

HCR 1200-DS^{III}
HCR 1200-EDS^{III}

EU Stage III A / EPA Tier 3



- 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.

THE ULTIMATE COMBINATION OF PERFORMANCE AND ECONOMY

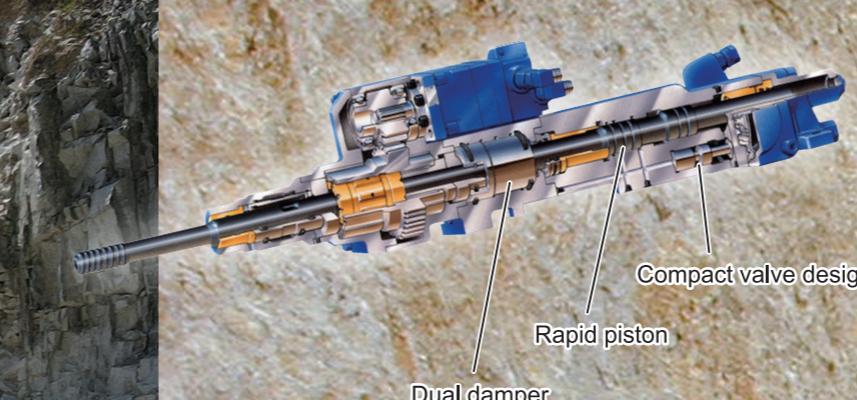
To achieve more powerful and speedy drilling



- ✓ **High-power Drifter HD712**
 - Highly-efficient percussion system
 - Dual damper system
- ✓ **Hole diameter 76 mm-115 mm**
- ✓ **ECO friendly engine**
- ✓ **Advanced rod changer**
- ✓ **Powerful track**

HCR 1200-EDS III

Evolutional High-Beat Drifter (HBD) HD712



Dual-Damper System (DDS)

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 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.

Reverse Percussion (RP)

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



HCR 1200-EDS III



Comfortable operator seat

High-back seat for soft riding comfort. Use the seat front and back adjuster and reclining adjuster to adjust the seat position so that optimum work position can be obtained. The seat belt is standard with the ROPS/FOPS cabin-mounted vehicle.



Operability-oriented tilt type control box

The tilt type control box has been adopted where the drilling system operation lever and operation switch are situated. Speedy drilling operations can be performed in the optimum position by adjusting the angle. The tilt lock pedal is pressed to adjust the angle.



Pillar mounted gauges



- ① Warning lights
- ② Compressor discharge temperature gauge
- ③ Hydraulic oil temperature gauge
- ④ Digital engine indicator

Digital engine indicator



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

Comfortable cabin with plenty of elbowroom

The machine is equipped with the new round cabin which affords a wide visual field in every direction with the large safety glass. The external air inlet type air conditioner that maintains a comfortable cabin environment also comes as standard equipment so that a comfortable working environment is maintained under various operation conditions.

Control lever operation

The 4-control levers are conveniently and comfortably positioned directly in front of the operator's seat. The Single Task / Single Lever design minimizes operational errors.



Anti-jamming device

The machine is equipped with a safety device that automatically draws the drifter back when an abnormality is detected after the fracture zone and clay stratum have been entered during drilling or when a reduction in flushing air is detected. The pilot lamp lights up during operation of the anti-jamming device.

Mode selector

A mode switching hydraulic circuit performs switching between N mode for homogeneous rocks, H mode for slant joints and collaring mode.

Other equipment

Right side control panel



- ① Engine throttle control
- ② Engine start switch
- ③ FM/AM Radio
- ④ Air-conditioner control panel
- ⑤ Light switches
- ⑥ Window wiper switches

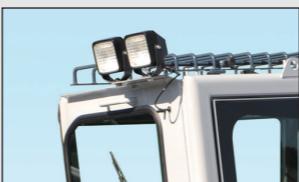
Travel lock plates



Drink holder



Front Lights



Head guards



Catwalk



Drilling pressure gauges



Touch underbody and crawler drill-specific quick footwork

Touch underbody design based on field footwork. The oscillating system where right and left track frames swing independently according to the conditions of road surface. The machine can travel on a bad road and yet remain in a stable position of ground clearance and oscillating angle (15 degrees) that are top in its class. While running, the oscillating lever is kept in the "ON" position. While drilling, the lever is set to the "OFF" position to lock swinging of the main body.



