



Volvo BM L150C



- **Engine output SAE J1349:**
gross 182kW, (248 hp)
net 172kW, (234 hp).
 - **Operating weight:** 21,9-25,8 t.
 - **Buckets:** 3,5 – 12,0m³.
 - **Volvo Low Emission engine** with excellent low rpm. lugging performance.
The engine meets all known regulations regarding exhaust emissions for off road machines until year 2001.
 - **Volvo BM transmission with APS II**, the new generation of Automatic Power Shift with mode selector optimizes the performance.
 - **Torque Parallel Linkage**
 - high breakout torque throughout the working range.
 - excellent parallel lift-arm action.
 - Fully sealed oil-circulation cooled wet disc brakes.
 - **Care Cab** – pressurized cab with high comfort and safety.
 - **Contronic** monitoring system.
 - Pilot-operated working hydraulics
- Optional Equipment**
- Hydraulic attachment bracket
 - Long Boom
 - Boom Suspension
 - Comfort Drive Control

VOLVO BM

SERVICE REFILL CAPACITIES



Contronic monitoring system provides information on machine condition, routine maintenance schedules and minimizes time required for troubleshooting as well as engine shut down to idle.

Service accessibility: Large, easy-to-open engine access doors with gas struts. Hinged radiator grill and radiator.

Capacities

Fuel tank	339 l	Transmission	35 l
Engine coolant	65 l	Engine oil	27 l
Hydraulic tank	165 l	Axle front/rear	55/54 l

ENGINE

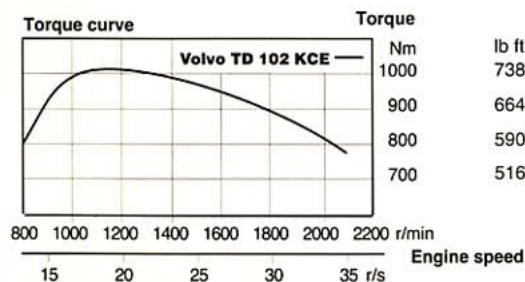


Engine delivers high torque and quick response at low rpm even under full load. The machine can work at low engine speeds, which contributes to good fuel economy, less noise, less wear and longer life.

Engine: Volvo TD 102 KCE low emission, high performance, 6-cylinder, in-line, direct-injected, turbocharged, inter-cooled 4-stroke diesel engine with wet replaceable cylinder liners.

Air cleaning: three-stage.

output at	35 r/s	2100 r/min
SAE J1349 gross	182 kW	246 hp
net	172 kW	234 hp
Max. torque at	18,3 r/s	1100 r/min
SAE J1349 gross	1030 Nm	
net	1010 Nm	
Displacement	9,6 l	



ELECTRICAL SYSTEM



Contronic monitoring system with complete information on the status of the machine's various systems is standard. Electrical system with circuit board is well protected by fuses. Prepared for retrofitting of optional equipment.

Central warning: Central warning lamp for the following functions: engine oil pressure, engine coolant temperature (with buzzer), transmission oil pressure, transmission oil temperature, brake pressure, parking brake (buzzer). Steering pressure, High speed/gear.

Transmission oil filter, Axle oil temperature

Voltage	24 V	
Batteries	2x12 V	
Battery capacity	2x140 Ah	
Cold cranking capacity, ea	1050 A	
Reserve capacity, ea	290 min	
Alternator rating	1680 / 60 W/A	
Starter-motor output	5,4 kW	7.3 hp

DRIVETRAIN



Drivetrain and working hydraulics well-matched to each other. Dependable design. Quick acceleration boosts productivity. Volvo BM system-compatible design facilitates servicing.

Torque converter: Single-stage

Transmission: Volvo BM Automatic Power Shift transmission of countershaft type with single-lever control. Fast and smooth forward/reverse shifting.

Shifting system: Volvo BM Automatic Power Shift generation II with mode selector (APS II).

Axles: Volvo BM, fully floating axle shafts with planetary-type hub reductions. Cast-steel axle housing. Fixed front axle and oscillating rear axle. 100% differential lock on front axle.

Transmission	Volvo BM HT 210
Torque multiplication	2,40:1
Speeds, max forward/reverse	
1	6,4 km/h
2	11,8 km/h
3	23,3 km/h
4 (forward only)	33,9 km/h
Measured with tires	26.5 -25 L3
Front axle and rear axle	Volvo BM / AWB 40
Oscillation, rear axle	±15 °
Ground clearance at	
15° oscillation	610 mm

BRAKE SYSTEM



Simple, reliable system with few parts ensures high availability and safety. Self-adjusting internal oil circulation-cooled disc brakes give long service intervals.

