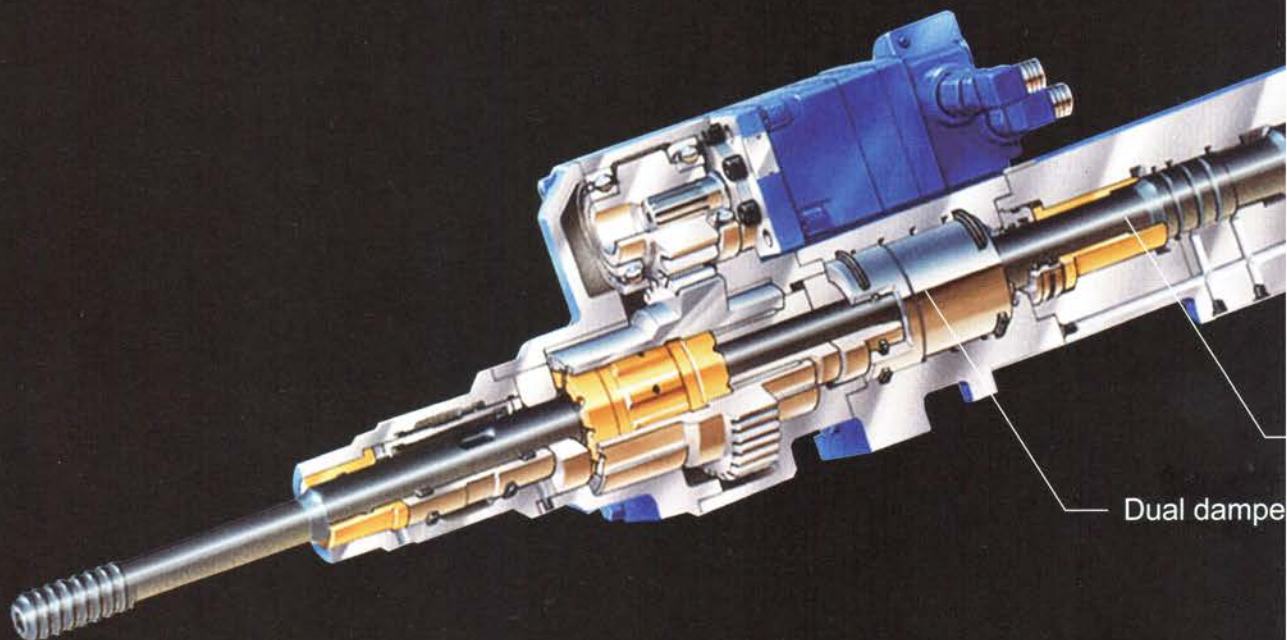
FRD
FURUKAWA





Drilling performer, HCR1200- High-productivity

Drill faster and straighter with our patented



Dual-damper system **DDS**

FRD has developed the Dual-Damper System, a 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, greatly improves the life of drilling accessories. An additional benefit is greatly improved life of drilling accessories.

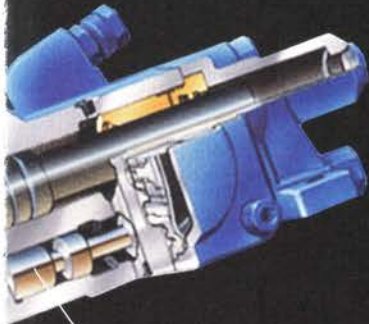
(U.S. PATENT No.5,896,937)

Compact valve design

The FURUKAWA HD700 series drifter is designed to minimize drill noise and vibration without sacrificing performance. Incorporating a new piston design, the HD712 drifter maximizes energy transmission and drills effectively in a variety of rock types.

ED II & Durability

HD712 drifter.



Compact valve design

Newly designed piston

HCR 1200-ED II



Integrated Drilling System

Reverse percussion system

The Reverse Percussion System (RPS) makes it easier to free a stuck rod. A substantial increase in extraction force allows the field proven RPS (optional) to remove struck rods quickly.



