

Sandvik LH514

Technical Specification



APPLICATIONS

Sandvik LH514 is a high capacity Load-Haul-Dump (LHD) developed specially for underground use. By combining smart geometry with powerful thrust, high breakout forces, responsive controls and high tramming speeds it provides fast bucket filling, high fill factors and fast cycle times. The LH 514 is the "Mining icon" since its introduction to the market.

Capacities

Tramming capacity	14 000 kg	30 865 lb
Break out force, lift	28 042 kg	61 822 lb
Break out force, tilt	23 453 kg	51 705 lb
Tipping load	29 200 kg	64 375 lb
Standard bucket	5,4 m ³	7,0 yd ³

Main dimensions

Total length	10 518 mm	414"
Width without bucket	2 730 mm	107"
Maximum width with cabin	2 769 mm	109"
Height with safety canopy or cabin	2 537 mm	100"

Bucket Motion Times

Raising time	7,0 sec
Lowering time	4,0 sec
Dumping time	2,3 sec

Speeds Forward & Reverse (Level / Loaded)

1st gear	5,9 km/h	3,7 mph
2nd gear	10,5 km/h	6,5 mph
3rd gear	18,3 km/h	11,4 mph
4th gear	32,7 km/h	20,3 mph

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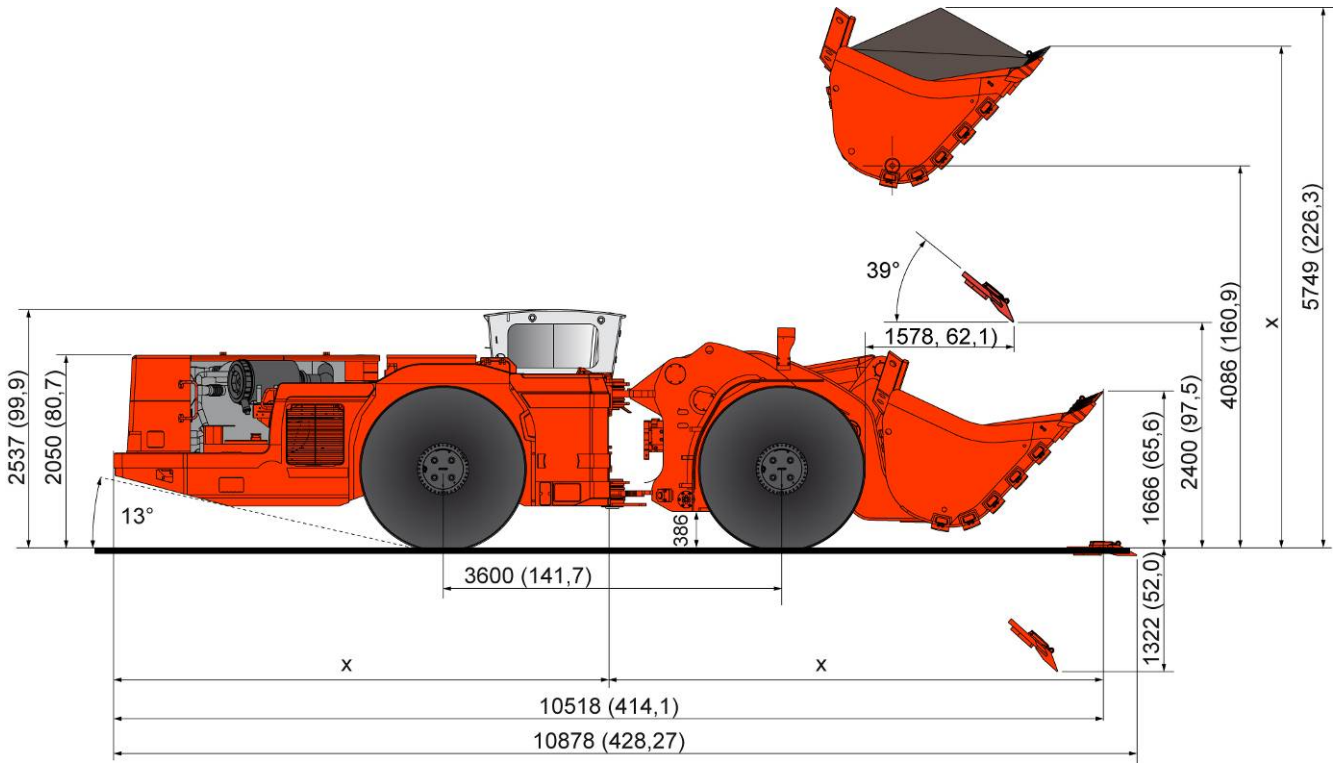
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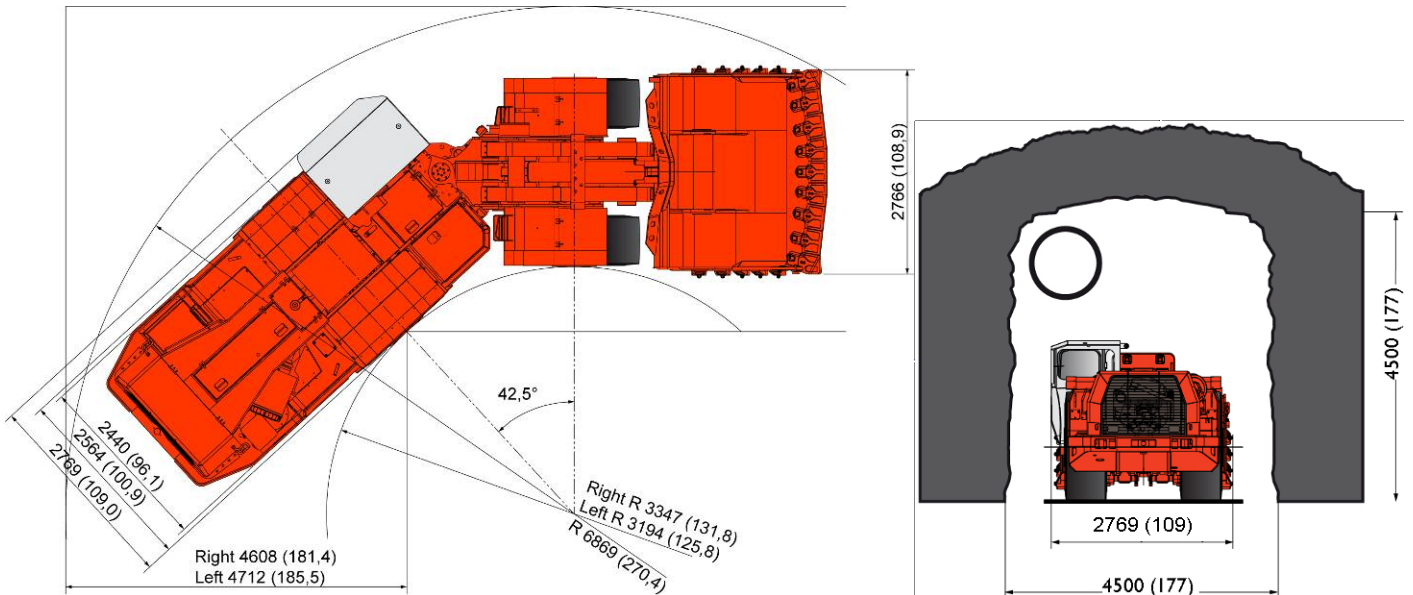
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DIMENSIONS (SIDE VIEW)