Service brakes: Volvo BM, dual-circuit system with nitrogen-charged accumulators. Fully hydraulically operated enclosed internal oil circulation-cooled outboard mounted disc brakes. Transmission declutch during braking can be preselected by a switch on the instrument panel.










Parking brake: Enclosed wet multi-disc brake built into the transmission. Spring applied, electro-hydraulic released via a switch on the instrument panel. Applies automatically when the key is turned of.

Secondary brake: Dual - circuit system with rechargeable accumulators. One circuit or the parking brake fulfills the requirements.

Standards: The brake system complies with the requirements of ISO 3450, SAE J1473

Number of discs/wheel	1
Accumulators, volume each	3x1,0 l
Accumulator, parking brake	1x0,5 l

OPERATIONAL DATA VOLVO BM L150C

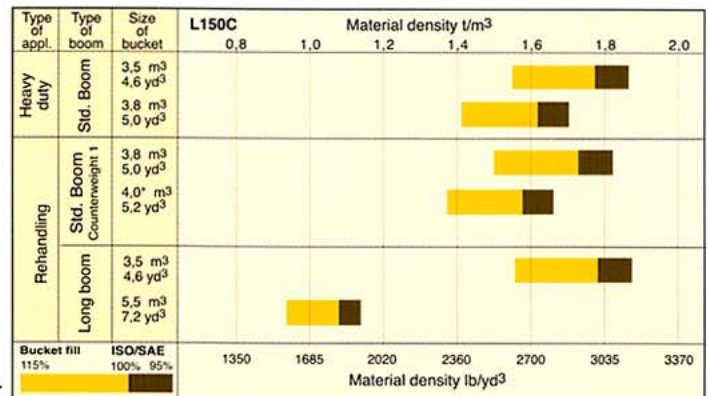
Type of application		REHANDLING			HEAVY DUTY			LIGHT MTRL	LONG BOOM	
										
Tires 26.5-R 25 L3										
Volume, heaped	m³	3,8	3,8	3,8	3,5	3,6	3,5	6,5	3,5	5,5
incl. bolt-on cutting edge	m³	4,0	4,0	—	—	—	—	6,8	3,7	5,8
Static tipping load, straight	kg	16920	16300	15890	16020	15720	15520	16060	15030	14380
at 35° turn	kg	15090	14500	14150	14280	13970	13780	14250	13340	12710
at full turn	kg	14870	14290	13950	14080	13760	13570	14030	13140	12520
Breakout force	kN	186,4	174,7	186,4	193,1	190,4	169,0	133,0	183,3	139,2
A	mm	8110	8200	8350	8300	8320	8490	8660	8580	8990
E	mm	1130	1210	1130	1080	1100	1250	1610	1100	1450
H	mm	3120	3060	2960	3000	2980	2870	2720	3720	3420
L	mm	5890	5940	5890	5820	5920	5890	6100	6400	6510
M	mm	1170	1240	1360	1320	1330	1460	1590	1120	1390
N	mm	1790	1840	1910	1890	1900	1980	1960	2210	2360
V	mm	3200	3200	3200	3200	3200	3200	3200	3200	3200
a ₁ clearance circle	mm	14730	14780	14900	14880	14890	14750	15030	15120	15340
Operating weight	kg	22210	22470	21960	21850	22150	22270	22580	22930	23320
Product no		92180	92179	92181	92207	92800	92209	92032	92205	94686
Including counterweight 1								Incl. CW1	Including counterweight 1+2	

BUCKET SELECTION CHART

The volume handled varies with the bucket fill and is often greater than indicated by the bucket's ISO/SAE volume. The table shows optimum bucket choice with regard to the material density.

Material m³	Bucket fill %	Density t/m³
Earth	100-115	1,4-1,6
Clay	110-120	1,4-1,6
Sand	100-110	1,6-1,9
Gravel	100-110	1,7-1,9
Rock	75-100	1,5-1,9

*) Incl. edge saver



SUPPLEMENTAL OPERATING DATA

		Standard Boom						Long Boom		
		23.5 R25 L3	23.5 R25 L5	26.5 R25 L5	30/65 R 25 L2	Cw 1	Cw2	*Cw3	26.5 R25 L5	30/65 R 25 L2
Width over tires	mm	-155	-140	+14	+90	—	—	—	+14	+90
Ground clearance	mm	-25	-73	+35	-20	—	—	—	+35	-20
Tipping load, full turn	kg	-380	-10	+385	-95	+735	+1185	+465	+326	-80
Operating weight	kg	-695	-165	+552	-230	+375	+600	+260	+552	-230

Counterweight 1 may be used in rehandling and material handling. Counterweight 2, and combinations of counterweight 1 and 2, may be used within pallet and material arms handling for stabilizing purposes on firm and level ground. Counterweight 2 replaces hydroinflation of rear tires.

