



SANDVIK LH400T UNDERGROUND LOADER

TECHNICAL SPECIFICATION



Sandvik LH400T is a robust and cost efficient 10 tonne loader for underground mines. It features simplified and durable design for extended reliability in harsh conditions. High breakout force, fast driving speed and extended reliability enables high long term productivity figures and low cost per loaded tonne. ROPS and FOPS certified operator's canopy and ground level daily maintenance ensure improved safety for the operator and maintenance personnel.

CAPACITIES

Tramming capacity	10 000 kg
Break out force, lift	20 390 kg
Break out force, tilt	18 860 kg
Tipping load	21 880 kg
Standard bucket	4.0 m ³

SPEEDS FORWARD & REVERSE (LEVEL/LOADED)

1st gear	4.6 km/h
2nd gear	8.2 km/h
3rd gear	13.5 km/h
4th gear	23.5 km/h

BUCKET MOTION TIMES

Raising time	7 sec
Lowering time	3.5 sec
Dumping time	3 sec

OPERATING WEIGHTS

Total operating weight	28 470 kg
Front axle	12 170 kg
Rear axle	16 300 kg

LOADED WEIGHTS

Total loaded weight	38 470 kg
Front axle	27 510 kg
Rear axle	10 960 kg

OPERATIONAL CONDITIONS AND LIMITS

Environmental temperature	From -20°C to +50°C
Standard operating altitude	With Deutz F12L413 FW from -1500 m to +1500 m at 25°C without rated power derate

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

POWER TRAIN

ENGINE

Diesel engine	Deutz F12L413 FW
Output	204 kW @ 2300 rpm
Torque	974 Nm @ 1500 rpm
Number of cylinders	V12
Displacement	19.1 l
Cooling system	Air cooled
Combustion principle	4-stroke, indirect injection
Air filtration	Two stage filtration, dry type
Electric system	24 V
Exhaust system	Catalytic purifier and muffler with Proventia thermal insulation system exhaust pipe
Average fuel consumption at 50% load	29.0 l/h
Fuel tank capacity	380 l

CONVERTER

Dana C5402	No lock-up
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TRANSMISSION

Power shift transmission with modulation	Dana RT33425, mechanical gear selection, four gears forward and reverse
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AXLES

Front axle, spring applied hydraulic operated brakes. Fixed.	Kessler D102, limited slip differential
Rear axle, spring applied hydraulic operated brakes. Oscillating $\pm 8^\circ$.	Kessler D102, limited slip differential

TIRES

Tire size (Tires are application approved. Brand and type subject to availability.)	18,00x25 L5S 28 ply
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OPERATOR'S COMPARTMENT

CANOPY

ROPS certification according to EN ISO 3471
FOPS certification according to EN ISO 3449
Adjustable joysticks
No high pressure hoses in the operator's compartment
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
Remote circuit breaker switch

OPERATOR'S SEAT

Low frequency suspension
Height adjustment
Adjustment according to the operator's weight
Padded and adjustable arm rests
Two-point seat belt

DASHBOARD AND DISPLAYS

Critical warnings and alarms as audible and visible alarms
Instrument panel with electric gauges and illuminated switches

FRAME

REAR AND FRONT FRAME

High strength structure with optimized material thicknesses. Reduced own weight for higher overall hauling capacity and long structural lifetime. Welded steel construction. Open rear frame to prevent overheating and improve maintainability.
Central hinge with adjustable upper bearing
Rear tanks are bolted to frame, hydraulic tank and cabin base are both bolted and welded to frame

HYDRAULICS

Manual filling pump for hydraulic oil
Door interlock for brakes and boom, bucket, and steering hydraulics
Oil cooler for hydraulic and transmission oil capability up to 50°C ambient temperature. Oil cooler assembly on the top of the machine frame
ORFS fittings
MSHA approved hoses
Hydraulic oil tank capacity 350 l
Sight glass for oil level, 2 pcs

STEERING HYDRAULICS

Full hydraulic, centre-point articulation, power steering with two double acting cylinders. Steering lock. Steering controlled by hydraulic joystick.
Open center type, hydraulically controlled steering main valve
Steering hydraulic cylinders: 125 mm, 2 pcs
Gear type steering pump
Gear type steering and servo hydraulic pumps

BUCKET HYDRAULICS

The oil flow from steering hydraulic pump is directed to bucket hydraulics when steering is not used.	Hydraulic joystick bucket and boom control, equipped with gear pump that delivers oil to the bucket hydraulic main valve.
Boom system	Z-link
Lift cylinders	160 mm, 2 pcs
Dump cylinder	200 mm, 1 pc
Main valve	Open center type
Pump for bucket hydraulics	Gear type

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. Brake system performance complies with requirements of EN ISO 3450, AS2958.1 and SABS 1589.

