

VOLVO BM

L 160

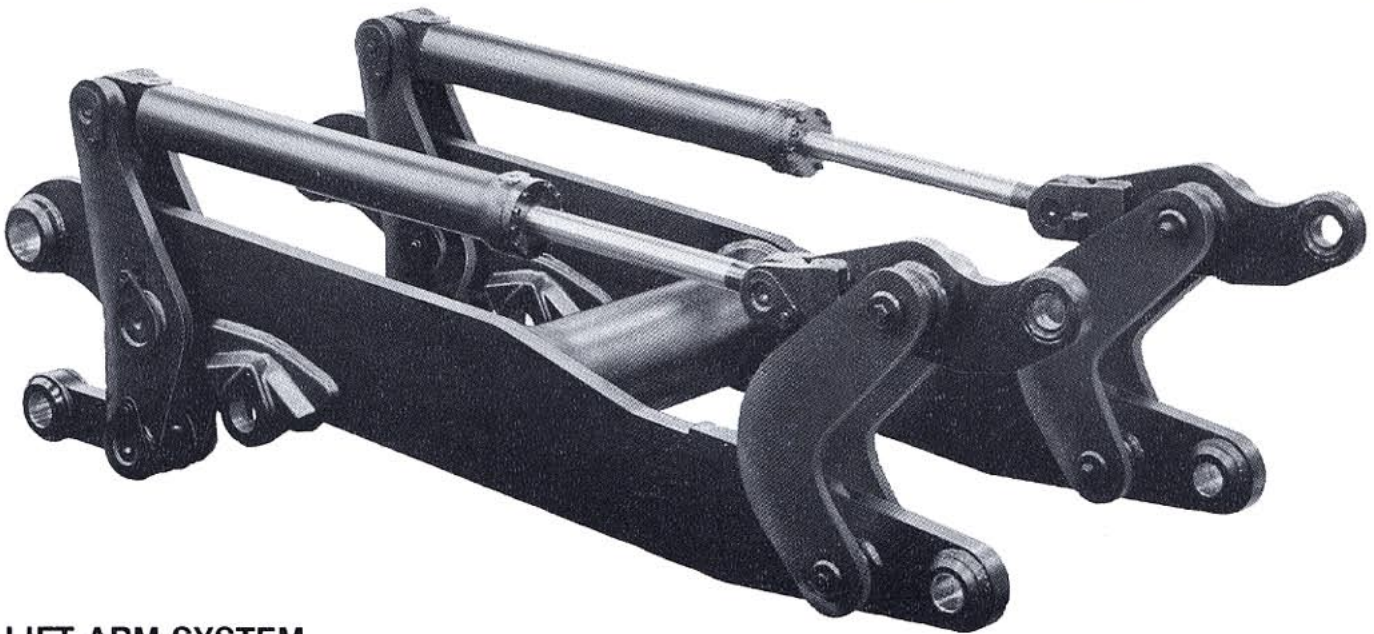
Compactor



VOLVO BM L160 COMPACTOR - FOR HIGH CAPACITY

The Volvo BM L160 Compactor is designed to compact and level the large volumes of refuse and waste generated daily. The L160 is extremely versatile - it will doze, carry, breakup and compact the waste and when compaction is completed; dig, carry and spread cover material. It has large, effective compactor wheels, plus underbody and side protection plates to guard against damage.

The machine is both stable and highly maneuverable due to uniform weight distribution and has a loader unit combining large lifting and breakout forces with long reach. The cab is quiet with a high-capacity filtered, pressurized, heated, air conditioned, and fresh-air ventilation system. This creates a comfortable, superb working environment for the operator.



LIFT ARM SYSTEM

The L160 compactor lift arm system enables it to be fitted with either a standard 4,0 m³ (5.2 yd³) trash bucket, or the versatile multi-purpose bucket 3,4 m³ (4,5 yd³).

