

# Volvo BM L180C Compactor



- **Operating weight: 28,5 t**
  - **Buckets: 4,6 m<sup>3</sup>**
- For modern and rational waste handling – built for tough duty**
- *Breaks up, moves and compacts the waste*
  - *Digs, carries and spreads the cover material*
  - *Large compactor wheels with knife-shaped pads*
  - *Effective guards that protect the machine's sides and bottom*
  - **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
    - Fully sealed oil-circulation cooled wet disc brakes
    - **Care Cab** – pressurized cab with high comfort and safety
    - **Contronic** monitoring system
    - Sturdy and easily operated precision steering
    - Pilot-operated working hydraulics

**VOLVO BM**

## SERVICE



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:** Swing-out radiator. Hydraulically openable doors in the underbody protection plates. Inspection doors in the engine's side panels. Long lubrication and oil-change intervals.

### Capacities

Fuel tank	339 l	Transmission	35 l
Engine coolant	80 l	Engine oil	34 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 122 KHE low emission high performance, 6-cylinder, in-line, direct-injected, turbocharged, inter-cooled 4-stroke diesel engine with wet replaceable cylinder liners.

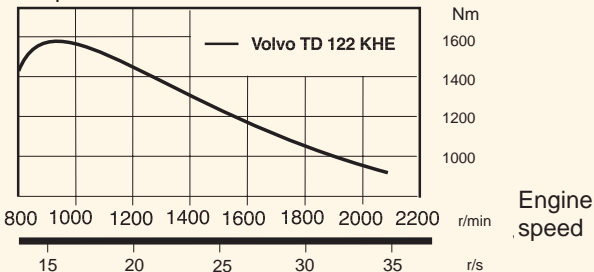
**Air cleaning:** three-stage.

Flywheel output at	35 r/s	2100 r/min
SAE J1349 gross	209 kW	284 hp
net	198 kW	269 hp

Max. torque at	15 r/s	900 r/min
SAE J1349 gross	1580 Nm	
net	1570 Nm	

Displacement	12,0 l
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Torque curve



## 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. Shut down to idle as standard.

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	6,6 kW 9,0 hp

## DRIVETRAIN



Well-matched drivetrain and working hydraulics. Dependable design. High tractive force and very good off-road mobility provides effective compaction. The highly rigid torque converter provides higher tractive force in the lower speed range. System-compatible design facilitates service.

**Torque converter:** Single-stage.

**Transmission:** Volvo BM power shift transmission of counter-shaft type with single-lever control. Fast and smooth forward/reverse shift. \*Compaction will normally be done operating in 1:st or 2:nd gear at speeds 6-7 km/h. Travel speeds will vary depending on ground conditions and type of compactor wheels.

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

**Axes:** Volvo BM, fully floating half-shafts with planetary-type hub reduction gears. One-piece cast-steel axle housing. Fixed front axle and oscillating rear axle.

**Differential:** 100% differential lock on front axle.

Transmission	Volvo BM HT 220
Torque converter	2,22:1

### Speeds,

forward/reverse	
1	4,6 km/h
2	7,8 km/h
3	7,5 km/h

Front and rear axles	Volvo BM / AWB 40
oscillation	±12 °

Ground clearance at 12° oscillation	550 mm
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## BRAKE SYSTEM



Simple, reliable system with few parts ensures high availability and safety. Fully enclosed design, protected against dirt and contamination from the outside. Self-adjusting wet disc brakes give long service intervals. The brake system is connected to Contronic for positive monitoring of the brake functions.

