

Hydraulic Crawler Drill

HCR1200-DSIII

EPA Tier3 / EU Stage III



Safety Precautions

For proper use of the machine, carefully read and fully understand the contents of the "Operation and Maintenance Manual" before operation or service.
Inspect the machine periodically to prevent malfunctions and accidents.

- The photos show the machine posed and being photographed for the catalog. When leaving the machine, be sure to safely secure the machine by assuring that the working devices make contact with the ground.
- 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 right to change specifications without prior notice.
- The photos shown include optional equipment. There may be some differences to the sales specifications.

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THE ULTIMATE COMBINATION OF PERFORMANCE AND ECONOMY

HCR1200-DSIII

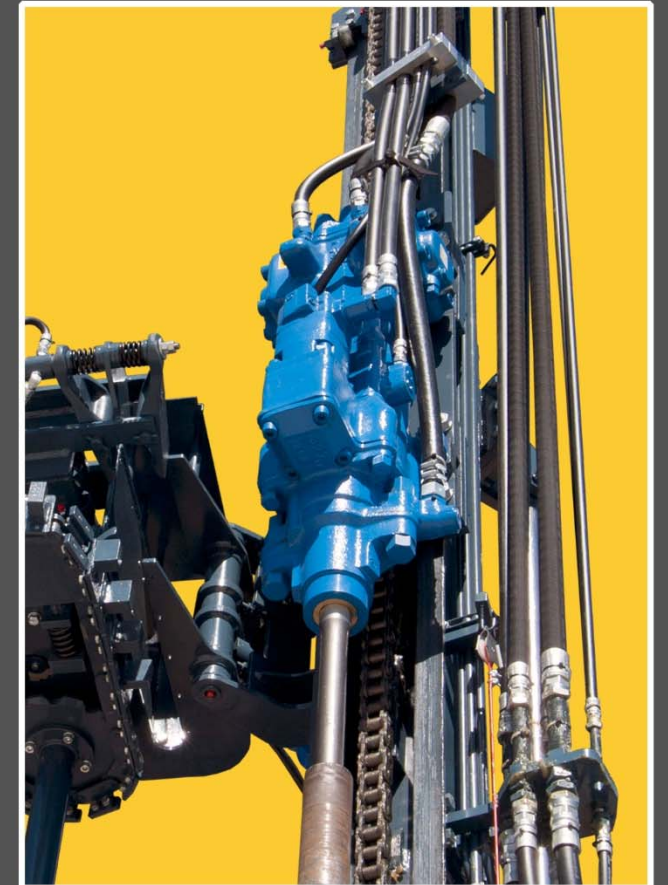
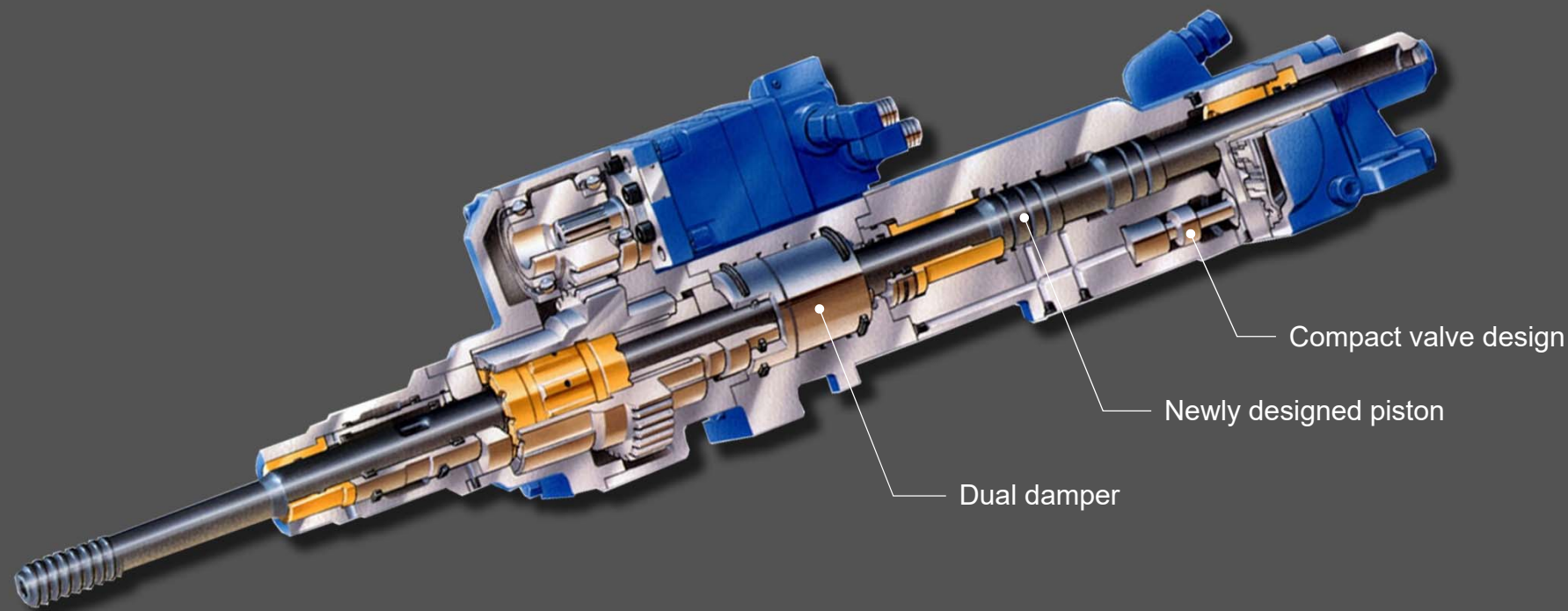
- ★ *Newly designed economy mode*
- ★ *New comfortable cab design*
 - Tilt up control deck*
 - Powerful pressurized air conditioner*
- ★ *ECO friendly engine*
- ★ *Heavy duty undercarriage*



