

**THE NEW
RENAULT RANGE**



DIGITAL MAMMOGRAPHY **IMS**

**Midlum
220.115**

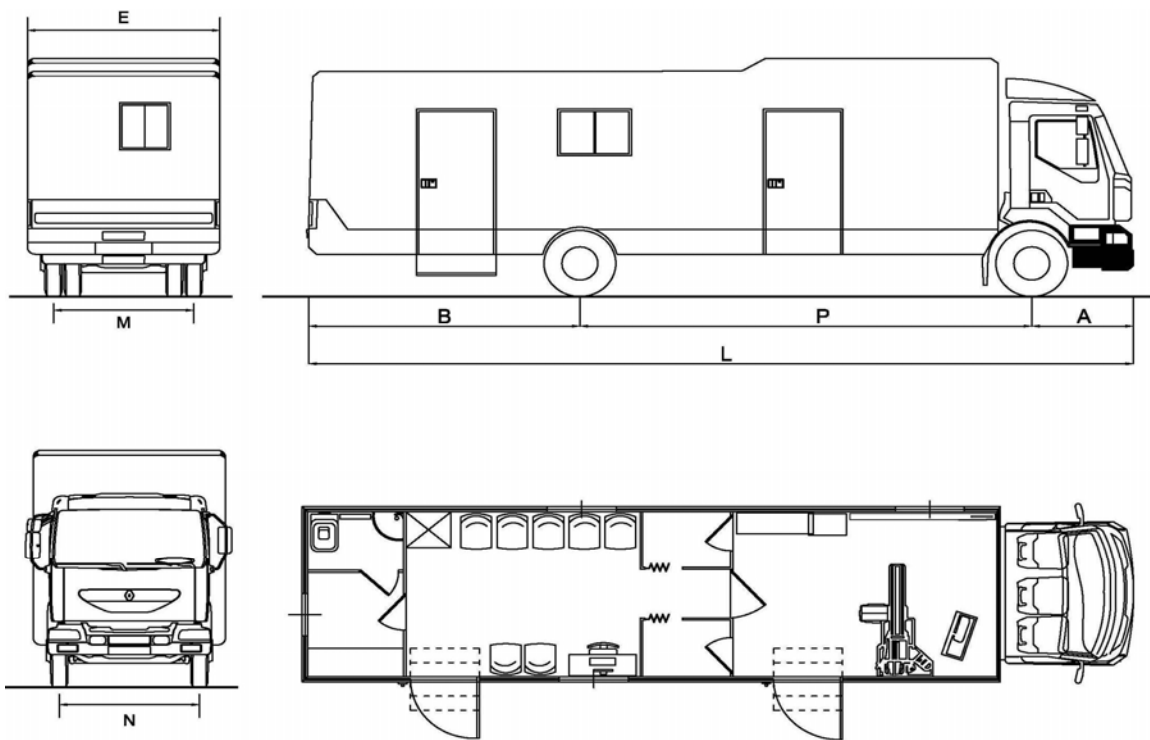
**DIGITAL MAMMOGRAPHY
MOBILE LABORATORY**



**TECHNICAL
INFORMATION**



MIDLUM 220.115 DIGITAL MAMMOGRAPHY MOBILE LABORATORY



DIMENSIONS (mm)

P	Wheelbase	5900
L	Total length	10765
A/B	Front/rear overhang	1325/3615
E	Maximum width	2500
M/N	Front/rear axle gauge	1738/1895
	Internal height (front area)	2350
	Internal height (rear area)	2150
	Internal width	2350
	Total mass	11500 (kg)

Waiting room fittings

Seats: **7**

Patient reception desk

Chemical toilet

Kitchen with 3 rings and sink

Changing rooms: **2**

Examination room fittings

Fold-up emergency bed

GIOTTO digital mammography made by IMS
(optional)

Electro hydraulic lift capacity 300 kg for
wheelchairs (optional)

RENAULT MIDLUM 220.115

Technical Data

Maximum power output: 158 kW (220 hp) at 2300 rpm

Maximum torque: 800 Nm from 1200 to 1700 rpm

Fiscal horsepower: 13 cv

4 cylinder in-line diesel engine - 4 valves per cylinder - rear distribution.

COMMON RAIL high-pressure direct injection.

Bore 108 mm - stroke 130 mm - cylinder capacity 4.8 litres.

Supercharged by exhaust-driven turbo-compressor with intake air cooling via the air/air radiator.

Pollution rating EC EURO 4.

Cooling fluid: - 25°C antifreeze.

Visco-coupling driven cooling fan.

Oil capacity: 24 l including filter.

