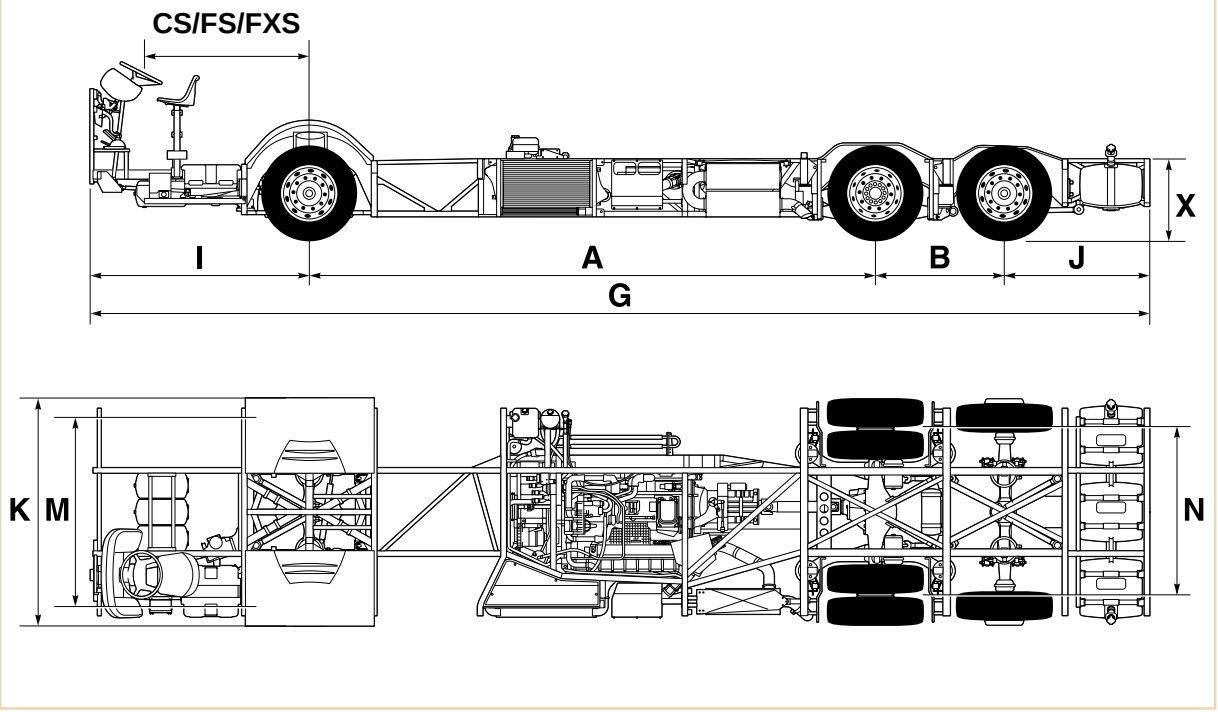
Volvo B12M

bogie, IFS, LHD



Dimensions & Weight

Overall dimensions

A Wheelbase ..... 6200 mm
B Bogie ..... 1400 mm
G Overall chassis length
CS steering ..... 11627 mm
FS steering ..... 12147 mm
FXS steering ..... 12377 mm
I Front overhang
CS steering ..... 1839 mm
FS steering ..... 2359 mm
FXS steering ..... 2589 mm
J Rear overhang ..... 2188 mm

Steering wheel location
CS steering ..... 1485 mm
FS steering ..... 1835 mm
FXS steering ..... 2065 mm

Approach angle ..... 10.5°
Departure angle ..... 12.4°
Frame height in front ..... 745 mm
X Frame height at rear ..... 866 mm
based on tyre 295/80R22.5

Track width with tyres ..... 295/80R22.5"
and steel disc rim ..... 8.25”x22.5”
M Track, front ..... 2035 mm
N Track, rear ..... 1833 mm
K Overall width front wheels ... 2471 mm
Overall width rear wheels .... 2471 mm