**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 off.

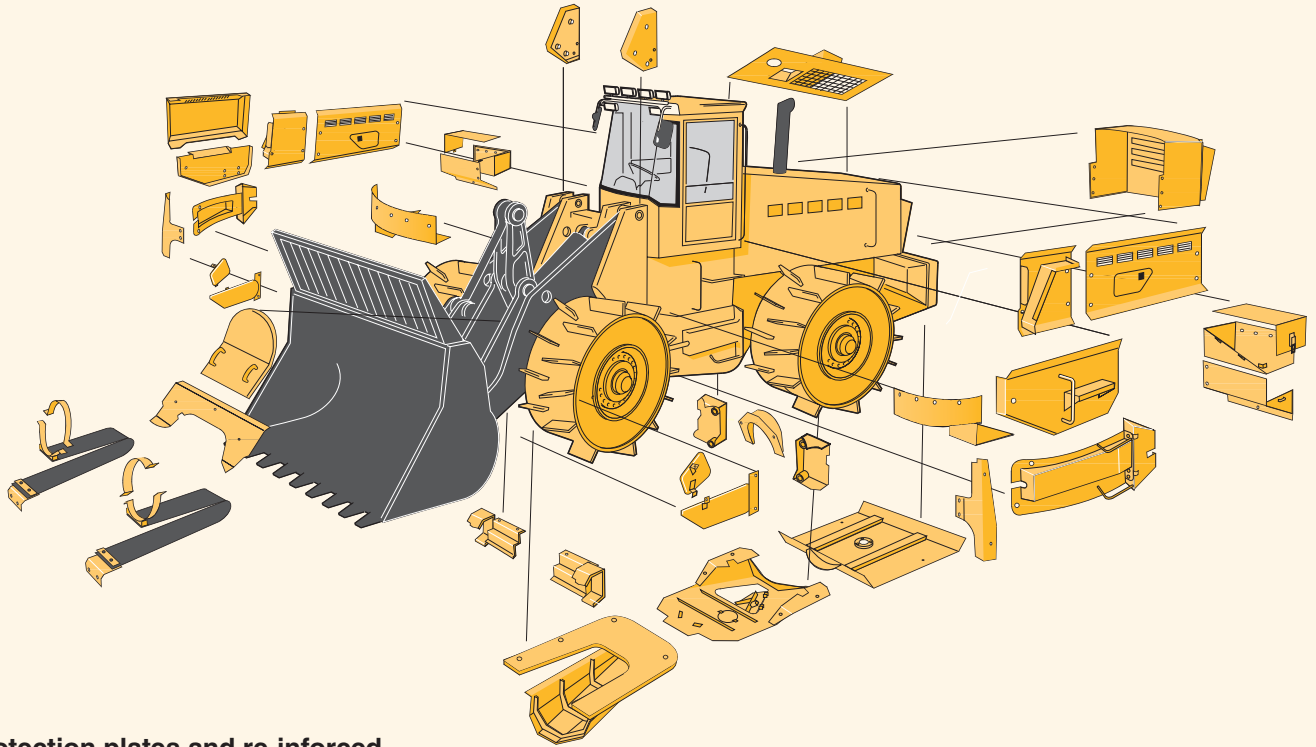
**Secondary brake:** Dual - circuit system with rechargeable accumulators. One circuit or the parking brake fulfills the requirements.

**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

## PROTECTION PLATES

Effective guards boost productivity



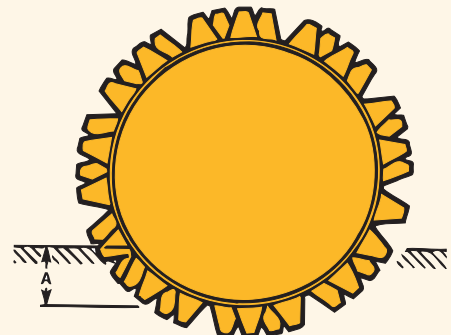
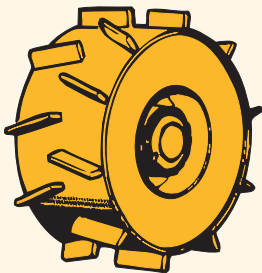
### Protection plates and re-inforced access doors

- Guard plates on front frame
- Brake tube guards on front and rear axles
- Sturdier radiator grill and air intake
- Guards for lift cylinders and front frame
- Reinforced battery box and guard for battery box
- Cab guard
- Sturdier access door over cab filter
- Sturdier front access door in front frame
- Sturdier side access doors
- Reinforced protection plate under fuel tank
- Sturdier underbody protection plates with hydraulically openable doors to facilitate cleaning
- Protective grills for rear lights
- Guards for center hinge and propeller shaft
- Guards for steer cylinders, fold-out, with foot-steps
- Protection plates for the compactor's sides, with foot-steps and handles
- Protection plate for upper access door on engine hood

