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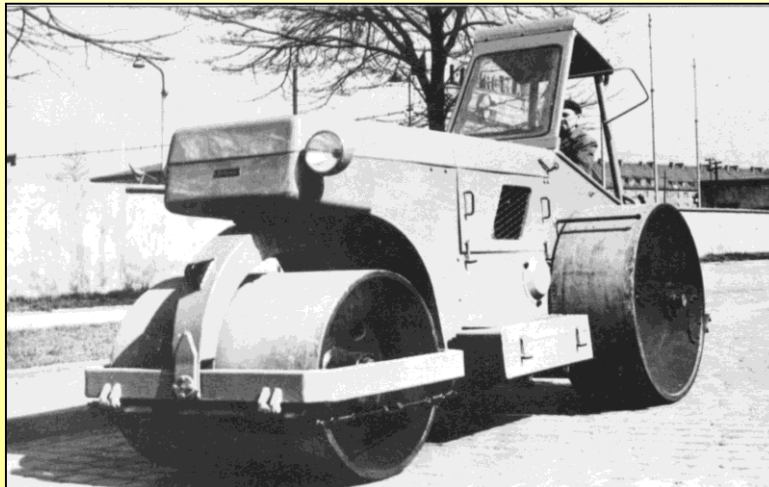
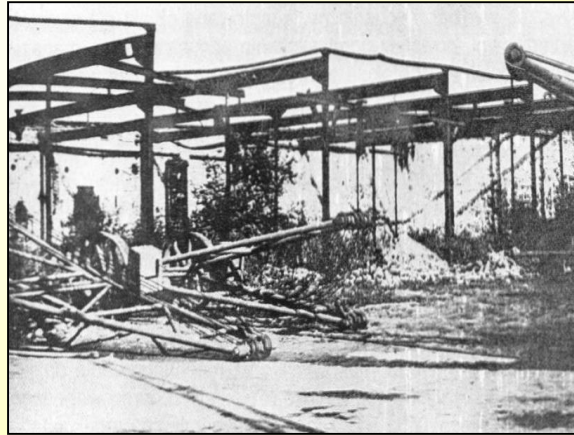
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# FADROMA Development Sp. z o.o.

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Our history begins 1<sup>st</sup> of July 1954





# Present Day

- Over 22 000 machines sold to over 40 countries
- Over 60 years of experience
- Highly qualified engineering team
- 10 000 m<sup>2</sup> of production area
- Diverse production machinery park





# Strategy

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**With engineering design office, manufacturing facilities and service organization FADROMA develops, manufactures and markets equipment for construction and mining industries.**

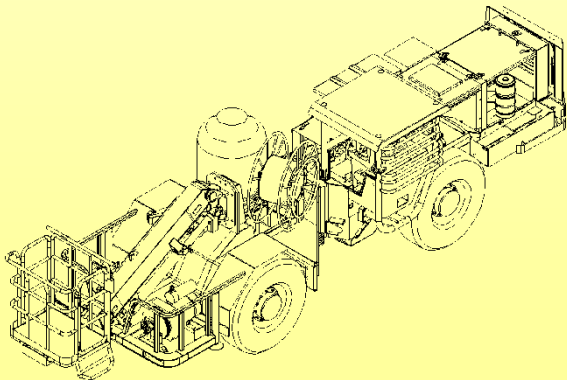
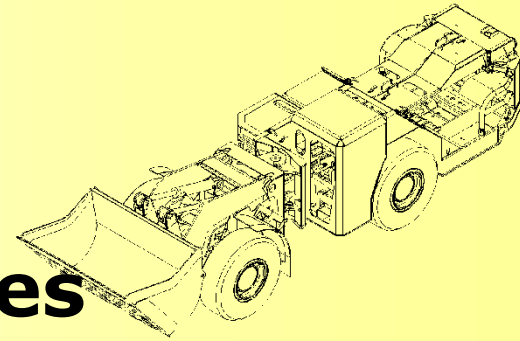




# Business Activity

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- **Design engineering**
- **Engineering consulting services**
- **Sales of FADROMA machinery**
- **Production of machinery and components**
- **Manufacturing services**
- **Service and repairs of mobile machinery**





# Service

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**Our highly qualified Service Department offers:**

- **Technical service of FADROMA machinery**
  - **Overhauls of construction and mining machinery**
  - **Modernization and adaptations of mobile machinery**
  - **Technical consultation for mobile machinery users**
  - **Sales of spare parts for mobile machinery**
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# Product Segments

- Construction loaders
- Mining loaders
- Mining trucks
- Auxiliary machines for mining
- Carriers for Jumbos





# Product Features

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- **Designed in close partnership with Clients**
- **High productivity**
- **Outstanding maneuverability**
- **Excellent correlation of power and capacity**
- **Reduced operating times**
- **Low operating costs**
- **Reliable components:**
  - **Engines: Deutz, Cummins**
  - **Transmission: Dana SOH, ZF, Hurth, Kessler**
  - **Hydraulic systems: Rexroth, Danfoss, Commercial**
  - **Tires: Michelin, Bridgestone, Dunlop, Stomil**







# Construction Loaders

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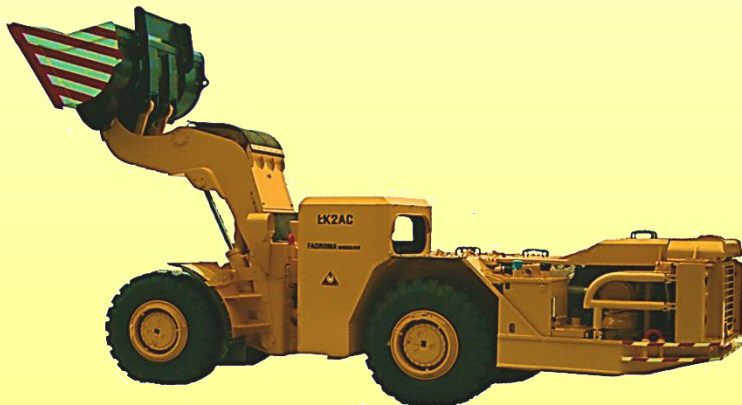
- **Articulated four-wheel driven chassis**
- **Various types of attachments e.g. forks, grabs, hydraulic breakers, snow-ploughs etc.**
- **Perfect selection for agriculture and construction**



# Mining Loaders



- Trimming capacity from 3800 kg up to 11000 kg
- Full power line from 79 kW up to 273 kW
- Bucket capacity from 1,5 m<sup>3</sup> up to 5,5 m<sup>3</sup>
- Special designs for low deposits
- Power shift transmission





# Auxiliary machines

The customer can choose from extensive range of machines designed for specific applications e.g.:

