



SB 220 GS

LOW FLOOR

UK Sales specification

Engine	8,65 l Advanced Turbo intercooling
	160 kW
	EURO 2
Suspension	Full air suspension

Weights in kilograms

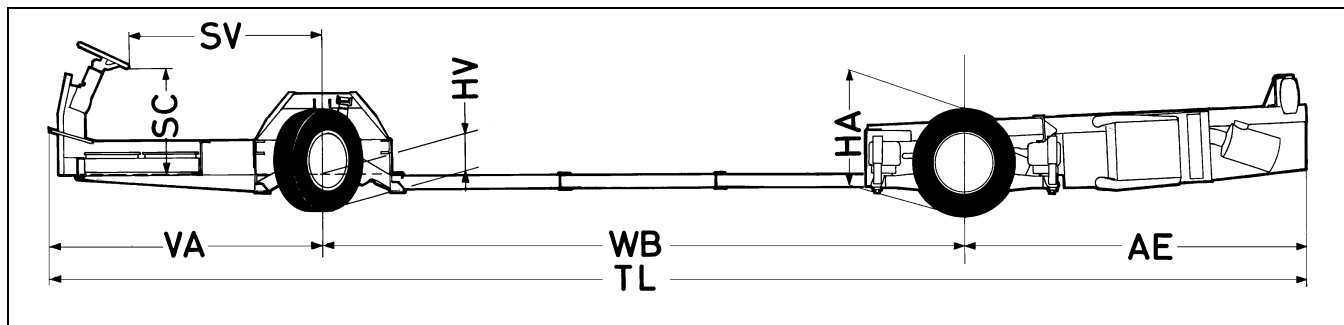
Tyres	Load index	Remark	Gross Vehicle Weight (GVW)			Chassis Weight		
			front	rear	total	front	rear	total
275/70 R 22,5	148/145J	Max techn. speed 80 km/h	6.500	11.600	18.100	1.370	4.095	5.465
275/70 R 22,5	148/145J	Plated weight (max. 100 km/h)	6.000	10.500	16.500			

Weights calculated with:

Engine GS 160, automatic gearbox, empty fuel tank, without spare wheel.
Without transport equipment. Weight tolerance $\pm 3\%$. These weights vary in production and are intended as a guide only.

Dimensions in metres:

WB	TL	VA	SV ¹	SC	HV	HA	TB ²	AE
6.00	11.57	2.56	1.80-1.91	0.98-1.15	0.34	0.84	2.41	2.97



VEHICLE SPEED

Vehicle speed in km/h at maximum power (engine 2300 rpm) and 275/70 R22,5 tyres. The maximum theoretical vehicle speed in mph is shown in brackets for an unloaded vehicle (engine 2535 rpm), on the flat road, normal wether conditions and 275/70 R 22,5 tyres.

Gearbox / Axle ratios	3.31	3.73	4.10	4.56	5.13
4HP500 (3.43 - 1.00:1)	124 (85)	110 (75)	100 (68)	90 (62)	80 (55)
5HP500 (3,43 - 0.83:1)	---	132 (91)	120 (83)	108 (74)	96 (66)
D851.3 (5.20 - 1.00:1)	124 (85)	110 (75)	100 (68)	90 (62)	80 (55)
D854.3 (5.20 - 0.73:1)	---	---	---	123 (84)	109 (75)

Note: Combinations with theoretical speed $\geq 100\text{km/h}$ (62,5mph) are only in compliance with EC 92/24 if a speedlimiter is fitted.
If theoretical speed $\geq 96\text{km/h}$ (60mph) passenger safetybelts have to be fitted in compliance with UK legislation.

¹ Adjustable steering column

² TB: overall width, measured over driven axle

Engine

6 cylinder diesel engine with direct injection and Advanced Turbo intercooling, horizontally mounted behind rear axle
Emission levels EURO 2 (NO_x < 7g/kWh)
Bore x stroke 118 x 132 mm
Swept volume 8,66 dm³
Compression ratio 16,1:1
Governor two-speed
Lubrication system pressure lubrication with gear type pump, full-flow oil filter, with oil cooler
Cooling system water cooling with centrifugal pump, gear driven, 1 thermostat
Air intake system dry air cleaner, with replaceable element

Type GS 160
Max.output¹ 160 kW / 218 hp at 2300 rpm
Max.torque¹ 850 Nm at 1100 rpm

Gearbox

Electronically controlled fully automatic gearbox with foot controlled integrated retarder, automatic neutral shift at standstill and kick-down.
Standard ZF 4HP500 (3,43 - 1.00:1)
Optional: - ZF 5HP500 (3,43 - 0.83:1)
- Voith D851.3 (5,20 - 1.00:1)
- Voith D854.3 (5,20 - 0.73:1)

Construction

Welded steering and drive units for fully integral body construction up to 12 metres in length. Chassis in Low Floor version. Including 300 litres fuel tank.