### Other protective measures

- Diff lock connector removed from front axle
- Lights moved from front frame to holder on front of cab roof

## COMPACTOR WHEELS/GROUND PRESSURE



### Compactor wheels with knife-shaped pads

<b>Order No</b>		92557
Drum width	mm	850
Drum diameter	mm	1400
Pad height	mm	168
Number of pads		24
Ground pressure area	cm <sup>2</sup>	6130
Ground pressure		
Front*)	kp/cm <sup>2</sup>	1,19
Rear*)	kp/cm <sup>2</sup>	1,12
Pounds per linear inch	PLI	472

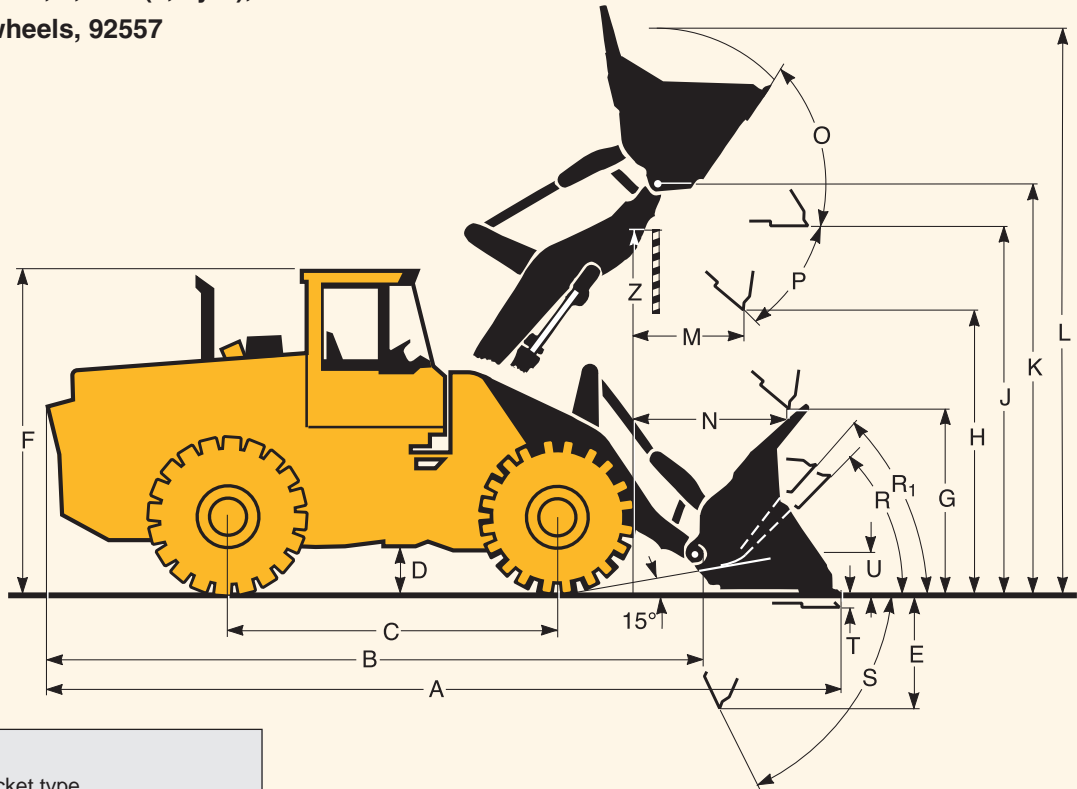
The method of calculating the ground pressure of a compactor in this case involves deducing the projected wheel drum area against the ground at various depths of penetration into the surface and relating the result to the axle loading of that wheel.

\*) Wheels sinking into surface. A = 100 mm (4 in).