The L160 compactor can dig it's own cover, and spread it in a very efficient, economical way. With the multi-purpose bucket, even, controlled, spreading of cover is possible, using a partially open bucket to control the flow. This opening-clamp feature of the multi-purpose bucket also enables the machine to safely lift and carry large indestructable items of trash

to the correct places on the landfill and to, if required, bottom dump them into trucks.

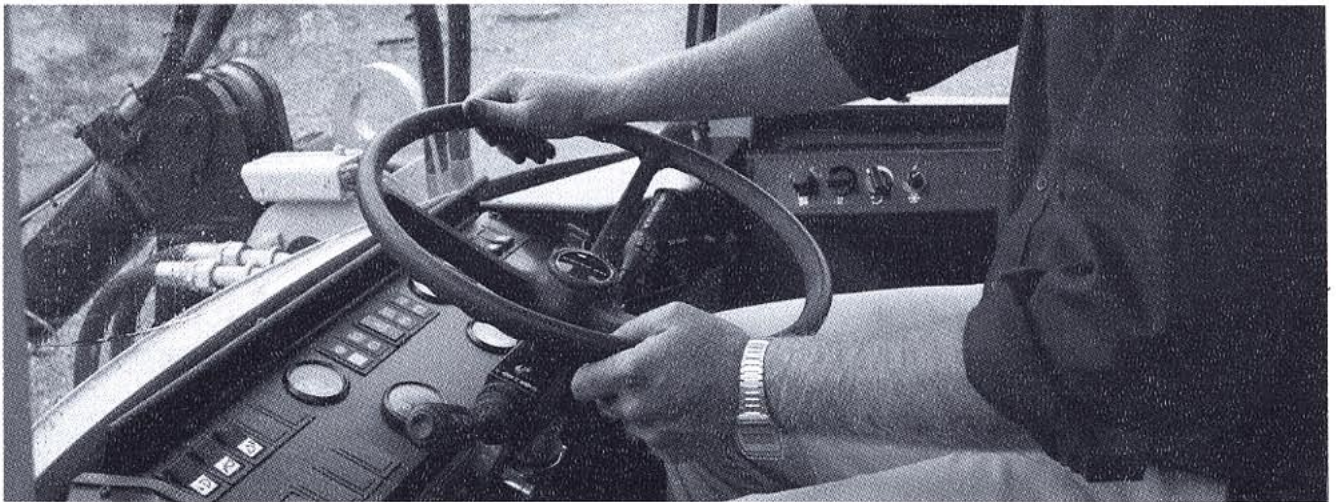
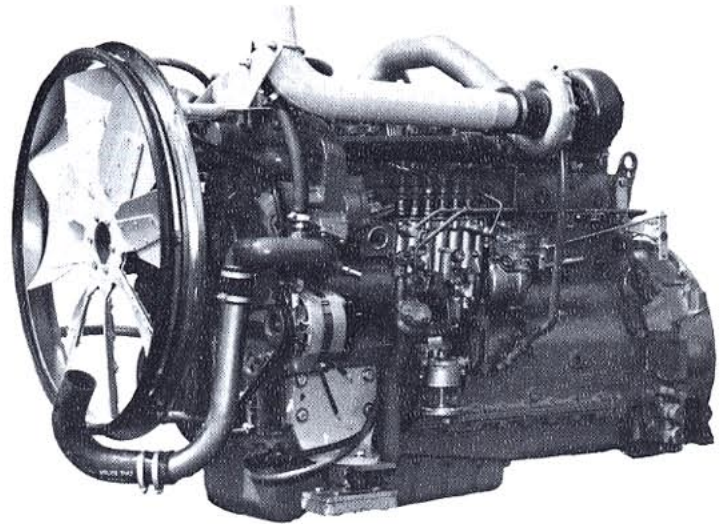
The pins in the lifting arm system are protected and sealed against the ingress of harmful materials.

