4300 B

VOLVO BM

A FLEXIBLE POWE
— THE RATIONAL V

The Volvo BM 4300 B, weighing in at 9.7 tons is in a class which makes it an economical proposition for most jobs. The power from its 94 kW (128 HP) SAE turbo charged engine with intercooler is transmitted through a 4-speed power-shift gearbox, giving lively acceleration and smooth gear shifting.
All the outstanding features of the Volvo BM loader range are to be found on the 4300 B. This includes the vital interplay of engine output and tractive power, with hydraulics and loader unit geometry. You also have the added advantage of a simple but ingenious attachment bracket which enables you to swap attachments quickly and effortlessly.
All this makes the Volvo BM 4300 B one of the most efficient loaders in its class—both for bucket loading and materials handling.

R PACK
OLVO BM 4300 B

HIGH QUALITY COMPONENTS

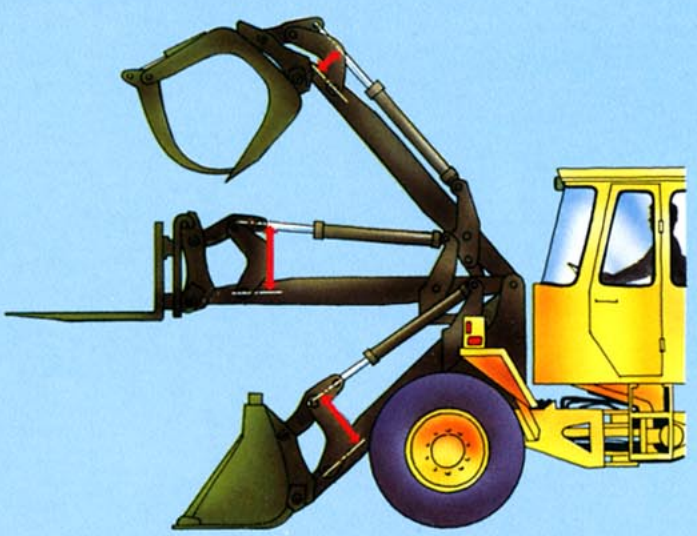
Volvo BM has a long established reputation for the manufacture of high quality components of advanced design. Engine, transmission and axles are all purpose designed and built by us to ensure perfect matching and long life. To ensure that long term running costs are kept to a minimum and machine utilisation to a maximum, we have employed a high degree of component co-ordination to reduce your parts stocking requirement. We have also simplified routine maintenance procedures and extended the intervals between services. All of this gives you an economical machine, reliable in every detail.

Automatic Power Shift

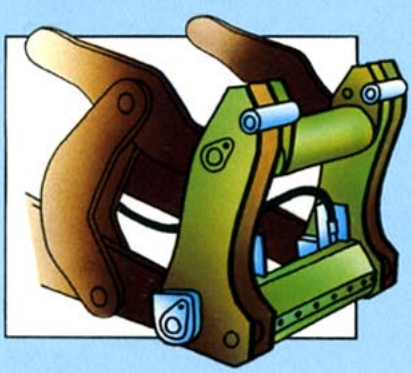
The Volvo BM 4300 B is available with automatic shift as an optional extra. A specially programmed computer will then select the correct gear for every situation. Result: higher capacity and better fuel economy.

LOADER UNIT

The loader unit gives you generous lifting height and reach enabling you to complete tricky tasks which would otherwise be difficult, perhaps impossible to carry out with other manufacturers' equipment. The linkage geometry is designed to produce ideal characteristics throughout the full range of movements. The high breakout force, together with good rollback and dump angles combine to give good parallel sidearm action for level loading. These features, together with the 4300 B's rugged construction and ideally matched hydraulics make it a very fast and efficient performer.



SNAP-ON ATTACH-MENT COUPLING



The Volvo BM attachment bracket with snap-on coupling is a very handy feature. This ingenious design enables you to guide the attachment bracket into the attachment's large rounded hooks with ease and is locked firmly into position by a well protected double-acting hydraulic cylinder. Indicating arrows show when the attachment is locked—a convenient safety feature. Changing attachments should be kept simple. With the Volvo BM attachment bracket, you won't hesitate to change attachments when the need arises. Result: better utilisation of your machine.

