



## Dimensions & Weight

### Overall dimensions

A	Transport wheelbase	4000 mm
	Wheelbase certified	6000-7400 mm
B	Bogie	1400 mm
G	Overall chassis length	
	C steering	10119 mm
	F steering	10469 mm
	FX steering	10699 mm
I	Front overhang	
	C steering	2049 mm
	F steering	2399 mm
	FX steering	2629 mm
J	Rear overhang	2670 mm
Steering wheel location		
	C steering	1467 mm
	F steering	1817 mm
	FX steering	2047 mm
Approach angle ..... 8.3 °		
Departure angle ..... 9.2 °		
Frame height in front ..... 742 mm		
X	Frame height at rear	1692 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	2068 mm
N	Track, rear	1834 mm
K	Overall width front wheels	2487 mm
	Overall width rear wheels	2471 mm

### Weights

Permitted front axle load	7500 kg
Permitted drive axle load	11500 kg
Permitted rear axle load	5750 kg
Permitted GVW	24750 kg

## Driveline - Engine

6-cylinder, 4-stroke diesel engines with overhead valves and electronic direct injection. Turbocharger with intercooler, 4-valve technology and a unit injector for each cylinder. Volvo EMS2 engine control system. Mounted horizontally at the rear.

Bore	131 mm
Stroke	150 mm
Displacement	12.1 dm <sup>3</sup> (l)
Compression ratio DH12D	18.5:1
Compression ratio DH12E	18:1

### DH12D 340 hp

Output ISO 1585	250 kW (340 hp)
at	30r/s (1800 r/m)
Torque ISO 1585	1700 Nm (173 kpm)
at	20 r/s (1200 r/m)

### DH12D 380 hp

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

### DH12D 420 hp

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

DH12D engines fulfil Euro 3 emission requirements.

### DH12E 340 hp

Output ISO 1585	250 kW (340 hp)
at	30r/s (1800 r/m)
Torque ISO 1585	1700 Nm (173 kpm)
at	16-23 r/s (950-1400 r/m)

### DH12E 420 hp

Output ISO 1585	309 kW (420 hp)
at	30r/s (1800 r/m)
Torque ISO 1585	2000 Nm (204 kpm)
at	17-25 r/s (1050-1475 r/m)

### DH12E 460 hp

Output ISO 1585	338 kW (460 hp)
at	30r/s (1800 r/m)
Torque ISO 1585	2200 Nm (224 kpm)
at	18-24 r/s (1100-1465 r/m)

DH12E engines fulfil Euro 4 emission requirements and Euro 5 as an option for DH12E340.

### Fuel tanks

All tanks are made of polyethylene or steel. There is a choice of four volumes: 300 (2x150), 400, 450 (3x150), 480, 580, 600, 700 and 720.

Transport tank ..... 50 l

## Driveline - Exhaust and Cooling System

Stainless steel exhaust system with SCR catalytic converter, AdBlue pump and 40 or 60 l urea tank. Urea tank is mounted behind the rear axle, on the left or right side of the chassis. Catalytic converter is integrated with the silencer. Muffler sensor are linked to the On Board Diagnostics that alerts the driver if the level of air pollutants in the exhaust gases is excessive, and when AdBlue refilling is needed.

Optional ..... Coolant filter

## Driveline - Transmission

### Volvo AT2412C I-Shift

Manual gearbox, 12 forward gears, 4 reverse, automatic gear changing available, electronic control system, integrated retarder as an option.

### ZF 6S-1900

Manual gearbox, 6 forward gears, 1 reverse, fully synchronized.

### ZF 6HP604-N

6-speed fully automatic gearbox with integral retarder and electronic control system. NBS - Neutral on Bus Stop function.

### Voith D864.5

Fully automatic 4 speed gearbox with integrated retarder and electronic control system. The torque converter also functions as a retarder. ANS - Auto Neutral at Stop function.

	ZF 6S-1900	ZF 6HP 604-N	Voith D864.5
Torque conv. ....	-	1.44:1	4.96:1
1st gear .....	6.32:1	3.43:1	5.05:1
2nd gear .....	3.62:1	2.01:1	1.36:1
3rd gear .....	2.15:1	1.42:1	1.00:1
4th gear .....	1.37:1	1.00:1	0.73:1
5th gear .....	1.00:1	0.83:1	-
6th gear .....	0.81:1	0.59:1	-
Reverse .....	5.81:1	3.97:1	4.80:1

Volvo I-shift gear ratios: 14.94:1, 11.73:1, 9.04:1, 7.09:1, 5.54:1, 4.35:1, 3.44:1, 2.70:1, 2.08:1, 1.63:1, 1.27:1, 1.00:1.

