

**VOLVO BM**

# L30



- **Engine output:**  
SAE J1349 Net 51 kW (69 hp)
- **Operating weight:** 6,0 t (13 450 lb)
- **Buckets:** 0,8-1,8 m<sup>3</sup> (1,0-2,3 yd<sup>3</sup>)
- Ample breakout and lifting forces
- Hydraulic attachment bracket
- The largest family of attachments on the market
- Volvo BM Automatic Power Shift
- Precision steering and small turning radius
- Unmatched operating comfort
- Loader unit with parallel lift-arm action, high lift height and long reach
- **Productivity-boosting options**
- Fourth hydraulic function
- 6-speed transmission

## ENGINE



The engine is a 4-cylinder, direct-injected, naturally aspirated, 4-stroke diesel engine with dry, replaceable cylinder liners.

**Air cleaning:** air cleaning in two stages.

1. Paper filter with indicating warning lamp on instrument panel.
2. Safety filter element.

Make	Perkins		
Model	4.236		
Flywheel output at	r/s (r/min)	36,7	(2200)
SAE J1349 Net	kW (hp)	51	(69)
DIN 70020	kW (hp)	52	(70)
Max. torque at	r/s (r/min)	23,3	(1400)
SAE J1349 Net	Nm (lbf ft)	250	(184)
DIN 70020	Nm (lbf ft)	257	(189)
No. of cylinders	4		
Displacement, total	l (in <sup>3</sup> )	3,8	(236)
Bore	mm (in)	98,4	(3,87)
Stroke	mm (in)	127	(5,0)
Compression ratio	16,0 : 1		

## ELECTRICAL SYSTEM



The electrical system is well protected with fuses. Prewired for extra equipment.

**Central warning:** Central warning lamp (with buzzer) for following functions: engine oil pressure, brake pressure, parking brake, engine temperature, transmission temperature.

Voltage	V	24
Batteries	V	2x12
Battery capacity	Ah	2x90
Cranking capacity	A	2x380
Reserve capacity	min	2x65
Alternator rating	W/A	1260/45
Starter motor output	kW (hp)	4 (5,3)

## SERVICE REFILL CAPACITIES



Crankcase	l (US gal)	8,0	(2,1)
Fuel tank	l (US gal)	95,0	(25,1)
Cooling system	l (US gal)	24,0	(6,3)
Transmission, total	l (US gal)	22,0	(5,8)
refill	l (US gal)	15,5	(4,1)
Front axle, total	l (US gal)	10,0	(2,6)
Rear axle, total	l (US gal)	10,0	(2,6)
Hydraulic system	l (US gal)	105,0	(27,7)

## DRIVE TRAIN



**Torque converter:** single-stage, single-phase.

**Transmission:** Power shift transmission of countershaft type with directional clutch modulation. Single lever control.

**Axles:** Fully floating half-shafts with planetary type hub reduction gears. Rigid front axle and oscillating rear axle.

**Hub reduction:** The planetary hub reduction gears can be removed without having to remove wheels and brakes.

**Tires:** Alternative tires are available for different working operations

Torque multiplication ratio	2,85 : 1		
Transmission, make	Clark		
3-speed version	Model		
1, forward/reverse	km/h (mile/h)	7,3	(4,5)
2, forward/reverse	km/h (mile/h)	13,9	(8,6)
3, forward/reverse	km/h (mile/h)	35,2	(21,9)
6-speed version (optional)	Model		
12,2HR 18324	Model		
12,2HR 18641	Model		
Low range	km/h (mile/h)	2,9	(1,8)
1, forward/reverse	km/h (mile/h)	6,3	(3,9)
2, forward/reverse	km/h (mile/h)	13,9	(8,7)
3, forward/reverse	km/h (mile/h)	13,9	(8,7)
High range	km/h (mile/h)	7,1	(4,4)
1, forward/reverse	km/h (mile/h)	14,9	(9,3)
2, forward/reverse	km/h (mile/h)	31,5	(19,6)
3, forward/reverse	km/h (mile/h)	31,5	(19,6)
Measurement with tires	15,5 - 25		
Front axle, make	Braseixos (Rockwell)		
Model	PRA - 181		
Rear axle, make	Braseixos (Rockwell)		
Model	PRA - 181		
Oscillation	± °	11	
	mm (in)	310	(12,2)

## BRAKE SYSTEM



The brake system meets requirements according to SAE J1473, EG 71/320 and ISO 3450.