DRILLING PERFORMER, HCR1200- DS III
HIGH-PRODUCTIVITY AND DURABILITY

HCR1200-DS III

Drill faster and straighter with our patented HD712 drifter



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. (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.

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.



Maximizes operator performance with the ultimate in drilling technology



Powerful CAT engine is fully compliant with Tier 3/EU stage III 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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Engine throttle control

Adjust the engine speed.



- Position I : 1,250 min⁻¹
- Position II : 1,600 min⁻¹
- Position III : 1,800 min⁻¹
- Position IV : 2,000 min⁻¹
- Position V : 2,200 min⁻¹

Digital engine indicator

Easy check engine condition in the cab.



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

Warning lights



- ① Charge (Alternator)
- ② Engine diagnostic monitor
Engine fault
Engine diagnosis
- ③ Engine air cleaner
- ④ Compressor air cleaner
- ⑤ Hydraulic oil return filter

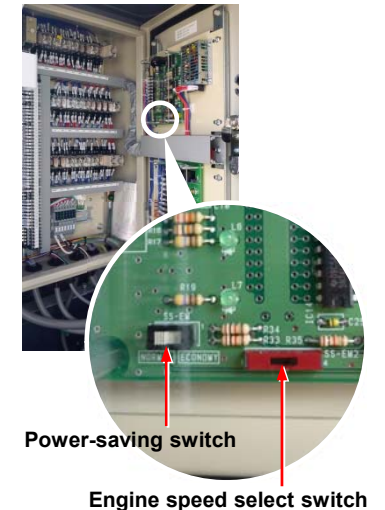
Temperature gauges

- ⑥ Compressor discharge temperature gauge
- ⑦ Hydraulic oil temperature gauge

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	Power mode (Previous model has only this mode for drilling)
2,200 min ⁻¹		



Power-saving switch

Engine speed select switch

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

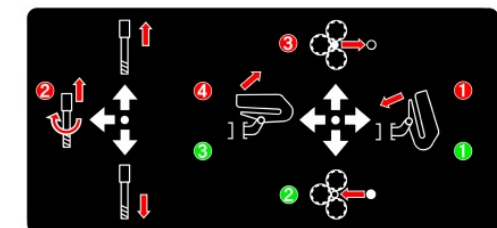
The hydro-mechanical In-line-1 design rod changer with rotator is field proven. Rod change speed is extremely fast.



Rod changer control lever



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



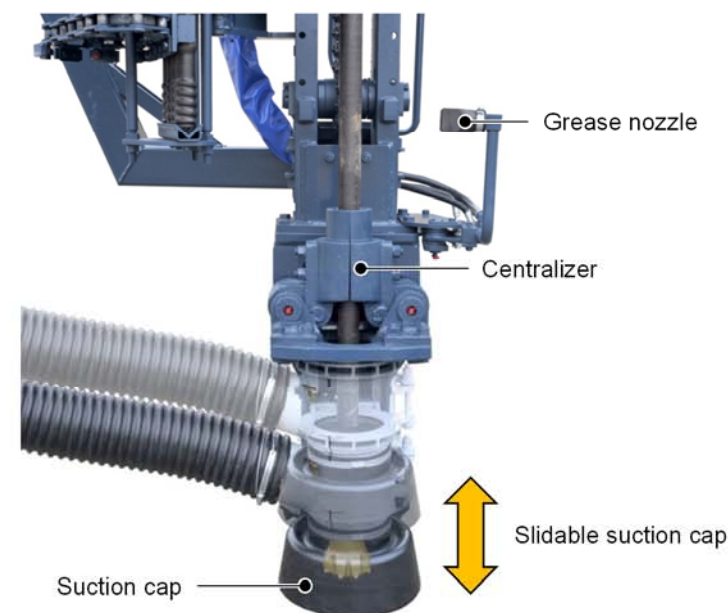
High capacity compressor and dust collector

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.