SAFETY AND COM-FORT

Operating the 4300 B from the safe, sound insulated cab is a pleasing and comfortable experience. Seat, levers, controls and instruments are carefully tested and located to give you the most efficient and comfortable working environment possible. Approved tests according to ROPS and FOPS are proof of the cab's heavy-duty safety construction. The instrument panel provides at-a-glance information on all functions, with instruments and warning lamps marked with easily recognizable symbols. The Volvo BM Cab provides the best possible conditions for an operator to maintain high performance levels over a long period.

VERSATILE

Good lifting height and long reach make the loading of wide vehicles easy. In addition, the 4300 B has a good parallel side-arm action, for safe handling.

Breakout force is high throughout the entire lifting range, and precision manoeuvring is made possible by the highly responsive and positive action of the hydraulics, from "inching" to full flow. Important features for work with crane jibs and forks.

The 4300 B is highly manoeuvrable, thanks to the excellent steering system and small turning radius.

ENGINE

Volvo BM TD 45 B: 4-cylinder, direct-injected, turbocharged 4-stroke diesel engine with wet replaceable cylinder linings.

Flywheel rating	81 kW at 36.7 rps DIN 70020 (110 hp at 2200 rpm DIN)
Gross rating	87 kW at 36 rps SAE J 270 (118 hp at 2200 rpm SAE)
Max. torque	425 Nm at 23.3 rps DIN 70020 (313 lbf ft at 1400 rpm SAE) 440 Nm at 23.3 rps SAE J 270 (325 lbf ft at 1400 rpm SAE)
No. of cylinders	4
Bore	105.57 mm (4.2 in)
Stroke	128 mm (5.0 in)
Displacement	4.48 litres (273 in^3)
Compression ratio	15.6:1
Air cleaning in three stages	1. Cyclone precleaner with automatic ejection through the exhaust 2. Paper filter 3. Catch-all safety filter

ELECTRICAL SYSTEM

Batteries	2×12 V (connected in series)
Voltage	24V
Battery capacity	105 Ah
Alternator	1540 W (55 A)
Starter motor	5.4 kW (7.3 hp)
Central warning lamp for following functions:	(For certain markets only) Engine oil pressure. Brake pressure. Parking brake. Engine temperature. Transmission temperature.

TORQUE CONVERTER

Type	Single-stage
Torque multiplication ratio	2.86:1

TRANSMISSION

Type	Power-shift
Designation	Volvo BM HT 100
Number of gears forward/reverse	4/4

Speeds: (tyres 17.5—25)

1. 0– 7 km/h 0– 1.9 m/s (0– 4.3 mph)
2. 0–12 km/h 0– 3.3 m/s (0– 7.5 mph)
3. 0–26 km/h 0– 7.1 m/s (0–16.2 mph)
4. 0–37 km/h 0–10.4 m/s (0–23.0 mph)

AXLES

Fully floating drive shafts with planetary hub reductions.

Front axle:	Designation	Volvo BM AH 44D
	Differential lock	100 % lock-up (dog clutch)
Rear axle:	Designation	Volvo BM AH 44E
	Oscillation	± 13° (400 mm=15.7 in)

BRAKES

Service brakes:	Air over hydraulic operated disc brakes, dual system.
Brake area:	Front 396 cm^2 (61 in^2)/wheel Rear 396 cm^2 (61 in^2)/wheel
Air reservoir volume	3×10 litres (3×2.2 UK gal)
Parking brake	Mechanically operated on output shaft to front axle
Parking brake area:	266 cm^2 (41.2 in^2)

TYRES

17.5–25/12

STEERING

Load-sensing hydrostatic steering

Steering angle	±40°
Lock-to-lock turns of wheel	3.9
Steering cylinder, bore/stroke	70/390 mm (2.8/15.3 in)
Piston rod diameter	36 mm (1.4 in)
Oil pump, type	Variable flow piston pump
Output at 10 MPa (1450 psi) and 36.7 rps (2200 rpm)	97 l/min (21.3 UK gal/min)
Relief pressure	14 MPa (2030 psi)

HYDRAULIC SYSTEM

Pump, type (working hydraulics): Vane pump

Output at 10 MPa (1,450 psi) and 36.7 rps (2,200 rpm)	190 l/min (41.8 UK gal/min)
Relief pressure	16 MPa (2,320 psi)

Oil filter:

Full-flow filtration through 10 µm filter cartridge with magnetic core.