**Service brakes:** fully hydraulically operated power disc brakes. Transmission disengagement when braking pre-selected with a switch on the instrument panel.

**Pump:** gear pump fitted on engine p.t.o.

**Secondary:** dual-circuit system, divided between axles. One circuit, or parking brake, fulfills the requirements.

**Parking brake:** drum brake on front axle pinion drive flange. A warning lamp indicates when the parking brake is applied and gear lever is in forward or reverse.

Brake friction area	front/wheel ea.		
	cm <sup>2</sup> (in <sup>2</sup> )	208	(32,2)
	cm <sup>2</sup> (in <sup>2</sup> )	208	(32,2)
Accumulators	3		
volume, total	l (in <sup>3</sup> )	1,5	(91,5)

## STEERING SYSTEM



Hydrostatic, articulated steering.

**Pump:** gear pump fitted to a power take-off on transmission.

**System supply:** steering system supplied from separate steering pump.

**Cylinders:** two double-acting cylinders with chromed piston rods.

Steering cylinders			2	
Bore	mm	(in)	63	(2,48)
Piston rod diameter	mm	(in)	32	(1,25)
Stroke	mm	(in)	285	(11,22)
Relief pressure	MPa	(psi)	15	(2175)
Flow	l/min		48	
		(US gal/min)		(12,7)
at	MPa	(psi)	10	(1450)
and engine speed	r/s	(r/min)	36,7	(2200)

## CAB



Tested and approved as safety cab according to the Swedish Working Environment Act section 3, sub-section 8, and meets

standards according to ISO 3471-1980, ROPS (SAE J1040c), ISO 3449-1980 FOPS (SAE J231), SS/ISO 6055 "Overhead guards for fork lift trucks" and SAE J386 Operator Restraint System.

The cab is mounted on four rubber pads and is well insulated.

The windshield is of laminated safety glass, all other windows being of tempered safety glass.

**Heater and defroster:** heating element with filtered fresh air and 3-speed fan with defroster outlets for all windows.

**Air condition:** standard on certain markets.

**Operator's seat:** spring suspended, fully adjustable operator's seat with seat belt. Electrically heated.

Emergency exits			3	
Ventilation	m <sup>3</sup> /min	(cfm)	9,5	(335)
Heating capacity	kW	(Btu/h)	11,6	(39600)
Operator's seat			ISRI 6000/575	
Noise in cab max	dB(A)		78	

## HYDRAULIC SYSTEM



Open center system. 3rd hydraulic control standard.

**Pump:** gear pump fitted to a power take-off on transmission

**System supply:** system supplied from a separate pump.

**Valve:** double-acting 3 spool valve.

**Lifting function:** the valve has four positions: lifting, neutral, lowering and floating.

**Tilting function:** the valve has three positions: rollback, neutral and forward tilting.

**Cylinders:** double-acting.

**Filter:** full-flow filtering through 10 µm filter cartridge in combination with magnetic core.

**Load unit:** tilt cylinders fitted in line with lifting arms. Extremely good dump angle, good carrying angle and parallel arm action.

Relief pressure	MPa	(psi)	15,0	(2175)
Flow	l/min		103	
		(US gal/min)		(27,2)
at	MPa	(psi)	10	(1450)
and engine speed	r/s	(r/min)	36,7	(2200)
Lifting cylinder			2	
Bore	mm	(in)	100	(3,93)
Piston rod diameter	mm	(in)	50	(1,97)
Stroke	mm	(in)	650	(25,6)
Tilting cylinder			2	
Bore	mm	(in)	80	(3,15)
Piston rod diameter	mm	(in)	40	(1,57)
Stroke	mm	(in)	781	(30,75)
Lifting time *	s		5,4	
Tipping time *	s		2,5	
low speed (empty)	s		1,3	
Lowering time (empty)	s		3,3	
Total cycle time	s		11,2	