Tilt lock pedal



「ON」 position



「OFF」 position

Stability is achieved due to the left and right belts contacting the ground independently as a result of the oscillating function.



If it were not for the oscillating function, the machine would run unstably due to uneven road surface.

Speedy and powerful drilling performance has been achieved

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Low-emission engine



Powerful CAT engine is fully compliant with EU stage IIIA / EPA tier 3 emission control. It gives full control for easy drilling. Thanks to advanced hydraulic and pneumatic technology, output energy can be transferred to each component with minimum power loss. These systems support high productivity.



CAUTION

The diesel fuel quality greatly affects the performance and life of the engine. Use only clean, high quality fuel.

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High capacity compressor and 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.

Improved pre-cleaner (option)

Allows increased flushing air volume which reduces system clogging. Outlet design expels the large cuttings before they reach the main housing, filter life is extended.

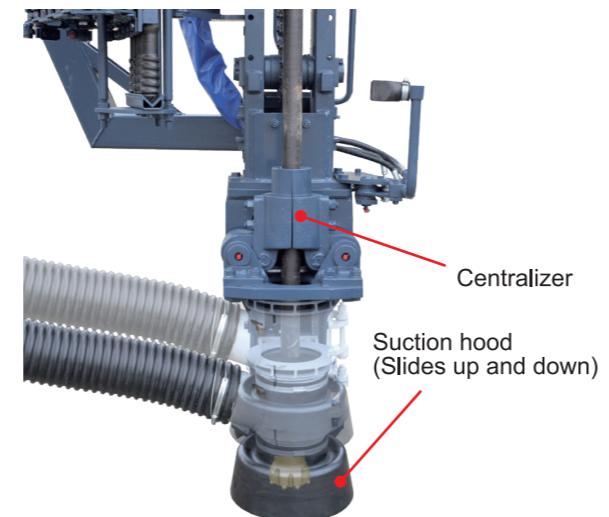


Selective rod size (Standard:T45/Optional :T51)

Rod size can be selective in accordance with hole application. The proper choice of rod size would maximize rig's performance by drilling speeds, less hole deviations, and more life for drilling tools.

Mouth treatment

The suction hood 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.

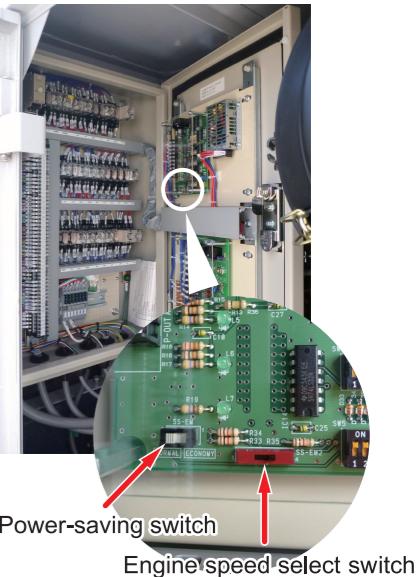


Newly designed economy mode

By using power-saving switch, fuel consumption is reduced during "light" work conditions. (Maximum 30 % reduction on previous models.) While drilling, engine speed can be adjusted lower than power mode. Engine speed can be selected from one of following speed.