Hydraulic cylinders:

Lift—bore/stroke	110/950 mm (4.3/37.4 in)
Piston rod diameter	60 mm (2.4 in)
Tilt—bore/stroke	100/745 mm (3.8/29.3 in)
Piston rod diameter	50 mm (2.0 in)

Loader unit:

Loader unit with hydraulic cylinders mounted in line with side-arms. Good parallel side-arm action.

Raise with SAE workload	4.8 s
Lower, without load	2.9 s
Dump high/low speed	2.0/3.3 s

SERVICE REFILL CAPACITIES

	Litres	UK gal	US gal
Crankcase	11	2.4	2.9
Fuel tank	190	41.8	50.2
Cooling system	23	5.1	6.1
Hydraulic system, total	130	28.6	34.3
Hydraulic tank	80	17.6	21.1
Transmission and torque converter, total	27	5.9	7.1
Front axle differential and hubs	26	5.7	6.9
Rear axle differential and hubs	26	5.7	6.9
Dropbox	4.6	1.0	1.2

CAB

Tested and approved as a safety cab in accordance with Article 3 Section 8 of the Swedish Environment Protection Act and meets ISO 3471-1980, ROPS (SS783), ISO 3449-1980 FOPS (SS782) and SS/ISO 6055 "Overhead guards for lift-truck". The cab is mounted on four rubber pads and is well insulated and weathertight. All windows have bronze-tinted glass. The windshield is of laminated safety glass, other windows have tempered glass.

Heater and defroster: Heating element with filtered fresh air and 3-speed fan plus defroster for windshield and side windows.

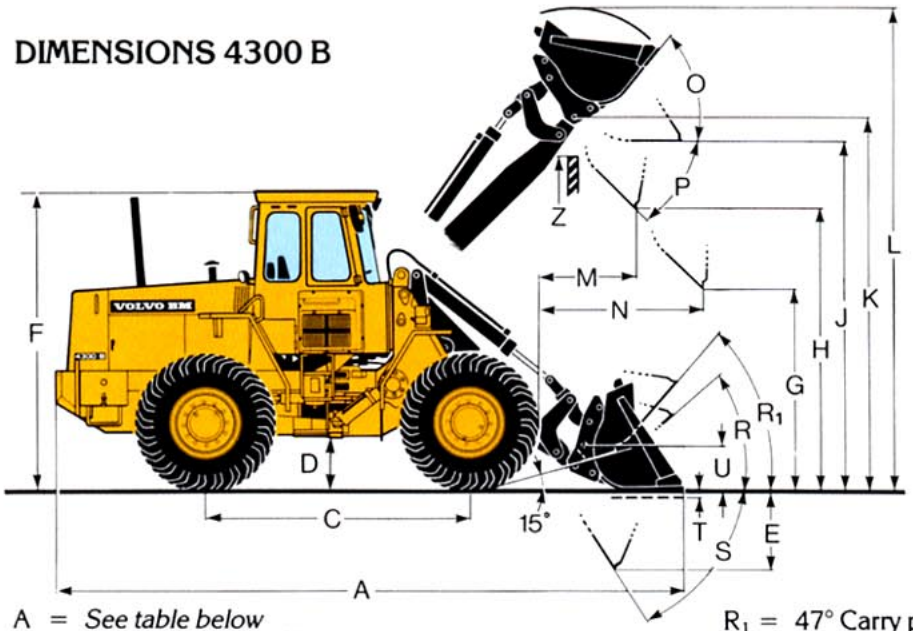
Operator's seat	ISRI GI 6000/575
Mountings for seat belt	Yes

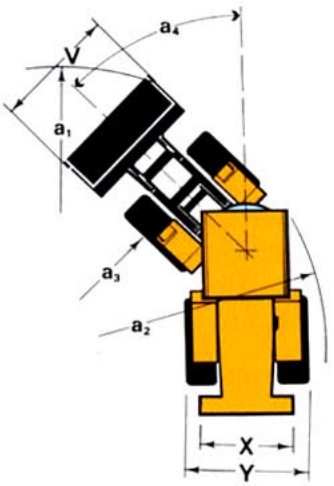
OPTIONAL EQUIPMENT

(Standard equipment on certain markets)

