



IC 19.320 D20 E5 (RR8) SCHOOL/CHARTER BUS CHASSIS



EXTERIOR DIMENSIONS

VEHICLE LENGTH	11-13m
CHASSIS WIDTH	2,450mm
TRANSPORT WHEELBASE	4,000mm
FRONT OVERHANG	Provisional (Defined by the Bodybuilder)
REAR OVERHANG OPTION	3,400mm 3,150mm
CHASSIS APPROACH ANGLE	Defined by Bodybuilder
CHASSIS DEPARTURE ANGLE	7.5°
WEIGHT (GVM)	19.5t
FUEL TANK VOLUME OPTION	1 × 480L tank on the front axle (IFS). Filler neck on left and right. 2 × 220L provisionally mounted for fitment behind front axle.
FILTRATION	Additional primary fuel filter with water separator



ENGINE

TYPE	MAN D2066 LUH32 horizontal inline 6- cylinder 24 valve, overhead camshaft, 2 stage turbocharging with low and high-pressure intercoolers, EGR, with PM-Kat.
DISPLACEMENT BORE STROKE	10.518L 120mm 155mm
INJECTION TYPE	Bosch EDC 7 Common Rail
ENGINE OUTPUT	235kW/320hp at 1,900rpm
MAXIMUM TORQUE	1,600Nm at 1,000-1,400rpm
ENGINE OUTPUT OPTION	265kW/360hp at 1,900rpm 1,800Nm at 1,000-1,400rpm
EMISSION CLASS	Euro 5
COOLING SYSTEM	Thermostatically controlled Electronically controlled hydrostatic fan drive. Right rear (clean side) cooling package with hinged charge air cooler for ease of maintenance access.

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TRANSMISSION

TYPE	ZF 6-speed Ecolife automatic transmission with integral retarder and Topodyn.					
MODEL	6AP1200B					
GEAR RATIO	1st	2nd	3rd	4th	5th	6th
	3.36	1.91	1.42	1.00	0.72	0.62
	Reverse ratio 4.24					
GEAR SELECTOR	Rotary DNR gear selector switch. DNR123 available as an option.					



AXLES

FRONT AXLE	MAN VOS-8-B-01 Independent Front Suspension with stabiliser bar, and two separate airbags and shock absorbers.
DRIVE AXLE	Hypoid type HY1350-B03, with wide track rear air suspension, rear stabiliser bar and maintenance free wheel bearings.
OPTION	MAN VOK-08-06 Rigid Front Axle Hypoid type HY1350-B03, with narrow track rear
FINAL DRIVE RATIO	i=5.67 std i=4.6 optional



STEERING

TYPE	Type: ZF Servocom 8098 Ball-and-nut power steering. Steering column adjustable for both height and inclination.
STEERING WHEEL DIAMETER	500mm



WHEELS & TYRES

WHEELS	7 × 10-hole steel disc wheels Size 8.25 × 22.5
OPTION	Aluminum
TYRES	295/80 R22.5 Continental Radials



BRAKING SYSTEM

WHEEL BRAKES	4 wheel disc brakes with self-adjusting calipers and integral pad wear sensors.
CONTROL	Electronic Braking System (EBS) which incorporates Antilock Brake System (ABS), Anti Spin Regulator (ASR) and Electronic Stability Program (ESP)
AIR BRAKE SYSTEM	Dual circuit air brakes approved to EC and ECE guidelines.
PARKING BRAKE	Spring loaded combination brake cylinder.
BUS STOP BRAKE	Activates service brakes via dash switch or automatically controlled by the Bodybuilder. Remains active until accelerator pedal is depressed.
CONTINUOUS BRAKES (RETARDER)	Activated with brake pedal or via drivers retarder stalk switch.

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COMPRESSED AIR SYSTEM

COMPRESSOR	Gear driven 2 stage Voith LP 490 with SLS (power-saving system).
CYLINDERS	2
CAPACITY	399cm ³ (1st Cylinder) 85 cm ³ (2nd cylinder)
DISPL. EFFORT	405L /min at 1600rpm
OIL / WATER SEPARATOR	Haldex oil/ water separator
CUT OFF PRESSURE	10 Bar
AIR TANKS	1 × 40L front axle air reservoir 1 × 40L rear axle air reservoir 1 × 20L auxiliary consumers
OPTION	1 × 40L air suspension (Only with kneeling function)



AIR SUSPENSION

CONTROL	Electronically Controlled Air Suspension (ECAS). Electronically controlled constant ride height regardless of load.
SENSORS	1 × ECAS sensor on front axle 2 × ECAS sensors on the rear axle
DRIVER'S CONTROLS	Raise or lower both axles simultaneously approximately 80mm from normal ride height
OPTION	Kneel (front axle complete).



ELECTRICAL SYSTEM

BATTERIES	2 × 12V 225Ah maintenance free batteries connected in series (24V).
ALTERNATORS	2 × 110A Bosch
CHARGE RATE (IDLE)	160A at nominal voltage
STARTER MOTOR	24V/5kW Reduction drive type
MAIN RELAY	Single pole (with emergency off)
CIRCUIT PROTECTION	Resettable circuit breakers for current < 25A. Mega fuses for high current circuits.
ARCHITECTURE	The chassis electronics is based on a multi speed CAN network structure which supports full on board and off board diagnostics .



DRIVER'S DISPLAY

DRIVER'S DISPLAY	Instrument panel with central LCD display, central warning lamp, warning lamp cluster, integrated rev counter and speedometer.
GAUGES	Front and rear service brake air reservoir pressure. Coolant temperature and fuel
ADDITIONAL INFORMATION AVAILABLE	Cruise control set point, fuel consumption, trip data, oil pressure and battery voltage are accessible via LCD display.

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CHASSIS DRAWINGS