\* with load, SAE

## ATTACHMENTS *(for further information please contact your local dealer)*

### Buckets

Straight bucket without teeth	0,8/1,0 m <sup>3</sup>	(1,0/1,3 yd <sup>3</sup> )
Straight bucket with teeth	0,8/1,0 m <sup>3</sup>	(1,0/1,3 yd <sup>3</sup> )
Light materials bucket	1,8 m <sup>3</sup>	(2,4 yd <sup>3</sup> )
High-dump light materials bucket	1,3 m <sup>3</sup>	(1,7 yd <sup>3</sup> )
Grading bucket	1,1 m <sup>3</sup>	(1,4 yd <sup>3</sup> )
Sand spreading bucket	2,0 m <sup>3</sup>	(2,6 yd <sup>3</sup> )

### Timber grapples

Sorting/unloading grapple	0,57 m <sup>2</sup>	(6,5 ft <sup>2</sup> )
Tree length grapple	0,5 m <sup>2</sup>	(5,4 ft <sup>2</sup> )

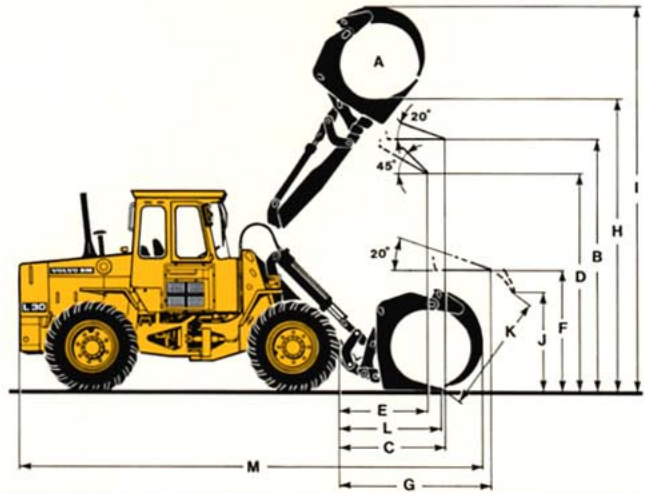
### Examples of other attachments

Pallet forks	Hydraulic clamping grapple
Breakout forks	Asphalt cutter
Pallet fork with line positioner	Diagonal snow blade
Combination forks	Sweeper
Material handling arms	

## Sorting grapple (98378 Hook-on)

Operating weight	kg (lb)	6150 (13560)
Operating load	kg (lb)	1500 (3310)

A	m <sup>2</sup> (ft <sup>2</sup> )	0,9 (9,68)
B	mm (ft in)	3355 (11'0")
C	mm (ft in)	1320 (4'4")
D	mm (ft in)	2965 (9'9")
E	mm (ft in)	1095 (3'7")
F	mm (ft in)	1550 (5'1")
G	mm (ft in)	2200 (7'3")
H	mm (ft in)	4100 (13'5")
I	mm (ft in)	5430 (18')
J	mm (ft in)	1775 (5'10")
K	mm (ft in)	1930 (6'4")
L	mm (ft in)	1525 (5')
M	mm (ft in)	6650 (21'10")

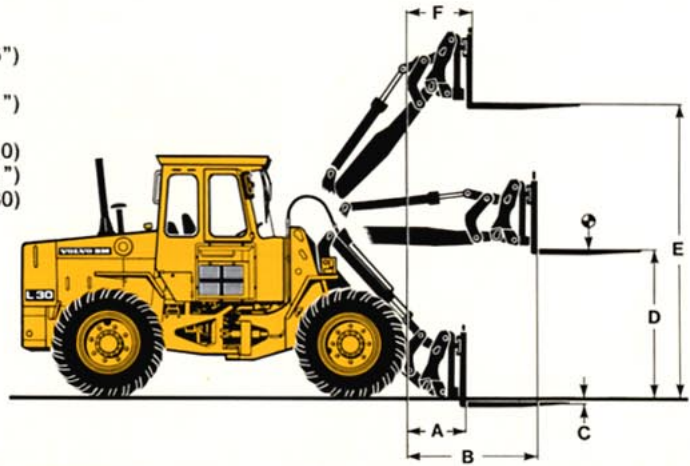


## Pallet fork (Hook-on)

Fork tine, order no.		<b>97788</b>
Length	mm (ft in)	1050 (3'5")
Fork frame, order no.		<b>91176</b>
Width	mm (ft in)	1200 (3'11")
Max permissible load according to SS 3462 at load center distance	kg (lb)	2000 (4410)
Operating weight	kg (lb)	5980 (13180)