- Carrying and charging explosives
- Carrying people
- Fuel and lubes hauling





# Auxiliary machines



**Multipurpose service vehicles with:**

- **Hydraulic lifts, cranes, welders, air compressors**
- **Wheel changing equipment etc.**





# Mining Trucks

- **Load capacity 20000 kg**
- **Dump capacity 10m<sup>3</sup> or 11 m<sup>3</sup>**
- **Converter Lock-up system**
- **Power shift transmission**





# Jumbos

**FADROMA manufactures also articulated carriers for mining and tunneling jumbos.**



■ **Mining jumbo carrier for two booms**

■ **Tunneling jumbo carrier for three booms**





# Ł202 CONSTRUCTION LOADER



## Capacity and Dimensions

- ▶Tramming capacity – 3800 kg
- ▶Bucket range – 1÷3,2 m<sup>3</sup>
- ▶Length – 6900 mm
- ▶Height – 3240 mm
- ▶Width – 2350 mm (2500 mm)

## Weights

- ▶Operating weight – 9800 kg
- ▶Total loaded weight – 30000 kg

## Standard Components

- ▶Engine – Deutz TCD2012L042V
- ▶Gearbox – ZF 4WG130
- ▶Axles – ZF MT-L3000
- ▶Rear axle oscillation  $\pm 11^{\circ}$
- ▶Tires standard– 17,5.00x25



# Ł202 – Specification

## POWER TRANSMISSION

### ENGINE

Model.....TCD2012L042V  
 Manufacturer.....Deutz  
 Rated power.....95 kW  
 Torque.....495 Nm  
 Cooling system.....water cooled

### TORQUE CONVERTER

Model.....Ergopower  
 Manufacturer.....Zahnrad Fabrik  
 Type.....single stage

### GEARBOX

Model.....4WG130  
 Manufacturer.....Zahnrad Fabrik  
 Gears.....4front/4rear

### TIRES

Type.....tube  
 Size.....17,5.00x25

**BRAKE** : hydraulic LCB

### AXLES

Manufacturer.....Zahnrad Fabrik  
 Front axle.....MT-L3000  
 Differential.....Limited Slip 45%  
 Attachment.....rigid  
 Rear axle.....MT-L3000  
 Differential.....standard  
 Attachment.....self-aligned  
 Degree of oscillation.....±11°

## WORKING SYSTEM

Bucket range.....1,5÷3,0 m<sup>3</sup>  
 Blades material.....HARDOX steel  
 Greasing system..... automatic

## OPERATOR ENVIRONMENT

Cabin.....capsule  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and silencer  
 Inlet system- dry air filter

## OPERATING DATA

### Motion times:

Boom rising.....5 s  
 Boom lowering.....3 s  
 Dumping.....1,5 s  
 Bucket closing.....2 s  
 Full turn.....3 s

### Capacity:

Breakout force.....92 kN  
 Pull force.....90 kN  
 Trammng capacity.....3800 kg  
 Operating weight.....9800 kg

### Driving speeds:

I gear.....7 km/h  
 II gear.....13 km/h  
 III gear.....25 km/h  
 IV gear.... .40 km/h

## OPTIONAL EQUIPMENT

Quick coupling system and wide  
 range of attachmments





# MINE LOADERS

	<b>ŁK07 SERIES</b>	<b>ŁK1 SERIES</b>	<b>ŁK2 SERIES</b>	<b>ŁK4 SERIES</b>
<b>Machine type</b>	Mine loader	Mine loader	Mine loader	Mine loader
<b>Tramming capacity</b>	3800 kg	4000 kg	6500÷8000 kg	9600÷11000 kg
<b>Engine power</b>	79 kW	95 - 105kW	136÷181 kW	204÷240 kW
<b>Bucket capacity</b>	1,5÷1,8 m <sup>3</sup>	1,5÷2 m <sup>3</sup>	2,5÷4,0 m <sup>3</sup>	4,0÷5,5 m <sup>3</sup>





# ŁK07 Series

## ŁK07 Series features and application:

- Hydrodynamic drive powered by 79 kW diesel engine
- Bucket capacity – 1,5÷1,8 m<sup>3</sup>
- Trimming capacity – 3800 kg
- Designed for mining of narrow veins
- Cutting, loading and hauling of output in underground mines
- Mines and tunnels construction, gold mining applications, mine development, cleaning



**Small and powerful**



## Capacity and Dimensions

- ▶Tramming capacity – 3800 kg
- ▶Bucket range – 1,5÷1,8 m<sup>3</sup>
- ▶Breakout force – 70 kN
- ▶Length – 7456 mm
- ▶Height – 2100mm
- ▶Width – 1760 mm (1600mm)

## Weights

- ▶Operating weight – 11000 kg
- ▶Total loaded weight – 14800 kg

## Standard Components

- ▶Engine – Deutz F6L914\_79 kW
- ▶Gearbox – Dana SOH R24000
- ▶Axles – Dana SOH 14D
- ▶Rear axle oscillation ±11°
- ▶Tires standard – 14.00x24



# ŁK07 – Specification

## POWER TRANSMISSION

### ENGINE

Model.....F6L914  
 Manufacturer.....Deutz  
 Rated power.....79 kW  
 Torque.....385 Nm  
 Cooling system.....air cooled

### TORQUE CONVERTER

Model.....C270  
 Manufacturer.....Dana SOH  
 Type.....single stage

### GEARBOX

Model.....R24000  
 Manufacturer.....Dana SOH  
 Gears.....3 front/3 rear

### TIRES

Type.....tube  
 Size.....14.00x24

**BRAKE:** hydraulic LCB

### AXLES

Manufacturer.....Dana SOH  
 Front axle.....14D  
 Differential.....No-spin  
 Attachment.....rigid  
 Rear axle.....14D  
 Differential.....standard  
 Attachment.....self-aligned  
 Degree of oscillation.....±11°

## WORKING SYSTEM

Bucket range.....1,5÷1,8 m<sup>3</sup>  
 Blades material.....HARDOX steel  
 Greasing system.....automatic

## OPERATOR ENVIRONMENT

Cabin.....capsule  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and water scrubber  
 Inlet system- dry air filter

## OPERATING DATA

### Motion times:

Boom rising.....7 s  
 Boom lowering.....5 s  
 Dumping.....3 s  
 Bucket closing.....4 s  
 Full turn.....4 s

### Capacity:

Breakout force.....70 kN  
 Pull force.....70 kN  
 Trammng capacity.....3800 kg  
 Operating weight.....11000 kg

### Driving speeds:

I gear.....4 km/h  
 II gear.....9 km/h  
 III gear...20 km/h

## OPTIONAL EQUIPMENT

Exhaust system with catalytic  
 purifier and diluter  
 Automatic lubrication system  
 Axles- Kessler