Automatic brake activation system, ABA

Electrically driven emergency brake release pump

ELECTRICAL EQUIPMENT

MAIN COMPONENTS

Alternator	24 V, 95 A
Batteries	2 x 12V, 145 Ah
Starter	24 V, 9 kW
Driving lights	LED lights: 2 pcs in front 2 pcs in rear 4 pcs in cabin
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, 2 x 6 kg

Isolation of combustibles and ignition sources

Heat insulation on exhaust manifold, turbo, and isolated exhaust pipe

GRADE PERFORMANCE

Deutz F12L413FW

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)	4.6	4.5	4.3	4.2	4.2	4.1	4.0	4.0	3.9
2nd gear (km/h)	8.4	7.9	7.7	7.5	7.3	7.1	6.9	6.7	6.3
3rd gear (km/h)	13.8	13.1	12.5	12.0	11.3	10.3	8.6	7.5	5.9
4th gear (km/h)	24.2	22.3	19.8	15.5	11.3	7.0			

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)	4.6	4.4	4.2	4.1	4.1	4.0	3.9	3.8	3.7
2nd gear (km/h)	8.2	7.7	7.5	7.2	7.0	6.7	6.2	5.7	4.9
3rd gear (km/h)	13.5	12.7	11.9	10.9	9.3	7.5	5.5	3.9	
4th gear (km/h)	23.5	20.7	15.3	9.6	2.3				

ENERGY ISOLATION

Lockable main switch, ground level access
Emergency stop push buttons according to EN ISO 13850: 1 pc in cabin and 2 pcs in rear
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

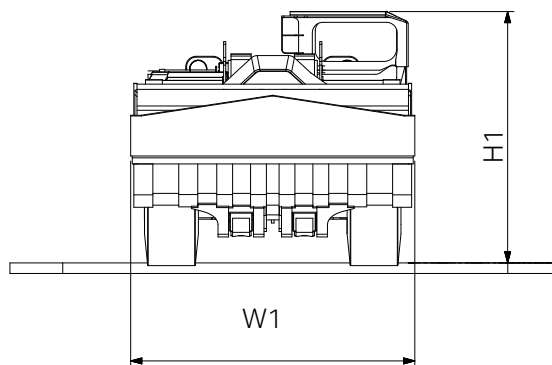
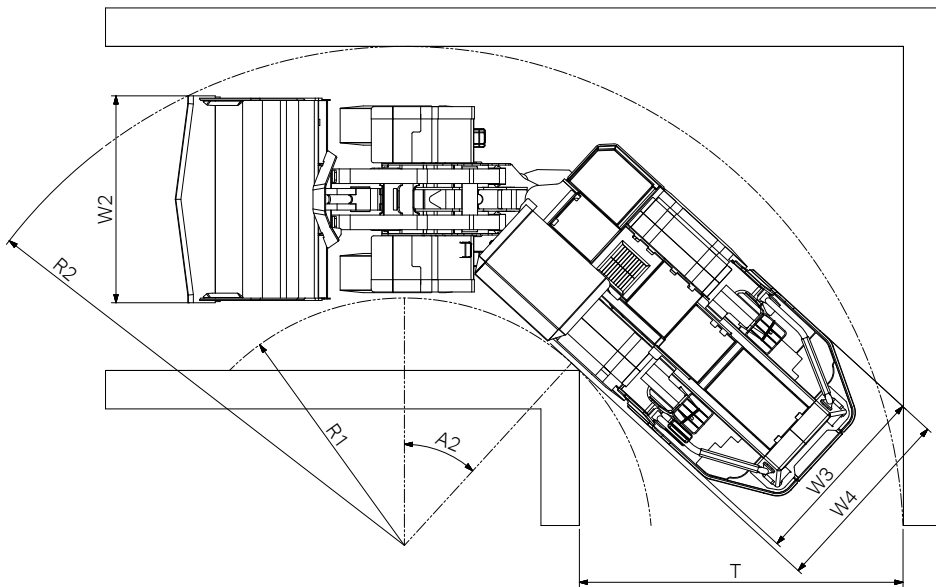
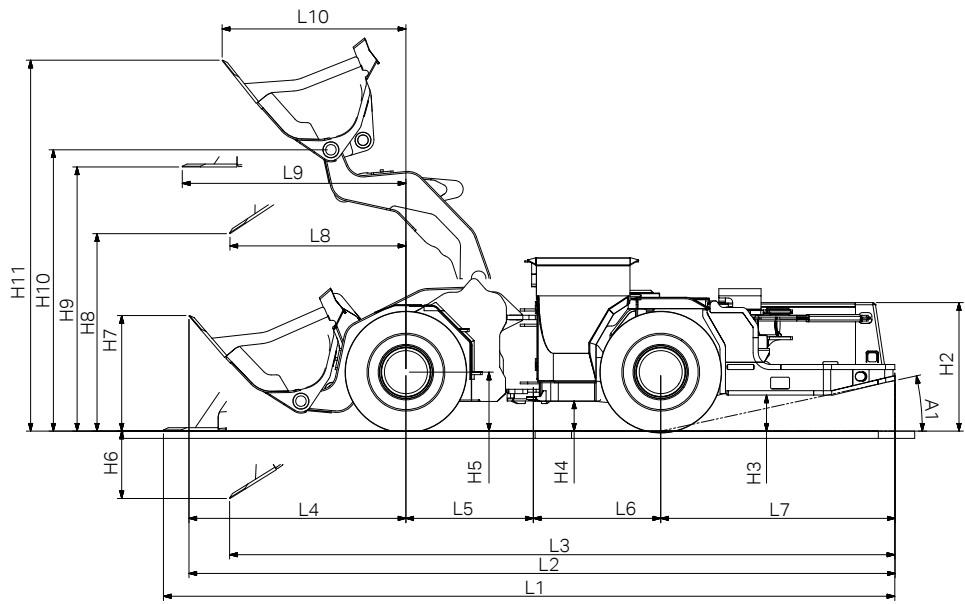
STANDARD MANUALS

