Pneumatic crawler drill

CRAWLER ASSEMBLY

The crawler uses parts designed and time tested by Furukawa. These include the track-link crawler chains and track rollers. The ruggedly constructed crawler demonstrates effortless maneuverability on rough ground and designed for easy maintenance.

Exceptional stability on soft ground
Shoe plate width is 11.8 inches (300mm) which is wider than that of any other competitive model. Low ground-contact pressure as well as a low center of gravity further ensure dependable traction on soft ground and maximum stability during the drilling operation.

Lifetime floating seals for minimum maintenance
Lifetime floating seals are used in the front idlers and track rollers, making lubrication unnecessary over an extended period of time. Track guards prevent the shoe links from misalignment and also protect and help extend the life of the links.

Convenient crawler-tension adjustment
Crawler tension may be hydraulically adjusted with the utmost ease by using a grease gun.

Effortless mobility on rough terrain
Powerful 12HP air motors and a hydraulic oscillating system permit ample mobility and traction even on rough terrain. The motors provide adequate power to climb slopes while towing a compressor.

Direct motor-connected final drive
The final drive is directly connected to the air motor to minimize power loss and ensure drive efficiency.

Highly reliable automatic brake
An automatic brake is incorporated inside the air motor and interlocked with the traction control valve.
PNEUMATIC DRIFTER (PD200)

Super high-speed drilling
The PD200 pneumatic drifter, newly perfected for the PCR200 crawler drill by FRD, has a large bore 5 inches (130mm) cylinder, providing a powerful drive for the rapid and reliable hammering action. A dependable and durable geared motor as well as an independent rotation device further ensure outstanding drilling performance. The drifter can withstand severe working conditions, and can also easily handle a wide range of jobs involving various kinds of rock. A variety of bits ranging in size from 2.5 inch (65mm) to 4 inch (100mm) is available.

Triple noise-muffling system
Two-stage noise diffusion takes place within the drifter to reduce the exhaust noise. The exhaust then passes through a muffler hose and another diffusion muffling device, located in the guide shell, which reduce the noise level even lower.

Streamlined piston
The piston has a streamlined design, a unique FRD development, that has successfully increased hammering power and efficiency. The special piston has been in use in different drifter models, as well as in other FRD products, such as air leg drills, and has proved its superiority. Less stress is placed on the rod and a consistently high long-hole drilling performance is achieved.

Minimized rotation stress
The integrated motor speed-reduction unit and front head are fixed onto the carriage, which means that the front head moment is not exerted on the through bolts. This greatly reduces rotation stress on the bolts and on the entire drifter.

Air components
Controls
Pneumatic drifter PD200
Heavy-duty track
Sub valve for rod change
Centralizer
Feed motor
Double pilot check valve

Wide Drilling Coverage and Versatile Application

The advanced design of the boom and hydraulic system assures outstanding versatility and high performance for handling all types of drilling operations. Road construction, dam work, open area drilling, mining, quarrying operations, tunneling and other drilling operations are all performed with unsurpassed efficiency.

BOOM

Easy 180 degree power dumping
The guide shell is hydraulically operated within a 180 degree range without inconvenient index pin change.

Toe-hole drilling made simple
Changeover from vertical drilling to toe-hole drilling can be made easily without changing the pin.

GUIDE SHELL

Sturdy structure incorporating the third muffler
The box-type guide shell (patent pending) incorporates a third-stage of the diffusion muffling system for quiet operation. The firmly supported foot pad and other design features provide top rigidity for the guide shell. The third muffler is incorporated along almost the entire length of the guide shell to guarantee complete muffling efficiency.

Quick and powerful rod pull-out
The piston-type air motor with an output of 5HP provides an extremely high rod retracting force and ensures rapid operation. This air motor is interchangeable with the power pump motor to reduce your parts stock requirements.

Extra-long Guide Shell Slide
The extra-long 4 ft (1200mm) guide shell slide facilitates drilling and drill-extending operations. It permits easier drilling with the foot pad firmly pressed against the rock — even on rough and irregular surfaces. It also ensures safe guide shell retraction with no danger of damage to the guide shell tip.

