



# SANDVIK LH209L LOW PROFILE LOADER

TECHNICAL SPECIFICATION



The LH209L is Sandvik's low profile loader with the largest payload capacity, 9 600 kg. The LH209L is highly proven and reliable, providing excellent performance in low profile applications, as the 1690 mm canopy height enables operations at 1.8 meter working heights.

The LH209L features a Z linkage boom construction, making the loader extremely powerful with high break out force for easy loading and high bucket fill factor.

To reduce engine emissions and increase operator comfort, the LH209L can be equipped with a Euro Stage IV engine and a closed cabin.

## CAPACITIES

Tramming capacity	9 600 kg
Break out force, lift	20 400 kg
Break out force, tilt	19 270 kg
Standard bucket	4.6 m <sup>3</sup>

## SPEEDS FORWARD & REVERSE (LEVEL/LOADED) WITH MERCEDES-BENZ OM906LA ENGINE

1st gear	4.4 km/h
2nd gear	8.9 km/h
3rd gear	15.0 km/h
4th gear	24.8 km/h

## BUCKET MOTION TIMES

Raising time	7 sec
Lowering time	4 sec
Dumping time	2.5 sec

## OPERATING WEIGHTS

Total operating weight	24 300 kg
Front axle	10 800 kg
Rear axle	13 500 kg

## LOADED WEIGHTS

Total loaded weight	33 900 kg
Front axle	25 100 kg
Rear axle	8 800 kg

## OPERATIONAL CONDITIONS AND LIMITS

Environmental temperature	From -20° C to +50° C
Standard operating altitude	Below 2500 m

## REQUIREMENTS AND COMPLIANCE

Compliance with 2006/95/EC Low voltage directive

Compliance with 2004/108/EC Electromagnetic compatibility directive

Design based on EN 1889-1. Machines for underground mines. Mobile machines working underground. Safety. Part 1: Rubber tyred vehicles.

Electrical system based on IEC 60204-1. Safety of machinery – Electrical equipment of machines – Part 1: General requirements

CONTAINS FLUORINATED GREENHOUSE GASES (closed cabin option)

Refrigerant R134a under pressure max 38 bar/550 PSI:

Filled weight: 2,000 kg

CO<sub>2</sub>e: 2,860 tons

GWP: 1430

Information based on the F Gas Regulation (EU) No 517/2016

## POWER TRAIN

### ENGINE

Diesel engine	Mercedes-Benz OM906LA
Output	170 kW @ 2100 rpm
Torque	810 Nm @ 1200 -1500 rpm
Number of cylinders	In-line 6
Displacement	6.73 l
Cooling system	Liquid cooled
Combustion principle	4-stroke, turbo with intercooler
Air filtration	Two stage filtration, dry type
Electric system	24 V
Emissions	Tier 3, Euro Stage III A
Exhaust system	Double wall exhaust pipe with catalytic purifier/muffler
Average fuel consumption at 40 % load	18 l/h
Fuel tank refill capacity	270 l

### CONVERTER

Dana SOHC 5402

### TRANSMISSION

Power shift transmission with modulation. Dana SOH R32421, electrical gear shift control, four gears forward and reverse

## AXLES

Front axle	Kessler D101, Spring applied hydraulically released brakes, Limited-slip differential, fixed
Rear axle	Kessler D101, Spring applied hydraulically released brakes, Limited-slip differential, oscillating

## TIRES

Tire size (Tires are application approved. Brand and type subject to availability.) 20.5 R25

## OPERATOR'S COMPARTMENT

**CABIN** (Cabin option replaces the standard canopy)

ROPS certification according to EN ISO 3471

FOPS certification according to EN ISO 3449

Sealed, air conditioned, over pressurized, noise suppressed closed cabin

Sound absorbent material to reduce noise

Laminated glass windows

Cabin mounted on rubber mounts to the frame to reduce vibrations

Air conditioning unit located outside the cabin to reduce noise inside the cabin

Adjustable joysticks

**CANOPY** (Standard)

ROPS certification according to EN ISO 3471

FOPS certification according to EN ISO 3449

Adjustable joysticks

Inclinometers to indicate operating angle

Emergency exit

Floor washable with water to reduce dust

Three-point contact access system with replaceable and colour coded handles and steps

12 V output for communication radio connection

Remote circuit breaker switch

### OPERATOR'S SEAT

Low frequency suspension

Height adjustment

Adjustment according to the operator's weight

Fore-aft isolation

Padded and adjustable arm rests

Adjustable lumbar support

Two-point seat belt

## DASHBOARD AND DISPLAYS

Critical warnings and alarms	Displayed as warning lights
Instrument panel	Electric gauges
Instrument panel	Illuminated switches