Weights

Permitted front axle load ..... 7500 kg
Permitted drive axle load
Long wheelbase ..... 10950 kg
Short wheelbase ..... 9000 kg
Permitted rear axle load
Long wheelbase ..... 7300 kg
Short wheelbase ..... 6000 kg
Permitted GVW
Long wheelbase ..... 25750 kg
Short wheelbase ..... 22500 kg

Driveline - Engine

6-cylinder, 4-stroke turbo-charged diesel with overhead valves and direct injection.
Bore ..... 131 mm
Stroke ..... 150 mm
Displacement ..... 12.1 dm^3 (l)
Compression ratio 18.5:1

DH12 340 hp

Output ISO 1585 ..... 250 kW (340 hp)
at ..... 30r/s (1800 r/m)
Torque ISO 1585 ..... 1700 Nm (173kpm)
at ..... 20 r/s (1200 r/m)
With torque reduction:
Torque ISO 1585 ..... 1200 Nm (122 kpm)
at ..... 15-30 r/s (900-1800 r/m)

DH12C380

Output ISO 1585 ..... 279 kW (380 hp)
at ..... 30 r/s (1800 r/m)
Torque ISO 1585 ..... 1850 Nm (189 kpm)
at ..... 20 r/s (1200 r/m)

DH12C420

Output ISO 1585 ..... 309 kW (420 hp)
at ..... 30 r/s (1800 r/m)
Torque ISO 1585 ..... 2000 Nm (204 kpm)
at ..... 20 r/s (1200 r/m)

Fulfil the European emission requirements Euro 3.

Fuel tanks

Mounted above rear axle ..... 400 l
Mounted above and behind rear axle .....
..... 400+150+150 l
Mounted behind the rear axle ..... 2x150 l
Mounted behind rear axle ..... 3x150 l
Mounted transport tank ..... 50 l

Clutch

Volvo EGS-V/VR and ZF 6S-1600 uses pull type single dry disc KFD117E. Power assisted clutch control gives low pedal pressure.
Diameter ..... 430 mm
Total friction area ..... 2000 cm^2

Driveline - Exhaust and Cooling System

Optional ..... Coolant filter
Optional ..... Oxidizing catalyst
Optional ..... Volvo exhaust filter

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Driveline - Transmission

Transmission
Volvo EGS-V
Esay gear shift. Mechanical 8 speed fully synchronized
Volvo EGS-VR
Esay gear shift. Mechanical 8 speed fully synchronized with Volvo compact retarder.
ZF 6S-1600
Mechanical 6 speed fully synchronized.
ZF 5HP602
NBS - neutral on bus stop. 5-speed fully automatic gearbox with integral retarder and electronic control system.
Voith D864.3
ANS - auto neutral at stop. 4 speed fully automatic gearbox with integral retarder and electronic control system. The torque converter also functions as a retarder.

	ZF 6S-1600	Volvo EGS-VR EGS-V
1st gear	7.72:1	9.13:1
2nd gear	4.42:1	6.42:1
3rd gear	2.66:1	4.77:1
4th gear	1.79:1	3.75:1
5th gear	1.28:1	2.44:1
6th gear	1.00:1	1.71:1
7th gear	-	1.27:1
8th gear	-	1.00:1
Reverse	7.10:1	13.69:1

	ZF 5HP 602	Voith D864.3
Torque converter	1.83:1	4.96:1
1st gear	2.81:1	1.36:1
2nd gear	1.84:1	1.00:1
3rd gear	1.36:1	0.73:1
4th gear	1.00:1	-
5th gear	0.80:1	-
Reverse	3.97:1	4.80:1
Optional		Retader

Driveline - Rear axle and tyres

Rear axle
Single reduction of hypoid type.
Max speed km/h at max engine revs with tyre 295/80R22.5
Ratio: 5.29:1 .. 4.63:1 .. 4.11:1
Volvo EGS-V/VR 89
ZF 6S-1600 89
5HP602 90 102
Voith D864.3: 95 109

Max speed km/h at max engine revs with tyre 295/80R22.5
Ratio: 3.70:1 .. 3.36:1 .. 3.08:1
Volvo EGS-V/VR 99 109 119
ZF 6S-1600 99 109 119

Optional Differential lock
Optional Speed limiter

Tyres & Rims
10-stud steel or aluminium disc wheels. Dual driving axle wheels.