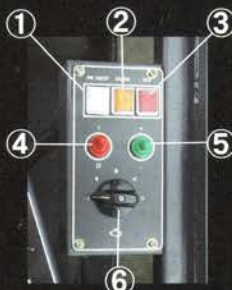
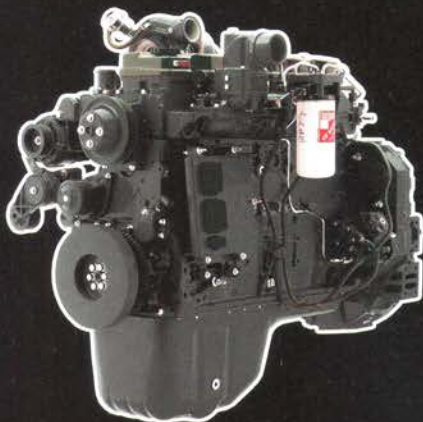
IDS: All-hydraulic drilling controls allow for automatic adjustment of impact force and feed force to match changing of rock formations. IDS-2 as optional device, is monitoring rock conditions and automatically adjust feed speed. Dual-Damper System provides maximum impact energy transfer, and minimizes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

Maximizes operator performance the ultimate



Powerful CUMMINS engine is fully compliant with tire3 / Euro stage-3 emission control. It gives full control for easy drilling.

Low-emission engine



- ① Pre-heater lamp
- ② Caution lamp
- ③ Stop lamp
- ④ Diagnostic switch
- ⑤ Display selector switch
- ⑥ Engine throttle switch

position I : 1,250 min⁻¹

position II : 1,600 min⁻¹

position III : 1,800 min⁻¹

Power-saving selector

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

Highest engine speed : 2,500 min⁻¹

Power-saving : 2,200 min⁻¹

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

These systems support high productivity

position IV : 2,200 min⁻¹

position V : 2,500 min⁻¹

**with
in drilling technology.**

HCR1200-EDII

Right side control box



- ① Joystick drilling lever
- ② Horn switch
- ③ Feed speed adjusting control dial
- ④ Feed pressure adjusting control dial
- ⑤ Hydraulic cylinder control panel



Boom Slide / Guide Rotary (if equipped)
Oscillating / Guide Slide switch
Guide Tilt / Guide Swing switch
Boom Lift / Boom Swing switch
Power switch
Operating speed selector switch

- ⑥ Indicator switch
- ⑦ Feed pressure control adjusting dials
Collaring pressure adjusting handle
Regular drilling pressure adjusting handle
Rod revolutions adjusting handle
- ⑧ Air conditioner control panel

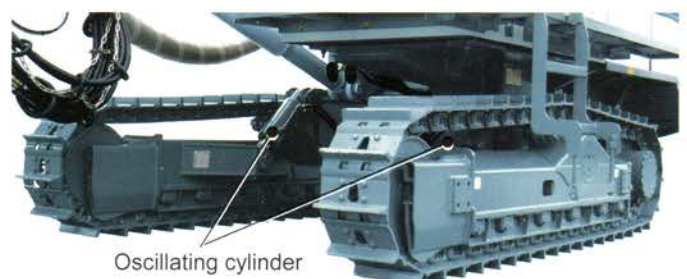
Left side control box



- ① Rod changer control lever
- ② Air flushing lever
- ③ Greasing switch
- ④ Hood & Centralizer switch
- ⑤ Mode selector switch
- ⑥ Anti-jamming switch
- ⑦ Traveling speed switch
- ⑧ Headlight switch
- ⑨ Rear work light switch
- ⑩ Compressor starting switch
- ⑪ Front wiper switch
- ⑫ Roof wiper switch
- ⑬ Safety lock lever
- ⑭ Emergency stop switch

Heavy duty undercarriage & oscillating

Heavy-duty track frames provide strength and durability. One-piece drive sprockets are manufactured with hardened surfaces for longer life. Heavy-duty track links are forged from high-manganese alloy steel, and pins and bushings are induction-hardened. Standard full track guards protect undercarriage, Track tension can be adjusted easily with a grease gun. The entire machine oscillates up-down 7.5 degrees total 15 degree to maintain machine level.