Rear gears: 17.48:1, 3.73:1, 4.02:1, 3.16:1. Available 3, 5, 6-buttons gear selectors, kick down function, retarder foot or foot and hand control.

## Driveline - Rear axle and tyres

### Rear axle

The Volvo RS 1228B single reduction axle with nine alternative ratios available. The casing designed for higher ground clearance, lightweight and quiet operation. Max speed km/h at max engine revs with tyre 295/80R22.5:

Ratio: .....	5.63:1	5.29:1	4.63:1
6HP604-N .....	118	126	144
D864.5 .....	92	98	109

Ratio: .....	4.11:1	3.70:1	3.36:1
AT2412C .....	-	99	109

Ratio: .....	3.08:1	2.85:1	2.64:1
AT2412C .....	119	128	138

Optional ..... Differential lock

### Tyres & Rims

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

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

Optional ..... Spare wheel

## Suspension and Steering

Electronically Controlled Suspension, independent front suspension. Stabilizer both front and rear. Shock absorbers. Double-acting, hydraulic telescopic shock absorbers, two front, six rear.

Numbers .....	Front	Drive	Rear
Air bellows .....	2	4	2
Levelling valves .....	2	4	2

### Steering gear

Power steering of ball and nut type with built-in servo unit.

Max wheel angle .....	50 °
Steering wheel diameter ..	450 or 500 mm
Optional .....	Kneeling

## Air and Brake system

Separate circuits for front and rear wheels. Volvo disc brakes combined with electronic braking system EBS5, which controls ABS/ASR functions. Electronic Stability Program for yaw control and roll over prevention. Lining wear sensing and analysis. Available features: brake blending, drag torque control, hill start aid, brake temperature warning, poor brake performance warning, doorbrake.

### Brake disc diameter:

Front .....	434 mm
Drive .....	434 mm
Rear .....	434 mm

### Friction area:

Front axle, disc brake .....	2x200 cm <sup>2</sup>
Drive axle, disc brake .....	2x200 cm <sup>2</sup>
Rear axle, disc brake .....	2x200 cm <sup>2</sup>

System operating pressure ..... 8.5 kp/cm<sup>2</sup>  
Compressor capacity at 10 bar and engine speed 33 r/s (2000 r/m)

..... 15 dm<sup>3</sup>/s (900 l/m)

Compressor ratio ..... 1.46:1

### Air tanks standard

- Primary .....	30 dm <sup>3</sup> (l)
- Front circuit .....	30 dm <sup>3</sup> (l)
- Rear circuit .....	30 dm <sup>3</sup> (l)
- Park circuit .....	15 dm <sup>3</sup> (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.

## Vehicle Structure

The frame is made of 3CR12 stainless steel. Precision welded, weight optimized, box frame construction, consisting of 3 and 4 mm RHS profiles. Long service life, increased loading capabilities. Rigidity provides good stability and driving characteristics.

## Driver's seat and Station

Volvo dashboard available or instruments only supplied. Dashboard fully compatible with BEA2, two satellites on the right and the left side. Adjustable steering wheel, both height and tilt. Self canceling turn indicators.

**Dashboard, center:** speedometer, rev counter, AIC display, fuel gauge, coolant temperature, brakes, turbo and oil pressure, indicators, warning lamps.

**Dashboard, left:** emergency switch, tachograph, switches, audio control panel (option).

**Dashboard, right:** radio, climate control unit.

**Steering wheel, left satellite:** control buttons, Light Control Panel.

**Steering wheel, right satellite:** gearbox selector, doorbrake knob, switches and warning lamps.

**Instruments, 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.

Optional ..... Tachograph

Optional ..... Datalog Information Center

Optional ..... Radio/phone switches  
..... in steering wheel

## Electrical system

The electrical system is a 24-volt system, where the chassis and engine frame are used as a ground. The battery's minus terminal is connected to the chassis via the battery disconnecter. Optional battery box which is placed under the driver's seat, contains two serial connected 12-volt batteries. There are four alternator capacities available. 2nd generation Bus Electrical Architecture (BEA2) with electronic databus system Multiplex 2 for data transmission, bus systems control, monitoring and coordination of all devices installed on the bus. Multiplex 2 also provides diagnostic information for driver and workshop. BEA2 features electronic control of the Engine Management System, transmission and suspension. For testing, callibrating and programming of the control units can be used a PC based software package VCADSPRO. External lighting functions integrated in chassis Multiplex. They are activated by new Light Control Panel and controlled by Light Control Module. The system is equipped with three main switches: engine shut off, fuel shut off and electrical shut off. Tachograph system is available, analog or digital.

Number of batteries .....	2x12V
Battery capacity .....	170, 225 Ah
Alternators max output .....	2x80, 3x80
.....	2x110, 3x110 A