The buckets and the lift arms are painted non-reflective "flat black" to avoid glare dazzling the operator when working in night operations with the powerful quartz halogen lights.

POWER & ENGINEERING

Volvo BM L160 Compactor is equipped with Volvo BM components manufactured to very high standards. High engineering design standards plus stringent production quality control are your assurance to total satisfaction.

In order to achieve good overall economy and maximum machine utilization, a great deal of effort has been devoted to component coordination and extension of service intervals. This results in a reliable efficient, economical high capacity machine.



CAB

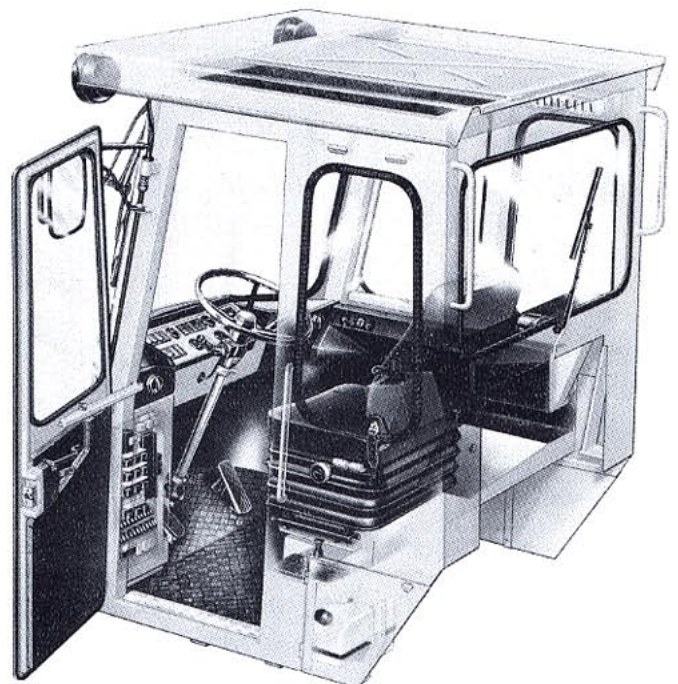
The Volvo BM Compactor operator performs his work from an ergonomically designed ROPS, FOPS cab.

The cab is exceptionally comfortable with ideally located controls and instruments. The controls are well positioned, and the instrumentation is visible at a glance. Pilot lamps, instruments and controls are marked with easy identifiable symbols.

A pleasant "indoor" climate can be maintained in the Volvo BM L160 Compactor cab, regardless of outside weather and job conditions.

The incoming air is cleaned by a large replaceable filter before being drawn into the cab. The pressurized air is distributed throughout the cab by strategically placed nozzles.

The heating system will keep the operator warm in the coldest of weather and the air conditioner will cool the operator in the warmest of operating conditions. This keeps the operator fresh and alert during long working shifts.





ENGINE

The Volvo TD 101 G is a 6-cylinder, direct-injection, 4-stroke, turbocharged diesel engine with wet, replaceable cylinder liners.

Air cleaning: air cleaning in three stages.

1. Cyclone cleaner with automatic exhaust ejector
2. Paper filter with indicator in cab.
3. Replaceable safety filter

Make			Volvo	
Model			TD 101 G	
Output, gross, at SAE J 1349	r/s	(r/min)	36,7	(2200)
	kW	(hp)	194	(264)
Flywheel output at SAE J 1349 Net	r/s	(r/min)	36,7	(2200)
	kW	(hp)	185	(252)
DIN 70020/6271	kW	(hp)	185	(252)
Max. torque at SAE J 1349 Gross	r/s	(r/min)	23,3	(1400)
	Nm	(lbf ft)	980	(723)
SAE J 1349 Net	Nm	(lbf ft)	962	(710)
DIN 70020/6271	Nm	(lbf ft)	962	(710)
No. of cylinders			6	
Displacement, total	l	(in ³)	9,6	(586)
Bore	mm	(in)	120,65	(4,75)
Stroke	mm	(in)	140	(5,5)
Compression ratio			15:1	



ELECTRICAL SYSTEM

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

Central warning: Central warning lamp for following functions: engine oil pressure, brake pressure, parking brake, engine temperature, transmission temperature, transmission oil pressure.