## FRAME

### REAR AND FRONT FRAME

Welded structure, high strength steel	
Central hinge	Adjustable lower bearing
Tanks	Fuel tank bolted and hydraulic tank welded to rear frame
Automatic central lubrication	

## HYDRAULICS

Door interlock for brakes and boom, bucket, and steering hydraulics	
Oil cooler for hydraulic and transmission oil	
Fittings	ORFS and SAE
Hoses	ORFS and SAE
Hydraulic oil tank capacity	200 l
Sight glass for oil level	2 pcs

### STEERING HYDRAULICS

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

Steering main valve	Open center type
Steering hydraulic cylinders	100 mm, 2 pcs
Steering pump	Gear type
Steering and servo hydraulic pumps	No additional steering pump or separate servo hydraulic pump.

## BUCKET HYDRAULICS

The oil flow from steering hydraulic pump is directed to bucket hydraulics when steering is not used.

Joystick bucket and boom control (electro-hydraulic), equipped with gear pump that delivers oil to the bucket hydraulic main valve.

Boom system	z-link
Lift cylinders	180 mm, 2 pcs
Dump cylinder	160 mm, 1 pcs
Main valve	Open center type
Pump for bucket hydraulics	Gear type

## BRAKES

Service brakes are spring applied; hydraulically released 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. Brake system performance complies with requirements of EN ISO 3450, AS2958.1 and SABS 1589.

Neutral brake

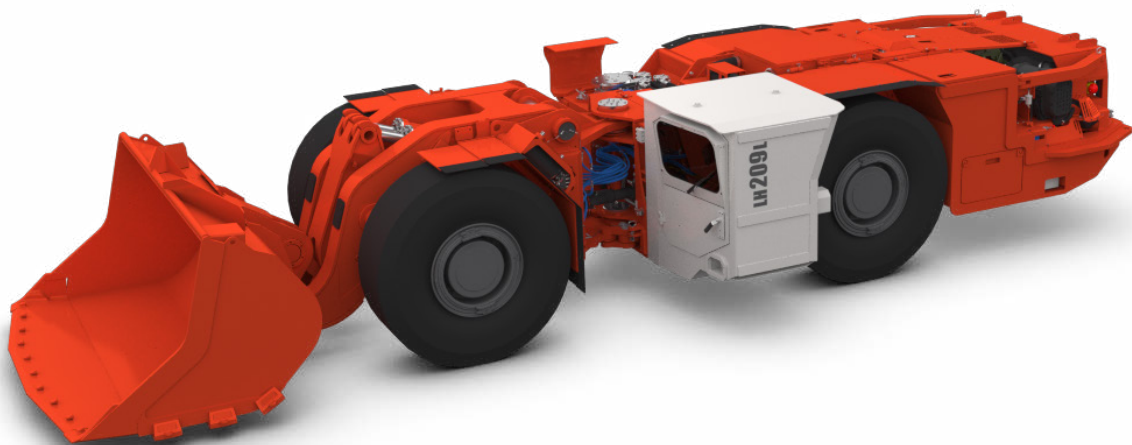
Automatic brake activation system, ABA

Emergency brake release pump Electric, 2.2 kW

## ELECTRICAL EQUIPMENT

### MAIN COMPONENTS

Alternator	28 V, 100 A
Batteries	2 x 12V
Starter	5.5 kW, 24 V
Driving and working lights	LED lights: 4 pcs in front (1 mounted to canopy) 4 pcs in rear (1 mounted to canopy)
Parking, brake and indicator (blinkers) lights	LED lights: 2 pcs in front 2 pcs in rear
Reverse alarm	
Flashing beacon	



## INCLUDED SAFETY FEATURES

### FIRE SAFETY

Portable fire extinguisher, 12 kg
Hot side - cold side design
Heat insulation on exhaust manifold, turbo, and isolated exhaust pipe

### ENERGY ISOLATION

Lockable main switch, ground level access
Emergency stop push buttons according to EN ISO 13850
Pressure release in the radiator cap
Automatic discharge for pressure accumulators (brake system and pilot circuit)
Frame articulation locking device
Mechanical boom locking device
Wheel chocks and brackets

## DOCUMENTATION

### STANDARD MANUALS

Operator's Manual	English and other EU languages
Maintenance Manual	English and other EU languages
Parts Manual	English
Service and Repair Manual	English
ToolMan	2 x USB stick in PDF format, includes all the manuals
Decals	English, Finnish, Swedish, Spanish, Russian, French, Polish, Portuguese, Turkish