Rims	Tyres
8.25”x22.5”	295/80R22.5”
	12R22.5”
9.00”x22.5”	315/80R22.5”
	295/80R22.5”

Optional Spare wheel

Suspension and Steering

Individual front axle suspension.

Numbers	Front	Rear
Air bellows	2	6
Levelling valves	1	2

Stabilizer both front and rear.
Shock absorbers. Double-acting, hydraulic telescopic shock absorbers,four front, four rear.
Bogie suspension can be either steered or fixed.

Optional Kneeling

Steering gear
Power steering of ball and nut type with built-in servo unit.
Max wheel angle 53°
Steering wheel diameter 500 mm

Air and Brake system

Service brakes
Air brakes complying with EEC regulations with separate circuits for front and rear wheels.
Airdrier. Automatic brake adjustment. Asbestos free brake linings.
Brake lining width:
Front 8” (203 mm)
Rear 10” (254 mm)
Friction area:
Front axle, disc brake 904 cm^2
Rear axle, drum brake 3450 cm^2
Total 4354 cm^2
Brake system, operating pressure 7.5-7.7 kp/cm^2
Compressor capacity at 10 bar and engine speed 33 r/s (2000 r/m) 15 dm^3/s (900 l/m)
Compressor ratio 1.46:1
Air tanks standard
- Primary 30 dm^3 (l)
- Front circuit 30 dm^3 (l)
- Rear circuit 30 dm^3 (l)
- Park circuit 15 dm^3 (l)

Compressed air system can easily be filled from external circuit.

Handbrake
Air operated spring brake acting directly on the rear wheels. Application is infinitely variable by means of a control on the fascia .
Optional ABS
Optional Traction control

Vehicle Structure

The frame is made of stainless steel. Precision welded box frame construction, consisting of 3 and 4 mm RHS profiles.

Ventilation, Heating and Airconditioning system

In order to meet various climate conditions there is space for a number of different kinds of aircondition compressor unit. The compressor is belt driven by engine mounted pulley.

Driver’s seat and Station

Adjustable steering wheel, both height and tilt, with (as an option) the instrument panel following. Self cancelling turn indicators.
Dashboard, mid module: Tachometer, speedometer. Indicator lamps for door brake, parking brake, turn indicator, full headlights, differential lock, kneeling, ABS failure, rear fog lights, seat belt.
Dashboard, left module: Gauges for oil pressure, coolant temperature, turbo pressure. Message Centre Display (MCD) indicating fault conditions and pre-trip check to confirm to the driver that all systems are serviceable before the bus sets off. Indicator lamps for engine preheat, attention and stop.
Dashboard, right module: Gauges for brake pressure front and rear, fuel. Indicators for next stop, pram, central warning.
Instrumentation, behind engine. Selector switch for front or rear operation, starting, charging lamp, mechanical stop, oil gauge. These controls enable the engine to be run and controlled from the tail of the vehicle during service work, etc.
Optional .... Speedometer with tachograph
Optional ..... Datalog infomation center

Electrical system

Number of batteries 2
Voltage 24 V
Battery capacity 170/220 Ah
Alternators max output 2x80/115/ 140/180/2x140 A
The system also incorporates starter inhibitor relay and one transistor regulator.
Optional Amperemeter
Optional Fuel consumption meter
Optional ..... Outdoor/indoor temp meter
Optional Cruise control