PCR-200
Outstanding Drilling Performance

The powerful PCR200 crawler drill features a high-performance PD200 drifter. It's capable of high maneuverability and exceptional operation ease on any site to assure you a total drilling capability that ranks as the best in this class. All figures were compiled during consecutive factory/on-site actual-use testing.

Total Muffling System for Operator Comfort

Exhausts of the drifter and all other motors are channeled through mufflers. A portion of the exhaust is recycled and used to lubricate the guide shell and chain of the sprocket. The rest is discharged after passing through the muffling system.

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### Model Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>US Standard</th>
<th>Metric</th>
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<tbody>
<tr>
<td>Weight</td>
<td>1,102 lb</td>
<td>5000 kg</td>
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<tr>
<td>Overall length</td>
<td>17 ft</td>
<td>5400 mm</td>
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<tr>
<td>Feed travel</td>
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<td>Track length</td>
<td>8.4 ft</td>
<td>2580 mm</td>
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<tr>
<td>Length of ground contact</td>
<td>6.1 ft</td>
<td>1885 mm</td>
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<tr>
<td>Tow hitch height</td>
<td>1.8 ft</td>
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<tr>
<td>Overall width</td>
<td>7.8 ft</td>
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<tr>
<td>Track width</td>
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<td>Width of grousers</td>
<td>1 ft</td>
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<tr>
<td>Overall height</td>
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<tr>
<td>Ground clearance</td>
<td>11 in</td>
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### Hydraulic Units

<table>
<thead>
<tr>
<th>Model</th>
<th>US Standard</th>
<th>Metric</th>
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<tbody>
<tr>
<td>Weight</td>
<td>396 lb</td>
<td>180 kg</td>
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<tr>
<td>Boom length</td>
<td>6.5 ft</td>
<td>2000 mm</td>
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<tr>
<td>Boom lift (up/down)</td>
<td>45°/25°</td>
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</tr>
<tr>
<td>Boom swing (right/left)</td>
<td>45°/45°</td>
<td></td>
</tr>
<tr>
<td>Guide swing (right/left)</td>
<td>50°/50°</td>
<td></td>
</tr>
<tr>
<td>Guide lift (without pin change)</td>
<td>180°</td>
<td></td>
</tr>
<tr>
<td>Power pump (Model MP12)</td>
<td>4 kW</td>
<td></td>
</tr>
</tbody>
</table>

### Drifter (Model PD200)

- Weight without shank rod: 396 lb (180 kg)
- Cylinder diameter: 5 in (130 mm)
- Piston stroke: 3.1 in (80 mm)
- Air consumption: 16 cbm
- Blows/min: ~1600
- Main air hose connection: 2 in (50 mm)

### Crawler Traction

- Ground pressure: .45 kg/cm²
- Traveling speed (towing a compressor on level ground): 1.9 mph (3.2 km/h)
- Grade ability: 22°
- Oscillating angle: 15°
- Traction air motor (Model MR13, piston-type): 8.8 kW

### Guide Shell

- Max. horizontal drill height: 10 ft (3050 mm)
- Guide slide travel: 3.9 ft (1200 mm)
- Air feed motor (Model MC2): 4 kW
- Steel change: 10 ft (3050 mm)

Pneumatic Down-the-Hole Drill

CRAWLER ASSEMBLY
The crawler uses parts designed by Furukawa. These include the track-link crawler chains and track rollers. The ruggedly constructed crawler demonstrates effortless maneuverability on rough ground. It is also designed for easy maintenance.

Exceptional stability on soft ground
Shoe plate width is 11.8 inches (300mm) which is wider than that of any other competitive model. Low ground-contact pressure as well as a low center of gravity further ensure dependable traction on soft ground, and maximum stability during the drilling operation.

Lifetime floating seals for minimum maintenance
Lifetime floating seals are used in the front idlers and track rollers, making lubrication unnecessary over an extended period of time.

Well-protected shoe links
Track guards prevent the shoe links from dropping off and also help extend the life of the links.

Convenient crawler-tension adjustment
Crawler tension may be hydraulically adjusted with the utmost ease by using a grease gun.

Effortless mobility on rough terrain
Powerful 12HP air motors and a hydraulic oscillating system permit good mobility and traction even on rough terrain. The motors provide adequate power to climb slopes while towing a compressor.