## OPTIONS

Safety cabin, 2-point seatbelt, corner light, ROPS/FOPS and A/C unit, height 1690 mm
Cover grills for lamps
Disabled 3rd and 4th gear
Spare rim 17.00-25/2 (for tyres 20.5 R25)
Harsh conditions package
Proximity Detection System Interface
Jump start interface
Wiggins quick filling set for fuel and oils (hydraulic, engine and transmission)
Wiggins fuel fill system
ANSUL fire suppression system, including auto shutdown
ANSUL fire suppression system, with CHECKFIRE, including auto shutdown
Emergency steering
My Sandvik Digital Services Knowledge Box™ on-board hardware

### OPTIONAL ENGINES

Engine Volvo TAD871VE 185 kW, 2200 rpm, Euro Stage IV, (Tier 4f). Only with cabin.
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## GRADE PERFORMANCE

Mercedes-Benz OM906LA

### Empty

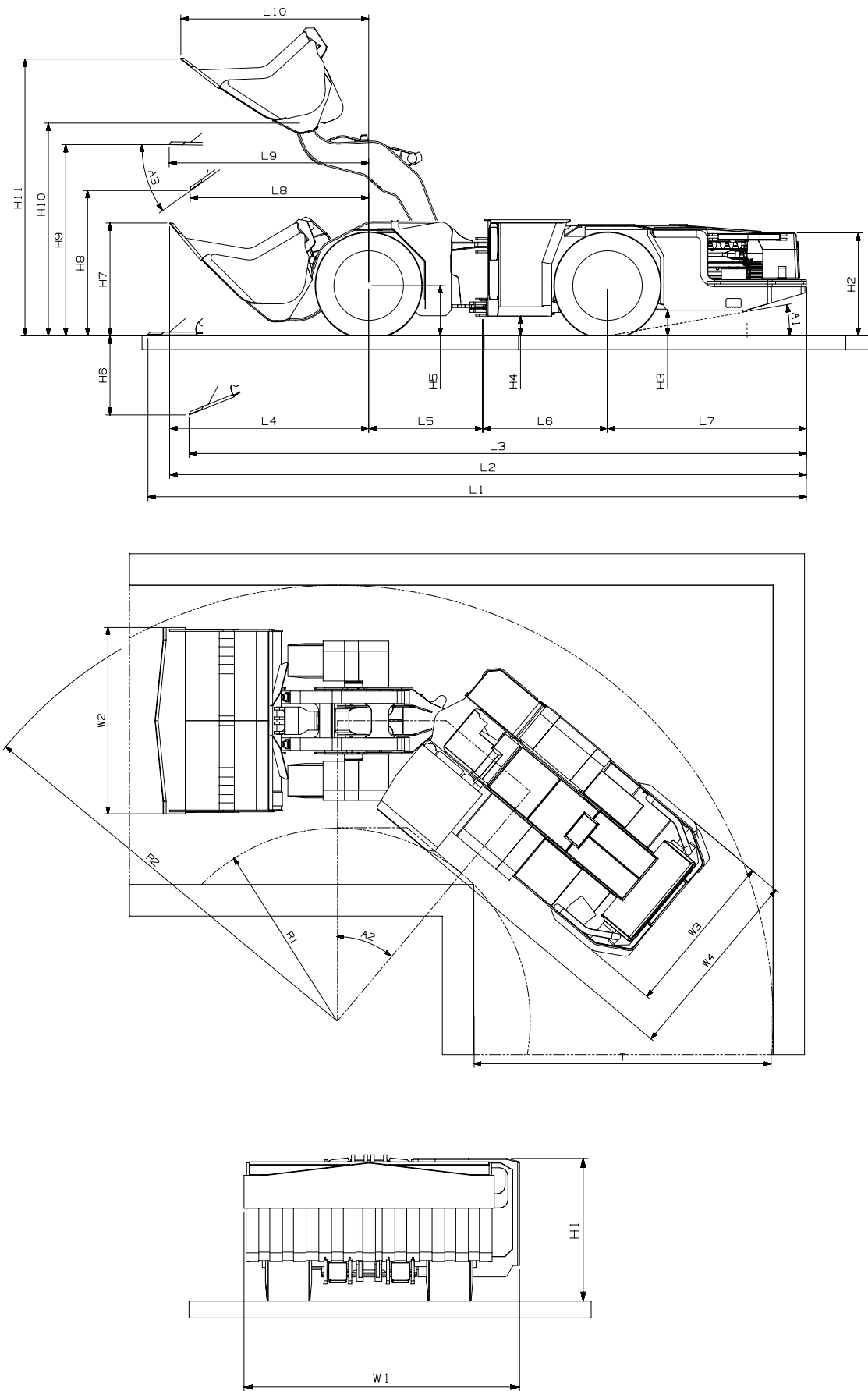
Percent grade	0.0	2.0	4.0	6.0	8.0	10.0	12.5	14.3	17.0
Ratio					1:12	1:10	1:8	1:7	
1st gear (km/h)	4.4	4.3	4.2	4.2	4.1	4.0	4.0	4.0	3.9
2nd gear (km/h)	9.1	8.8	8.5	8.4	8.2	7.9	7.2	6.8	6.1
3rd gear (km/h)	15.3	14.6	14.0	12.7	11.2	9.4	7.5		
4th gear (km/h)	25.4	23.4	18.9	13.6					