# EK1 Series

## EK1 Series features and application:

- Hydrodynamic drive powered by max 105 kW diesel engine
- Bucket capacity – 1,5÷2 m<sup>3</sup>
- Trimming capacity – 4000 kg
- Cutting, loading and hauling winning in underground and surface mines
- Mines and tunnels construction, mine development, cleaning, material transport
- Low profile version available



**Best for small to medium size underground production**



## Capacity and Dimensions

- ▶Tramming capacity – 4000 kg
- ▶Bucket range – 1.5÷2 m<sup>3</sup>
- ▶Length – 8585 mm
- ▶Height – 2450 mm
- ▶Width – 2450 mm

## Weights

- ▶Operating weight – 11500 kg
- ▶Total loaded weight – 15500 kg

## Standard Components

- ▶Engine – Deutz BF6L914\_99kW
- ▶Axles – ZF MT-L3000
- ▶Rear axle oscillation ±11°
- ▶Tires standard – 14.00x24

# ŁK1 (k)



## Capacity and Dimensions

- ▶Tramming capacity – 4000 kg
- ▶Bucket range – 1.5÷2 m<sup>3</sup>
- ▶Length – 8585 mm
- ▶Height – 2300 mm
- ▶Width – 2350 mm

## Weights

- ▶Operating weight – 11500 kg
- ▶Total loaded weight – 15500 kg

## Standard Components

- ▶Engine – Deutz BF6L914\_99kW
- ▶Axles – ZF MT-L3000
- ▶Rear axle oscillation ±11°
- ▶Tires standard – 14.00x24

# ŁK1 (N)



## Capacity and Dimensions

- ▶Tramming capacity – 4000 kg
- ▶Bucket range – 1,5÷2 m<sup>3</sup>
- ▶Length – 8585 mm
- ▶Height – 1850 mm
- ▶Width – 2750mm

## Weights

- ▶Operating weight – 11500 kg
- ▶Total loaded weight – 15500 kg

## Standard Components

- ▶Engine – Deutz BF6L914\_99kW
- ▶Axles – ZF MT-L3000
- ▶Rear axle oscillation ±11°
- ▶Tires standard – 14.00x24





# ŁK1 Series – Specification

## POWER TRANSMISSION

### ENGINE

Model.....BF6L914  
 Manufacturer.....Deutz  
 Rated power.....99 kW  
 Torque.....508 Nm  
 Cooling system.....air cooled

### TORQUE CONVERTER

Model.....PH2  
 Type.....single stage

### GEARBOX

Model.....SB 102  
 Gears.....4 front/4 rear

### TIRES

Type.....tube  
 Size.....14.00x24

**BRAKE:** hydraulic LCB

### AXLES

Manufacturer.....Zahnrad Fabrik  
 Front axle.....MT-L3000  
 Differential.....Limited Slip 45%  
 Attachment.....rigid  
 Rear axle.....MT-L3000  
 Differential.....Limited Slip 45%  
 Attachment.....self-aligned  
 Degree of oscillation.....±11°

## WORKING SYSTEM

Bucket range.....1,5÷2 m<sup>3</sup>  
 Blades material.....HARDOX steel  
 Greasing system.....manual

## OPERATOR ENVIRONMENT

Cabin.....opened  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and diluter or silencer  
 Inlet system- dry air filter

## OPERATING DATA

### Motion times:

Boom rising.....5s  
 Boom lowering.....4,5s  
 Dumping.....3s  
 Bucket closing.....4s  
 Full turn.....3s

### Capacity:

Breakout force.....80 kN  
 Pull force.....75 kN  
 Tramming capacity.....4000 kg

### Driving speeds:

I gear.....5,8 km/h  
 II gear....11,7 km/h  
 III gear....22 km/h  
 IV gear.....38 km/h

## OPTIONAL EQUIPMENT

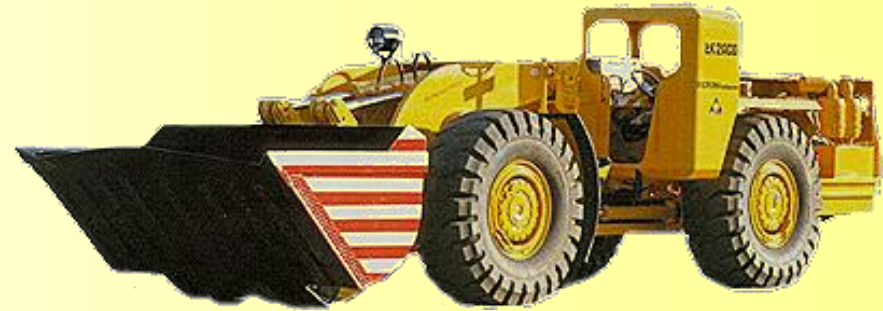
Engine – Deutz BF4M2012C  
 Deutz TCD2013L04  
 Drive system – Dana SOH (HURTH)  
 Water scrubber in exhaust system  
 Central lubrication



# ŁK2 Series

## ŁK2 Series features and application:

- Hydrodynamic drive powered by 125÷181 kW diesel engine
- Bucket capacity – 3÷4,0 m<sup>3</sup>
- Trimming capacity – 6700÷8000 kg
- Cutting, loading and hauling winning in mineral and metal underground and surface mines
- Perfect co-operation with haulage trucks
- Mines and tunnels construction, gold mining applications, mine development, cleaning
- Low profile version available



**Designed for medium size mining operations**



# ŁK2 AC



## Capacity and Dimensions

- ▶Tramming capacity – 6750 kg
- ▶Bucket range – 2÷3,2 m<sup>3</sup>
- ▶Breakout force – 135 kN
- ▶Length – 8700 mm
- ▶Height – 2000 mm (2200mm)
- ▶Width – 2410 mm

## Weights

- ▶Operating weight – 18500 kg
- ▶Total loaded weight – 25250 kg

## Standard Components

- ▶Engine – Deutz F8L413FW\_136kW
- ▶Gearbox – DANA SOH R32000
- ▶Axles – DANA SOH 16D
- ▶Rear axle oscillation  $\pm 11^{\circ}$
- ▶Tires standard – 17.5x25



# ŁK2 AC – Specification

## POWER TRANSMISSION

### ENGINE

Model.....F8L413FW  
 Manufacturer.....Deutz  
 Rated power.....136 kW  
 Torque.....672 Nm  
 Cooling system.....air cooled

### TORQUE CONVERTER

Model.....C270/C320  
 Manufacturer.....Dana SOH  
 Type.....single stage

### GEARBOX

Model.....R32000  
 Manufacturer.....Dana SOH  
 Gears.....4 front/4 rear  
 Type.....full-power-shift