- 24 V inspection lamp
- Electrical equipment Norway
- Protective grilles for front service lights
- Protective grilles for rear beams
- Speedometer/odometer
- Extra front working lights (2) halogen
- Extra rear working lights (2)
- Air conditioning
- Heated operator's seat
- Heating flange
- Untinted cab glass
- Radio panel without radio
- Vent, left side
- 4th hydraulic control
- Attachment bracket: mechanical lock
- Lockable toolbox
- LGF plate
- Hydraulic attachment bracket
- Industrial hitch
- Low emission version
- Tyre inflation kit
- Passenger seat
- Thermostat-controlled fan
- Extractor fan
- Screen for extractor fan
- Reversing alarm
- Intermittent wiper
- Washers for front and rear windows
- Dual brake pedals
- Electric engine block heater, 1,500 W
- Rain guard for exhaust pipe
- Hand brake alarm ASS 94
- Hydraulic oil cooler
- Dummy quick discharge valve
- 5th hydraulic control
- Dual-circuit hydraulics
- Lever interlock
- Precleaner, oil immersion type
- Tropical version
- Rotating beacon with collapsible mount
- Tool kit, wheel nut wrench set
- Full-coverage fenders
- Single-acting lifting function
- Automatic Power Shift (APS)

DIMENSIONS 4300 B





A = *See table below*
A = 5,390 mm (17′ 8″) without attachment
C = 2,700 mm (8′ 10″)
D = 365 mm (1′ 2″)
E = 885 mm (2′ 11″)
F = 2,990 mm (9′ 10″)
G = 2,000 mm (6′ 7″)
H = *See table below*

J = 3,480 mm (11′ 5″)
K = 3,640 mm (12′ 2″)
L = *See table below*
M = *See table below*
N = *See table below*
O = 51°
P = 43°
R = 43°

R_1 = 47° Carry position
S = 51°
T = 150 mm (6″)
U = 365 mm (1′ 2″)
V = *See table below*
X = 1,860 mm (6′ 1″)
Y = 2,310 mm (7′ 7″)
Z = 3,430 mm (11′ 3″)

a_1 = Clearance circle. *See table below*
a_2 = Turning radius 5,000 mm (16′ 5″)
a_3 = Inner radius 2,700 mm (8′ 10″)
a_4 = Steering angle ±40°

Attachment		Bucket Pin on without teeth	Bucket Hook on without teeth	Bucket Pin on with teeth	Bucket Hook on without teeth	Bucket Pin on without teeth	Bucket Hook on without teeth
Capacity	m^3 (yd^3)	1.5 (2.0)	1.5 (2.0)	1.5 (2.0)	1.65 (2.2)	1.8 (2.4)	1.8 (2.4)
Density	kg/m^3 (lb/yd^3)	1,800 (3,033)	1,800 (3,033)	1,800 (3,033)	1,600 (2,596)	1,500 (2,528)	1,500 (2,528)
(H) Dump clearance at full lift and 45° discharge	mm (ft in)	2,860 (9′ 5″)	2,800 (9′ 2″)	2,750 (9′)	2,800 (9′ 2″)	2,750 (9′)	2,710 (8′ 11″)
(M) Reach at full lift and 45° discharge	mm (ft in)	1,010 (3′ 4″)	1,060 (3′ 6″)	1,120 (3′ 8″)	1,060 (3′ 6″)	1,100 (3′ 7″)	1,145 (3′ 9″)
(N) Reach at 45° discharge and 7 ft high	mm (ft in)	1,560 (5′ 1″)	1,590 (5′ 3″)	1,670 (5′ 6″)	1,590 (5′ 3″)	1,610 (5′ 3″)	1,635 (5′ 4″)
(A) Overall length	mm (ft in)	6,510 (21′ 4″)	6,580 (21′ 7″)	6,660 (21′ 10″)	6,580 (21′ 8″)	6,635 (21′ 9″)	6,690 (21′ 11″)
(L) Overall height with attachment	mm (ft in)	4,800 (15′ 9″)	4,830 (15′ 10″)	4,800 (15′ 9″)	4,970 (16′ 4″)	4,880 (16″)	4,940 (16′ 2″)
(a_1) Clearance circle	mm (ft in)	10,740 (35′ 3″)	10,780 (35′ 4″)	10,860 (35′ 7″)	10,780 (35′ 4″)	10,800 (35′ 5″)	10,840 (35′ 7″)
(V) Width over bucket	mm (ft in)	2,430 (8′)	2,430 (8′)	2,430 (8′)	2,430 (8′)	2,430 (8′)	2,430 (8′)
Breakout force	kgf (lbf)	8,400 (18,518)	7,730 (17,041)	8,350 (18,409)	7,730 (17,042)	7,380 (16,270)	6,900 (15,212)
Static tipping load, straight	kg (lb)	6,540 (14,418)	6,210 (13,691)	6,490 (14,308)	6,210 (13,691)	6,420 (14,154)	6,090 (13,426)
Static tipping load, 35° turn	kg (lb)	5,840 (12,874)	5,530 (12,192)	5,790 (12,765)	5,530 (12,192)	5,720 (12,610)	5,410 (11,927)
Static tipping load at full turn	kg (lb)	5,680 (12,522)	5,400 (11,905)	5,630 (12,412)	5,400 (11,905)	5,560 (12,258)	5,260 (11,596)
Operating load at full turn	kg (lb)	2,840 (6,261)	2,700 (5,952)	2,815 (6,206)	2,700 (5,952)	2,780 (6,129)	2,630 (5,798)
Hydraulic lifting force at ground level	kgf (lbf)	10,980 (24,207)	10,980 (24,207)	10,980 (24,207)	10,980 (24,207)	10,980 (24,207)	10,980 (24,207)
Hydraulic lifting force at max. height	kgf (lbf)	4,050 (8,929)	3,870 (8,532)	4,050 (8,929)	3,870 (8,532)	4,000 (8,818)	3,820 (8,422)
Operating weight	kg (lb)	9,500 (20,944)	9,665 (21,308)	9,550 (21,054)	9,700 (21,385)	9,550 (21,054)	9,700 (21,385)
Weight distribution front	kg (lb)	3,760 (8,289)	4,025 (8,874)	3,860 (8,510)	4,090 (9,017)	3,850 (8,488)	4,090 (9,017)
Weight distribution rear	kg (lb)	5,740 (12,655)	5,640 (12,434)	5,690 (12,544)	5,610 (12,368)	5,700 (12,566)	5,610 (12,368)