Voltage	V	24	
Batteries	No. / V	2 / 12	
Battery capacity ea.	Ah / st	140	
Cranking capacity ea.	A	800	
Reserve capacity ea.	min	270	
Alternator rating	W / A	1540 / 55	
Starter motor output	kW (hp)	6,6	(9)



SERVICE REFILL CAPACITIES

Crankcase	l	(US gal)	29	(7,7)
Fuel tank	l	(US gal)	340	(89,8)
Cooling system	l	(US gal)	70	(18,5)
Transmission, total	l	(US gal)	47	(12,4)
Front axle, total	l	(US gal)	39	(10,3)
Rear axle, total	l	(US gal)	49	(12,9)
Hydraulic system	l	(US gal)	320	(84,5)
Hydraulic tank	l	(US gal)	230	(60,8)



DRIVETRAIN

Torque converter: single-stage

Transmission: Volvo BM power shift transmission of countershaft type with directional clutch modulation. Three speeds forward and three reverse. Single lever control.

* Compaction will normally be done operating in 1:st or 2:nd gear at average speeds 7-8 km/h -4 to 5 mph. Machine travel speeds are theoretical and based on a rolling resistance of 4%. Travel speeds will vary depending on ground conditions and type of compactor wheels.

Axes: fully floating half-shafts with planetary type hub reduction gears. One-piece axle housing of ductile iron. Rigid front axle and oscillating rear axle.

Differential: 100% differential lock on front axle. Engagement and disengagement by means of switch on cab floor.

Gearing is conventional, hypoid gears.

Hub reduction: Volvo BM manufacture with low-friction roller bearings on each planetary gear. The hub reduction gears can be removed without having to remove wheels and brakes.

Torque multiplication	2,7 : 1		
Transmission, make	Volvo BM		
Model	HT 200		
Running speeds*			
1, forward/reverse	km/h (mile/h)	7,1	(4,4)
2, forward/reverse	km/h (mile/h)	13,2	(8,2)
3, forward/reverse	km/h (mile/h)	25,2	(15,7)
Front axle, make	Volvo BM		
Model	AH 70 A		
Rear axle, make	Volvo BM		
Model	AH 70 D		
Oscillation movement, total	± °	15	
Vertical wheel travel	mm (in)	600	(23,5)

WHEELS

Chopper wheels, Order No	91058		
Drum width	mm (ft in)	850	(2'9")
Drum diameter	mm (ft in)	1400	(4'7")
Pad height	mm (ft in)	168	(6,6")
Number of pads	24		

Chopper wheels, Order No	90034		
Drum width	mm (ft in)	750	(2'6")
Drum diameter	mm (ft in)	1400	(4'7")
Pad height	mm (ft in)	168	(6,6")
Number of pads	20		

Trapezoidal pads, Order No	91062		
Drum width	mm (ft in)	850	(2'9")
Drum diameter	mm (ft in)	1400	(4'7")
Pad height	mm (ft in)	135	(5,3")
Number of pads	48		
Cleaners, Order No	91061		

Trapezoidal pads, Order No	90035		
Drum width	mm (ft in)	750	(2'6")
Drum diameter	mm (ft in)	1400	(4'7")
Pad height	mm (ft in)	135	(5,3")
Number of pads	48		
Cleaners, Order No	99319		



BRAKE SYSTEM

The brake system meets requirements according to SAE J 1152, EG 71/320 and ISO 3450.

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

Secondary system: dual-circuit system, divided between axles. The central warning light flashes for low system pressure in any circuit and the monitoring light for the circuit with inadequate pressure comes on.