### TIRES

Type.....tube  
 Size.....17.5x25

**BRAKE:** hydraulic LCB or  
 POSI STOP

### AXLES

Manufacturer.....Dana SOH  
 Front axle.....16D  
 Differential.....standard  
 Attachment.....rigid  
 Rear axle.....16D  
 Differential.....standard  
 Attachment.....self-aligned  
 Degree of oscillation.....±11°

## WORKING SYSTEM

Bucket range.....2÷3,2 m<sup>3</sup>  
 Blades material.....HARDOX steel  
 Greasing system..... automatic

## OPERATOR ENVIRONMENT

Cabin.....capsule  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and diluter  
 Inlet system- dry air filter

## OPERATING DATA

### Motion times:

Boom rising.....8s  
 Boom lowering.....3s  
 Dumping.....3s  
 Bucket closing.....3s  
 Full turn.....4s

### Capacity:

Breakout force.....115 kN  
 Pull force.....163 kN  
 Trammng capacity.....6750 kg  
 Operating weight.....18500 kg

### Driving speeds:

I gear.....4 km/h  
 II gear.....9 km/h  
 III gear.....15 km/h  
 IV gear.....24 km/h

## OPTIONAL EQUIPMENT

Low profile version – 1800 mm  
 Engine – TCD2012L062V\_147kW  
 TCD2013L062V\_160kW  
 Axles - Kessler  
 Exhaust sys. with water scrubber  
 Air conditioned cabin



## Capacity and Dimensions

- ▶Tramming capacity – 8000 kg
- ▶Bucket range – 3,5÷4,0 m<sup>3</sup>
- ▶Breakout force – 140 kN
- ▶Length – 9915 mm
- ▶Height – 1750 mm
- ▶Width – 2940 mm

## Weights

- ▶Operating weight – 20200 kg
- ▶Total loaded weight – 28200 kg

## Standard Components

- ▶Engine – Deutz BF6M1013C \_171kW
- ▶Gearbox – DANA SOH R32000
- ▶Axles – Dana SOH 19D
- ▶Rear axle oscillation  $\pm 11^\circ$
- ▶Tires standard – 20.5x25



# ŁK2 NCW – Specification

## POWER TRANSMISSION

### ENGINE

Model.....BF6M1013C  
 Manufacturer.....Deutz  
 Rated power.....171 kW  
 Torque.....846 Nm  
 Cooling system.....water cooled

### TORQUE CONVERTER

Model.....C5400  
 Manufacturer.....Dana SOH  
 Type.....single stage

### GEARBOX

Model.....R32000  
 Manufacturer.....Dana SOH  
 Gears.....3 front/3 rear  
 Type.....full-power-shift

### TIRES

Type.....tube or tubeless  
 Size.....20.5x25

**BRAKE:** hydraulic LCB or POSI STOP

### AXLES

Manufacturer.....Dana SOH  
 Front axle.....19D  
 Differential.....No-Spin  
 Attachment.....rigid  
 Rear axle.....19D  
 Differential.....standard  
 Attachment.....self-aligned  
 Degree of oscillation.....±11°

## WORKING SYSTEM

Bucket range.....3,5÷4,0 m<sup>3</sup>  
 Blades material.....HARDOX steel  
 Greasing system..... automatic

## OPERATOR ENVIRONMENT

Cabin.....capsule  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and water scrubber  
 Inlet system- dry air filter

## OPERATING DATA

### Motion times:

Boom rising.....8s  
 Boom lowering.....5s  
 Dumping.....3s  
 Bucket closing.....4s  
 Full turn.....4s

### Capacity:

Breakout force.....140 kN  
 Pull force.....140 kN  
 Trammng capacity.....7000 kg  
 Operating weight.....20200 kg

### Driving speeds:

I gear.....5 km/h  
 II gear.....8 km/h  
 III gear....13 km/h  
 IV gear....23km/h

## OPTIONAL EQUIPMENT

Engine – TCD2013L06\_181kW  
 Axles – Kessler  
 Exhaust system – catalytic  
 purifier and diluter



## Capacity i Dimensions

- ▶Tramming capacity – 8000 kg
- ▶Bucket range – 2,5÷3,5 m<sup>3</sup>
- ▶Breakout force – 140 kN
- ▶Length – 9470 mm
- ▶Height – 2440 mm
- ▶Width – 2750 mm (2850 mm)

## Weights

- ▶Operating weight – 23000 kg
- ▶Total loaded weight – 30000 kg

## Standard Components

- ▶Engine – Deutz TCD2013L062V\_160kW
- ▶Gearbox – DANA SOH R32000
- ▶Axles – DANA SOH 19D
- ▶Rear axle oscillation  $\pm 11^{\circ}$
- ▶Tires standard– 23.5x25



# ŁK2 ACDW – Specification

## POWER TRANSMISSION

### ENGINE

Model.....TCD2013L062V  
 Manufacturer.....Deutz  
 Rated power.....160kW  
 Torque..... 880 Nm  
 Cooling system.....water cooled

### TORQUE CONVERTER

Model.....C5400  
 Manufacturer.....Dana SOH  
 Type.....single stage

### GEARBOX

Model.....R32000  
 Manufacturer.....Dana SOH  
 Gears.....3 front/3 rear  
 Type.....full-power-shift

### TIRES

Type.....tube or tubeless  
 Size.....23.5x25

**BRAKE:** hydraulic LCB or  
 POSI STOP

### AXLES

Manufacturer.....Dana SOH  
 Front axle.....19D  
 Differential.....standard  
 Attachment.....rigid  
 Rear axle.....19D  
 Differential.....standard  
 Attachment.....self-aligned  
 Degree of oscillation.....±11°

## WORKING SYSTEM

Bucket range.....2,5÷3,5 m<sup>3</sup>  
 Blades material.....HARDOX steel  
 Greasing system.....automatic

## OPERATOR ENVIRONMENT

Cabin.....capsule  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and diluter  
 Inlet system- dry air filter

## OPERATING DATA

### Motion times:

Boom rising.....8s  
 Boom lowering.....6s  
 Dumping.....4s  
 Bucket closing.....5s  
 Full turn.....3,5s

### Capacity:

Breakout force.....140 kN  
 Pull force.....140 kN  
 Trammng capacity.....8000 kg  
 Operating weight.....23000 kg

