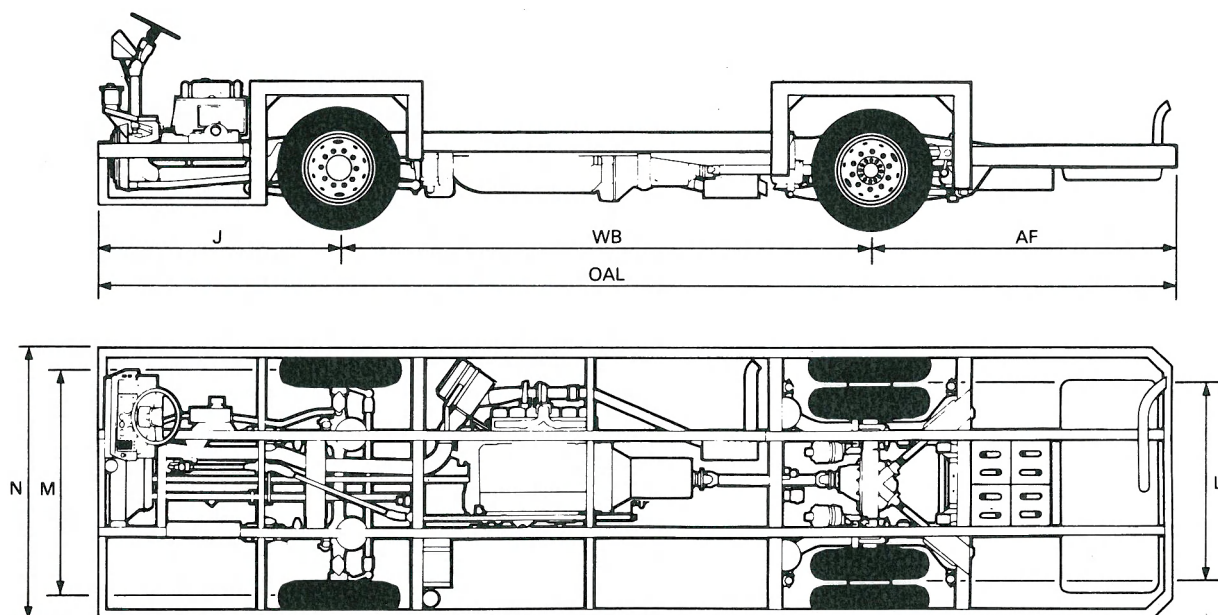


AILSA Citybus

DOUBLE DECK CHASSIS

Plated Weight G.V.W. 16500 kg (36376 lb.)



Length mm (in.)

WB	Wheelbase	4953
OAL	Overall Underframe Length	9514
J	Front Overhang	2263
AF	Rear Overhang	2298
	Turning Circle Diameter (Outer Front Wheel)	16.5 m

Width mm (in.)

N	Max. Width	2355 (92.75)
L	Track Rear	1820 (71.65)
M	Track Front	2027 (79.80)
N	Max. Width over Front Wheels	2455 (96.65)
	Max. Width over Rear Wheels	2447 (96.34)

Frame Height above Ground Level

Ground upper edge of frame above front axle (See Drg. P. No. 8390454)	
Ground upper edge of frame above rear axle (See Drg. P. No. 8390454)	
Max. Front Axle Pressure Kg (lb)	6500 (14330)
Max. Rear Axle Pressure	10000 (22046)
Max. G.V.W.	16500 (36376)

The "Ailsa Citybus" is based on the proven concept of separate chassis and super-structure to provide the operator with the all important choice of body. The chassis concept is a development of the well-tried Ailsa B55 philosophy, where engine positioning and simple drive line configuration combine to provide a simple to operate and cheap to maintain bus. Like the B55 the Citybus incorporates a fully welded peripheral frame and when bodied provides a sturdy and robust structure of high strength. In the case of the Citybus the engine is mounted midships underfloor and this allows the bodybuilder

total freedom of the driver's cab layout and achieves a level floor clear of any chassis member intrusion. One of the many additional benefits of the mid-engined concept for double deck application is that it provides a safe vehicle with optimum handling and braking irrespective of passenger capacity. A further benefit due to complete lack of engine intrusion is that of additional passenger capacity in the lower saloon. The chassis is available in a wide range of lengths and wheelbases to suit all types of PSV operation. Provision is also made for the incorporation of a centre exit immediately rearward of the nearside front wheelbox.