Parking brake: enclosed wet multi-disc brake built into transmission. A spring-loaded application. Hydraulic release with a control on left of operator. A warning lamp indicates when the parking brake is applied and ignition is turned on. The central warning light flashes when gear lever is in forward or reverse while the parking brake is engaged.

Brake friction area				
front/wheel ea.	cm ²	(in ²)	810	(126)
rear/wheel ea.	cm ²	(in ²)	810	(126)
Reservoirs	st		3	
volume, total	l	(in ³)	47,1	(2870)
Parking brake area, total	cm ²	(in ²)	1547	(240)



STEERING SYSTEM

Articulated steering. Orbitrol steering with boosted flow.

Pump: double vane fitted to a power take-off on transmission.

System supply: steering system supplied from front section of pump.

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

Steering cylinders, number			2	
Bore	mm	(in)	110	(4,3)
Piston rod diameter	mm	(in)	50	(2)
Stroke	mm	(in)	423	(16,7)
Working pressure	MPa	(psi)	15	(2175)
Flow volume	l/min		190	
	(US gal /min)			(50)
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, subsection 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.

Operator's seat: spring suspended, fully adjustable operator's seat with seat belt and heater.

Emergency exits			3
Ventilation	m ³ /min (cfm)		10 (353)
Heating capacity	kw (BTU/h)		11,6 (39600)
Operator's seat			ISRI 6000/575



HYDRAULIC SYSTEM

Open center system pilot operated, and filtered breather on reservoir.

Pump: double vane pump fitted to a power take-off on transmission.

System supply: system supplied from rear section of pump.

Valve: double-acting 3 section valve. The control valve is governed by a 3-section servo valve.

Lifting function: the valve has four positions: lifting, neutral, lowering and floating. Disengageable electro-magnetic boom kick-out and ground positioner. Adjustable for all positions between maximum reach and full lifting height as well as ground position.

Tilting function: the valve has three positions: rollback, neutral and forward tilting. Disengageable electro-magnetic bucket positioner adjustable for all desired loading angles.

Cylinders: double-acting. Boom-tilt cylinders are slightly shorter than the standard L160 loader cylinders for improved protection. Dump height is also reduced from the standard L160 loader.

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

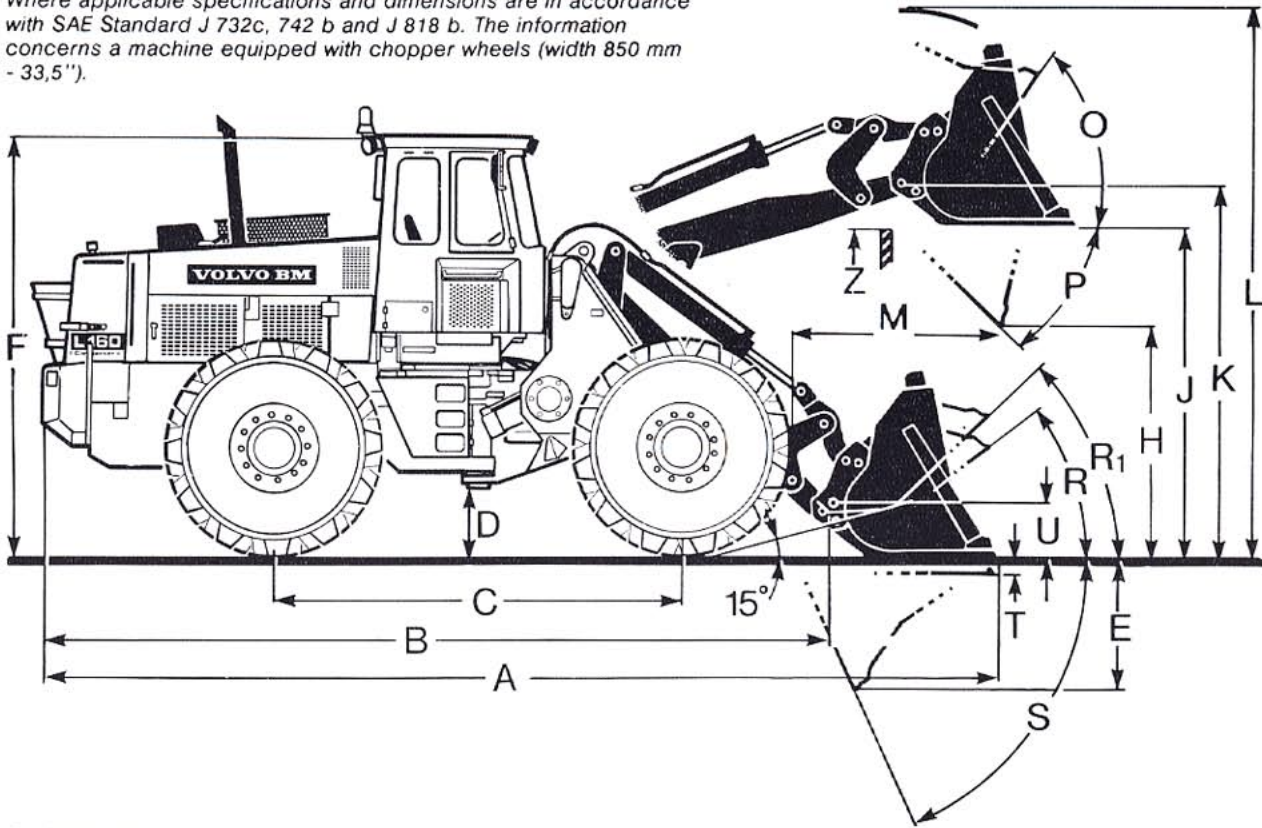
Oil cooler: as standard.