### Driving speeds:

I gear.....4 km/h  
 II gear.....8 km/h  
 III gear....13 km/h

## OPTIONAL EQUIPMENT

Engine – Deutz BF6M1013C\_153kW  
 Axles – Kessler  
 Tires – 18.00x25





# LK4 Series

## LK4 Series features and application:

- Hydrodynamic drive powered by 181÷240 kW diesel engine
- Bucket capacity – 3,3÷5,5 m<sup>3</sup>
- Trimming capacity – 9000÷11000 kg
- Cutting, loading and hauling winning in mineral and metal underground and surface mines
- Perfect co-operation with haulage trucks
- Mines and tunnels construction, mine development, cleaning, material transport
- Low profile version available



**Best choice for medium to large size underground production**

## Capacity and Dimensions

- ▶Tramming capacity – 11000 kg
- ▶Bucket range – 4,0-5,5 m<sup>3</sup>
- ▶Breakout force – 200 kN
- ▶Length – 9970 mm
- ▶Height – 2350 mm
- ▶Width – 2580 mm

## Weights

- ▶Operating weight – 29500 kg
- ▶Total loaded weight – 40500 kg

## Standard Components

- ▶Engine – Deutz TCD2015V06\_240kW
- ▶Gearbox – Dana SOH R36000
- ▶Axles – Dana SOH 19D
- ▶Rear axle oscillation  $\pm 11^{\circ}$
- ▶Tires standard – 18.00x25





# ŁK4 – Specification

## POWER TRANSMISSION

### ENGINE

Model.....TCD2015V06  
 Manufacturer.....Deutz  
 Rated power.....240 kW  
 Torque.....1500 Nm  
 Cooling system.....water cooled

### TORQUE CONVERTER

Model.....C8000  
 Manufacturer.....Dana SOH  
 Type.....single stage

### GEARBOX

Model.....R36000  
 Manufacturer.....Dana SOH  
 Gears.....4 front/4 rear  
 Type.....full-power-shift

### TIRES

Type.....tube or tubeless  
 Size.....18.00x25

**BRAKE:** hydraulic LCB or  
 PosiStop

### AXLES

Manufacturer.....Dana SOH  
 Front axle.....19D  
 Differential.....PosiTorq  
 Attachment.....rigid  
 Rear axle.....19D  
 Differential.....No-spin  
 Attachment.....self-aligned  
 Degree of oscillation.....±11°

## WORKING SYSTEM

Bucket range.....4,0÷5,5 m<sup>3</sup>  
 Blades material.....HARDOX steel  
 Greasing system.....automatic

## OPERATOR ENVIRONMENT

Cabin.....capsule  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and diluter  
 Inlet system- dry air filter

## OPERATING DATA

### Motion times:

Boom rising.....7s  
 Boom lowering.....4s  
 Dumping.....2,5s  
 Bucket closing.....4s  
 Full turn.....3s

### Capacity:

Breakout force.....200 kN  
 Pull force.....172 kN  
 Trimming capacity....11000 kg  
 Operating weight.....29500 kg

### Driving speeds:

I gear.....5 km/h  
 II gear.....10 km/h  
 III gear....17 km/h  
 IV gear....24 km/h

## OPTIONAL EQUIPMENT

Engine – F12L413FW\_204kW  
 Axles – 43RM Dana SOH, Kessler  
 Tires – 23.5x25



## Capacity and Dimensions

- ▶Tramming capacity – 10000 kg
- ▶Bucket range – 3,5÷5,5 m<sup>3</sup>
- ▶Breakout force – 211 kN
- ▶Length – 10050 mm
- ▶Height – 2100 mm
- ▶Width – 2900 mm (2600 mm)

## Weights

- ▶Operating weight – 28000 kg
- ▶Total loaded weight – 38000 kg

## Standard Components

- ▶Engine – Deutz TCD2015V06\_240kW
- ▶Gearbox – Dana SOH R36000
- ▶Axles – Dana SOH 19D
- ▶Rear axle oscillation  $\pm 11^{\circ}$
- ▶Tires standard – 20.5x25



# ŁK4 C – Specification

## POWER TRANSMISSION

### ENGINE

Model.....TCD2015V6  
 Manufacturer.....Deutz  
 Rated power.....240 kW  
 Torque.....1300 Nm  
 Cooling system.....water cooled

### TORQUE CONVERTER

Model.....C5000  
 Manufacturer.....Dana SOH  
 Type.....single stage

### GEARBOX

Model.....R36000  
 Manufacturer.....Dana SOH  
 Gears.....4 front/4 rear  
 Type.....full-power-shift

### TIRES

Type.....tube or tubeless  
 Size.....23.5R25

**BRAKE:** hydraulic LCB

### AXLES

Manufacturer.....Dana SOH  
 Front axle.....19D  
 Differential.....standard  
 Attachment.....rigid  
 Rear axle.....19D  
 Differential.....No-spin  
 Attachment.....self-aligned  
 Degree of oscillation.....±11°

## WORKING SYSTEM

Bucket range.....3,5÷5,5 m<sup>3</sup>  
 Blades material.....HARDOX steel  
 Greasing system.....automatic

## OPERATOR ENVIRONMENT

Cabin.....capsule  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and diluter  
 Inlet system- dry air filter

## OPERATING DATA

### Motion times:

Boom rising.....8s  
 Boom lowering.....5s  
 Dumping.....2,5s  
 Bucket closing.....4s  
 Full turn.....3s

### Capacity:

Breakout force.....211 kN  
 Pull force.....200 kN  
 Trimming capacity....10000 kg  
 Operating weight.....28000 kg

### Driving speeds:

I gear.....5 km/h  
 II gear....10 km/h  
 III gear....17 km/h  
 IV gear....28 km/h

## OPTIONAL EQUIPMENT

Engine- F12L413FW\_204kW  
 Axles – Kessler  
 Tires – 20.5x25



# AUXILIARY MACHINES

## SWT-101 and SWR-101



## Features

- ▶ Load capacity – 7500 kg

## Weights

- ▶ Operating weight – 10500 kg
- ▶ Total loaded weight – 18000 kg

## Standard Components

- ▶ Engine – Deutz BF6L914\_99kW
- ▶ Axles – ZF MT-L3000
- ▶ Rear axle oscillation  $\pm 11^{\circ}$
- ▶ Tires standard – 14.00x24



**Carrier SWT-101 is an excellent base for a wide range of auxiliary vehicles designed for specific mining and tunneling applications**



# SWT-101 Carrier Specification

## POWER TRANSMISSION

### ENGINE

Model.....BF6L914  
Manufacturer.....Deutz  
Rated power.....112 kW  
Torque.....508 Nm  
Cooling system.....air cooled