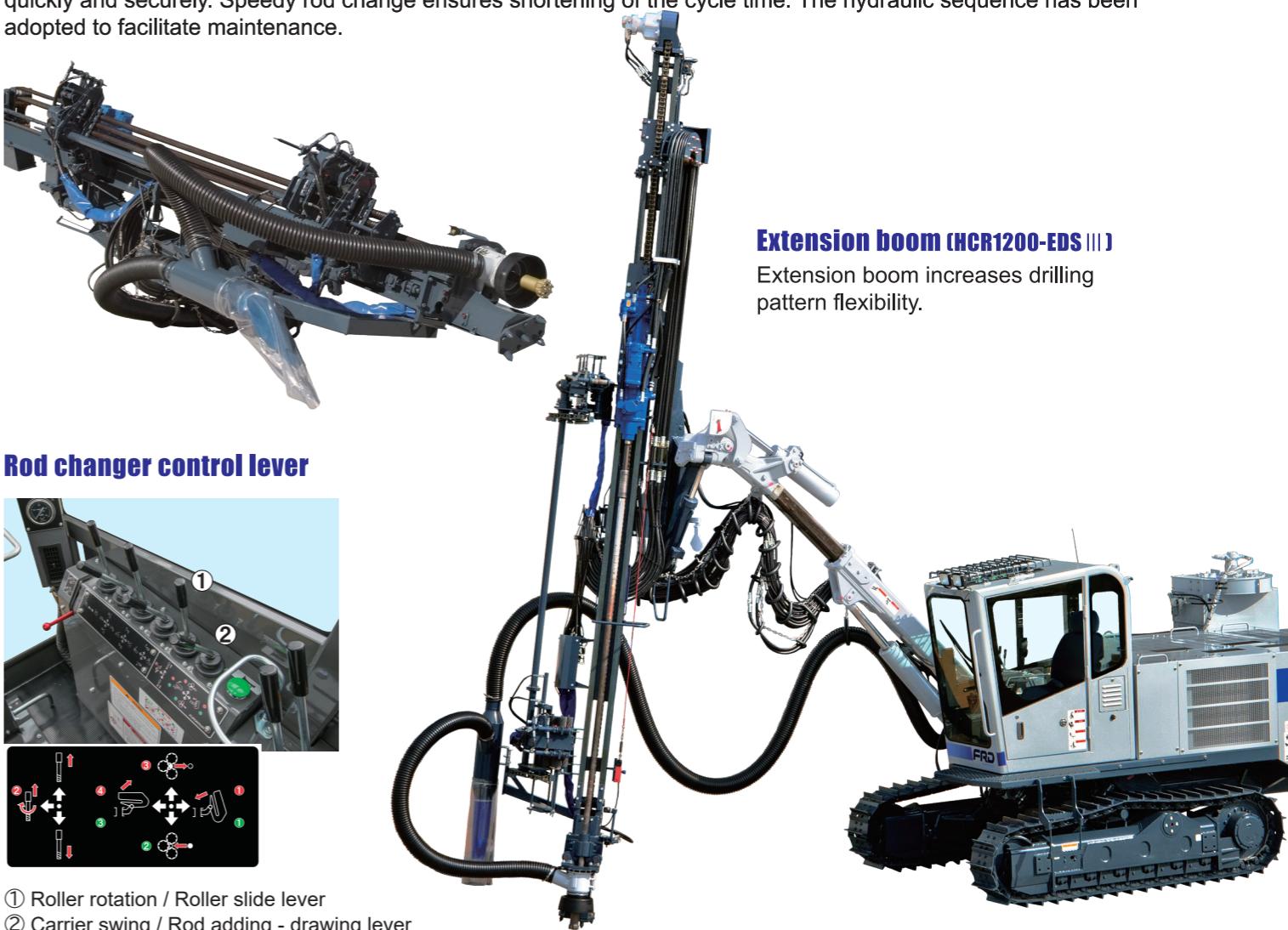
"Light" work  According to rock condition  "Hard" work	1,600 min ⁻¹	New economy mode (Have a choice from 3 types of power)
	1,800 min ⁻¹	
	2,000 min ⁻¹	
	2,200 min ⁻¹	

For the hole cleaning, engine speed automatically increases up 2,200 min⁻¹. As a result, even in economy mode, you can realize the perfect cleaning as power mode does.

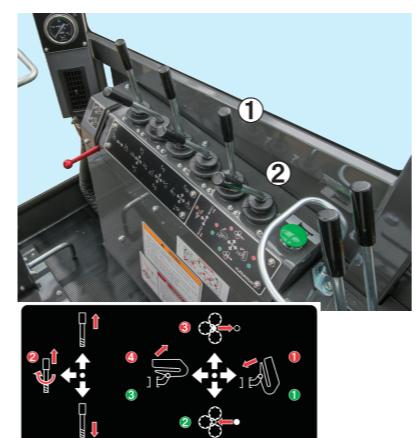


Field proven rod changer system

The hydro-mechanical In-line-1 design rod changer with rotator is field proven. Rods can be extended and withdrawn quickly and securely. Speedy rod change ensures shortening of the cycle time. The hydraulic sequence has been adopted to facilitate maintenance.



