

# Sandvik LH410

## Technical Specification



### APPLICATIONS

Sandvik LH410 is a 10 tonnes Load-Haul-Dump (LHD) developed specially for underground use.

### Capacities

Tramming capacity	10 000 kg	22 000 lb
Breakout force, lift	18 800 kg	41 400 lb
Breakout force, tilt	16 600 kg	36 600 lb
Tipping load	23 400 kg	51 600 lb
Standard bucket	4,0 m <sup>3</sup>	5,2 yd <sup>3</sup>

### Main dimensions

Total length	9 588 mm	378"
Maximum width	2 588 mm	104"
Height with canopy	2 385 mm	95"

### Bucket Motion Times

Raising time	7,5 sec
Lowering time	4,0 sec
Dumping time	2,2 sec

### Speeds Forward & Reverse (Level / Loaded)

1st gear	5,4 km/h	3,4 mph
2nd gear	9,9 km/h	6,2 mph
3rd gear	16,3 km/h	10,1 mph
4th gear	28,3 km/h	17,6 mph

Sandvik Mining and Construction Reserves the right to change this specification without further notice.

Sandvik Mining and Construction

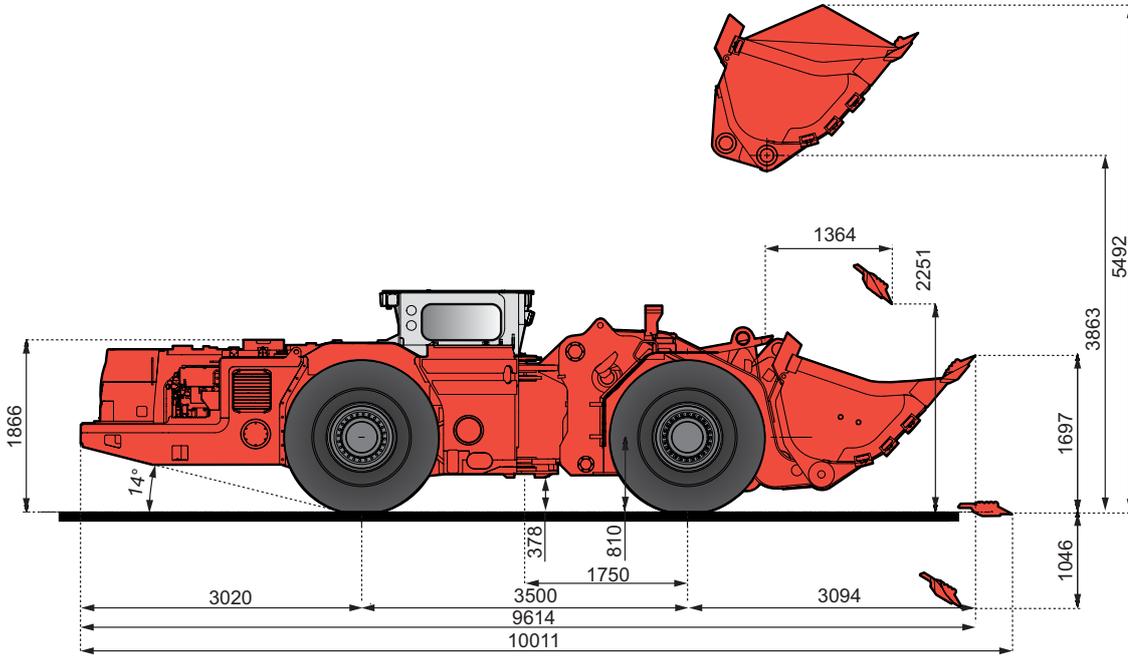
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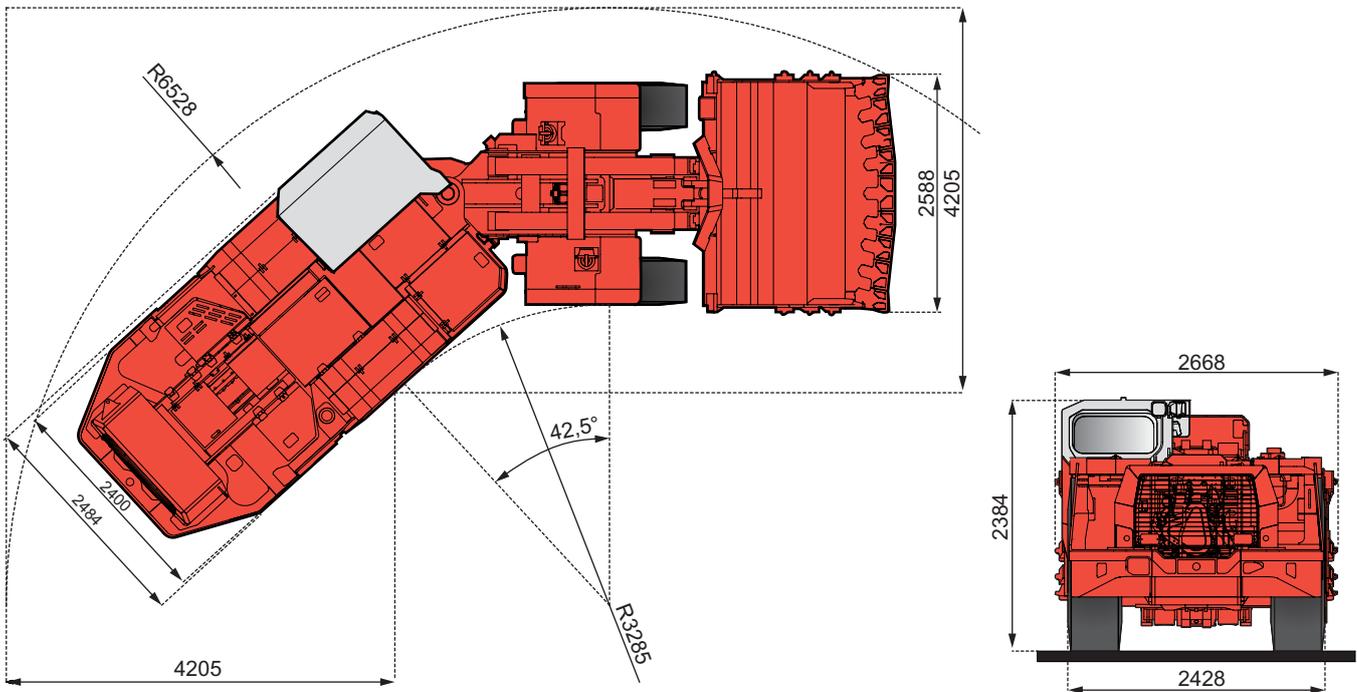
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**DIMENSIONS (SIDE VIEW)**