Oscillating cylinder

Extension boom

Boom extension length : 1200mm
Extension boom increases pattern flexibility.



Easy operation and improved

 ECO-friendly



High capacity compressor & 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.

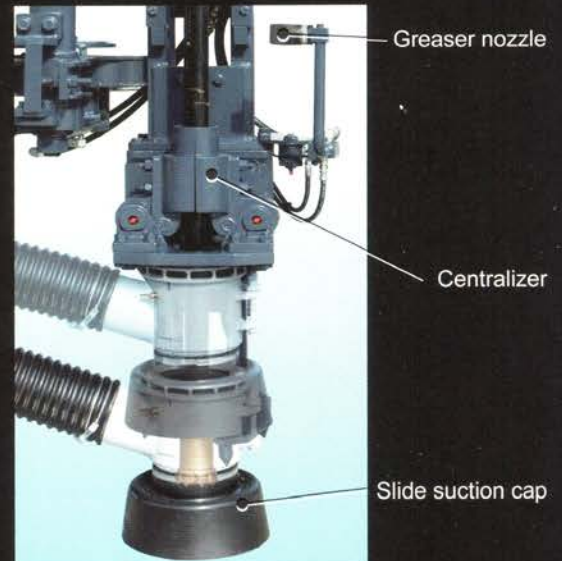
Easy to check hole

Sliding suction cap can be raised to allow a fast visual check of operation.



Dust collector

Pre-cleaner



Greaser nozzle

Centralizer

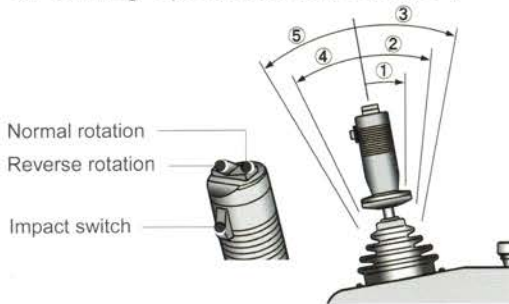
Slide suction cap

Joystick operation



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

Pull-Drilling Specification (standard)



- 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)

Anti-jamming device



An anti-jamming device optimizes the drilling condition for a variety of rock types, thus offering extended bit and rod life, and consequent reduction in running cost.

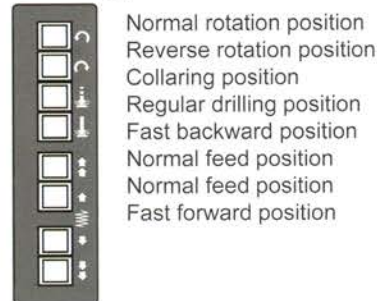
Mode selector



A mode switching hydraulic circuit performs switching between N mode for homogeneous rocks and H mode for hard rocks, thus enabling safe and speedy drilling.

Pillar mounted gauges

① Drilling position indicator



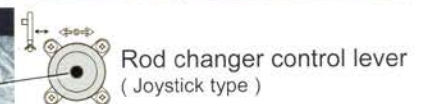
- Normal rotation position
- Reverse rotation position
- Collaring position
- Regular drilling position
- Fast backward position
- Normal feed position
- Normal feed position
- Fast forward position

- ② Impact pressure gauge
- ③ Feed force pressure gauge
- ④ Rotation pressure gauge
- ⑤ Flushing air pressure gauge



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 control lever (Joystick type)

Rod changer adjusting panel



- ① Manual / Auto selector switch
- ② Swing switch
- ③ Clamp(F) switch
- ④ Clamp(R) switch
- ⑤ Slide switch
- ⑥ Rotating switch

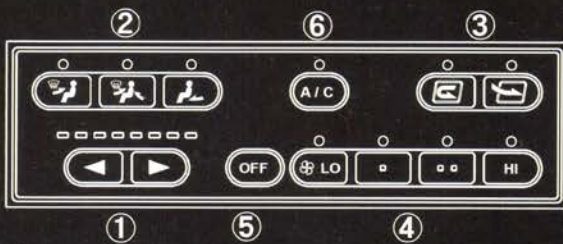
Maneuverability, Safety & Visibility



Comfortable cab

1100 mm 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



- ① Temperature control switch
- ② Mode selector switch
- ③ Internal / external air selector switch
- ④ Fan switch
- ⑤ OFF switch
- ⑥ Air conditioning switch