Rod changer control lever



① Roller rotation / Roller slide lever
② Carrier swing / Rod adding - drawing lever

Easy maintenance and safety functions

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Accessibility for maintenance

Walk-around, ground-level maintenance provides fast, easy upkeep or repair. Hinged access covers provide easy access to required areas. The design was conceived for easy-maintenance by bundling the hoses around the boom and integrating inspection areas such as hydraulic equipment and filters.

Maintenance around guide shell

Guide shell on set horizontal position. Thus, it is easy to access drifter, rod changer for maintenance.



Hose connections

Hose terminals contribute to the maintainability of hoses replacement.



Access to the rear cover

Access to engine and compressor related filters.



Upper engine cover

Improved rearward visibility. Non-skid pads are attached at strategic positions on top of the engine cover.



Access to the right side cover

Fully openable access cover makes access to the radiator, the grease can and the drilling control valves



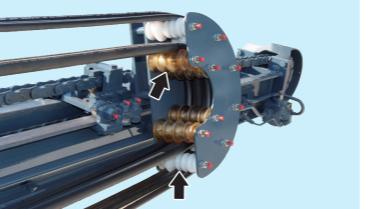
Access to the left side cover

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



Machine features

Resinous hose reel roller



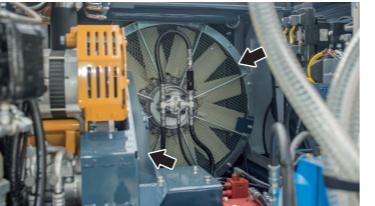
Air conditioner air filters



Oil Supply Pump



Fan guards



Air filter



Drifter lubricator



Battery box



Standard & optional equipment

Model	HCR1200-DS ^{III}	HCR1200-EDS ^{III}	
Drifter			
HD712	Standard	Standard	
Dual damper system	Standard	Standard	
Reveres percussion	Optional	Optional	
Guide shell			
Hydraulic centralizer	Standard	Standard	
Sliding suction cap	Standard	Standard	
Synthetic wear plate for carriage	Optional	Optional	
Synthetic hose reel	Standard	Standard	
Rod changer			
Rod length	12ft	Standard	Standard
Rod size	45R (T45) 51R (T51)	Select	Select
MM/MF rod	45R (T45) 51R (T51)	Select	Select
Starter rod	4000mm	Standard	Standard
Rotator		Standard	Standard
Boom			
Boom		Fix Extension	
Undercarriage			
Single shoe	Standard	Standard	
Sprocket guard	Standard	Standard	
Lifting eyes for transportation	Optional	Optional	
Dust collector			
Pre-cleaner	Optional	Optional	
Folding bracket for pre-cleaner	Optional	Optional	
Exhaust shutter	Optional	Optional	
Sinter-lamellar filter	Optional	Optional	
Cab			
Steel cab	Standard	N/A	
ROPS/FOPS cab	Optional	Standard	
Air conditioner	Standard	Standard	
High-backed seat	Standard	Standard	
Seat belt	Optional	Standard	
FM/AM radio	Standard	Standard	
Rotating light (Yellow)	Optional	Optional	
Leveler	Optional	Standard	
Side door mirror	Optional	Optional	
Additional lights (70Wx2)	Optional	Optional	
Catwalk	Standard	Standard	
Fire extinguisher	Standard	Standard	
Evacuation hammer	Optional	Optional	
Control			
Anti-jamming system	Standard	Standard	
Track oscillation lock	Standard	Standard	
Back-up buzzer	Standard	Standard	
Auto throttle control for percussion and air flow	Standard	Standard	
Others			
Tilt guide angle indicator	Standard	Standard	
Swing guide angle indicator	Optional	Optional	
2dimensional electric angle indicator	Optional	Optional	
Emergency shut down system	Optional	Optional	
Hour meter for engine	Standard	Standard	
Hour meter for drifter	Optional	Optional	
Tool box	Optional	Optional	
Heavy duty under cover	Optional	Optional	
Water separator for engine	Standard	Standard	
Winter package	Optional	Optional	
High capacity battery	Optional	Optional	

