# Joy18hd

**Load Haul Dump – Diesel Hybrid**

## General Specifications

### Safety

### Reliability

### Productivity

<table>
<thead>
<tr>
<th>Operating capacities, weights and dimensions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucket capacity*</td>
<td>9.2 m³</td>
</tr>
<tr>
<td>Static tipping loads</td>
<td>395 kN</td>
</tr>
<tr>
<td>Breakout force (till)</td>
<td>349 kN</td>
</tr>
<tr>
<td>Operating weight</td>
<td>53300 kg</td>
</tr>
</tbody>
</table>

*Standard rock bucket based on a material density of 2,000 kg/m³.

<table>
<thead>
<tr>
<th>Working ranges</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine rated power</td>
<td>280 kW</td>
</tr>
<tr>
<td>Base engine</td>
<td>320 kW</td>
</tr>
<tr>
<td>Option engine</td>
<td></td>
</tr>
<tr>
<td>Payload</td>
<td>18,000 kg</td>
</tr>
</tbody>
</table>

Bucket capacity: 8.2 m³, 10.0 m³ and 11.2 m³ bucket options available

Note: Indicative illustration only, machine design may vary.
### General specifications

#### Power module

**Diesel power options**

- **MTU Detroit diesel engine**
  - **Base**
    - Series 1100, 10.6 litre
    - Six cylinders
    - Four-cycle turbo charged
  - **Option**
    - Series 1100, 10.6 litre
    - Six cylinders
  - **Rated engine power**
    - 280 kW (375 hp) @ 1800 rpm

- **G40 SR Generator**
  - **Model**
    - 29A
  - **Type**
    - Switched Reluctance (SR)
  - **Rated power**
    - 2489 mm

#### Bucket data

- **Volume, nominal bucket - m³**
  - 8.2
  - 9.2
  - 10.2

- **Wheelbase**
  - 11,405
  - 11,576

- **Bucket height, fully raised, dumped - mm**
  - 3,759
  - 5,359

- **Tire to bucket dump - mm**
  - 3,835

- **Dump height - mm**
  - 3,414

#### Hydraulic system

- **Pumps (Maximum flow rate at 1800 rpm)**
  - Bucket hoist: 234 L/min
  - Fast hoist: 234 L/min
  - Accessory: 171 L/min
  - Steering: 171 L/min

- **Valves**
  - Main: 221 L/min
  - Pump pressure: 225 bar
  - Stroke: 341 L/min
  - Pump pressure: 275 bar

- **Cylinders**
  - Double acting, single-stage (diameter)
    - Bucket: 190 mm
    - Bucket: 241 mm
    - Steering: 140 mm

#### Steering

- **Articulation angle**
  - 40°

- **Turning radius**
  - Outside: 7.3 m
  - Inside: 3.4 m

- **Hydraulic system**
  - **Primary brake system**
    - Dynamic braking system is controlled from the accelerator pedal and can bring the loader to a full stop without application of mechanical brakes.

- **Secondary brake system**
  - Hydraulically actuated traction motor speed disc brakes
    - Single disc and caliper on each traction motor, dual disc and caliper on each front traction motor
    - Emergency fail safe brakes are spring applied in the event of hydraulic pressure loss

- **Parking brake system**
  - Spring applied, hydraulic release traction motor speed disc brakes

- **24V electrical system**
  - 200 amp alternator
  - Mean-field (MF) wiring system

- **Bucket**
  - Replaceable tube type, over-under split flow
  - 275 bar

#### General specifications

- **Air filtration**
  - Primary
    - Dual stage filters for engine air intake with Sy-Kleen™ Dome pre-cleaner

- **Fuel capacities**
  - **Fuel**: 757 L
  - **Hydraulic**: 473 L
  - **SR converter cooling system**: 18.9 L
  - **Engine cooling system**: 75.7 L
  - **Engine oil**: 34 L
  - **Planetary (each)**: 18 L

#### Structural

- **Frames**
  - Are fabricated from high strength, low-alloy steel with excellent weld characteristics and extreme low temperature properties. The front axle is an integral, fixed part of the front frame. The rear axle carrier oscillates eight degrees.

- **Unigrip fork ball and socket joints are utilized in multiple pivot locations**
  - 8th arm, rear axle, frame articulation, hoist cylinders. These joints are superior in absorbing and distributing multi-directional stresses. Features easily replaceable brass liners for long life and easy maintenance.

- **High strength castings are used in key areas of fabricated structures to reduce stress and improve structural life.**
Standard features

| Tires                | 29.5 R29 L4 |

Standard equipment
- Air conditioning/heater-defroster (filtered and pressurized)
- Air tank bleed system
- Adjustable automatic lift height cut off
- Automatic bucket leveling control
- Back-up alarm, audible
- Battery disconnect switch
- Lift arm and articulation locks
- Brake lights
- Central service with fast fuel
- Data analysis and viewing software
- Data logging - downloadable production and maintenance logs
- Door interlock on operators cabin
- Drawbar with tow points
- Electric horn
- Emergency stop buttons (cab and remote mounted)
- Fire extinguisher, manual, 20 lb (9.07 kg)
- FOPS - Falling Object Protection System
- Idle timer
- Interior lights
- Isolation monitor
- Joystick hoist and bucket control
- Joystick steering control
- Jump start
- Emergency steering
- LED working lights
- LINCS II alarms
- LINCS II load weigh and monitoring
- Operator seat (11-way adjustable)
- Overspeed alarm
- Parking brake
- Retractable four point over shoulder harness
- ROPS - Rollover Protection Structure
- Selectable throttle switch
- Starter disconnect switch
- Safety glass throughout
- Turn signals
- Twelve (12) volt power supply in cab
- Twelve (12) volt power port (2)
- Windshield washer reservoir 2.6 gal (9.8 L)
- Windshield wiper and washer (all cab glass)
- Automatic lubrication system
- Manuals: operators, parts (Link One), maintenance and service
- Kinetic Energy Storage System (KESS)
- Removable planetary middle pinion (x4)
- Integrated underside protection system
- Color coded and labelled lifting points

Optional features

- Beacon light kit
- Hood mounted hand rail kit
- Diesel particulate filter (EFP engine only)
- Fire detection and suppression system (automatic)
- Fire suppression system (manual)
- Fluid sampling kit
- PreVail remote health monitoring system
- Ride control system
- Tire pressure monitoring system
- Recovery hitch with automatic brake release
- RCT Control Master - line of sight remote control
- Fast fuel

Buckets

- 8.2 m³, 9.2 m³, 10.0 m³ and 11.2 m³

For actual bucket configuration and sizing, consult your local representative.

Remote control/automation system

- RCT Control Master - line of sight remote control
- CAN interface between remote hardware and machine control
- Safety system/fail safe system inter-connectivity hard wired to RCT module (emergency stop, fire system, park brake)
- Functional safety to ISO 62001

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