Counterweight 2 must never be combined with tire chains. *For the purpose of stabilizing in log operations counterweight 3 may be added to counterweight 1 and 2. Counterweight 3 must never be used in combination with L5 tires.

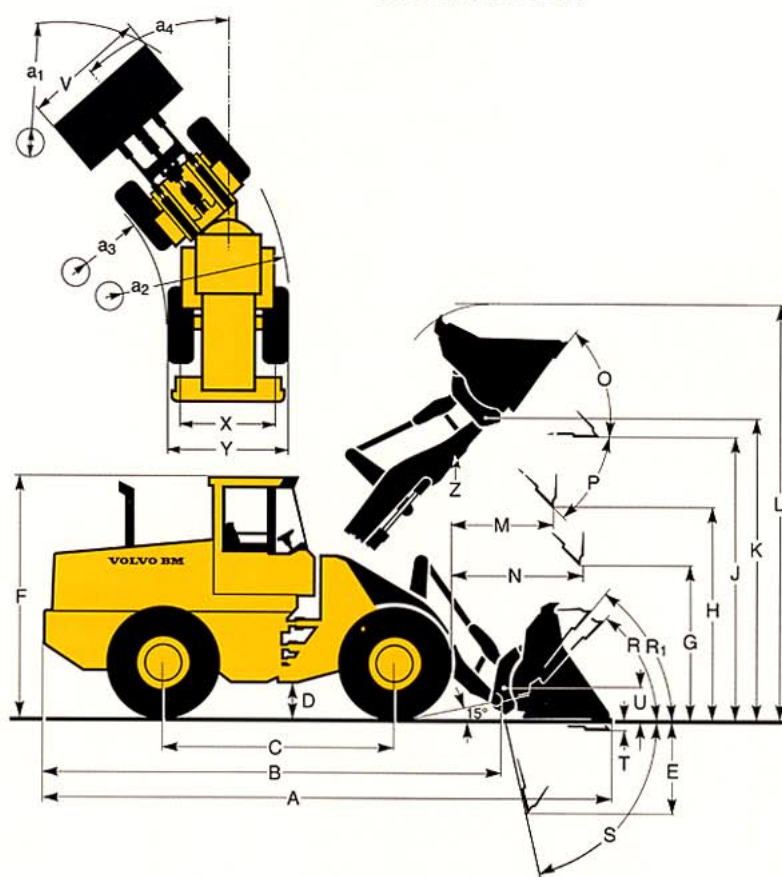
OPERATIONAL DATA & DIMENSIONS

Tires: 26.5 R 25 L3

Where applicable, specifications and dimensions are in accordance with ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 5998, SAE J818, ISO 8313.

Standard Boom	Long Boom
B 6710 mm	7210 mm
C 3550 mm	3550 mm
D 480 mm	480 mm
F 3560 mm	3560 mm
G 2135 mm	2135 mm
J 3970 mm	4550 mm
K 4350 mm	4920 mm
O 58 °	59 °
P 49 °	49 °
R 44 °	47 °
R ₁ * 47 °	52 °
S 66 °	61 °
T 40 mm	90 mm
U 490 mm	620 mm
X 2280 mm	2280 mm
Y 2950 mm	2950 mm
Z 3690 mm	4160 mm
a ₂ 6780 mm	6780 mm
a ₃ 3830 mm	3830 mm
a ₄ ±37 °	±37 °

* Carry position SAE

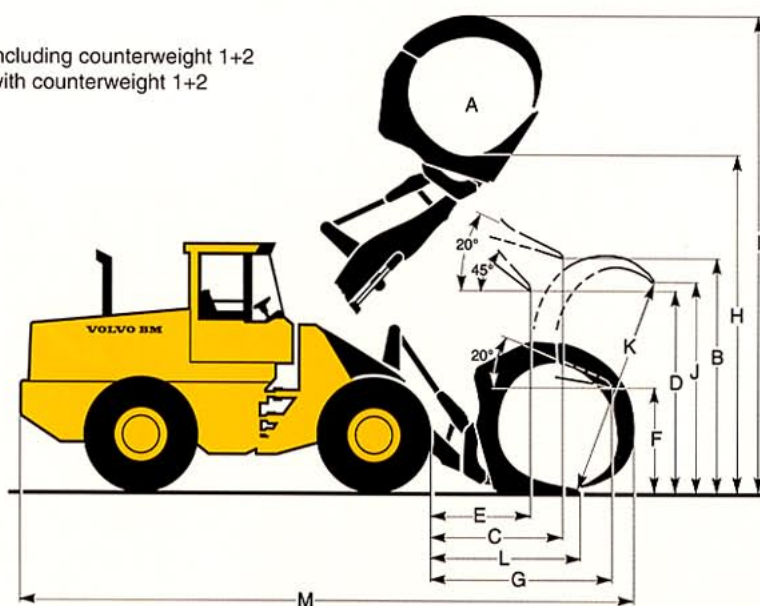


LOG GRAPPLE (hook on)