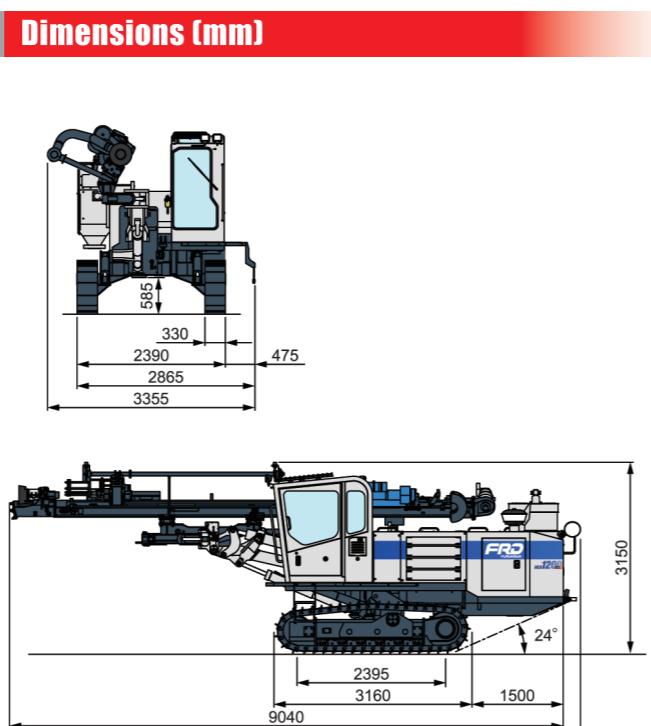
Technical specifications

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Specifications		Dimensions (mm)		Specifications		Dimensions (mm)																																																																																																																																																																																																																																																																																																																	
Model	HCR1200-DS^{III}																																																																																																																																																																																																																																																																																																																						
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Operating Weight (Standard Cab) *1	12,020 kg			Operating Weight (ROPS/FOPS Cab) *1	12,830 kg																																																																																																																																																																																																																																																																																																																		
Operating weight (ROPS/FOPS Cab) *1	12,070 kg			Overall Length	9,830 mm																																																																																																																																																																																																																																																																																																																		
Overall Length	9,210 mm			Overall Width (Shipping)	3,070 mm (2,400 mm)																																																																																																																																																																																																																																																																																																																		
Overall Width (Shipping)	3,355 mm (2,400 mm)			Overall Height (Shipping)	3,350 mm (3,045 mm)																																																																																																																																																																																																																																																																																																																		
Overall Height (Shipping)	3,150 mm (2,860 mm)																																																																																																																																																																																																																																																																																																																						
Drifter				Drifter																																																																																																																																																																																																																																																																																																																			
Model	HD712			Model	HD712																																																																																																																																																																																																																																																																																																																		
Weight	240 kg			Weight	240 kg																																																																																																																																																																																																																																																																																																																		
Number of Blows	2,250 ~ 2,500 min ⁻¹			Number of Blows	2,250 ~ 2,500 min ⁻¹																																																																																																																																																																																																																																																																																																																		
Undercarriage				Undercarriage																																																																																																																																																																																																																																																																																																																			
Track Length	3,160 mm			Track Length	3,160 mm																																																																																																																																																																																																																																																																																																																		
Track Length on ground	2,395 mm			Track Length on ground	2,395 mm																																																																																																																																																																																																																																																																																																																		
Track Width	330 mm			Track Width	330 mm																																																																																																																																																																																																																																																																																																																		
Ground Pressure *2	74.5 kPa (Standard Cab) 74.8 kPa (ROPS/FOPS Cab)			Ground Pressure *2	79.6 kPa																																																																																																																																																																																																																																																																																																																		
Ground Clearance	585 mm			Ground Clearance	585 mm																																																																																																																																																																																																																																																																																																																		