### TORQUE CONVERTER

Model.....PH2  
Type.....single stage

### GEARBOX

Model.....SB 102  
Gears.....4 front/4 rear

### TIRES

Type.....tube or tubeless  
Size.....14.00x24

**BRAKE:** hydraulic LCB

### AXLES

Manufacturer.....Zahnrad Fabrik  
Front axle.....MT-L3000  
Differential.....Limited Slip 45%  
Attachment.....rigid  
Rear axle.....MT-L3000  
Differential.....standard  
Attachment.....self-aligned  
Degree of oscillation..... $\pm 11^{\circ}$

## OPERATING DATA

Load capacity.....7500 kg  
Operating weight.....10500 kg  
Full turn.....3s

### Driving speeds:

I gear.....5 km/h  
II gear.....9 km/h  
III gear...23 km/h  
IV gear.....locked

## OPERATOR ENVIRONMENT

Cabin.....closed or opened  
Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
and diluter  
Inlet system- dry air filter

## OPTIONAL EQUIPMENT

Engine – Deutz BF4M2012C  
Deutz TCD2013L04  
Drive system – Dana SOH (HURTH)  
Exhaust system water scrubber



# SWT-101M

## Transporting vehicle SWT-101M is intended for:

- Personnel, explosives and blasting equipment transport



## SWT-101M transporting vehicle

- Hydrodynamic drive powered by 99 kW diesel engine
- Cabin occupancy – four persons
- Safe explosives section (anti static and fireproof materials)





# SWT-101M

## EXPLOSIVES and BLASTING EQUIPMENT CARRIER



### Features

- ▶ Load capacity – 5500 kg

### Weights

- ▶ Operating weight – 12500 kg
- ▶ Total loaded weight – 18000 kg

### Standard Components

- ▶ Engine – Deutz BF6L914\_99kW
- ▶ Axles – ZF MT-L3000
- ▶ Rear axle oscillation  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24

# SWT-101L

**Personnel carrier SWT-101L  
is intended for:**

■ Personnel transport



## **SWT-101L Personnel carrier**

- Hydrodynamic drive powered by 99 kW diesel engine
- Safe passenger section for 23 persons



# SWT-101L PERSONNEL CARRIER

## Features

- ▶ Passenger section – 23 persons

## Weights

- ▶ Operating weight – 11500 kg

## Standard Components

- ▶ Engine – Deutz BF6L914\_99kW
- ▶ Axles – ZF MT-L3000
- ▶ Rear axle oscillation  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24





# SWT-101R

## Transporting vehicle SWT-101R is intended for:

- Loading and transporting of various types of cargo loaded by means of hydraulic crane mounted on a platform
- Personnel transporting - four person occupancy cabin
- Welding works - hydraulic welding equipment



## SWT-101R Transporting vehicle

- Hydrodynamic drive powered by 99 kW diesel engine
- Hydraulically driven crane and welder
- Cabin occupancy – four persons
- Load capacity – 3000 kg





# SWT-101R

## TRANSPORTING VEHICLE with CRANE



### Features

- ▶ Load capacity – max 3000 kg
- ▶ Passenger section – 4 persons (different variants possible)
- ▶ Lifting capacity – 3200 kg

### Weights

- ▶ Operating weight – 14200 kg
- ▶ Total loaded weight – 17200 kg

### Standard Components

- ▶ Engine – Deutz BF6L914\_99kW
- ▶ Axles – ZF MT-L3000
- ▶ Front axle oscillation  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24
- ▶ Crane lifting capacity-3200 kg
- ▶ Welding equipment
- ▶ Compressor- Max. 1000l/min  
p=10bar





# SWT-101P

Fuel hauling vehicle SWT-101P is intended for transporting and distributing fuel, hydraulic oils and lubrication



- Tanks for fuel, hydraulic oil and grease
- Proved distribution system
- Standard Total tanks capacity – 4450 l
- Different variants possible
- Tank for used oil with suction system



# SWT-101P FUEL and OIL HAULING VEHICLE



## Features - Standard

- ▶ Fuel tank – 2000 l
- ▶ Working system oil – 900 l
- ▶ Engine oil – 450 l
- ▶ Transmission oil – 450 l
- ▶ Used oil – 450 l
- ▶ Grease container – 200 l
- ▶ Total – 4450l

## Weights

- ▶ Operating weight – 11500 kg

## Standard Components

- ▶ Engine – Deutz BF6L914\_99kW
- ▶ Axles – ZF MT-L3000
- ▶ Rear axle oscillation  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24





# SWR-101M

**Lifting and charging vehicle SWR-101M is intended for:**

- Automatic charging of explosives (ANOL CC System)
- Working on high level (up to 8,5 m)



## **SWR-101M lifting and charging**

- Hydrodynamic drive powered by 99 kW diesel engine
- Lifting capacity – 500 kg
- Lifting reach – 8500 mm
- Tank for explosives (ANFO) – 500 l or 1000 l



# SWR-101M

## LIFTING and EXPLOSIVES CHARGING VEHICLE

### Features

- ▶ Lifting capacity – 500 kg
- ▶ Lifting reach – 8500 mm
- ▶ Explosives tank capacity – 500, 1000 l
- ▶ Blastholes diameter – 40-125 mm

### Weights

- ▶ Operating weight – 16000 kg

### Standard Components

- ▶ Engine – BF6L914\_99kW
- ▶ Axles – ZF MT-L3000
- ▶ Rear axle oscillation  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24

### Optional Components

- ▶ Blast hose pusher
- ▶ Hydraulic blast hose reel
- ▶ Blast hose meter counter
- ▶ Water injection system





# SWR-101M + System SSE

## LIFTING and EXPLOSIVES CHARGING VEHICLE



# SWR-101K

**Wheel changing vehicle SWR-101K is intended for:**

- Easy and safe heavy wheel changing in tough underground conditions



## **SWR-101K wheel changing vehicle**

- Hydrodynamic drive powered by 99 kW diesel engine
- Two cabins for more safety (driver and operator)
- Fluent arm control in each direction
- Easy, quick and safe wheel changing thanks to high precision hydraulic manipulator
- Broken machine lifting thanks to two air cushions



# SWR-101K

## WHEEL CHANGING VEHICLE



### Features

- ▶Fluent arm control
- ▶Two cabins
- ▶Supported tires range:  
Tire diameter: 1100÷2050 mm  
Tire width: 13" - 29"  
Rim radius: 24" - 29"

### Weights

- ▶Operating weight - 12000 kg

### Standard Components

- ▶Engine - BF6L914\_99kW
- ▶Axles - ZF MT-L3000
- ▶Rear axle oscillation  $\pm 11^\circ$
- ▶Tires standard - 14.00x24



# AUXILIARY MACHINES

## SWT-07 and SWR-07



## Standard Features

- ▶ Load capacity – 8500 kg

## Standard Components

- ▶ Engine – Deutz BF6L914\_112kW
- ▶ Axles – ZF MT-L3000  
or Dana SOH (HURTH)
- ▶ Transmission – ZF Ergopower WG  
or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 9^\circ$  or  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24  
or 12.00x24