### Loaded

Percent grade	0.0	2.0	4.0	6.0	8.0	10.0	12.5	14.3	17.0
Ratio					1:12	1:10	1:8	1:7	
1st gear (km/h)	4.4	4.2	4.1	4.1	4.0	3.9	3.9	3.8	3.8
2nd gear (km/h)	8.9	8.6	8.3	8.0	7.3	6.6	5.6	4.9	4.1
3rd gear (km/h)	15.0	14.2	12.4	10.2	7.8				
4th gear (km/h)	24.8	19.8	12.9						

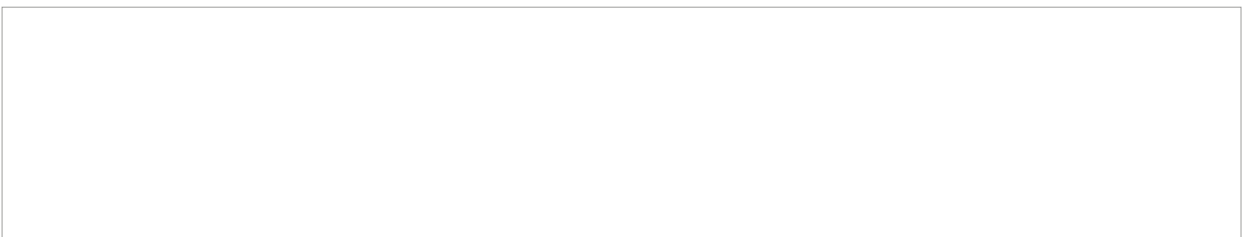
**DIMENSIONS WITH 4.6 M<sup>3</sup> BUCKET (STANDARD)**

The dimensions are indicative only



## DIMENSIONS

	Standard			
Bucket alternatives (m <sup>3</sup> )	4.6 m <sup>3</sup>	4.6 m <sup>3</sup>	4.6 m <sup>3</sup>	5.4 m <sup>3</sup>
Lip plate type	GET	Half arrow	Bare lip	Bare lip
L1 (mm)	9858	9858	9696	9696
L2 (mm)	9265	9400	9253	9269
L3 (mm)	9355	9539	9407	9433
L4 (mm)	2905	3040	2893	2909
L5 (mm)	1735	1735	1735	1735
L6 (mm)	1737	1737	1737	1737
L7 (mm)	2888	2888	2888	2888
L8 (mm)	2905	2388	2285	2310
L9 (mm)	2869	3029	2865	2889
L10 (mm)	2662	2825	2663	2682
H1 (mm), canopy	1690	1690	1690	1690
H2 (mm)	1496	1496	1496	1496
H3 (mm)	373	373	373	373
H4 (mm)	286	286	286	286
H5 (mm)	730	730	730	730
H6 (mm)	750	833	721	730
H7 (mm)	1629	1724	1638	1657
H8 (mm)	1573	1736	1871	1857
H9 (mm)	2937	2932	2985	2985
H10 (mm)	350	350	350	350
H11 (mm)	4183	4300	4243	4258
W1 (mm)	3279	3313	3260	3330
W2 (mm)	2998	3066	2960	3100
W3 (mm)	2514	2514	2514	2514
W4 (mm)	2989	2989	2989	2989
A1	10 °	10 °	10 °	10 °
A2	40 °	40 °	40 °	40 °
A3	35 °	35 °	35 °	35 °
R1, left turn (mm)	2990	2990	2990	2990
R2, left turn (mm)	6919	6997	6834	6957
T, left turn (mm)	4804	4883	4720	4843
R1, right turn (mm)	3441	3441	3441	3441
R2, right turn (mm)	6919	6997	6834	6894
T, right turn (mm)	4486	4564	4401	4460



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