DIMENSIONS (TOP AND REAR VIEW)



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POWER TRAIN

Engine

Diesel engine	Volvo TAD1340VE, Tier 2
Output	256 kW (343 hp) @ 2 100 rpm
Torque	1 770 Nm @ 1 260 rpm
Number of cylinders	In-line 6
Displacement	12,78 l
Cooling system	Liquid cooled
Combustion principle	4-stroke, turbo with intercooler
Air filtration	Donaldson PowerCore
Electric system	24 V
Exhaust system	Double wall exhaust manifold and turbo
Average fuel consumption	33 l/h (at 50% load)
Fuel tank capacity	420 l (110 gal)

Converter

Dana C9000	No lock-up
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Transmission

Dana 6000	Power shift transmission with modulation, four gears forward and reverse, automatic gear shift control
Hosing	Hi-Temp 150/170

Axles

Front axle	Kessler D106, spring applied hydraulic operated brakes, limited slip differential, fixed
Rear axle	Kessler D106, spring applied hydraulic operated brakes, limited slip differential oscillating $\pm 8^\circ$ (oscillation with roller bearings)

Tires

Tire size	26,5x25 L5S, 36 ply
Brand and type subject to availability	

VEHICLE WEIGHTS

Operating weights

Total operating weight	38 100 kg	84 000 lb
Front axle	16 700 kg	36 800 lb
Rear axle	21 400 kg	47 200 lb

Loaded weights

Total loaded weight	52 100 kg	114 000 lb
Front axle	38 625 kg	85 200 lb
Rear axle	13 475 kg	29 700 lb

STANDARD OPERATORS COMPARTMENT

ROPS/FOPS certified canopy		
Height	2 537 mm	100"

FRAME

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

Hydraulic tank and cabin base are both bolted and welded to frame. Firewall.