**Carrier SWT-07 is an excellent base for a wide range of auxiliary vehicles designed for specific mining and tunneling applications**



# SWT-07 Carrier Specification

## TRANSMISSION

### ENGINE

Model.....BF6L914  
 Manufacturer.....Deutz  
 Rated power.....112 kW  
 Torque.....700 Nm  
 Cooling system.....air cooled

### TRANSMISSION ZF ERGOPOWER WG

Gears.....3 front/3 rear

### TIRES

Type.....tube or tubeless  
 Size.....14.00x24  
 or 12.00x24

**BRAKE:** hydraulic LCB

### AXLES

Manufacturer.....Zahnrad Fabrik  
 Front axle.....MT-L3000  
 Differential.....Limited Slip 45%  
 Attachment.....rigid  
 Rear axle.....MT-L3000  
 Differential.....standard  
 Attachment.....self-aligned  
 Degree of oscillation.....±11°

## OPERATING DATA

Load capacity.....8500 kg  
 Operating weight.....9500 kg  
 Full turn.....4s

### Driving speeds:

I gear.....5 km/h  
 II gear.....12 km/h  
 III gear.....25 km/h

## OPERATOR ENVIRONMENT

Cabin.....opened  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and diluter  
 Inlet system - dry air filter

## OPTIONAL EQUIPMENT

Engine - Deutz BF4M1013FC  
 Deutz BF6L914C  
 Deutz TCD2012L04  
 Deutz TCD2013L04

Drive system - Dana SOH (HURTH)





# SWT-07M

## EXPLOSIVES and BLASTING EQUIPMENT CARRIER



### Features

- ▶ Load capacity – 7000 kg
- ▶ Passenger section – 2 persons

### Standard Components

- ▶ Engine – Deutz BF6L914\_112kW
- ▶ Axles – ZF MT-L3000  
or Dana SOH (HURTH)
- ▶ Transmission – ZF Ergopower WG  
or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 9^\circ$  or  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24  
or 12.00x24



# SWT-07L PERSONNEL CARRIER

## Features

- ▶ Load capacity – 7000 kg
- ▶ Passenger section – up to 26 people
- ▶ Max speed – 25 km/h

## Standard Components

- ▶ Engine – Deutz BF6L914\_112kW
- ▶ Axles – ZF MT-L3000  
or Dana SOH (HURTH)
- ▶ Transmission – ZF Ergopower WG  
or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 9^\circ$  or  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24  
or 12.00x24



# SWT-07P



## Fuel hauling vehicle SWT-07P

### is intended for

- Transporting and distributing fuel, oils and lubrication
- Tanks capacity 3400 l, 4200 l, 9000 l



## SWT-07P fuel hauling vehicle

- Hydrodynamic drive powered by 112 kW to 132 kW diesel engines
- Tanks for fuel, hydraulic oil and grease
- Tank for used oil



# SWT-07P 3400 I

## FUEL and OIL CARRIER

### Standard Features

- ▶ Fuel tanks – 2x1000 l
- ▶ Hydraulic oil tanks – 2x500 l
- ▶ Grease container – 200 l
- ▶ Tank for used oil – 200 l
- ▶ Different variants possible

### Standard Components

- ▶ Engine – Deutz BF6L914\_112kW
- ▶ Axles – ZF MT-L3000  
or Dana SOH (HURTH)
- ▶ Transmission – ZF Ergopower WG  
or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 9^\circ$  or  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24  
or 12.00x24





# SWT-07P 4200 I

## FUEL and OIL CARRIER



### Features

- ▶ Fuel tanks – 2x1800 l
- ▶ Hydraulic oil tanks – 3x200 l

### Standard Components

- ▶ Engine – Deutz BF6L914\_112kW
- ▶ Axles – ZF MT-L3000  
or Dana SOH (HURTH)
- ▶ Transmission – ZF Ergopower WG  
or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 9^\circ$  or  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24  
or 12.00x24



# SWT-07P 9000 I

## FUEL and OIL CARRIER



### Features

- ▶ Fuel tanks – 2x1750 l
- ▶ Fuel tanks – 4x1375 l

### Standard Components

- ▶ Engine – Deutz BF6L914C\_132kW
- ▶ Transmission – ZF Ergopower WG or Dana SOH (HURTH)
- ▶ Axles - ZF MT-L3000 or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 11^\circ$
- ▶ Tires – 14.0024



# SWR-07M

## LIFTING and EXPLOSIVES CHARGING VEHICLE

### Features

- ▶ Lifting capacity – 500 kg
- ▶ Lifting reach – 8500 mm
- ▶ Explosives tank capacity – 500, 1000 l
- ▶ Blastholes diameter – 40-125 mm

### Standard Components

- ▶ Engine – Deutz BF6L914\_112kW
- ▶ Axles – ZF MT-L3000  
or Dana SOH (HURTH)
- ▶ Transmission – ZF Ergopower WG  
or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 9^\circ$  or  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24  
or 12.00x24





# SWR-07H INSPECTION VEHICLE

## Features

- ▶ Lifting capacity – 500 kg
- ▶ Lifting reach – 8500 mm  
11500 mm
- ▶ Basket for 2 people

## Standard Components

- ▶ Engine – Deutz BF6L914\_112kW
- ▶ Axles – ZF MT-L3000  
or Dana SOH (HURTH)
- ▶ Transmission – ZF Ergopower WG  
or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 9^\circ$  or  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24  
or 12.00x24







# SWR-07N

## CARRIER with SCISSOR LIFT and CRANE



### Standard Features

- ▶ Lifting capacity – 3000 kg
- ▶ Lifting reach of platform floor – 3700 mm to 4450 mm  
(depending on scissors lift type different variants possible)

### Standard Components

- ▶ Engine – Deutz BF6L914\_112kW
- ▶ Axles – ZF MT-L3000  
or Dana SOH (HURTH)
- ▶ Transmission – ZF Ergopower WG  
or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 9^\circ$  or  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24  
or 12.00x24



# SWT-07NR

## TRANSPORTING VEHICLE with SCISSOR LIFT



### Standard Features

- ▶ Load capacity – 500 kg
- ▶ Scissors lift
- ▶ Hydraulic welder
- ▶ Hydraulic Compressor
- ▶ Hydraulic Generator 500V
- ▶ Low profile – height: 1800mm

### Standard Components

- ▶ Engine – Deutz BF6L914\_112kW
- ▶ Axles – ZF MT-L3000  
or Dana SOH (HURTH)
- ▶ Transmission – ZF Ergopower WG  
or Dana SOH (HURTH)
- ▶ Front axle oscillation  $\pm 9^\circ$  or  $\pm 11^\circ$
- ▶ Tires standard – 14.00x24  
or 12.00x24  
or 10.00x24