Operator's Manual	English, Russian
Maintenance Manual	English, Russian
Parts Manual	English
Service and Repair Manual	English
ToolMan	2 x USB stick in pdf format, includes all the manuals
Decals	English, Spanish

OPTIONS

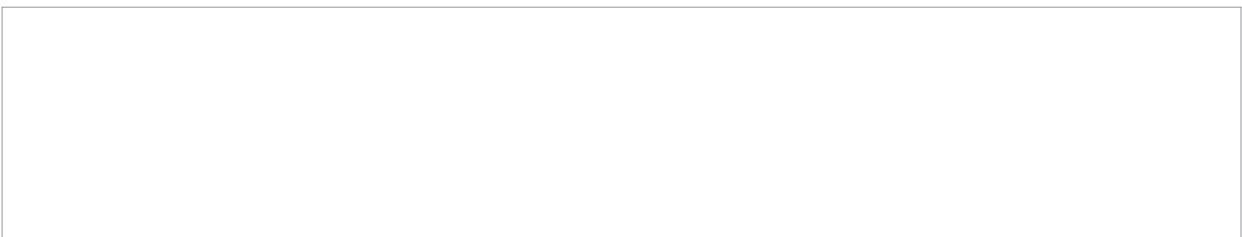
Line of sight radio remote control HBC, analogue, including electrical gear shift
Recovery kit (brake release by radio signal)
Driving direction lights (red / green)
Fire suppression system ANSUL, 1 tank, 8 nozzles including auto engine shutdown
Fire suppression system ANSUL, 1 tank, 8 nozzles, Checkfire, including auto engine shutdown
Neutral brake
Cover grills for lamps
Spare rim (13.00-25/2.5 for tires 18.00-25)
Wiggins quick filling set for fuel and oils (hydraulic, engine and transmission)

DIMENSIONS



DIMENSIONS

	Standard		
Bucket alternatives (m ³)	4.0 m ³	4.6 m ³	5.5 m ³
Material broken density (kg/m ³)	max. 2600 kg/m ³	max. 2200 kg/m ³	max. 1800 kg/m ³
Lip plate type	Bare Lip	Bare Lip	Bare Lip
L1 (mm)	10050	10190	10400
L2 (mm)	9700	9796	9942
L3 (mm)	9561	9676	9848
L4 (mm)	2980	3076	3222
L5 (mm)	1750	1750	1750
L6 (mm)	1750	1750	1750
L7 (mm)	3220	3220	3220
L8 (mm)	2215	2328	2497
L9 (mm)	2744	2884	3094
L10 (mm)	2348	2441	2581
H1 (mm)	2379	2379	2379
H2 (mm)	1765	1765	1765
H3 (mm)	495	495	495
H4 (mm)	378	378	378
H5 (mm)	810	810	810
H6 (mm)	925	1005	1125
H7 (mm)	1587	1688	1840
H8 (mm)	2487	2404	2279
H9 (mm)	3461	3454	3443
H10 (mm)	3863	3863	3863
H11 (mm)	5094	5199	5356
W1 (mm)	2690	2690	2690
W2 (mm)	2690	2690	2690
W3 (mm)	2410	2410	2410
W4 (mm)	2488	2488	2488
A1	42.5°	42.5°	42.5°
A2	12°	12°	12°
R1, left turn (mm)	3217	3217	3217
R2, left turn (mm)	6488	6531	6597
T, left turn (mm)	4213	4256	4270
R1, right turn (mm)	3290	3290	3290
R2, right turn (mm)	6488	6531	6597
T, right turn (mm)	4162	4204	4270



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