A	mm (ft in)	500 (1'8")
B	mm (ft in)	1300 (4'3")
C	mm (ft in)	-5 (-0,2") *
D	mm (ft in)	1730 (5'8")
E	mm (ft in)	3450 (11'4")
F	mm (ft in)	510 (1'8")

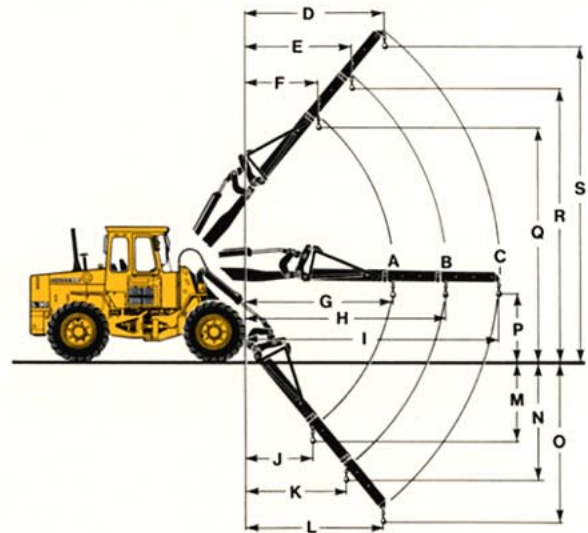
\* Above ground surface



## Material handling arm (97824 Hook-on)

Operating weight	kg (lb)	5960 (13140)
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A	kg (lb)	700 (1540)
B	kg (lb)	525 (1160)
C	kg (lb)	435 (960)
D	mm (ft in)	2820 (9'3")
E	mm (ft in)	2160 (7'1")
F	mm (ft in)	1540 (5'1")
G	mm (ft in)	3130 (10'3")
H	mm (ft in)	4195 (13'9")
I	mm (ft in)	5325 (17'6")
J	mm (ft in)	1460 (4'10")
K	mm (ft in)	2120 (6'12")
L	mm (ft in)	2820 (9'3")
M	mm (ft in)	1845 (6'1")
N	mm (ft in)	2685 (8'10")
O	mm (ft in)	3580 (11'9")
P	mm (ft in)	1485 (4'11")
Q	mm (ft in)	4935 (16'2")
R	mm (ft in)	5795 (19'0")
S	mm (ft in)	6715 (22'0")



### ALTERATION OF DIMENSIONAL DATA

Tires		14.9-25 SGL	15.5 R 25'			
Liquid ballast in rear tires						
75% CaCl <sub>2</sub>	kg (lb)	428 (943)	428 (943)			
Width over wheels	mm (ft in)	-190 (-7")	±0			
Ground clearance	mm (ft in)	380 (1'3")	420 (1'4")			
Tipping load at full turn	kg (lb)	-35 (-77)	150 (330)			
with 75% CaCl <sub>2</sub>	kg (lb)	474 (1044)	474 (1044)			
Operating weight	kg (lb)	-60 (-132)	220 (485)			