SPECIFICATION

ENGINE

Volvo THD 100 EA six cylinder, horizontally mounted, turbo-charged, 4-stroke diesel engine with overhead valves and direct injection, specifically developed for economy and bus application.

Various net power outputs available, dependent upon transmission options and operator requirements.

Standard power output 121 Kw (162 bhp) at 1800 rpm with power range up to 180 Kw (245 bhp) available.

Installed torque 620 Nm at 1400 rpm (121 Kw engine).

Installed torque 900 Nm at 1400 rpm (180 Kw engine).

ENGINE DETAILS

Bore 120.65 mm
Stroke 140 mm
Swept volume 9.6 Litres
Compression ratio 15.1:1
Oil capacity 30 Litres
Cooling system capacity (without saloon heaters) 48 Litres
Gross output factory set in accordance with BSAU 141 (A), ISO 2534 and SAEU 270.
Smoke requirements conform with EEC regulation 24, BSAU 141A, and Federal Register of Swedish regulations.

COOLING SYSTEM

Front mounted radiator with cooling fan shaft driven from front of engine.
Includes temperature sensing viscous fan.
Silicon hoses throughout.

TRANSMISSION SYSTEMS

SCG

5 speed close ratio pneumocyclic gearbox

with CAV type 551 fully automatic control

Ratios: 5.20:1
3.23:1
2.12:1
1.50:1
1.00:1
Reverse: 3.73:1

A Ferodo retarder is available in conjunction with the SCG transmission.

Voith D851

3-speed fully automatic transmission with torque converter and in-built retarder.

Ratios: 5.05:1
1st (including torque converter) 5.05:1
2nd 1.36:1
3rd 1.00:1
Reverse 4.52:1

ZF HP 500

4-speed fully automatic transmission with torque converter and in-built retarder.

Torque converter ratio 2.36:1
1st gear ratio 2.81:1
2nd 1.84:1
3rd 1.36:1
4th 1.00:1
Reverse 3.97:1

FINAL DRIVE

Heavy duty single reduction hypoid crown wheel and pinion differential unit mounted in straight rear axle.

Standard ratio 4.87:1 providing top speed of 45 mph with 1800 rpm governed engine.

Alternative axle ratios provided:-

5.43:1 Top speed 40 mph
4.30:1 Top speed 50 mph

BRAKING SYSTEM

Compressor

Westinghouse twin cylinder water cooled engine gear driven compressor with capacity of 445 Litres per minute against back pressure

of 7.0 Kp/cm² at engine speed of 2,200 rpm.

Air tank capacity

Front brakes 25 Litres
Rear brakes 30 Litres
Parking brake 30 Litres
Auxiliary tank 30 Litres

Braking system fully complies with EEC regulations and incorporates separate circuits for front and rear axles.

Extensive use is made of reinforced plastic piping.

SAB automatic slack adjusters are fitted.

Brake dimensions

Brake liner width
Front 203 mm (8 in.)
Rear 254 mm (10 in.)
Brake drum diameter
Front and rear 393.7 mm (15.5 in.)
Liner thickness 19 mm (¾ in.)
Friction area
Front brakes 3055 mm² (474 sq.in.)
Rear brakes 3810 mm² (590 sq.in.)
Total friction area 6865 mm² (1064 sq.in.)
Parking brake operated by type 30 spring brake chambers on rear axle with wind-off facility and operated by gradual dashmounted control. Handbrake valve mounted to customer specification.