Load unit: hydraulic cylinders fitted in line with lifting arms.

Working pressure	MPa (psi)	17,0	(2465)
Flow volume	l/min	380	
	(US gal /min)		(100,4)
at	MPa (psi)	10	(1450)
and engine speed	r/s (r/min)	36,7	(2200)
Lifting cylinder, number		2	
Bore	mm (in)	170	(6,7)
Piston rod diameter	mm (in)	80	(3,1)
Stroke	mm (in)	892	(35,1)
Tilting cylinder, number		2	
Bore	mm (in)	140	(5,5)
Piston rod diameter	mm (in)	70	(2,8)
Stroke	mm (in)	983	(38,7)
Lifting time (with load, SAE)	s	6,3	
Tipping time (with load, SAE)	s	4	
Lowering time (empty)	s	3,2	
Total cycle time	s	13,5	

DIMENSIONAL DATA

Where applicable specifications and dimensions are in accordance with SAE Standard J 732c, 742 b and J 818 b. The information concerns a machine equipped with chopper wheels (width 850 mm - 33.5").



Bucket type

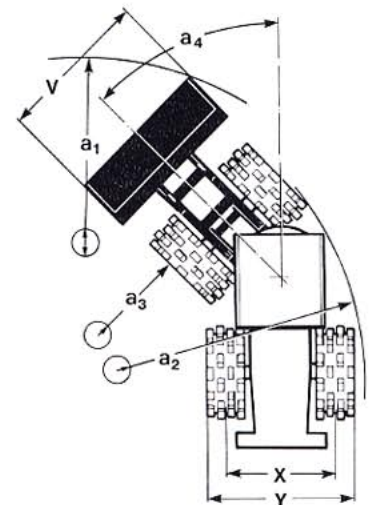
Both buckets are fitted with a high mesh refuse spillguard.