Easy to check hole

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



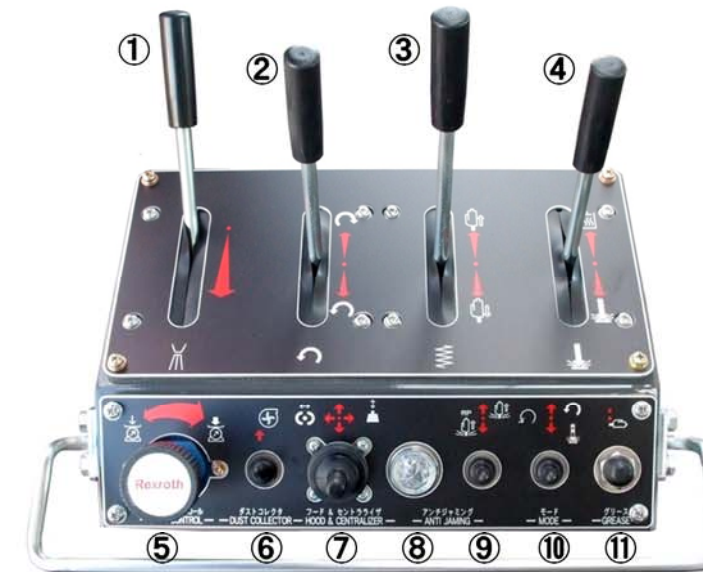
Selective rod size (Standard:T45/Optional :T51)

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.



New design and useful control deck

HCR1200-DSIII is provided with operator proven "triple plus one" drill control design. FRD experienced operators will perform their skill level from day one, with triple hydraulic drill control and one air control lever layout. No learning time is required.



Control panel ①~④

- ① Flushing lever
- ② Rotation lever
- ③ Feed lever
- ④ Percussion lever

Switch panel ⑤~⑪

- ⑤ Feed pressure control dial
- ⑥ Dust collector switch
- ⑦ Hood & Centralizer switch
- ⑧ Anti-jamming pilot lamp
- ⑨ Anti-jamming switch
- ⑩ Mode selector switch
- ⑪ Grease lubrication switch

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, H mode for slant joints and collaring mode.

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.



「ON」 position



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

「OFF」 position



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



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.



Tilt type control deck



Tilt lock release pedal.

New design comfort cab

New design cab provides large windows at the front and on the right side to maximize operator visibility. Cab is air conditioned and pressurized with air filters to keep out dust.



New design cab (Photo: Standard cab)

Air conditioner ventilation duct



Air blows out from the front

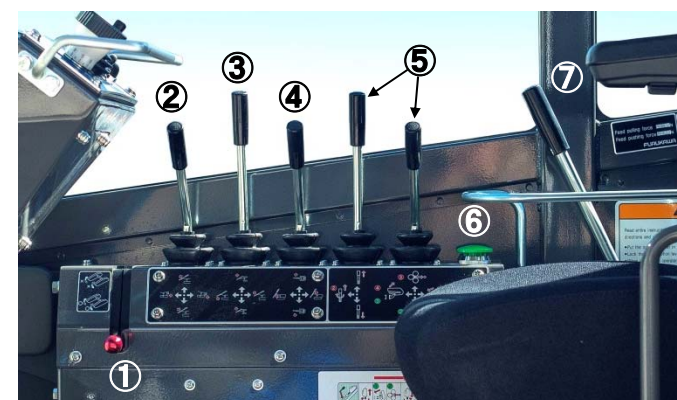


Air blows out toward the feet



Air blows out from front/rear

Simple operation lever layout



- ① Oscillating lock lever
- ② Guide slide & Oscillating
- ③ Guide tilt & Guide swing
- ④ Boom lift & Boom swing
- ⑤ Rod changer (2 levers)
- ⑥ Horn switch
- ⑦ Traveling levers
- ⑧ Drink holder



Drilling pressure gauges



- ① Impact pressure gauge
- ② Feed pressure gauge
- ③ Rotation pressure gauge
- ④ Flashing air pressure gauge