STEERING GEAR

Power assisted steering is incorporated with engine gear driven pump and remote mounted steering box fitted away from immediate front of chassis for protection.

Ergonomic steering wheel inclination of 27.°
Steering wheel diameter 500 mm (19.6 in.) and of soft edge construction.

Approximately five turns lock to lock with front wheel angle of 50° providing vehicle with excellent manoeuvrability.

FRAME

Jig welded dual central spine design incorporating full peripheral framing providing flat interior floor and ease of bodying. Longitudinals constructed of pressed U-section steel welded together with heavy duty crossmembers of rectangular profile to peripheral frame to provide for total structural integration with body.

SUSPENSION

Full air suspension of rolling bellows type.

Number	Front	Rear
Air bellows	2	4
Levelling valves	2	2

Heavy duty anti-roll bars are incorporated to front and rear axle.

Double acting hydraulic shock absorbers are fitted, two to front axle, four to rear axle.

FUEL SYSTEM

Rear mounted fuel tank with 200 Litres

(45 gallons) capacity.

Offside fast fill with snap shut filler cap.

Twin canister disposable fuel filters mounted on side of engine.

Fuel shut-off valve positioned with easy access from side of vehicle.

WHEELS AND TYRES

10-stud spigot fixing single piece steel rims.

Size 7.5 x 22.5 inches.

Tyre equipment 1100 R x 22.5 tubeless.

ELECTRICAL EQUIPMENT

24 volt earth return system.

Lead acid batteries of 175 amp. hour capacity rear mounted.

CAV AC203 alternator rated at 60 amp output.

Rear mounted dual pole master switch and external charging point.

AILSA

Citybus

Starter motor output 4.5 Kw (6 h.p.)
Circuit breakers for chassis electrics.

INSTRUMENTATION

Comprehensive instrumentation provided and following instruments on driver's dashboard:-

Electronic speedometer,
Tachometer,
Dual air pressure gauge,
Temperature gauge,
Master warning light.
To left-hand side panel incorporating 20 warning light circuits.

Following warning lights are provided dependent upon level of equipment fitted to chassis and body.

Retarder operation

Electrically heated rear mirrors

Turn indicators

Headlamp main beam

Bus stopping

Engine compartment temperature

Passenger doors open

Low air pressure

High coolant temperature

Lubricating oil level

Battery charging light

Lubrication oil pressure

Coolant level

Parking brake engaged

Engine pre-heating

Reversing lights

Torque converter temperature

Gearbox temperature (when automatic transmission fitted).

All safety critical circuits wired to master alert light and buzzer, dash mounted in full view of driver.

MISCELLANEOUS EQUIPMENT

Screwed towing eyes to front and rear of chassis.

Chassis finished in grey primer with stainless steel topcoat.

OPTIONAL EQUIPMENT

Various wheelbases and rear overhangs.

Two door layout chassis.

Automatic chassis lubrication.

Alkaline batteries type LCV 12 or HL 14.

Westinghouse System Guard Air dryer with electric heating element.

Lucas Keinzle electronic tachograph.

Spare wheel and tyre.

Comprehensive tool kit.

Radiator shutter.

Engine coolant filter.

Particular operator requirements in addition to the above can be incorporated and every effort will be made to include each operator's specific requests.

EXPORT VARIANTS

All variants available in left hand drive form for all export markets.

6 x 2 23 ton GVW variant

The standard vehicle in left or right hand drive form with 4.9 m wheelbase and 3rd rear steer air suspended axle. Suitable for the mounting of 12 m bodywork. Provisional seating capacity 180 with up to 30 standees.

VOLVO BUS (GREAT BRITAIN) LIMITED

Kilwinning Road, Irvine, Ayrshire

The factory reserves the right to modify design and equipment without previous notification.

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