# DIMENSIONAL DATA VOLVO BM L30

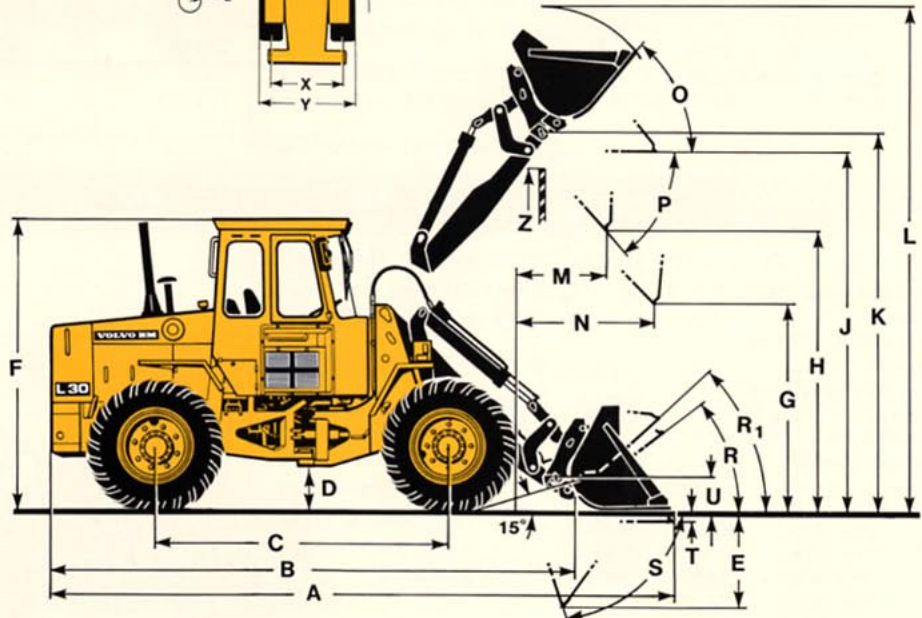
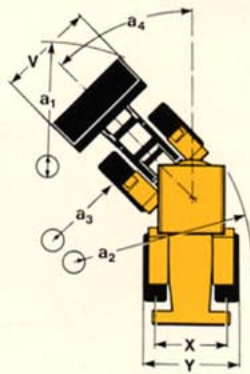
Tires: 15.5 - 25/12 L-2 SGL

Where applicable, specifications and dimensions are in accordance with SAE Standard J732c, J742b and J818b.

Liquid ballast in rear tires only recommended for stabilizing purposes in timber and pallet handling on hard and level ground.

B	mm (ft in)	4690	(15'5")
C	mm (ft in)	2725	(8'11")
D	mm (ft in)	420	(1'5")
F	mm (ft in)	2780	(9'2")
G	mm (ft in)	2000	(6'7")
J	mm (ft in)	3370	(11'1")
K	mm (ft in)	3590	(11'9")
O	°	51	
P	°	45	
R	°	40	
R <sub>1</sub> *	°	43	
S	°	52	
S	°	78	
T	mm (ft in)	75	(3")
U	mm (ft in)	305	(1'0")
~	mm (ft in)	555	(1'10")
X	mm (ft in)	1590	(5'3")
Y	mm (ft in)	1990	(6'6")
Z	mm (ft in)	3350	(10'11")
a <sub>2</sub>	mm (ft in)	4740	(15'7")
a <sub>3</sub>	mm (ft in)	2750	(9'0")
a <sub>4</sub>	± °	40	

\* Carrying position SAE  
~ Max carry position



**Bucket type**

- 1 = Straight without teeth
- R = Hook-On
- D = Pin-On

Order No.		91033	91035	91070
Mounting / Bucket type		R / 1	R / 1	R / 1
Volume, heaped	m <sup>3</sup> (yd <sup>3</sup> )	0,8 (1,0)	1,0 (1,3)	1,8 (2,4)
Volumetric weight	kg/m <sup>3</sup> (lb/yd <sup>3</sup> )	1800 (3000)	1500 (2500)	800 (1350)
Static tipping load, straight	kg (lb)	3690 (8130)	3600 (7940)	3390 (7470)
at 35° turn	kg (lb)	3290 (7250)	3200 (7060)	3000 (6610)
at full turn	kg (lb)	3170 (6990)	3080 (6790)	2880 (6350)
Breakout force	kN (lbf)	54,8 (12320)	48,1 (10810)	35,9 (8070)
Hydraulic lifting force at ground level	kN (lbf)	45,0 (10120)	44,6 (10030)	43,7 (9820)
at max. height	kN (lbf)	21,3 (4790)	20,8 (4680)	19,7 (4430)
A	mm (ft in)	5600 (18'4")	5700 (18'8")	5990 (19'8")
L	mm (ft in)	4335 (14'3")	4350 (14'3")	4515 (14'10")
V	mm (ft in)	2130 (7')	2130 (7')	2240 (7'4")
a <sub>1</sub> clearance circle	mm (ft in)	10325 (33'11")	10380 (34'1")	10640 (34'11")
E	mm (ft in)	770 (2'6")	870 (2'10")	1150 (3'9")
H	mm (ft in)	2810 (9'3")	2740 (9')	2540 (8'4")
M	mm (ft in)	760 (2'6")	830 (2'9")	1030 (3'5")
N	mm (ft in)	1350 (4'5")	1390 (4'7")	1480 (4'10")
Weight distribution, front	kg (lb)	2940 (6490)	3020 (6660)	3180 (7010)
Weight distribution, rear	kg (lb)	3000 (6610)	2980 (6570)	2920 (6440)
Operating weight	kg (lb)	5940 (13100)	6000 (13230)	6100 (13450)