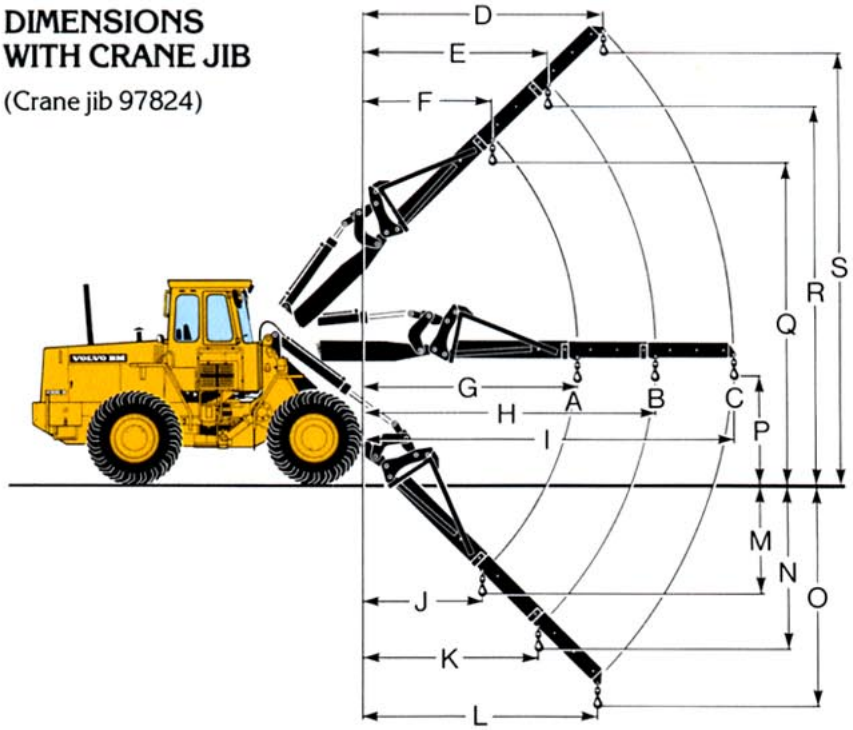
Specifications are based on a machine equipped with a 1.5 m^3 (2.0 yd^3) pin-on bucket without teeth and 17.5–25 cross-ply tyres. Wherever applicable, specifications are in accordance with SAE Standard J 732 c, J 742 b and J 818 b.

$CaCl_2$ in rear tyres is only recommended for stabilizing purposes in log grapple and pallet fork handling on hard and flat ground.