Frame Oscillation Angle	±7.5°			Frame Oscillation Angle	±7.5°																																																																																																																																																																																																																																																																																																																		
Tramming Speed	0 ~ 3.2 km/h			Tramming Speed	0 ~ 3.2 km/h																																																																																																																																																																																																																																																																																																																		
Gradeability	57.7 % (30°)			Gradeability	57.7 % (30°)																																																																																																																																																																																																																																																																																																																		
Maximum Traction Force	88 kN			Maximum Traction Force	88 kN																																																																																																																																																																																																																																																																																																																		
Engine				Engine																																																																																																																																																																																																																																																																																																																			
Model	C7 (EPA Tier3, EU Stage IIIA)			Model	C7 (EPA Tier3, EU Stage IIIA)																																																																																																																																																																																																																																																																																																																		
Type	Diesel, Water-cooled, 6cylinders			Type	Diesel, Water-cooled, 6cylinders																																																																																																																																																																																																																																																																																																																		
Make	CATERPILLAR			Make	CATERPILLAR																																																																																																																																																																																																																																																																																																																		
Power Output	168 kW / 2,200 min ⁻¹			Power Output	168 kW / 2,200 min ⁻¹																																																																																																																																																																																																																																																																																																																		
Fuel Capacity	320 L			Fuel Capacity	320 L																																																																																																																																																																																																																																																																																																																		
Hydraulic Equipment				Hydraulic Equipment																																																																																																																																																																																																																																																																																																																			
Variable Displacement PV Pump	PV Pump x 2			Variable Displacement PV Pump	PV Pump x 2																																																																																																																																																																																																																																																																																																																		
Fixed Displacement Pump	Gear Pump x 3			Fixed Displacement Pump	Gear Pump x 3																																																																																																																																																																																																																																																																																																																		
Hydraulic Oil reservoir Capacity	170 L			Hydraulic Oil reservoir Capacity	170 L																																																																																																																																																																																																																																																																																																																		
Boom				Boom																																																																																																																																																																																																																																																																																																																			
Model	JF325			Model	JE326																																																																																																																																																																																																																																																																																																																		
Type	Fixed boom			Type	Extension Boom																																																																																																																																																																																																																																																																																																																		
Boom Lift Angle	Up 54°, Down 20°			Boom Lift Angle	Up 45°, Down 15°																																																																																																																																																																																																																																																																																																																		
Boom Swing Angle	Right 45°, Left 10°			Boom Swing Angle	Right 30°, Left 4°																																																																																																																																																																																																																																																																																																																		