# SWR-201S UNDERGROUND DOZER



## Features

- ▶ Length – 9230 mm
- ▶ High – 1750 mm (low profile)
- ▶ Width max. – 3160 mm
- ▶ Weight – 22500 kg

## Standard Components

- ▶ Engine – Deutz TCD2013L062V\_160kW
- ▶ Transmission – DANA SOH R32000
- ▶ Torque Converter – DANA SOH C5000
- ▶ Axles – DANA SOH 43RM
- ▶ Rear axle oscillation  $\pm 11^{\circ}$
- ▶ Tires – 20,5x25



# WK-20 MINING TRUCK



## Features

- ▶ Load capacity – 20000kg
- ▶ Load volume – 10-11m<sup>3</sup>
- ▶ Suitable to work in narrow veins
- ▶ Excellent operator working conditions
- ▶ Equipped with Lock-up System
- ▶ Optional reverse camera with display

## Standard Components

- ▶ Engine – F10L413FW\_ 170kW
- ▶ Axles – Dana SOH
- ▶ Transmission – Dana SOH
- ▶ Front axle oscillation  $\pm 10^\circ$
- ▶ Tires standard – 16.00x25





# WK-20 (Standard) Specification

## POWER TRANSMISSION

### ENGINE

Model.....F10L413FW  
 Manufacturer.....Deutz  
 Rated power.....170 kW  
 Torque.....840Nm  
 Cooling system... ..air cooled

### TORQUE CONVERTER

Model.....CL 8000  
 Manufacturer.....DANA-SOH  
 Type.....single stage  
 Lock-up system.....equipped

### GEARBOX

Model.....R32000  
 Manufacturer.....DANA-SOH  
 Gears.....4 front/4 rear

### TIRES

Type.....tubeless  
 Size.....16.00x25

### SERVICE BRAKE :

Built in axles, Posi-stop

### PARK BRAKE :

Spring applied hydraulic released (SAHR)

### AXLES

Manufacturer.....DANA-SOH  
 Rear axle.....16D  
 Differential.....standard  
 Attachment.....rigid  
 Front axle.....16D  
 Differential.....standard  
 Attachment.....self-aligned  
 Degree of oscillation.....±10°

## WORKING SYSTEM

Dump volume.....10-11 m<sup>3</sup>  
 Payload.....20000 kg  
 Greasing system..... central

## OPERATOR ENVIRONMENT

Cabin.....open with removable roof  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system - catalytic purifier  
 and silencer  
 Inlet system - dry air filter

## OPERATING DATA

### Motion times:

Dumping.....14 s  
 Full turn.....4 s

Machine weight....21000 kg  
 Tractive effort .....235 kN

### Driving speeds:

I gear.....4.5 km/h  
 II gear.....9.4 km/h  
 III gear...16.0 km/h  
 IV gear...27.0 km/h

## OPTIONAL EQUIPMENT

### Engine:

Model.....TCD2013L064V  
 Manufacturer.....Deutz  
 Rated power.....227kW  
 Torque.....1249 Nm  
 Cooling.....water cooled

- Reverse Camera/screen video system with protection.
- Closed cabin
- Automatic lubrication system
- Fire suppression system ANSUL
- Automatic tailgate



# WK-20HD (Heavy Duty) Specification

## POWER TRANSMISSION

### ENGINE

Model.....TCD2013L064V  
 Manufacturer.....DEUTZ  
 Rated power.....227 kW  
 Torque.....1249 Nm  
 Cooling system.....water cooled

### TORQUE CONVERTER

Model.....C8000  
 Manufacturer.....DANA-SOH  
 Type.....single stage  
 Lock-up system.....equipped

### GEARBOX

Model.....R36000  
 Manufacturer.....DANA-SOH  
 Gears.....4 front/4 rear

### TIRES

Type.....tubeless  
 Size.....18.00x25

### SERVICE BRAKE

Built in axles, Posi-stop,

### PARK BRAKE

Spring applied hydraulic released (SAHR)

### AXLES

Manufacturer.....Dana SOH  
 Front axle.....19D  
 Differential.....No-Spin  
 Attachment.....rigid  
 Rear axle.....19D  
 Differential.....standard  
 Attachment.....self-aligned  
 Degree of oscillation.....±10°

## WORKING SYSTEM

Dump volume.....10-11 m<sup>3</sup>  
 Payload.....20000 kg  
 Greasing system..... central

## OPERATOR ENVIRONMENT

Cabin.....open  
 Protection.....ROPS/FOPS

## ADDITIONAL DATA

Exhaust system- catalytic purifier  
 and silencer  
 Inlet system - dry air filter

## OPERATING DATA

### Motion times:

Dumping.....14 s  
 Full turn.....4 s

Machine weight....21500 kg  
 Tractive effort .....314 kN

### Driving speeds:

I gear.....4.3 km/h  
 II gear.....8.3 km/h  
 III gear...14,3 km/h  
 IV gear...24,0 km/h

## OPTIONAL EQUIPMENT

- Reverse Camera/screen video system with protection.
- Closed cabin
- Automatic lubrication system
- Fire suppression system ANSUL
- Automatic tailgate



# CARRIERS for JUMBOS

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**Articulated mining  
jumbo carrier for  
two booms**

**Articulated tunneling  
jumbo carrier for  
three booms**





# Mining Jumbo Carrier



## Mining Jumbo Carrier

- Designed for mining applications
- Designed for two booms (drilling)
- Strong and durable design resistant to extreme dynamic loads
- Articulated chassis

## Major Components

- Engine – DEUTZ
- Engine output – 115 kW
- Axles – DANA SOH HURTH
- Rear axle oscillation  $\pm 11^\circ$
- Tires – 12.00R24







# Tunneling Jumbo Carrier

## Tunneling Jumbo Carrier

- Designed for tunneling applications
- Designed for three booms (drilling and lifting)
- Unique cabin lifting system (+550 mm)
- Strong and durable design resistant to extreme dynamic loads
- Articulated chassis



## Major Components

- Engine – DEUTZ
- Engine output – 115 kW
- Axles – DANA SOH HURTH
- Rear axle oscillation  $\pm 11^\circ$
- Tires – 14.00R24



# Tunneling machine

## Tunneling machine features and application:

- Hydrodynamic drive powered by 96 kW diesel engine
- Two booms with personnel basket
- Lifting capacity – 750 kg per boom
- Lifting altitude – 11,7m
- Baskets adjusted for arc-lifting purposes
- Four independent support legs
- Power pack for operating system