Optional tyres	Change in basic data: Width over tyres (mm)	Change in basic data: Ground clearance (mm)	Change in operating weight (kg/lb)	Change in static tipping load at full turn (kg/lb): Pin on	Change in static tipping load at full turn (kg/lb): Hook on
17.5–R25*	±0	±0	+150/+331	+160/+353	+140/+309

DIMENSIONS WITH CRANE JIB

(Crane jib 97824)

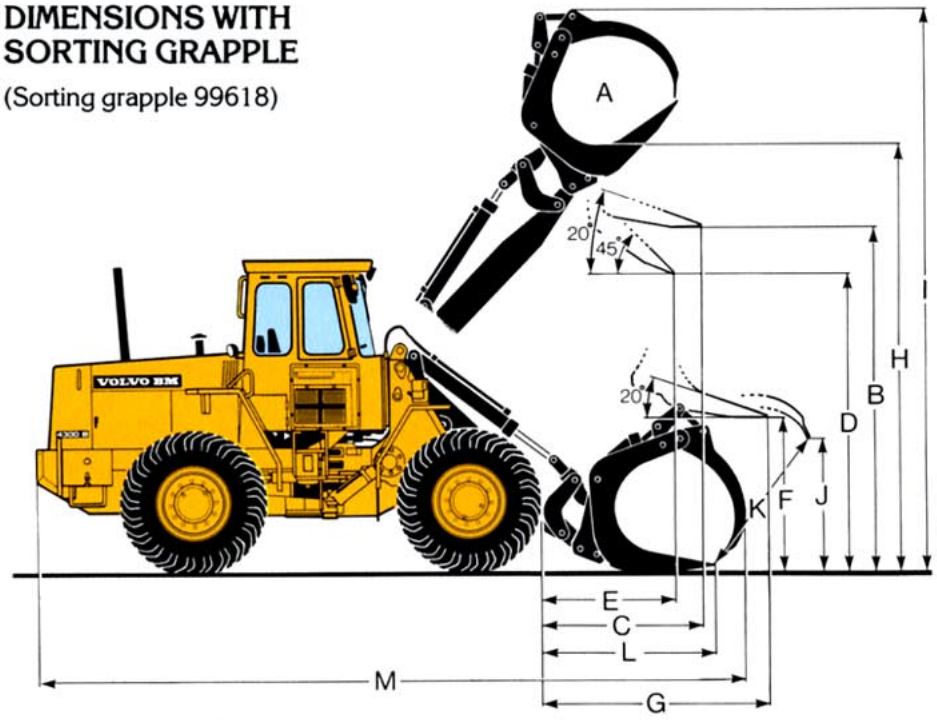


A = 1,480 kg (3,263 lb)
B = 1,260 kg (2,778 lb)
C = 1,000 kg (2,205 lb)
D = 2,795 mm (9′2″)
E = 2,160 mm (7′1″)
F = 1,560 mm (5′1″)
G = 3,190 mm (10′6″)
H = 4,255 mm (14′)
I = 5,385 mm (17′8″)
J = 1,500 mm (4′11″)
K = 2,145 mm (7′)
L = 2,830 mm (9′3″)
M = 1,885 mm (6′2″)
N = 2,730 mm (8′11″)
O = 3,630 mm (11′11″)
P = 1,600 mm (5′3″)
Q = 5,140 mm (16′10″)
R = 6,020 mm (19′9″)
S = 6,950 mm (22′10″)

Operating weight 9,375 kg (20,668 lb)

DIMENSIONS WITH SORTING GRAPPLE

(Sorting grapple 99618)