Guide Shell				Boom Slide Length	900 mm																																																																																																																																																																																																																																																																																																																		
Model	GH831			Guide Shell																																																																																																																																																																																																																																																																																																																			
Length (12 feet)	7,825 mm			Feed Length (with Reverse Percussion)	4,736 mm (4,561 mm)			Model	GH831			Feed Type	Hydraulic motor driven chain			Length (12 feet)	7,825 mm			Guide Slide Length	1,500 mm			Feed Length (with Reverse Percussion)	4,736 mm (4,561 mm)			Guide Swing Angle	Right 30°, Left 90°			Feed Type	Hydraulic motor driven chain			Guide Tilt Angle	180°			Guide Slide Length	1,200 mm			Maximum Rod Pull-Out Force	31.4 kN			Guide Swing Angle	Right 30°, Left 90°			Compressor				Guide Tilt Angle	180°			Model	PDS265-S35C			Maximum Rod Pull-Out Force	31.4 kN			Type	1 Stage screw compressor			Compressor				Free Air Delivery	7.1 m ³ /min			Discharge pressure	1.03 MPa			Model	PDS265-S35C			Dust Collector				Type	1 Stage screw compressor			Type	1 Stage screw compressor			Model	A884-231			Suction Capacity	26 m ³ /min			Free Air Delivery	7.1 m ³ /min			Number of Filter Element	5			Type of Dust Ejection	Automatic air pulse jet			Discharge pressure	1.03 MPa			Rod Changer				Dust Collector				Model	GR180			Number of Rod Storage	5			Model	A884-231			Rod Length	3,660 mm			Bit and Rod				Suction Capacity	26 m ³ /min			Bit Range	Φ 76 ~ Φ 102 (115) mm			Rod Diameter	45R, 51R			Number of Filter Element	5			Rod Length	3,660 mm (12 feet)			Maximum Starter Rod Length	4,270 mm			Type of Dust Ejection	Automatic air pulse jet			Electrics				Rod Changer				Battery	12V; 108Ah/5h			Light	24V; 70W × 4			Model	GR180			Voltage	DC24V			Bit and Rod				Number of Rod Storage	5 (45R) / 4 (51R)			Environmental Temperature	-15 °C ~ +45 °C							Rod Length	3,660 mm			Operating Environment								Bit Range	76 ~ 102 (115) mm			Environmental Temperature	-15 °C ~ +45 °C							Rod Diameter	45R, 51R							Rod Length	3,660 mm (12 feet)							Maximum Starter Rod Length	4,270 mm							Electrics								Battery	12V; 108Ah/5h							Light	24V; 70W × 4							Voltage	DC24V							Operating Environment								Environmental Temperature	-15 °C ~ +45 °C		
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Type	1 Stage screw compressor			Compressor																																																																																																																																																																																																																																																																																																																			
Free Air Delivery	7.1 m ³ /min			Discharge pressure	1.03 MPa			Model	PDS265-S35C			Dust Collector				Type	1 Stage screw compressor			Type	1 Stage screw compressor			Model	A884-231			Suction Capacity	26 m ³ /min			Free Air Delivery	7.1 m ³ /min			Number of Filter Element	5			Type of Dust Ejection	Automatic air pulse jet			Discharge pressure	1.03 MPa			Rod Changer				Dust Collector				Model	GR180			Number of Rod Storage	5			Model	A884-231			Rod Length	3,660 mm			Bit and Rod				Suction Capacity	26 m ³ /min			Bit Range	Φ 76 ~ Φ 102 (115) mm			Rod Diameter	45R, 51R			Number of Filter Element	5			Rod Length	3,660 mm (12 feet)			Maximum Starter Rod Length	4,270 mm			Type of Dust Ejection	Automatic air pulse jet			Electrics				Rod Changer				Battery	12V; 108Ah/5h			Light	24V; 70W × 4			Model	GR180			Voltage	DC24V			Bit and Rod				Number of Rod Storage	5 (45R) / 4 (51R)			Environmental Temperature	-15 °C ~ +45 °C							Rod Length	3,660 mm			Operating Environment								Bit Range	76 ~ 102 (115) mm			Environmental Temperature	-15 °C ~ +45 °C							Rod Diameter	45R, 51R							Rod Length	3,660 mm (12 feet)							Maximum Starter Rod Length	4,270 mm							Electrics								Battery	12V; 108Ah/5h							Light	24V; 70W × 4							Voltage	DC24V							Operating Environment								Environmental Temperature	-15 °C ~ +45 °C																																																																														
Discharge pressure	1.03 MPa			Model	PDS265-S35C																																																																																																																																																																																																																																																																																																																		
Dust Collector				Type	1 Stage screw compressor			Type	1 Stage screw compressor			Model	A884-231			Suction Capacity	26 m ³ /min			Free Air Delivery	7.1 m ³ /min			Number of Filter Element	5			Type of Dust Ejection	Automatic air pulse jet			Discharge pressure	1.03 MPa			Rod Changer				Dust Collector				Model	GR180			Number of Rod Storage	5			Model	A884-231			Rod Length	3,660 mm			Bit and Rod				Suction Capacity	26 m ³ /min			Bit Range	Φ 76 ~ Φ 102 (115) mm			Rod Diameter	45R, 51R			Number of Filter Element	5			Rod Length	3,660 mm (12 feet)			Maximum Starter Rod Length	4,270 mm			Type of Dust Ejection	Automatic air pulse jet			Electrics				Rod Changer				Battery	12V; 108Ah/5h			Light	24V; 70W × 4			Model	GR180			Voltage	DC24V			Bit and Rod				Number of Rod Storage	5 (45R) / 4 (51R)			Environmental Temperature	-15 °C ~ +45 °C							Rod Length	3,660 mm			Operating Environment								Bit Range	76 ~ 102 (115) mm			Environmental Temperature	-15 °C ~ +45 °C							Rod Diameter	45R, 51R							Rod Length	3,660 mm (12 feet)							Maximum Starter Rod Length	4,270 mm							Electrics								Battery	12V; 108Ah/5h							Light	24V; 70W × 4							Voltage	DC24V							Operating Environment								Environmental Temperature	-15 °C ~ +45 °C																																																																																										
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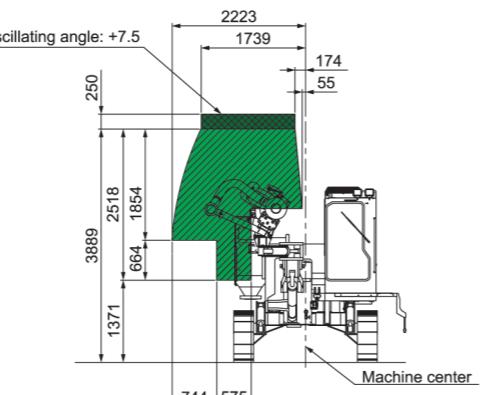
Note
*1 "Operating Weight" includes weight of fuel and oils (full)
*2 "Ground Contact Pressure" is calculated on "Operating Weight".