Vehicle sound emission 80 dB (A).

ENGINE EQUIPMENT

Electronic minimum variance regulator.

Diesel prefilter.

Cold start - 15 degrees

No engine power take-off.

GEARBOX

ZF 6S 850 OD

6 synchronised forward gears and one reverse gear (6.72 - 0.79).

In-line grill

SERVOSHIFT assisted gearshift.

Cable gear control

REAR AXLE

P08020 simple reduction axle (MS12X)

Maximum rear limit: 8.480 tonnes.

Torque 12 x 43 (ratio 3.58).

Differential lock.

STEERING

Hydraulic assistance box with variable demultiplication

AXLE

Limit on front axle : 4.480 tonnes.

TYRES AND WHEELS

G.245/70 R 17.5 RHS-RHD

Wheel rims 17.5 x 6.75 - 06 - D128 M18.

Twin wheels.

Grey wheel rims.

Front wheel nut protection.

Spare wheel holder in the overhang with jack.

BRAKES

Service brake :

Electro pneumatic braking system with two independent circuits, and EBS (Electronic Braking System) management.

Disc brakes on all wheels

Electronic APM (Air Product Management): cartridge desiccator, preventive maintenance for optimum performance

Compressor off when engine being started

Single cylinder air compressor (225 cm³)

Anti-lock braking system (ABS)

Anti-skid regulation (ASR)

Drag torque control

Condition of linings (wear, temperature, estimated life).

Alignment of tractor and trailer braking

Assisted emergency braking

No anti-slip regulation (ASR)

No hill start aid.

Parking brake valve.

Emergency brake:

Guaranteed by independence from the main brake circuits.

Adjustment:

Automatic recovery of brake shoe play.

ELECTRONICS / ON-BOARD COMPUTER

ENGINE:

- all the functions of the engine and associated components are managed electronically (fan speed, engine brake, pre-heater,...).

OPTIDRIVER II (if present) :

- complete management of the driveline based on robotic gearbox, automatic clutch with electronic engine and deceleration control.

EBS:

- electronic braking management (for details see section on brakes)

APM (Air Product Management):

- control and management of the air pressure

- anti-reduction on engine starting

- disconnection of the compressor according to engine requirements

ELECTRONIC SUSPENSION (if present)

- electronic control and management of the pneumatic suspension

- "ferry" level

- height linked to speed (if fitted with centreline suspension transformers)

- optimised traction, load spreads between axles to aid driveability (if fitted with third axle)

- automatic raising of third axle

- display of operating status

POWER TAKE-OFF (if fitted)

- management of the power take-off with engine system control

LIGHTS AND INDICATORS

- electronic management of internal and external lights (going off progressively, coming on automatically)

- activation of hazard warning lights after emergency braking

ALARM (if fitted)

- protection of interior and perimeter of cab

- protection of perimeter of load (up to two zones)

- rapid alarm diagnosis with indicator on dashboard showing where on the vehicle security has been breached

(cab, body or trailer)

- monitoring of load during trip

- panic switch in cab

ELECTRICAL EQUIPMENT

Battery capacity 140 Ah. Alternator 100 A Voltage 24 Volts provided by 2 batteries. EEC standard lighting. Headlight control device.

CHASSIS

Length of side frame members: 220 x 70 mm

Chassis width: 850 mm

Medium light chassis Removable cover for front towing eyebolt.

Front underrun protection (DPEA). Underrun protection bar with integrated. Front towing eyebolt. Engine air filtering. 2 wheel chocks.

SUSPENSION

Front: reinforced parabolic leaf spring front suspension.

Rear: reinforced parabolic leaf spring rear suspension.

Stabilising bars Telescopic shock absorbers.

FUEL TANKS

Main fuel tank in plastic: 130 litres (i.e. 107 kg of diesel)

Right tank. Anti-theft cap. No diesel fuel heater.

AdBlue:

Plastic AdBlue tank capacity 20 litres for diesel tank of capacity up to 200 litres

STANDARD EQUIPMENT

Electronic speed limiter (90 km/h).

Side exhaust. SCR post-treatment system.

On-board equipment. Hydraulic jack - tool kit. Warning triangle.

BODY

Fixing brackets

Consignment of standard screws required for body assembly

Provision for electronic centreline interface transformers.

Provision for lights on side

OTA: the constructor reserves the right to modify the characteristics without prior notice. The adaptations can be realized leaving exclusively from our designs. It's not contractual document.