**DIMENSIONS (TOP VIEW)**



## POWER TRAIN

### Engine

Diesel engine	Mercedes-Benz OM926LA
Output	220 kW (295hp) @ 2100 rpm
Torque	1 200 Nm @ 1400 rpm
Number of cylinders	In-line 6
Displacement	7,2 l (439,4 in <sup>3</sup> )
Cooling system	Water cooled
Combustion principle	4-stroke, turbo with intercooler
Air filtration	Dry type
Electric system	24 V
Emissions	Tier III, Euro Stage 3
Exhaust system	Double wall exhaust pipe with catalytic purifier / muffler
Average Fuel Consumption	26,0 l/h (at 50% load)
Fuel Tank Capacity	310 l (80 gal)

### Converter

Dana C5502	Single stage
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### Transmission

Dana RT33425	Power shift transmission with modulation, four gears forward and reverse, automatic gear control
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### Axles

Front axle	Kessler D102, spring applied hydraulic operated brakes, limited Slip differential, fixed
Rear axle	Kessler D102, spring applied hydraulic operated brakes, limited slip differential, oscillating $\pm 8^\circ$ (oscillation with roller bearings)

### Tires

Tire size	18,00x25 L5S, 28 ply
Brand and type subject to availability	

## VEHICLE WEIGHTS

### Operating weights

Total operating weight	26 200 kg	57 760 lb
Front axle	11 700 kg	25 800 lb
Rear axle	14 500 kg	31 970 lb

### Loaded weights

Total loaded weight	36 200 kg	79 800 lb
Front axle	27 050 kg	59 600 lb
Rear axle	9 150 kg	20 200 lb

## STANDARD OPERATORS COMPARTMENT

ROPS/FOPS certified safety canopy		
Height	2 385 mm	94"

## FRAME

Rear and front frame	Welded steel construction
Central hinge	Adjustable upper bearing

Rear tanks are bolted to frame, hydraulic tank and cabin base are both bolted and welded to frame

## STEERING HYDRAULICS

Hydraulically operated, centre-point articulation, power steering with two double acting cylinders. Steering controlled by electric joystick. Interlock protection.

### Turning Radius

Turning angle		$\pm 42,5^\circ$
Inner	3 283 mm	129 "
Outer	6 519 mm	257 "

## Main Components

Main valve	
Servo control valve	
Steering cylinders	2 pcs, 125 mm (4,9 ")
Steering and servo hydraulic pumps	Piston type

## BUCKET HYDRAULICS

Joystick bucket and boom control (electric), equipped with piston pump that delivers oil to the bucket hydraulic main valve. The oil flow from steering hydraulic pump is directed to bucket hydraulics when steering is not used.