STEERING HYDRAULICS

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

Turning Radius

Turning angle		42,5 °
Inner	3 190 mm	126"
Outer	6 870 mm	270"

Main Components

Main valve	
Steering cylinders	2 pcs, 125 mm
Steering pump	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 160mm
Dump cylinder	1 pc \varnothing 220mm
Servo control valve	
Main valve	
Pump for bucket hydraulics	
Fittings	ORFS
Tank capacity	240l

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 accumulators	
Brake pedal valve	
Brake / charging valve	
Tank capacity	75l

ELECTRICAL EQUIPMENT

Alternator	24 V 150 A, Bosch
Batteries	2x 12 V , 180 Ah
Starter	9 kW, 24 V, Bosch
Driving and working lights	2 pcs in front, 65 W 4 pcs in rear, 65 W
Parking and indicator (blinkers) lights	2 pcs in front, LED lights 2 pcs in rear, LED lights
Brake lights	
Control system	5,7" display, 5 modules, build-in system diagnostics

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

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
Electrical filling pump for hydraulic oil
Fire extinguisher, 12 kg (CEN)
Flashing beacon
Neutral brake
Wheel chocks and brackets

OPTIONAL EQUIPMENT

Replaces standard equipment

<input type="checkbox"/>	Engine Volvo TAD1360VE, 256 kW / (343 hp) / 1 900 r/min, Torque 1 745 Nm / 1 200 r/min Euro Stage 3B / Tier 4i (for EU & Japan)
<input type="checkbox"/>	Ejector bucket 5.4 m ³ (7.0 yd ³), width 3000 mm (118"), HB500/400
<input type="checkbox"/>	Side tipping bucket, 5,4 m ³ (7,0 yd ³)
<input type="checkbox"/>	Safety cabin, ROPS/FOPS, height 2540mm (100"), A/C, radio/MP3-player, electrical steering & bucket control
<input type="checkbox"/>	Converter with lock-up
<input type="checkbox"/>	Wheels 29,5x25 VSDT
<input type="checkbox"/>	Xenon lights (2 in front, 2 in rear)

Alternative buckets

Material density (t/m ³)	3,0	2,8	2,3	2,0
Volume, heaped (m ³)	4,6	5,0	6,2	7,0
Width(mm)	2 770	2 770	2 770	3 060

Shark Blue Pointer and Half Arrow available

Additional options

Safety options	
<input type="checkbox"/>	Emergency steering (CEN)
<input type="checkbox"/>	Fire suppression system ANSUL, two tanks, 8 nozzles (CEN), incl. auto engine shutdown
<input type="checkbox"/>	Fire suppression system ANSUL, two tanks, 8 nozzles (CEN), CHECKFIRE, incl. auto engine shutdown
<input type="checkbox"/>	Fire suppression system Sandvik FS1000, with auto engine shutdown
<input type="checkbox"/>	Accordance with CE-norms (CEN)
<input type="checkbox"/>	Safety rails
<input type="checkbox"/>	Gear limit
Electrical options	
<input type="checkbox"/>	Driving direction lights (red/green)
<input type="checkbox"/>	Sandvik integrated scale for load weighing
<input type="checkbox"/>	Monitoring camera system
<input type="checkbox"/>	Jump start
<input type="checkbox"/>	RRC HBC CAN, complete
<input type="checkbox"/>	RRC interface HBC, not with automation
<input type="checkbox"/>	RRC recovery kit (brake release by radio signal), hook included
<input type="checkbox"/>	RRC recovery kit (brake release by pulling the hook)
<input type="checkbox"/>	Tyre pressure monitoring system
Other additional options	
<input type="checkbox"/>	Cabin heater
<input type="checkbox"/>	Cabin lift kit (150 mm)
<input type="checkbox"/>	Cover grills for lamps
<input type="checkbox"/>	Spare rim (26,5-25)
<input type="checkbox"/>	Boom suspension (ride control) with boom floating
<input type="checkbox"/>	Wiggins fluid fill set (hydr., transmission and engine oil)
<input type="checkbox"/>	Wiggins fuel fill system
<input type="checkbox"/>	LinkOne spare part manual
<input type="checkbox"/>	CatBase spare part manual
<input type="checkbox"/>	Pressure accumulator certificates