## STANDARD EQUIPMENT

### Safety & comfort

ROPS and FOPS cab  
Cab heating with filtered fresh air intake and defroster  
Tinted glass  
Ergonomically designed and adjustable operator seat with seat belt and heated seat  
Rear-view mirrors, external, two  
Rear-view mirror, internal, one  
Lighting:  
main headlamps, full-dipped beam/asym. (halogen)  
working lights, front (two, halogen)  
working lights, rear (two, halogen)  
parking lights  
side marker lights  
brake lights  
rear lights

cab lighting  
instrument lighting  
direction indicators  
Instrument panel with symbols  
Sun visor  
Safety start  
Mudguards  
Hazard warning flashers  
Windscreen wipers, front & rear  
Windscreen washer  
Intermittent wiper, front  
Horn  
Ashtray  
Cigarette lighter  
Lifting eyes  
Lockable tool box  
Pressure gauge, brake system  
Opening window  
File pocket  
Towing hitch

### Engine & electrical system

Electric socket 24 V  
Alternator  
Battery disconnection switch  
Thermostat  
Engine temperature gauge  
Hydraulic transmission temperature gauge  
Hour recorder  
Fuel gauge  
Control and warning lamps for:  
working lights, front/rear charging  
full-beam headlights  
direction indicators  
engine oil pressure  
hydraulic transmission pressure  
parking brake  
brake pressure  
hazard warning flashers  
air cleaner

Central warning (with buzzer):  
Engine oil pressure, brake pressure, parking brake, engine temperature, transmission temperature

### Drivetrain

Automatic Power Shift transmission  
Single-lever shift  
Tires: 15.5-25

### Hydraulic system

Gear pump  
Control valve (3-spool)  
Tilt position indicator  
Automatic tilt positioner  
3rd hydraulic control

## OPTIONAL EQUIPMENT (Standard on certain markets)

### Service and maintenance equipment

Tool kit  
Wheel nut wrench kit

### Engine equipment

Exhaust deflector  
Engine block heater

### Electrical equipment

Rotating beacon  
Trailer contact  
Working light-dependent parking lights  
Extra working lights, rear (two, halogen)  
Extra working lights, front (two, halogen)

Road lights (left-hand asymmetrical, halogen)  
Back-up alarm  
Registration plate lighting  
Voltmeter  
Engine oil pressure gauge  
Hydraulic transmission oil pressure gauge

### Drivetrain equipment

6 speed transmission,  
Protection guard front differential

### Cab equipment

Air conditioner

Tiltable steering column  
Dual brake pedals  
ROPS canopy  
Radio panel without radio  
Speedometer and tachometer  
Lever lock for hydraulic levers  
Instructor's seat  
Parking-brake alarm, acoustic

### Hydraulic equipment

4th hydraulic control  
Hydraulic oil cooler  
Single-acting lifting function  
Flow regulator  
Lift detent

### External equipment

Extended mudguards  
Slow Moving Vehicle sign

### Protective equipment

External noise reduction kit  
Anti skid equipment  
Vandalism protection kit

### Other equipment

German version

*Under our policy of continuous product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.*

**VME Industries Sweden AB**

S-631 85 ESKILSTUNA SWEDEN