Tires: 26.5 R 25 L3

A	3,1 m ²
B	3660 mm
C	2120 mm
D	2950 mm
E	1660 mm
F	1620 mm
G	2940 mm
H	4990 mm
I	7250 mm
J	3000 mm
K	3280 mm
L	2290 mm
M	9440 mm

Order No: 91724
 Operating weight 23290 kg including counterweight 1+2
 Operating load 7700 kg with counterweight 1+2



STEERING SYSTEM



Low-effort steering gives short work cycle times. Power-efficient system provides good fuel economy, good directional stability and smooth ride.

Steering system: Load-sensing hydrostatic articulated steering with power amplification.

System supply: The steering system is supplied from a separate steering pump.

Pump: Variable-flow axial piston pump.

Cylinders: Two double-acting cylinders.

Steering cylinder	2
Bore	90 mm
Piston rod diameter	50 mm
Stroke	418 mm
Relief pressure	21 MPa
Max. flow	91 l/min.
Articulation	$\pm 37^\circ$

CAB



Care Cab with easy entry and wide door opening. Lined with sound-absorbent material. Sound- and vibration-suppressing suspension. Good all-round visibility, large glass areas.

Curved windshield of laminated, green-tinted glass.

Ergonomically located controls and instruments permit a comfortable operating position.

Instrumentation: All information important to the operator is readily visible in front of him. Cab display for Contronic monitoring system (option).

Heater and defroster: Heating element with filtered fresh air and four-speed fan. Defroster outlets for all windows.

Operator's seat: Spring suspended, adjustable operator's seat with belt. The seat is mounted on a bracket on the rear wall. The force from the belt is absorbed by the seat rails.

Standards: Tested and approved according to the following standards: ROPS (ISO/ 3471, SAE J1040), FOPS (ISO 3449, SAE J231). Complies with "Overhead guards for rider lift trucks" (ISO 6055) and "Operator Restraint System" (SAE J386).

Emergency exits	2
Sound level in cab	
as per ISO 6394,	
SAE J919, max.	75 dB (A)
Fan position 2	73 dB (A)
Exterior sound level	
ISO 6393	LwA 109 dB (A)
Ventilation	10 m ³ /min
Heating capacity	11 kW 37 500 Btu/h
Air conditioning (optional)	8 kW 27 300 Btu/h

HYDRAULIC SYSTEM



Open center hydraulics with highly efficient vane pumps allows precision control and quick movements even at low rpm's thanks to the high capacity pumps.

Pump: A single vane pump mounted on a power take-off on the transmission.

Valve: Double-acting 3-spool valve actuated by a 3-spool pilot valve.

Lift function: The valve has four functions: raise, hold, lower and float. Inductive/magnetic automatic boom kickout can be switched on and off and is adjustable to any position between maximum reach and full lift height.

Tilt function: The valve has three functions: rollback, hold and dump. Inductive/magnetic automatic bucket positioner, that can be switched on and off.

Cylinders: Double-acting

Filter: Full-flow filtration through 20 µm (absolute) filter cartridge.

Vane pump		
Relief pressure	21,0 MPa	
Flow	313 l/min	
at	10 MPa	
and engine speed	35 r/s	2100 r/min
Pilot system		
Relief pressure	3,0-4,5 MPa	
Flow	25,1 l/min	
at	10 MPa	
and engine speed	35 r/s	2100 r/min
Cycle times		
Raise*	6,7 s	
Dump*	1,9 s	
Lower, empty	3,2 s	
Total cycle time	11,8 s	

* with load as per ISO 5998 and SAE J818

LIFT ARM SYSTEM



TP Linkage combines high break-out torque throughout the working range with parallel lift-arm action. These features together with high lift height and long reach make the lift-arm system equally as good in bucket loading as in work with fork attachments and material handling arms.

Lift cylinder	2
Bore	170 mm
Piston rod diameter	80 mm
Stroke	788 mm
Tilt cylinder	1
Bore	250 mm
Piston rod diameter	120 mm
Stroke	452 mm

It's a preview. You can download the full file by clicking the link below.

<https://shop servicemanual.com/>

Service Manuals from 2\$