Front Blow



Front / Rear Blow



Foot Blow



AM/FM radio



ROPS/FOPS Cab

ROPS : Roll-Over Protective Structures

FOPS : Falling-Object Protective Structures



Meter panel



- ① Starter switch
- ② Temp. gauge, compressor
- ③ Temp. gauge, hydraulic oil
- ④ Monitor panel



- Hydraulic oil level
- Hydraulic oil filter
- Hydraulic temperature(High)
- Compressor overheat
- Alternator(charge)
- Air cleaner
- Hydraulic oil temperature(Low)
- Compressor oil filter

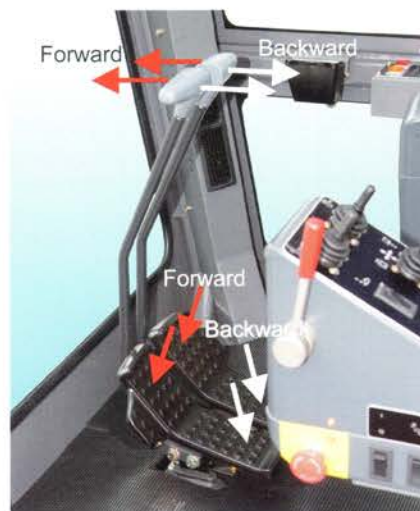
- ⑤ Fuel gauge
- ⑥ Temp. gauge, engine
- ⑦ Tachometer, engine

Intelligent Monitoring System (IMS)

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)



Travel levers



Operator seat



Easy Maintenance & Safety

Fire extinguisher



Located at rear-right-side of the cab.

Double hose reels



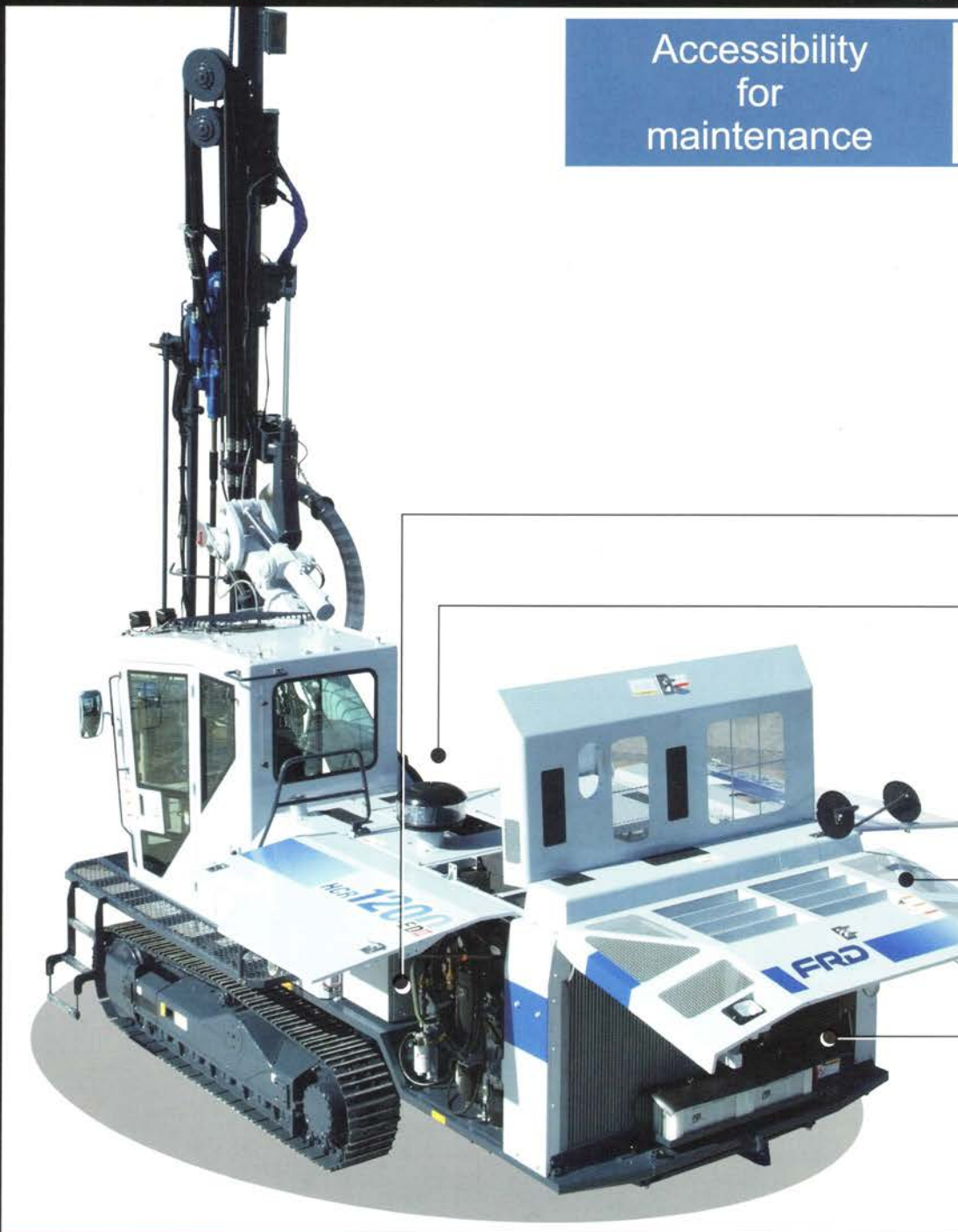
Extends hose life, ensures longer service life and reduces service load.