GRADE PERFORMANCE

Volvo TAD 1340VE Tier 2 256kw
 Calculated with 2% rolling
 resistance
 With lock-up

Empty

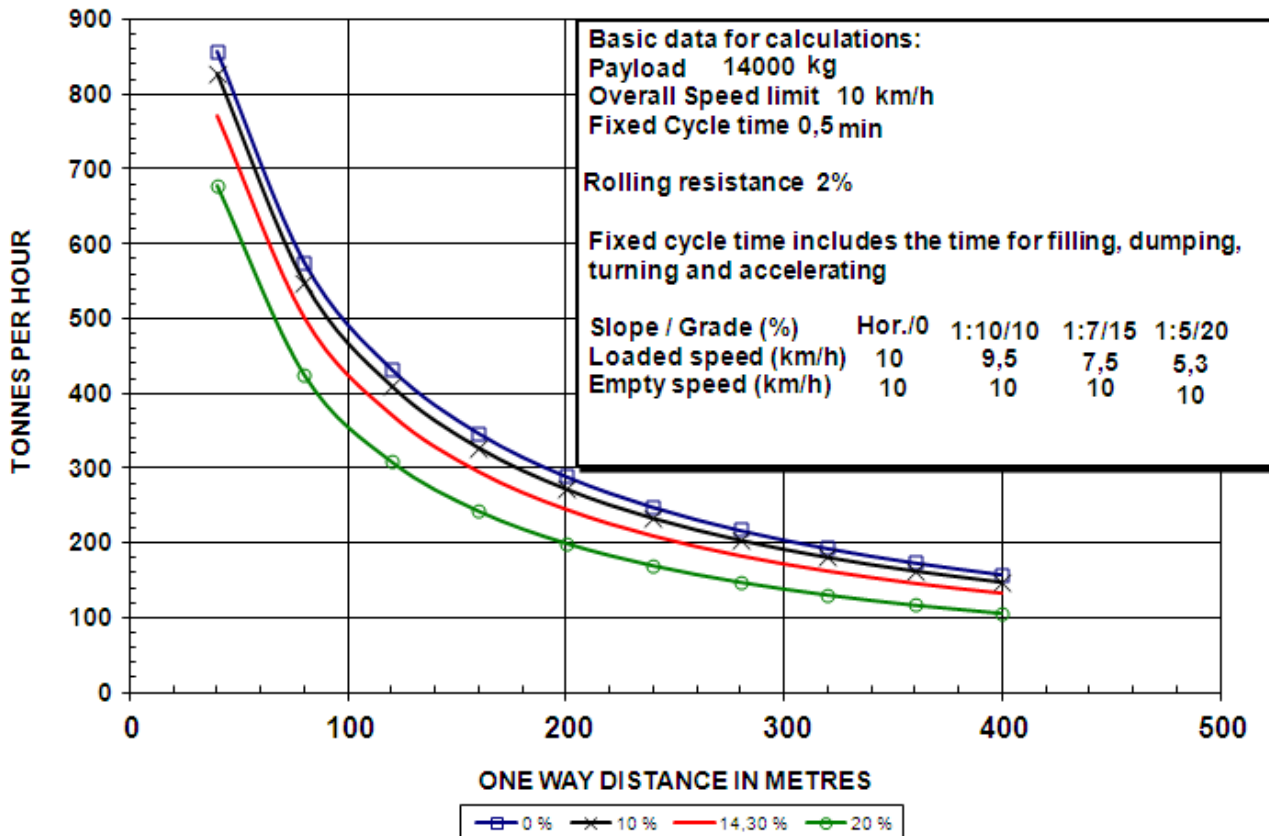
Percent grade	0	2.0	4.0	6.0	8.0	10.0	12.5	14.3	17
Ratio					1:12	1:10	1:8	1:7	
1 st gear (km/h)	5,9	5,9	5,8	5,8	5,8	5,8	5,7	5,7	5,7
2 nd gear (km/h)	10,5	10,4	10,4	10,3	10,2	10,2	10,1	9,5	8,5
3 rd gear (km/h)	18,4	18,2	18,0	17,8	15,8	13,7	11,9		
4 th gear (km/h)	32,9	32,3	26,7	21,5					