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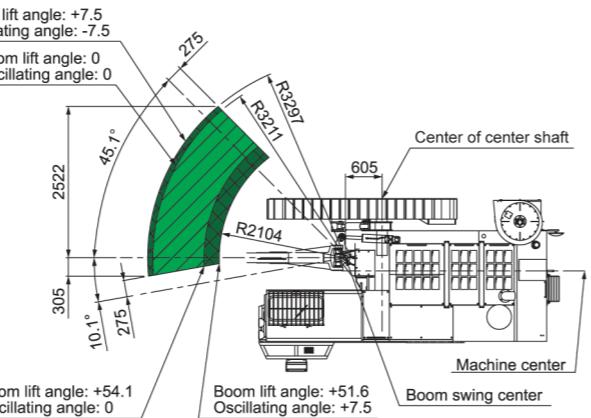


Drilling Coverage (mm)

Horizontal drilling coverage



Vertical drilling coverage



Model	HCR1200-EDS^{III}
Dimensions & Weight	
Operating Weight (ROPS/FOPS Cab) *1	12,830 kg
Overall Length	9,830 mm
Overall Width (Shipping)	3,070 mm (2,400 mm)
Overall Height (Shipping)	3,350 mm (3,045 mm)
Drifter	
Model	HD712
Weight	240 kg
Number of Blows	2,250 ~ 2,500 min ⁻¹
Undercarriage	
Track Length	3,160 mm
Track Length on ground	2,395 mm
Track Width	330 mm
Ground Pressure *2	79.6 kPa
Ground Clearance	585 mm
Frame Oscillation Angle	±7.5°
Tramming Speed	0 ~ 3.2 km/h
Gradeability	57.7 % (30°)
Maximum Traction Force	88 kN
Engine	
Model	C7 (EPA Tier3, EU Stage IIIA)
Type	Diesel, Water-cooled, 6cylinders
Make	CATERPILLAR
Power Output	168 kW / 2,200 min ⁻¹
Fuel Capacity	320 L
Hydraulic Equipment	
Variable Displacement PV Pump	PV Pump x 2
Fixed Displacement Pump	Gear Pump x 3
Hydraulic Oil reservoir Capacity	170 L
Boom	
Model	JE326
Type	Extension Boom
Boom Lift Angle	Up 45°, Down 15°
Boom Swing Angle	Right 30°, Left 4°
Boom Slide Length	900 mm
Guide Shell	
Model	GH831
Length (12 feet)	7,825 mm
Feed Length (with Reverse Percussion)	4,736 mm (4,561 mm)
Feed Type	Hydraulic motor driven chain
Guide Slide Length	1,200 mm
Guide Swing Angle	Right 30°, Left 90°
Guide Tilt Angle	180°
Maximum Rod Pull-Out Force	31.4 kN
Compressor	
Model	PDS265-S35C
Type	1 Stage screw compressor
Free Air Delivery	7.1 m ³ /min
Discharge pressure	1.03 MPa
Dust Collector	
Model	A884-231
Suction Capacity	26 m ³ /min
Number of Filter Element	5
Type of Dust Ejection	Automatic air pulse jet
Rod Changer	
Model	GR180
Number of Rod Storage	5 (45R) / 4 (51R)
Rod Length	3,660 mm
Bit and Rod	
Bit Range	76 ~ 102 (115) mm
Rod Diameter	45R, 51R
Rod Length	3,660 mm (12 feet)
Maximum Starter Rod Length	4,270 mm
Electrics	
Battery	12V; 108Ah/5h
Light	24V; 70W × 4
Voltage	DC24V
Operating Environment	
Environmental Temperature	-15 °C ~ +45 °C

Model	HCR1200-EDS^{III}
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