Air-con filter



External air filter

Accessibility
for
maintenance



For Safety equipment

Fan guards



Fan guards and belt guards are standard.

Safety lock lever



Stops the traveling function and the function of the drifter's feed operation.

Head guards



Roof is reinforced and overhead window is steel gauge protected.

Emergency stop



Stops the engine in an emergency.

Functions.

HGR1200-EDIT

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 from the rear access cover. Cleaning of the radiator or the cooler fins can be made from 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.



Hoses and piping clearly accessible for Maintenance

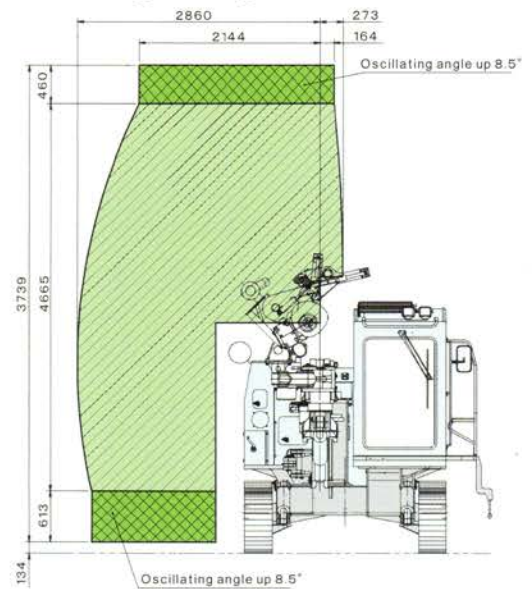


Standard & Optional equipments

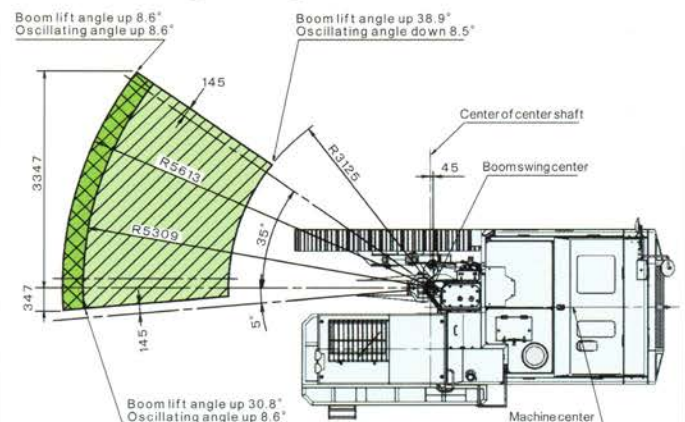
Drilling coverage

Unit		HCR1200-ED II
Drifter		
HD712		Standard
Dual-Damper system		Standard
Reverse Percussion		Optional
Guide shell		
Hydraulic centralizer		Standard
Slidable suction hood		Standard
Open-Close + Slidable suction hood		Optional
Resinous wear plate for carriage		Standard
Rod changer		
Length of rod	12 ft 10 ft	Select
Rod size	45R (T45)	Standard
	38R/38H(T38), 51R (T51)	Optional
MM / MF rod		Select
Boom		
Extendable boom		Standard
Guide rotary		Optional
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
High-backed seat		Standard
Suspension seat		Optional
AM/FM radio		Standard
Intelligent monitoring system		Optional
Intelligent monitoring system 2		Optional
Side door mirror		Standard
Air conditioner		Standard
Rotating light (Yellow)		Optional
Leveler		Standard
Seat belt		Standard
Rear view monitoring camera (Black/white)		Optional
Rear view monitoring camera (Color)		Optional
Additional lights (70 W x 2)		Optional
Catwalk		Standard
Folding catwalk		Optional
Evacuation hammer		Optional
Control		
Push switch for boom control		Standard
Lever-operated switch for boom control		Optional
Joystick control for impact, feed and rotation		Standard
Integrated Drilling System (IDS)		Standard
Active dual damper		Standard
Anti-jamming system for air flow		Standard
Anti-jamming system for air pressure		Standard
Anti-jamming system for rotation pressure		Standard
Joystick controlled rod changer		Standard
Manual over-ride for rod changer		Standard
2 Boom speed		Standard
2 Travelling speed		Standard
Automatic equalizer lock		Standard
Back-up alarm		Standard
Auto throttle control for impact and air flow		Standard
Others		
Guide tilt angle indicator by pendulum		Standard
Guide swing angle indicator by pendulum		Optional
2 Dimensional electric angle indicator		Optional
3 Dimensional electric angle indicator		Optional
3 Dimensional electric angle indicator with drilling depth and inclination		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
Heavy duty under cover		Optional
Ladder for access rear engine cover		Optional
Bumper base		Optional
Water separator for engine		Standard
Pre cleaner for engine		Standard
Auto air release valve for compressor		Optional
Winter package for anti-freeze		Optional
High capacity battery		Optional
Energy-saving mode selector		Optional

Horizontal drilling coverage



Vertical drilling coverage



Optional equipment



2 dimensional electric angle indicator



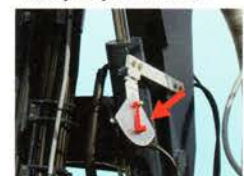
3 dimensional electric angle indicator with drilling depth and inclination