## DIMENSIONAL DATA

**Pin-on bucket, 4,6 m<sup>3</sup> (6,0 yd<sup>3</sup>), 92556**

**Chopper wheels, 92557**



### Buckets

Mounting/Bucket type

Volume, heaped      m<sup>3</sup>    4,6

### Performance

Breakout force      kN    182

### Dimensions

A                      mm    8300

B                      mm    6800

C                      mm    3550

D                      mm    520

E                      mm    1240

F                      mm    3600

G                      mm    2135

H                      mm    3230

J                      mm    4140

K                      mm    4520

L                      mm    6700

M                      mm    1255

N                      mm    1950

O                      °      57

P                      °      45

R                      °      45

R<sub>1</sub>\*\*                  °      48

S                      °      71

T                      mm    50

U                      mm    520

V                      mm    3500

X                      mm    2470

Y                      mm    3320

Z                      mm    4030

a<sub>1</sub> clearance circle   mm    15100

a<sub>2</sub>                      mm    6970

a<sub>3</sub>                      mm    3650

a<sub>4</sub>                      ±°    37

### Weight

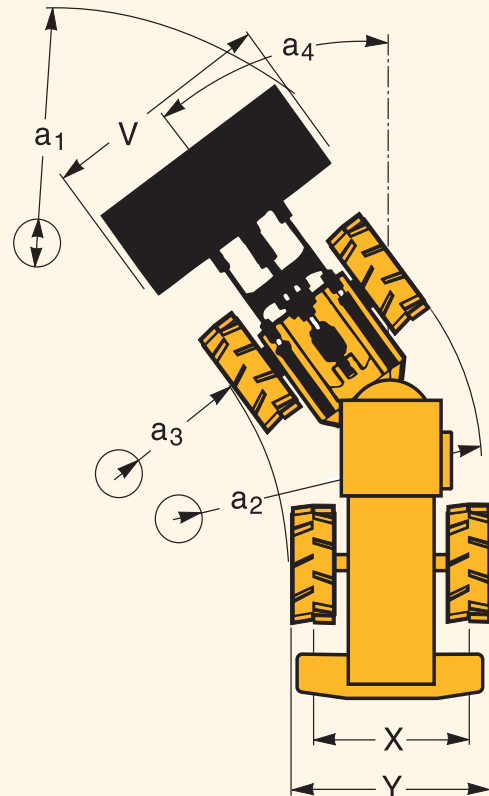
Weight distribution

front                      kg    14700

rear                      kg    13800

Operating weight      kg    28500

**Order No.                      92556**



\*) Pin-on straight bucket without teeth with pre-drilled cutting edge for assembly of edge savers or teeth with bolted adapters. The bucket is fitted with a high mesh refuse spillguard.

\*\*\*) Carrying position SAE.

## 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.

<b>Steering cylinder</b>	2
Bore	100 mm
Piston rod diameter	50 mm
Stroke	418 mm
<b>Relief pressure</b>	21 MPa
<b>Max. flow</b>	116 l/min.
<b>Articulation</b>	± 37 °

## 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 Con-tronic monitoring system (option).

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

**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 ab-sorbed by the seat rails.

**Standards:** Tested and approved according to the follo-wing 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).

<b>Emergency exits</b>	2
<b>Sound level in cab</b>	
as per ISO 6394,	
SAE J919, max.	75 dB (A)
Fan position 2	73 dB (A)
<b>Exterior sound level</b>	
ISO 6393	LWA 110 dB (A)
<b>Ventilation</b>	10 m <sup>3</sup> /min
<b>Heating capacity</b>	11 kW      37 500 Btu/h
<b>Air conditioning</b> (optional)	8 kW      27 300 Btu/h

## HYDRAULIC SYSTEM



*Open center hydraulics with highly efficient vane pump 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. A pilot-controlled selector valve cuts-in flow to the system.