1 = General purpose bucket with teeth

2 = Multi-purpose bucket without teeth

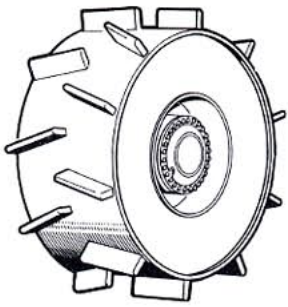
D = Pin-On

Order No.		91032	SP44-14Mk2A™
Mounting / Bucket type		D / 1	D / 2
Volume, heaped	m ³ (yd ³)	4.0 (5.2)	3,4 (4.5)
Breakout force	kN (lbf)	145,7 (32740)	151,2 (33970)
A	mm (ft in)	8320 (27'3")	8090 (26'6")
B	mm (ft in)	6670 (21'11")	6670 (21'11")
C	mm (ft in)	3550 (11'8")	3550 (11'8")
D	mm (ft in)	540 (1'9")	540 (1'9")
E	mm (ft in)	1210 (4'0")	1210 (4'0")
F*	mm (ft in)	3570 (11'9")	3570 (11'9")
H	mm (ft in)	1770 (5'10")	1960 (6'5")
J	mm (ft in)	2930 (9'8")	2910 (9'7")
K	mm (ft in)	3220 (10'7")	3220 (10'7")
L	mm (ft in)	5390 (17'8")	5270 (17'3")
M	mm (ft in)	1910 (6'3")	1880 (6'2")
O	°	51	51
P	°	45	45
R	°	40	40
R1*	°	44	44
S	°	67	67
T	mm (ft in)	20 (0.7")	40 (1.7")
U	mm (ft in)	460 (1'6")	460 (1'6")
V	mm (ft in)	3400 (11'2")	3440 (11'3")
X	mm (ft in)	2430 (8'0")	2430 (8'0")
Y	mm (ft in)	3280 (10'9")	3280 (10'9")
Z	mm (ft in)	2830 (9'3")	2830 (9'3")
a ₁ clearance circle over bucket	mm (ft in)	7560 (24'9")	7500 (24'7")
a ₂	mm (ft in)	6950 (22'9")	6950 (22'9")
a ₃	mm (ft in)	3670 (12'1")	3670 (12'1")
a ₄	± °	37	37
Weight distribution			
front	kg (lb)	13280 (29280)	12980 (28620)
rear	kg (lb)	14030 (30930)	14230 (31370)
Operating weight	kg (lb)	27310 (60210)	27210 (59990)