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 st gear (km/h)	5,9	5,8	5,8	5,8	5,8	5,7	5,7	5,7	5,6
2 nd gear (km/h)	10,5	10,4	10,3	10,2	10,1	9,5	8,2	7,5	6,7
3 rd gear (km/h)	18,3	18,0	17,7	14,7	12,4				
4 th gear (km/h)	32,7	28,8							

PRODUCTIVITY CURVE

**LH514
 PRODUCTIVITY CURVE**



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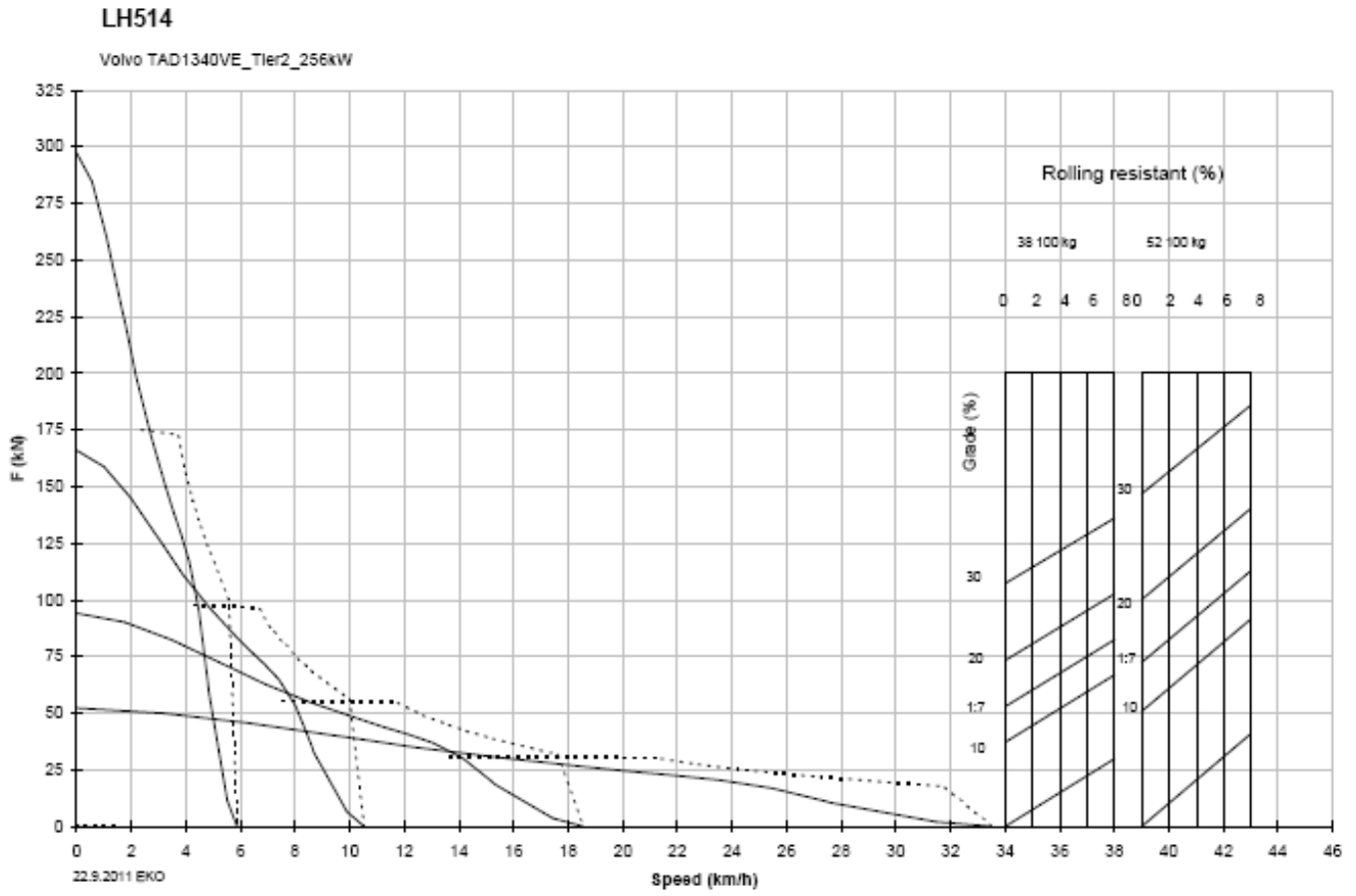
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TRACTIVE EFFORT CURVE



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