Simple operation lever layout



- ① Engine start switch
- ② Engine throttle control
- ③ FM/AM Radio
- ④ Air-conditioner control panel
- ⑤ Compressor switch
- ⑥ Front light switch
- ⑦ Rear light switch
- ⑧ Front window wiper and washer switch
- ⑨ Upper window wiper and washer switch

ROPS/FOPS Cab (Option)

ROPS :
Roll-Over Protective Structures

FOPS :
Falling-Object Protective Structures

Easy maintenance and safety functions

Accessibility for maintenance

Walk-around, ground-level maintenance provides fast, easy upkeep or repair. Hinged service doors provide easy access to required areas.

Maintenance around guide shell

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



For safety equipment



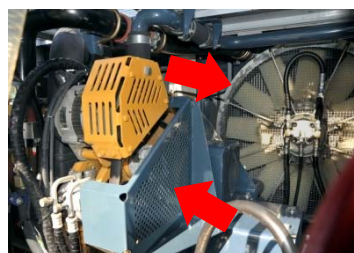
Travel lock plates
Engage travel lock while drilling.



Fire extinguisher
Located at rear-right-side of the cab.
(Photo: Standard cab)



Head guard
Roof is reinforced and overhead window is steel gauge protected.



Fan guards
Fan guards and belt guards are standard.

Access to the right side cover

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



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.



Access to the rear cover

Access to engine and compressor related filters.



Access to the upper cover

Improved rearward visibility.

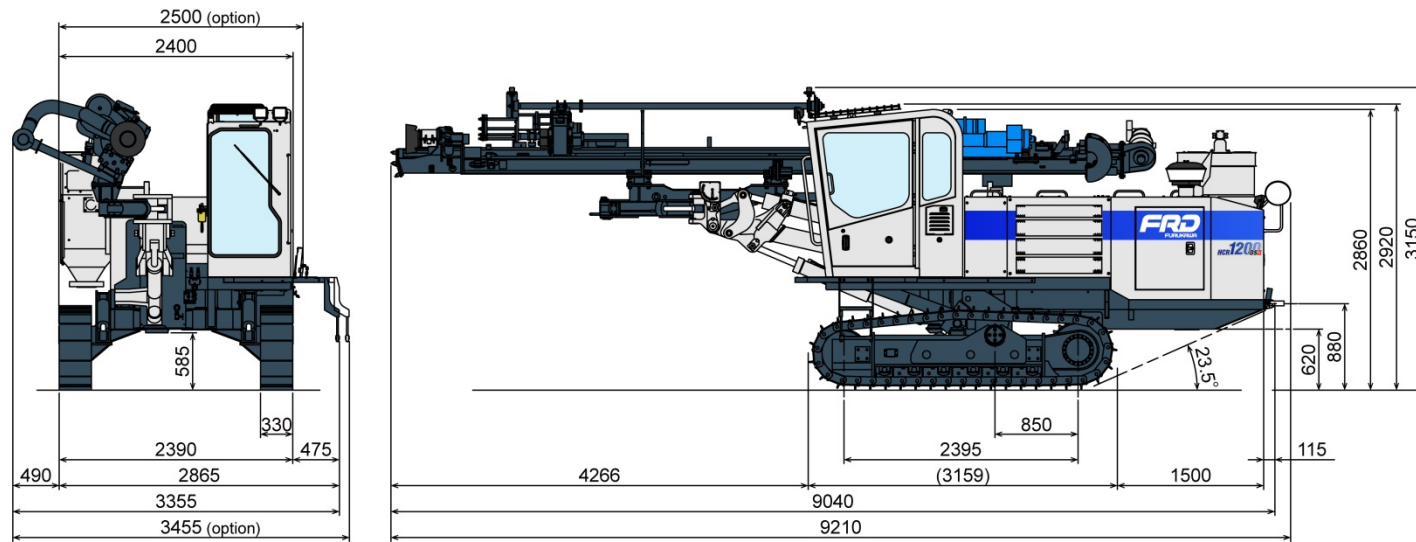


Hose connections

Hose terminals contribute to the maintainability of hoses replacement.