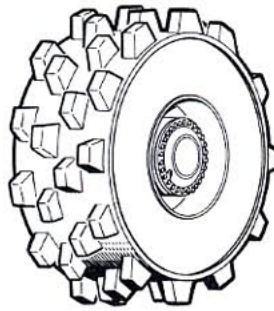


* Carrying position SAE

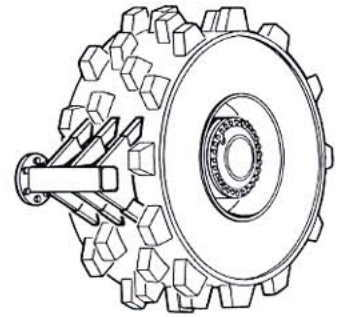
™ Also available with bolt on teeth



Chopper wheel



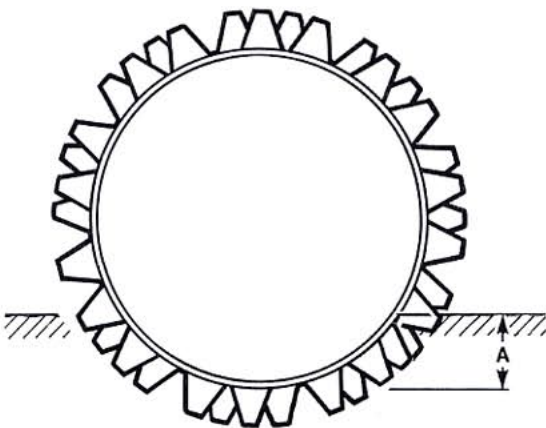
Trapezoidal pads



Cleaners for trapezoidal pads

GROUND PRESSURE		General purpose bucket				Multi-purpose bucket			
		Chopper wheels		Trapezoidal wheels and cleaners		Chopper wheels		Trapezoidal wheels and cleaners	
Drum width	mm (in)	750 (29,5)	850 (33,5)	750 (29,5)	850 (33,5)	750 (29,5)	850 (33,5)	750 (29,5)	850 (33,5)
Ground pressure Front *	kp/cm ² (psi)	1,18 (16,8)	1,08 (15,4)	1,22 (17,4)	1,10 (15,6)	1,15 (16,4)	1,06 (15,1)	1,19 (16,9)	1,07 (15,2)
	Rear *	kp/cm ² (psi)	1,25 (17,8)	1,14 (16,2)	1,29 (18,3)	1,16 (16,5)	1,27 (18,1)	1,16 (16,5)	1,32 (18,8)
Pounds per linear inch	PLI	489	449	506	454	487	448	504	452

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



The Volvo BM 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.

ALTERATION OF DIMENSIONAL DATA		Chopper wheels	Trapezoidal wheels and cleaners	
		750 mm (29,5")	750 mm (29,5")	850 mm (33,5")
Width over wheels	mm (in)	-200 (-7,9)	-200 (-7,9)	-
Ground clearance	mm (in)	-	-35 (-1,4)	-35 (-1,4)
Operating weight	kg (lb)	-1120 (-2470)	-220 (-485)	+300 (+660)

STANDARD EQUIPMENT

Safety and comfort

ROPS- and FOPS-tested cab
Cab heater with fresh air intakes provided with filters and defroster
Air-conditioner
Ergonomically designed and adjustable driving seat with seat belt
Heated driving seat
Safety glass
Tinted glass
Rear-view mirrors, external, two
Rear-view mirrors, internal one
Lighting:
main headlamps, full- and dipped-beam (asymmetrical, halogen)
parking lights
working lights, front (two), halogen
working lights, rear (four), halogen
sidelights
brake lights
rear lights
cab lighting
instrument lighting
direction indicators
Rotating beacon with collapsible mounting

Storage box in cab
Instrument panel with symbols
Sun visor
Safety start
Hazard warning flashers
Windscreen wipers, front and rear windows
Windscreen washer, front/rear
Horn
Drawbar with pin
Outlet for tyre inflation
Ash tray
Lighter
Lifting eyes
Underbody protection plates
Protection plates
Tool kit
Wheel nut wrench
Dual brake pedals

Engine & electrical system

Socket, 24 V Alternator
Battery disconnection switch
Tell-tale lamps for:
front and rear working lights
charging
full-beam headlights
direction indicator flashers
engine oil pressure
transmission oil pressure
differential lock
parking brake
brake pressure
hazard warning flashers
air cleaner
Air cleaner with ejector emptying
Engine temperature gauge
Hydraulic transmission temperature gauge
Pressure gauge for brake system
Fuel gauge
Hour recorder
Engine heater, electric
Preheating coil
Suction fan
Rain cap for exhaust pipe

For certain markets only

Central warning lamp for following functions: Engine oil pressure. Brake pressure. Engine temperature. Transmission temperature. Transmission oil pressure.

Drivetrain

Power Shift transmission
Differential lock (front axle)
Single-lever gear control
Interlock for 4th speed

Hydraulic system

Vane pump
Control valve (three sections)
Bucket position indicator
Boom kick-out
Bucket positioner
Ground positioner
Hydraulic oil cooler

OPTIONAL EQUIPMENT *(Standard equipment on certain markets)*

Inspection and maintenance equipment

Tyre inflation kit
Engine equipment
Extra fuel filter

Electrical equipment

Inspection lamp
Back-up alarm
Central warning

Cab equipment

Radio panel without radio

External equipment

"Slow-Moving Vehicle" sign

Protective equipment

Protecting guards for rear working lights

Other equipment

Secondary steering
Air tank, France
Tropical 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.

Volvo BM Company

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