Direct motor-connected final drive
The final drive is directly connected to the air motor to minimize power loss and ensure drive efficiency.

Highly reliable automatic brake
An automatic brake is incorporated inside the air motor and interlocked with the traction control valve.
Air components

Controls

Rotary head

Heavy-duty track

Sub valve for rod change

Footpad & Dusthood

Feed motor

Double pilot check valve

Hydraulic breakout clamp

## Specifications

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>US Standard</th>
<th>Metric</th>
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<tbody>
<tr>
<td>Overall length</td>
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<td>5750 mm</td>
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<tr>
<td>Overall width</td>
<td>7.84 ft</td>
<td>2390 mm</td>
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<tr>
<td>Overall width (without operator step)</td>
<td>7.38 ft</td>
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<tr>
<td>Overall height (Boom lowered)</td>
<td>4.46 ft</td>
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<tr>
<td>Track length</td>
<td>8.46 ft</td>
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<tr>
<td>Length of ground contact</td>
<td>6.18 ft</td>
<td>1885 mm</td>
</tr>
<tr>
<td>Width of grousers</td>
<td>11.8 in</td>
<td>300 mm</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>11.0 in</td>
<td>280 mm</td>
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</table>

### Guide Shell

<table>
<thead>
<tr>
<th></th>
<th>US Standard</th>
<th>Metric</th>
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<tbody>
<tr>
<td>Length</td>
<td>18.86 ft</td>
<td>5750 mm</td>
</tr>
<tr>
<td>Feed travel</td>
<td>13 ft</td>
<td>3980 mm</td>
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<tr>
<td>Max. pulling force</td>
<td>14 kN</td>
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</table>

### Feed system

- Air feed motor / Chain feed: 3.7 kW

### Hydraulic Units

- Power pump: 3.7 kW
- Operating pressure: 2,495 psi (172 bar)
- Hydraulic fluid tank capacity: 4.5 gal (17 litre)

### Supply air requirement

- Air pressure (Max.): 290 psi (20 bar)
- Air flow rate (Min.): 22 m³/min
- Inlet size: 2 in (51 mm)

### Drill rod

- Rod length: 9.84 ft (3000 mm)
- Rod diameter: 3 in (76 mm)

### Hammer

- Size: 3 - 4 in (76 - 102 mm)
- Weight: 83.7 lb (38 kg)
- Length: 43 in (1098 mm)
- Diameter: 3.8 in (93 mm)
- Bit gauge: 4 - 5 in (95 - 127 mm)
BOOM

Wide Drilling Coverage and Versatile Application

Easy 180 degree power dumping
The guide shell is hydraulically operated within a 180 degree range without inconvenient index pin change.

Toe-hole drilling made simple
Changeover from vertical drilling to toe-hole drilling can be made easily without changing the pin.

GUIDE SHELL

Sturdy structure incorporating the third muffler
The box-type guide shell, which incorporates the third-stage of the diffusion muffling system, has been developed by FRD and patents have been applied for. The firmly supported foot pad and other design features provide top rigidity for the guide shell. The third muffler is incorporated along almost the entire length of the guide shell to guarantee complete muffling efficiency.

Quick and powerful rod pull-out
The piston-type air motor with an output of 5HP provides an extremely high rod retracting force and ensures rapid operation. This air motor is interchangeable with the power pump motor to reduce your parts stock requirements.

Extra-long Guide Shell Slide
The extra-long 47.2 inches (1200mm) guide shell slide facilitates drilling and drill-extending operations. It permits easier drilling with the foot pad firmly pressed against the rock — even on rough and irregular surfaces. It also ensures safe guide shell retraction with no danger of damage to the guide shell tip.

The advanced design of the boom and hydraulic system assures outstanding versatility and high performance for handling all types of drilling operations. Road construction, dam work, open area drilling, mining, quarrying operations, tunneling and other drilling operations are all performed with unsurpassed efficiency.

### OPTIONS

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<tr>
<th>Option</th>
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<th>HCR1200-ED II</th>
<th>HCR1500-ED II</th>
<th>HCR1500-D20</th>
<th>DCR20</th>
<th>PCR200</th>
<th>PCR DTH</th>
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✓ = option, - = not available