■ Dimensions (mm)



■ Specifications

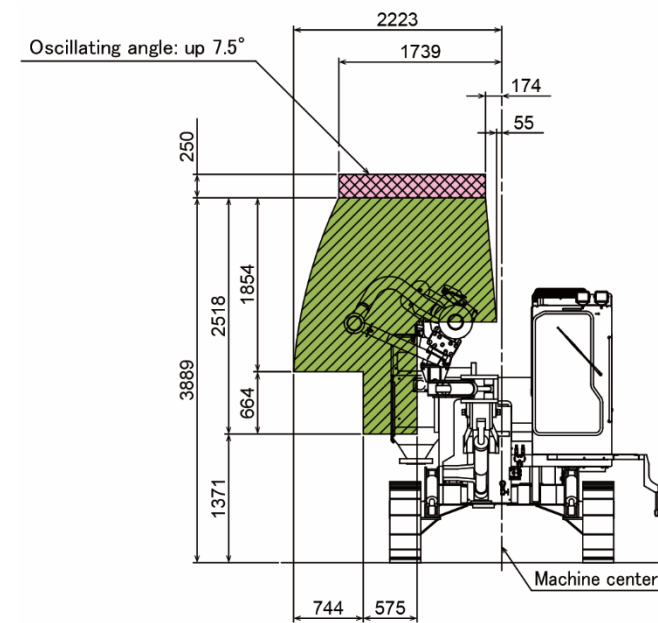
Dimensions & Weight	
Operating weight (Standard Cab) *1	12,020 kg
Operating weight (ROPS/FOPS Cab) *1	12,070 kg
Overall Length	9,210 mm
Overall Width (Shipping)	3,355 mm (2,400 mm)
Overall Height (Shipping)	3,150 mm (2,860 mm)
Drifter	
Model	HD712
Weight	220 kg
Impact rate	2,300 ~ 2,500 min ⁻¹
Rotating speed	0 ~ 190 min ⁻¹
Undercarriage	
Track Length	3,159 mm
Track Length on ground	2,395 mm
Track Width	330 mm
Ground Pressure *2	74.5 kPa (Standard Cab) 74.8 kPa (ROPS/FOPS Cab)
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
Type	Diesel, Water-cooled, 6cylinders
Make	CATERPILLAR
Power Output	168 kW / 2,200 min ⁻¹
Fuel Capacity	330 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	JF325
Type	Fixed boom
Boom Lift Angle	Up 54°, Down 20°
Boom Swing Angle	Right 45°, Left 10°

Guide shell	
Model	GH831
Length	7,825 mm
For 12 feet	
Feed Length (with Reverse Percussion)	4,736 mm (4,561 mm)
Feed Type	Hydraulic motor driven chain
Guide Slide Length	1,500 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
Feet	12
Number of Rod Storage	5
Rod Length	3,660 mm
Bit and Rod	
Bit Range	φ76 ~ φ102 (115) mm
Rod Diameter	45R, 51R
Rod Length	3,660 mm (12 ft)
Maximum Starter Rod Length	4,000 mm
Electrics	
Battery	12V; 108 Ah / 5 h
Light	24V; 70 W × 4
Voltage	DC 24 V
Operating Environment	
Ambient Temperature Range	-15 °C ~ +45 °C

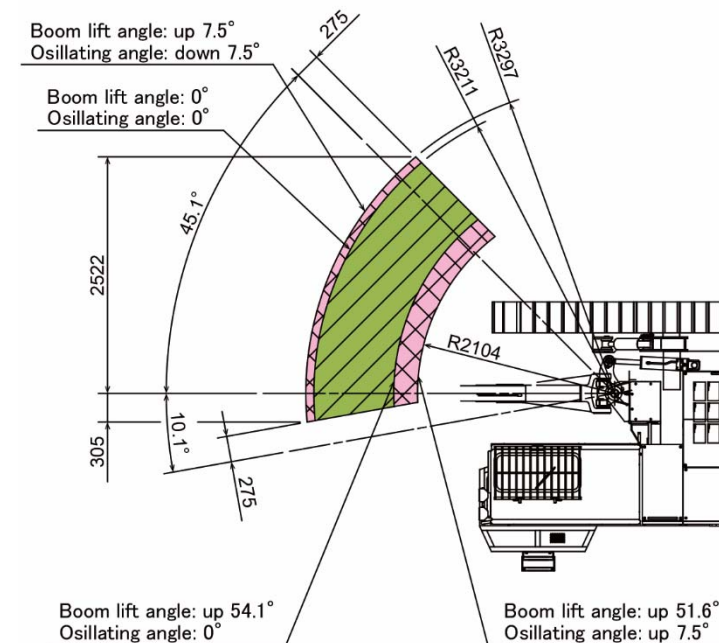
Note: *1 "Operating Weight" includes weight of fuel and oils (full).
*2 "Ground Pressure" is calculated on "Operating Weight".

■ Drilling coverage (mm)

● Horizontal drilling coverage



● Vertical drilling coverage



■ Standard & optional equipment

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