## Main Components

Boom system	Z-link
Lift cylinders	2 pcs $\varnothing$ 160 mm (6.3")
Dump cylinder	1 pc $\varnothing$ 200 mm (7,9")
Servo control valve	
Main valve	
Pump for bucket hydraulics	Piston type
Fittings	ORFS
Hydraulic oil tank	appr. 250 l (66 gal)

Oil cooler for hydraulic and transmission oil, capability up to 52°C ambient temperature.

## BRAKES

Service brakes are spring applied, hydraulically operated multidisc wet brakes on all wheels.

Two independent circuits: one for the front and one for the rear axle.

Service brakes also function as an emergency and parking brake.

Electrically driven brake release pump

Automatic brake activation system, ABA.

## Main Components

Pressure accumulator	Hydroll
Brake pedal valve	Mico
Charging valve	Parker

## SAFETY AND ERGONOMICS

ROPS/FOPS certified operators compartment
Seat belt
Lockable main switch
Reverse alarm (CEN)
External shutdown, 2 pcs in rear
Decals in EU-languages
Door interlock for boom, bucket and steering hydraulics
Low frequency suspension seat
Adjustable armrests

## ELECTRICAL EQUIPMENT

Alternator	100 A
Batteries	2x 12 V
Starter	24 V
Driving and working lights	2 pcs in front 65 W 2 pcs in rear 65 W
Parking lights	2 pcs in front (LED lights) 2 pcs in rear (LED lights)
Brake lights	
Control system	5,7" display, 5 modules, inbuild system diagnostics

## STANDARD MANUALS

Instructions Manual	
- Operator's Manual	Hard copy, EU-languages
- Maintenance Manual	Hard copy, EU-languages
Parts Manual	Hard copy, English
Service and Repair Manual	Hard copy, English
ToolMan CD (2pcs)	Electronic, in pdf format, includes all the above manuals

## OTHER STANDARD EQUIPMENT

Automatic central lubrication
Cyclone pre-filter for A/C device
Fire extinguisher, 12 kg (CEN)
Flashing beacon
Neutral brake
Wheel chocks and brackets

## OPTIONAL EQUIPMENT

### Replaces standard equipment

<input type="checkbox"/>	Volvo TAD941VE, Euro Stage 2 / Tier II 220 kW (295 hp), 1400 Nm / 1200 r/min
<input type="checkbox"/>	Ejector bucket size 4,6 m <sup>3</sup> (6,0yd <sup>3</sup> ), width 2770 mm (109"), HB500/400
<input type="checkbox"/>	Side tipping bucket, 4,6 m <sup>3</sup>
<input type="checkbox"/>	Safety cabin, ROPS/FOPS, height 2 385 mm (94"), A/C, electrical steering & bucket control
<input type="checkbox"/>	Xenon lights (2 in front, 2 in rear)

### Alternative buckets

Material density (t/m <sup>3</sup> )	2,2	2,0	1,9
Volume, heaped (m <sup>3</sup> )	4,6	5,0	5,4
Width(mm)	2 588	2 588	2 588

Blue Pointer & Half Arrow available

All buckets are available on bare lip of Sandvik GET

### Additional options

<input type="checkbox"/>	Cover grills for lamps
<input type="checkbox"/>	Gear limit
<input type="checkbox"/>	Spare rim (18,00-25)
<input type="checkbox"/>	Boom suspension (ride control)
<input type="checkbox"/>	Driving direction lights (red / green)
<input type="checkbox"/>	Cabin heater
<input type="checkbox"/>	Jump start
<input type="checkbox"/>	Emergency steering (CEN)
<input type="checkbox"/>	Fire supp. system ANSUL, 2 tanks, 8 nozzles (CEN) incl. auto engine shut down
<input type="checkbox"/>	Fire supp. system ANSUL, 2 tanks, 8 nozzles (CEN), CHECKFIRE incl. auto engine shut down
<input type="checkbox"/>	Fire suppression system Sandvik FS1000 with auto engine shutdown
<input type="checkbox"/>	RRC HBC CAN, complete
<input type="checkbox"/>	RRC interface HBC
<input type="checkbox"/>	RRC recovery kit (electric), hook included
<input type="checkbox"/>	Sandvik Integrated Scale for load weighing
<input type="checkbox"/>	Monitoring camera system
<input type="checkbox"/>	Wiggins fill set (hydr., transm., eng. oil)
<input type="checkbox"/>	Wiggins fuel fill system
<input type="checkbox"/>	Tyre Pressure Monitoring System
<input type="checkbox"/>	CatBase spare part manual
<input type="checkbox"/>	LinkOne electronic spare part manual
<input type="checkbox"/>	Pressure accumulator certificates
<input type="checkbox"/>	Accordance with CE-norms (CEN)

**GRADE PERFORMANCE**

Mercedes-Benz OM 926 LA, 220  
 kW  
 Calculated with 2% rolling  
 resistance  
 Without lock-up