Reverse Percussion

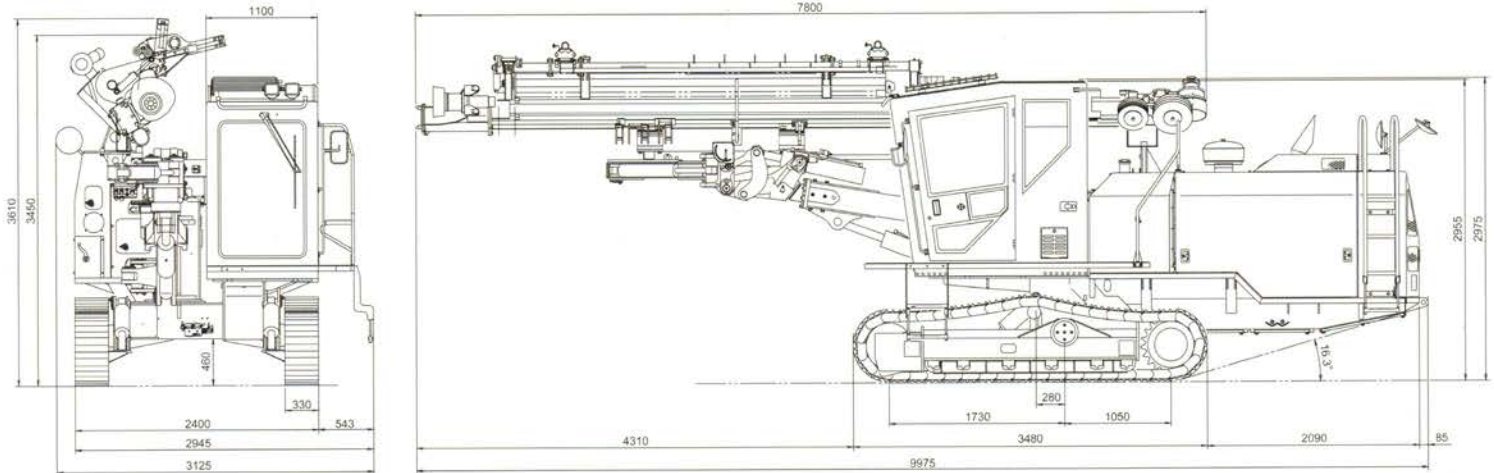


Heavy duty under cover



Guide swing angle indicator by pendulum

■ Dimensions (mm)



■ Specifications

Model		HCR1200-ED II	
Weight & Dimensions	Operating weight with ROPS/FOPS cab	14,700 kg	
	Overall length	9,975 mm	
	Overall width	3,125 mm	
	Width over tracks	2,400 mm	
	Overall height	3,605 mm	
	Overall height (transportation)	2,975 mm	
Drifter	Model	HD712	
	Weight	220 kg	
	Impact rate	2,300 min ⁻¹	
	Number of rotation	0 - 190 min ⁻¹	
Undercarriage	Track length	3,480 mm	
	Ground contact length	2,780 mm	
	Width of shoe	330 mm	
	Grand clearance	460 mm	
	Oscillating angle	± 7.5°	
	Traveling speed	0 - 3.1 km/h	
	Gradability	57.7% (30°)	
Engine	Make & Model	Cummins QSB6.7	
	Type	Turbocharged and air to air after cooled diesel, direct fuel injection, electric governor	
	Output / speed	179 kW / 2,500 min ⁻¹	Meets Tier-3 and EU stage-3
	Fuel tank capacity	420 L	
Hydraulic pump	Variable displacement piston pump	2	
	Gear pump	3	
	Hydraulic oil tank capacity	215 L	
Compressor	Model	PDS265-S35D (AIRMAN)	
	Type	Screw 1-stage	Compression oil-cooled type
	Free air delivery	7.8 m ³ /min	
	Working air pressure	1.03 MPa	
Boom	Model	JE326-132	
	Type	Extendable boom	
	Boom lift angle	Up 45°	Down 20°
	Boom swing angle	Right 35°	Left 5°
	Boom extension length	1,200 mm	
Guide shell	Model	GH832-30	
	Length	7,800 mm	
	Feed length	4,620 mm	
	Feed length with R/P	4,440 mm	
	Guide slide length	1,200 mm	
	Guide swing	Right 30° Left 90°	
	Guide tilt angle	170°	
	Guide rotary	Option	
	Max. rod pull force	29.5 kN	
	Feed type	Hydraulically operated chain drive	
	Dust collector	Suction capacity	30 m ³ /min
Number of filter		5	
Rod changer	Loaded rod capacity	6	
	Length of rod	3,660 mm (12 ft.)	
	Control lever	1	
Bit & Rod	Recommended bit diameter	76 - 102 mm	
	Type of bit	Cross, Button, Ballistic, Conical	
	Size of rod	38R, 38H, 45R, (51R)	
	Length of rod	3,660 mm (12 ft.)	
	Starter rod (Max)	4,270 mm (14 ft.)	

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



HCR Series

FRD Furukawa reserves right to change specifications without prior notice.

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ISO9001 ISO14001
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 Certified Management System