**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	22,5 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
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## LIFT-ARM SYSTEM



***Torque Parallel Linkage** – with very high breakout force throughout the working range. Good parallel lift-arm action with both level and fully angled-up bucket throughout the entire lifting range.*

<b>Lift cylinder</b>	2
Bore	190 mm
Piston rod diameter	90 mm
Stroke	788 mm
<b>Tilt cylinder</b>	1
Bore	260 mm
Piston rod diameter	120 mm
Stroke	480 mm

## EQUIPMENTS STANDARD

### Service and Maintenance

Hydraulically openable doors in the underbody protection plates

### Engine

Air cleaner, dry type, dual element, exhaust aspirated precleaner  
Coolant level, sight gauge  
Engine intake manifold preheater  
Muffler, spark arresting  
Dual fuelfilter  
Watertrap

### Electrical equipment

Contronic monitoring system  
Cable, service display  
Battery disconnect switch  
Alternator  
Temperature gauge, engine  
Temperature gauge, hydraulic  
Fuel gauge  
Lighting:  
• working lights, front (two, halogen)  
• working lights, rear (two, halogen)  
• brake lights  
• rear lights  
• cab lighting  
• instrument lighting

Hour recorder  
Air cleaner with ejector discharge  
Horn

#### Control and warning lamps for:

- working lights, front/rear
- charging
- oil pressure, engine
- hydraulic oil pressure, transmission
- differential lock
- parking brake
- brake pressure
- hazard warning flashers
- air cleaner
- hydraulic oil filter, transmission
- rotating beacon

#### Central warning (with buzzer):

- oil pressure, engine
- temperature, engine (with buzzer)
- hydraulic oil pressure, transmission
- temperature, transmission
- hydraulic oil filter, transmission
- brake pressure
- temperature/brake cooling, front and rear axles (buzzer)
- parking brake (buzzer)
- secondary steering (optional)

### Drivetrain

Differential lock, front axle  
Circulation cooling, brakes, front and rear axles  
Power Shift transmission  
Automatic Power Shift (APS II)  
Single-lever shift control

### Compactor wheels

Knife-shaped pads (850 mm)(2'9")

### Cab

ROPS (SAE J1040CC) (ISO 3471), FOPS (SAE J 231) (ISO 3449).  
Acoustical lining  
Ashtray  
Cigarette lighter  
Door lockable (left side access)  
Heater/defroster/pressurizer 11 kW 37500 Btu/h with four speed blower fan  
Filtered air  
Floor mat  
Interior light  
Interior rearview mirror  
Mirrors rearview (2), exterior  
Openable window, right-hand side  
Safety glass, tinted  
Seat belt (SAE J386)  
Seat, heated, ergonomically designed, suspension adjustable  
Storage compartment  
Sun visor  
Windshield wiper, front & rear  
Intermittent wiper, front  
Cab access steps and handrails

### Hydraulic System

Control valve, 3-spool, 2  
Hydraulic oil cooler  
Vane pump

### Protective Equipment

See illustration and text under section PROTECTION PLATES

### Other Equipment

Lift fitting

## OPTIONAL EQUIPMENT *(Standard on certain markets)*

### Service and Maintenance

Tool kit  
Wheel-nut wrench kit

### Engine

Electric engine heater  
Coolant filter

### Electrical System

Rotating beacon  
Extra working light, rear (two), halogen  
Air horn  
Acoustic back-up alarm  
Extra working light (4) roof mounted, halogen

### Cab Equipment

Radio  
Installation kit for radio (loudspeaker, antenna, etc)  
Instructor's seat  
Electrically heated operator's seat  
Air-sprung operator's seat  
Windshield washers, front and rear  
Dual brake pedals  
Hand throttle  
Seatbelt retractable  
Sliding vent window  
Air conditioning  
Tilttable steering wheel

### Information panel (Contronic):

Start picture, settings for language and units, operating hours, general operating information, stopwatch/trip meter, cycle counter, service interval  
engine electrical system  
transmission  
axles/brakes

### Hydraulic System

3rd hydraulic control

### External Equipment

Towing hitch

### Other Equipment

Comfort Drive Control (CDC)  
Fueling strainer  
Hydraulic attachment bracket incl. separate attachment locking

*We reserve the right to change specifications and design without prior notice. The illustrations do not always show a machine with standard equipment. Specifications and dimensional data conform in applicable parts to ISO 7131, SAE J732, ISO 7546, ISO 5998, SAE J818.*