**Empty**

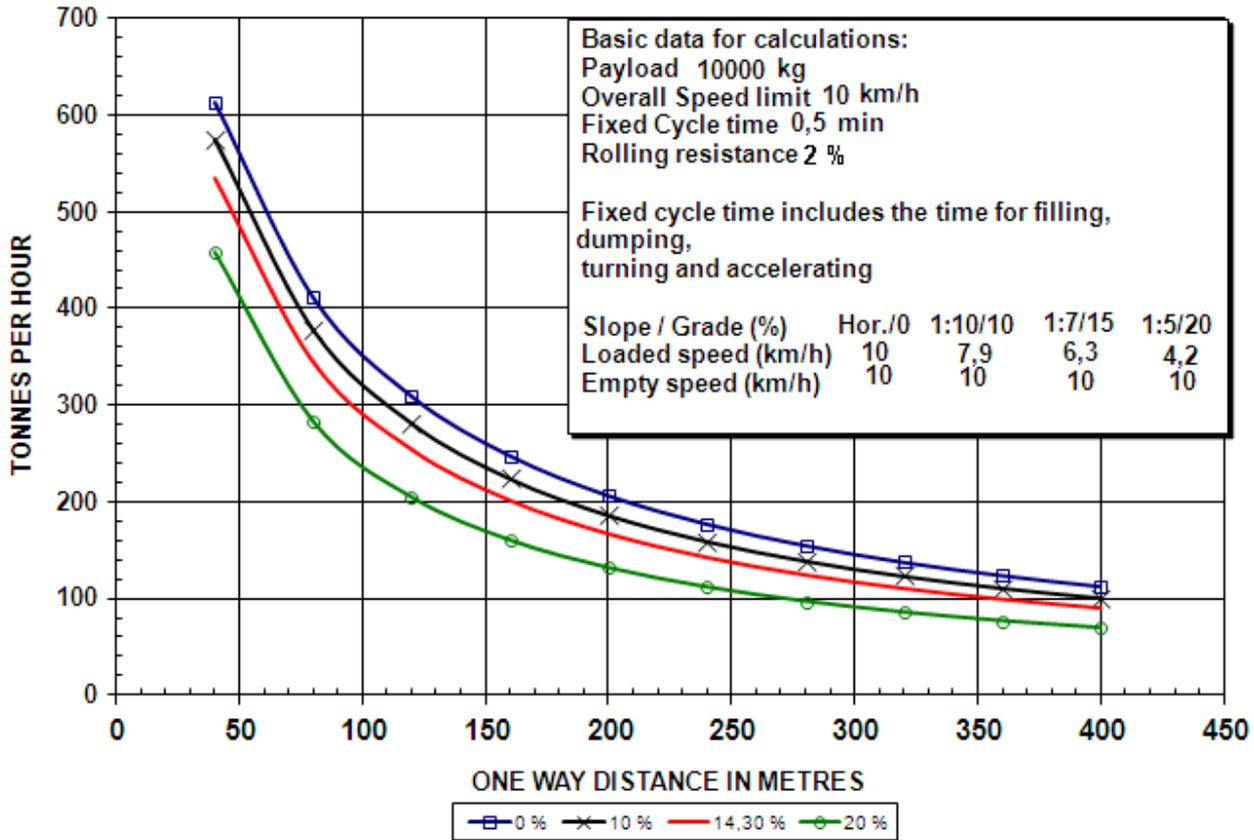
Percent grade	0	2.0	4.0	6.0	8.0	10.0	12.5	14.3	17
Ratio					1:12	1:10	1:8	1:7	
1 <sup>st</sup> gear (km/h)	5,5	5,4	5,3	5,1	5,0	4,9	4,9	4,8	4,8
2 <sup>nd</sup> gear (km/h)	10,0	9,6	9,2	9,0	8,9	8,7	8,3	8,0	7,3
3 <sup>rd</sup> gear (km/h)	16,8	15,7	15,3	14,6	13,4	11,7	9,5		
4 <sup>th</sup> gear (km/h)	28,9	27,1	23,0	17,1					

**Loaded**

Percent grade	0	2.0	4.0	6.0	8.0	10.0	12.5	14.3	17
Ratio					1:12	1:10	1:8	1:7	
1 <sup>st</sup> gear (km/h)	5,4	5,3	5,1	4,9	4,9	4,8	4,7	4,7	4,5
2 <sup>nd</sup> gear (km/h)	9,9	9,3	9,0	8,8	8,4	7,9	7,0	6,3	5,2
3 <sup>rd</sup> gear (km/h)	16,3	15,4	14,4	12,5	10,1				
4 <sup>th</sup> gear (km/h)	28,3	24,3	16,2						

**PRODUCTIVITY CURVE**

LH 410  
 PRODUCTIVITY CURVE



TRACTIVE EFFORT CURVE

**LH410**

MB OM 926 LA (220kW/2100rpm)