Cooling unit

Radiator unit with hydraulic fan drive integrated in engine compartment. Fan thermostatically controlled. Including coolant level sensor.

Steering unit

Front axle type 154 N
Stub axles with needle bearings, 'long life' greased.

Driven Unit

Type 1339
Fully floating single-reduction rear axle. Crownwheel and pinion with hypoid bevel gearing.
Ratios see other side Performance.

Suspension

Electronically controlled air suspension with "high speed" kneeling / ferry-lift facility (2 air bags at front and 4 air bags at rear). Adjustable double-acting telescopic shock absorbers and stabilisers on both axles.

Wheels en tyres

7.50 x 22.5 wheels with 275/70 R 22,5 tyres. Twin wheels on driven axle.

Steering gear

Right-hand (RHD) drive.
Hydraulic power steering with adjustable steering column, rake: 20° - 31°, height: 80 mm. Soft grip steering wheel f 500 mm.
Inner wheel turning angle: 56°
Turning circle radius outer front wheel: 8.52 m

Brake system

Air mechanical, dual circuit, air brakes with air dryer and automatic slack adjusters. Drum brakes with asbestos free linings on both axles.
Brake dimensions:
- steering axle 420 x 150 mm
- driven axle 420 x 240 mm
Compressor 2 cylinder 440cc water cooled, 680l/min at 2300 engine rpm and 10 bar
Air reservoir 3 x 36 + 2 x 20 litres
Handbrake by means of spring brake actuators on driven axle
Optional:
- halt brake on driven axle
- ABS (Anti-lock Braking System)
- ASR (Anti Wheelspin System in combination with ABS and E-gas)

Electrical equipment

Voltage 24 V
Alternator 140 A
Batteries 2 x 200 Ah, on swing out tray
Starter 5.2 kW
Service controls in engine compartment Operating switch front/rear; switches for: glowing, engine start and stop.
Central E-panel Central electronic panel comprising: printed circuit boards with relays and electronic control units.

Central chassis lubrication:

Automatic central lubrication system, with grease 2 or grease 00.

Throttle control:

Throttle cable linkage. Mechanical throttle lock in combination with open door.
Optional: - speedlimiter

Instruments and controls:

The Coach version instrument panel is suitable for integration in the body facia.

Instruments:
Speedometer (km/h + mph), electronic rev.counter, gauges for: air pressure (with audible signal), fuel level, voltage, oil pressure (with audible signal), coolant temperature engine (with audible signal), retarder oil temperature.

Switches:
Main switch, contact/stop, start, instrument panel lighting (2 intensities), reverse conformation switch, retarder on/off, cold start, pre glowing, fog lights front and rear, headlamp switch, air suspension height adjustment switches, hazard warning lights. optionally: contact, starter and stop switch integrated within steering lock.

Multi-function switch:
Direction indicators, horn, headlamp main-beam / dipped-beam, headlamp flasher.

Windscreen wipers (2-speed), intermittent wipe / wipe-wash.

Indication lights:
Central alarm light, central warning light, main switch, glowing system, headlights main/dipped beam, fog lights rear, direction indicators, parking brake, retarder oil temperature, gearbox control (Voith), retarder on/off. Optional: halt brake, central lubrication system.

Standard Warning System (SWS) panel:
Warning lights for engine compartment temperature with audible signal, oil pressure (with audible warning), coolant temperature and low coolant level engine (with audible warning), battery charge, alternator voltage, chassis level, open doors, air filter exchange.
Optional: ABS, speedlimiter.

Accessories:
Cigar lighter/inspection lamp socket.

Further Equipment:

Optional:
- automatic sump topping-up system
- off side fill and dip facility
- tachograph, 2 drivers without rev. registration, km/h + mph

¹ ECE R24-03 (ISO 1585)