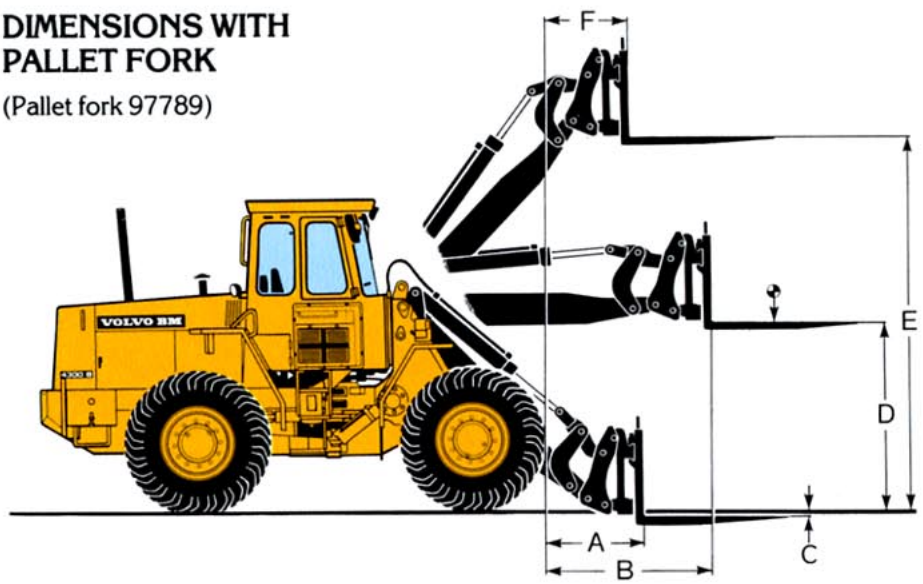


A = 1.2 m² (13.0 ft²)
B = 3,375 mm (11′1″)
C = 1,640 mm (5′5″)
D = 2,880 mm (9′5″)
E = 1,370 mm (4′6″)
F = 1,580 mm (5′2″)
G = 2,430 mm (8′)
H = 4,150 mm (13′7″)
I = 5,615 mm (18′5″)
J = 2,450 mm (8′)
K = 2,500 mm (8′2″)
L = 1,720 mm (5′8″)
M = 6,880 mm (22′7″)

Operating load: 3,020 kg (6,658 lb)
Operating weight: 9,925 kg (21,881 lb)

DIMENSIONS WITH PALLET FORK

(Pallet fork 97789)



Length 1,225 mm (4′)
Fork carriage (97792)
Width 1,500 mm (4′11″)
A = 700 mm (2′3″)
B = 1,530 mm (5′)
C = 20 mm (1″)
D = 1,810 mm (6′)
E = 3,630 mm (11′11″)
F = 750 mm (2′5″)

Max. permissible load 4,000 kg (8,818 lb) at centre-of-gravity distance 600 mm (2′) Operating weight 9,400 kg (20,723 lb)

STANDARD EQUIPMENT

SAFETY & COMFORT

- ROPS and FOPS approved cab
- Cab heating with filtered fresh air intake and defroster
- Tinted glass
- Ergonomically designed and adjustable operator's seat
- Rear-view mirrors, external, 2
- Rear-view mirror, internal, 1
- Lights:
  Headlights, high/low/ asym., halogen
  Parking lights
  Working lights forward (2) halogen
  Working lights rear (2) halogen
  Side marker lights
  Brake lights
  Tail lights
  Cab lighting
  Instrument lighting
- Mounting for seat belt
- Seat belt
- Utility box in cab
- Pressure gauge for air brake system
- Instrument panel with symbols
- Direction indicators
- Sun visor
- Safety start
- Fenders
- Hazard flashers
- Windshield wipers, front and rear
- Horn
- Tyre inflation outlet
- Ashtray
- Cigarette lighter
- Lifting lugs

ENGINE & ELECTRICAL SYSTEM

- Fuel gauge
- Temperature gauge, engine
- Temperature gauge, hydraulic transmission
- Hour meter
- Electrical outlet 24 V
- Battery disconnect switch
- Alternator
- Air cleaner with ejector
- Pilot lamps for:
  Working lights front and rear, battery charging, high beam, direction indicators, engine oil pressure, transmission oil pressure, differential lock, parking brake, air brakes, hazard flashers, cold start (heating flange), high-speed tilting

For certain markets only

- Central warning lamp:
  Brake pressure, engine oil pressure, engine temperature, transmission temperature, parking brake

HYDRAULIC SYSTEM

- Control valve (3 sections)
- High and low bucket tilt speeds
- 3rd hydraulic control
- Bucket position indicator
- Bucket positioner and boom kick-out
- Vane pump

POWER TRANSMISSION

- Full Power Shift transmission
- Differential lock (front axle)
- Transmission cut-out valve
- Single-lever gear control
- Tyres 17.5–25/12

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

VOLVO BM AB ESKILSTUNA SWEDEN

5.11.85 Trosa Tryckeri *Printed in Sweden*

Ref.No. 21 2 669 1703 ENGELSKA

Production group for basic printed matter Volvo BM
Photo: Foto Consult