DIGITAL MAMMOGRAPHY MOBILE LABORATORY

Description:

The body is a single-piece sandwich structure. It is fully laminated with gel coated glass resin and insulated with high density expanded polyurethane panels, the structure has no breaks or bonded or welded joints, guaranteeing long life and durability, since no infiltration or oxidation can occur. This body is built on to a galvanised tubular steel counter-frame solidly fixed to the vehicle chassis.

This counter-frame supports the body and enables it to be anchored to the original straps on the side frame members of the bottom of the vehicle.

The body is highly innovative in ultra-light, high-tech material, 45 mm in thickness.

The insertion of a continuous insulation layer, dense and with no thermal bridging, guarantees an especially high level of comfort in terms of thermal and sound insulation.

Single piece body 9000x2500 mm with different height levels (2400/2022 mm), guaranteed for 15 years, available in different lengths (5000 - 12000), with two entrance/exit doors and 3 half-sliding, double-glazed windows.

The internal rooms comprise treated PVC panels which can be washed and disinfected and are of a suitable colour for a medical environment;

The floor comprises sandwich-type, multi-layer marine plywood with phenolic glue, insulated with expanded polyurethane, and is covered with wear-resistant, medical-grade linoleum, thickness 5 mm;

The internal dividing walls also comprise 30 mm thick sandwich panels;

The internal doors comprise a single leaf in clear, pre-lacquered aluminium;

The outside windows are in methacrylate with an air chamber, frames in pre-lacquered aluminium, internal counter-frames with integrated blinds and mosquito nets 900x600 and 600x450 mm;

The external doors are in reinforced, pre-lacquered aluminium with insulated glass resin panels and measure 1900x800 mm, electrically-powered steps and an electro hydraulic wheelchair lift;

Vehicle and laboratory (single body) in white with the name and logo of the owners on the side panels and/or on the rear and front panels;

GENERAL FEATURES

The mobile digital mammography unit is made up as follows:

- Image acquisition and mammography room (3.45x2.50 m), with one entrance/exit door and one window, the room is entered via two changing room doors and a central door for wheelchair access or for medical personnel.
- Changing rooms located in the front of the central part of the unit on the left and right walls 1000x800 mm, the doors of the changing rooms have emergency switches to prevent rays being emitted when the doors are open.
- Waiting room with 7 seats (3.00x2.50 m), patient reception desk with swivel chair and PC.
- Services, comprising lavatory area and kitchen area.

INTERNAL EQUIPMENT

IMAGE ACQUISITION AND EXAMINATION ROOM

Accessible by external steps or by disabled platform (optional), doors to waiting room and two changing rooms (accessible from the examination room and the waiting room), with AWS acquisition work station and GIOTTO digital mammograph made by IMS, and also with a fold-up emergency bed 1900x650 mm; the room is completely panelled in steel sheet 0.5 mm thick.

The rooms are fitted with space heating/cooling equipment using recirculated air and 1 kg powder fire extinguishers.

The area has sufficient standard-compliant electrical 220 V equipment.

PATIENT REGISTRATION AND WAITING ROOM

Accessible from outside door with steps or disabled platform. Doors to examination room and lavatory/kitchen area, fitted with a storage cupboard, and with electrical control panels in the upper section and coat hooks in the central area.

In addition, there are 7 seats, a desk with PC for patient registration, windows, overhead lockers round the sides of the upper part of the area and lighting.

All the equipment in the laboratory is in treated, white, multi-layer scratch resistant material, which can be washed and disinfected, with rounded, impact-resistant rubber edging.



LAVATORY AREA - KITCHEN AREA

Lavatory area with walls with nautical type equipment, comprising: WC, basin, shower unit and boiler, with drinking water tank and tank for collecting waste water. Extractor vent in ceiling.

Kitchen area with furniture with 3-ring cooker and sink with tap, underneath cupboard with two small doors. Top locker with swing door.

The kitchen area has one sliding, opaque window 600x450 mm.

EQUIPMENT AND ACCESSORIES

2 electricity generators each of 5,5 Kw mounted on board the unit;

Automatic mains/generator switch-over unit;

Automatic Webasto heater with thermostat and telephone dial;

2 external awnings each 400x250 cm;

25 m electric cable drum for connecting to external 220V supply.

2 ARTEL 9000 Btu air conditioning units with heat pump and air recirculation;

Vehicle stabiliser unit comprising four electric jacks;

Digital control and operating panel for all equipment in the laboratory, comprising:

Automatic switch battery charger

Parallel relay starter battery/service battery.

Protection against overload and short circuits

Electronic user protection

Outside/inside temperature control

Starter battery and service battery reading

Level monitor for drinking water and waste water tanks

Service switches and electric sockets



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