MIESEN AMBULANCE

BONNA *VF*-212

CONVERSION ACCORDING TO DIN EN 1789

MIESEN AMBULANCE BASED ON

VF-212 L E-250 CDI Blue Efficiency (150kW / 204 PS)

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MIESEN AMBULANCE

BONNA *VF*-212

Based on the extended E-Class chassis (model ***VF*-212**) we created a brand new ambulance. Our specialists developed an innovative and pioneering car concept, following the proven and successful BONNA-series, which has led the way for decades.

Many hours of hard work, creative thinking and expert knowledge of our engineers helped us to construct the safest and most convenient ambulance ever. For the new BONNA we took into consideration a lot of remarkable ideas, technical improvements and practical experience of our customers . We are proud of the result and present you the new BONNA ambulance!

Let us show you a first impression of the redeveloped **BONNA *VF*-212**. Please enjoy discovering the new ambulance and its nearly boundless possibilities!

Reliable cutting edge technology was refined by a lot of innovations. You will hardly find another ambulance, which is able to meet the standards set by our BONNA.

The new concept is based on a high-strength steel construction covered by a GRP shell. Hence we reach a weight reduction for fuel economy, but also a maximum of passenger safety due to the stable structure.

Latest material and technical solutions as well as sophisticated engineer knowledge are the basis of our innovative developments. We especially focused on smooth handling, optimized aerodynamics and the specific needs of medical emergency services. For example, the well thought interior provides an improved space at the patient's compartment.

LEFT SERVICE DOOR

The car concept includes a service door on the lefthand side of the vehicle.

The storage space can host larger parts - such as a spare wheel, a booster battery, a vacuum mattress or oxygen bottles (10 + 5 liters).

Easy access from outside gives maximum convenience.

WINDOW CONCEPT

The window concept is guided by the idea of a well-lit patient's compartment. Optimal sight for patient and attendant is always guaranteed.

We have thought about windows made of light polycarbonate, but due to security reasons we preferred windows made of security glass.

Field trials revealed that security glass is more durable and less scratch-sensitive. Additionally, polycarbonate intends to get brittle and opaque in the course of time.

MODERN LED-TECHNOLOGY

Equipped with modern LED-technology, the integrated emergency lights provide optimum visibleness. LED-technology stands for durability and energy efficiency, nevertheless there is an improved light intensity. We also installed powerful LED flashers in the front grille and at the rear, additionally aft yellow flashers for optimum securing against the traffic behind.

If desired we include working spotlights and alley lights. We also offer green LEDs for Dutch and Scandinavian customers.

As a matter of course the emergency lights have all necessary certificates.

ECE-R65 : E5 TB 200021 - Blaulicht
ECE-R65 : E5 TA 100022 - Gelblicht

AERODYNAMICS

We integrated the emergency lights completely into the car design. As a result the surface of the car has a smooth linehaul. A fluent crossing to the remaining car body optimizes both the appearance of the car as well as the aerodynamics. The drag coefficient improves, wind noises and fuel consumption decrease, which contributes to the economic efficiency of the vehicle.

INTERIOR ACCESSOIRES

The planning of the rear area occurred under inclusion of experienced customers. Thus, the development of the patient's compartment was tuned taking into account the newest ergonomic knowledge optimally to the needs of the sick person's transport.

Also in the new **BONNA *VF*-212** we rely, as well as with all other C.MIESEN ambulances, on our proven GRP-interior lining concept.

We assure you a nearly seamless wall and roof covering in the patient's compartment, what optimizes the cleaning and disinfecting. Widespread GRP-form parts are stuck together to an unity and guarantee for highest hygiene claims. Curves diminish the injury danger for patient and attendant.

Besides, this material (in contrast to ABS plastic) appears non-yellowing, still after years.

LEFT SIDE WALL

A large amount of equipment options can be tailored to customer requests.

The quality of the equipment, the quickness and reliability were united at an up to now unequalled high level.

A new conceived interior lets you store a lot of medical equipment.

We allocated storage areas for oxygen equipment, a portable suction unit and a defibrillator. This ensures optimal conditions for the best medical care on long distance ambulance services.

A cabinet left of the stretcher hosts the vacuum mattress.

PARTITION WALL

The **BONNA *VF*-212** presents itself as a thought-out ambulance. Besides the attendant an additional passenger can find place on the folding seat at the partition wall.

The spacious storage compartment above the driver's cabin admits the accommodation of large medical equipment.

Above the storage compartment adjustable air outlet nozzles ensure heating and air conditioning. An always pleasantly tempered patient's compartment is guaranteed.

To always have a firm footing for the attendant a stable and attractive handrail has been integrated into the ceiling.

VIEW THROUGH THE SIDE DOOR

During the redesign our customers asked for a wider side entrance section for the rear area.

We considered this request and implemented a new side door. The door became wider and at the same time higher. Entry and exit to the passenger's compartment is easier and therefore significantly improved now.

With the new design we obtain an interior standing height of 1.90m. This is our contribution for additional comfort, especially tall persons benefit.

The bottom of the patient's compartment is made of through-shaped GRP moldings.

THE PERFECT USE OF SPACE

Use of space and practical storage of the equipment are mandatory for the suitability of a rescue vehicle in daily use.

In this regard, the **BONNA *VF*-212** is pointing the way ahead in modern ambulance manufacturing.

OXYGEN SYSTEM

The central oxygen supply system is stored space-saving in a compartment accessible via an external service door on the left-hand side. Secure bottle holders and a low center of gravity are realized here in equal measure. A fast and convenient replacement of the oxygen bottles is obvious.

A digital control unit lets you read and operate the pressure regulator. The level control and the management of the bottles can be controlled here.

OPERATION OF ELECTRICAL LOADS

The central control and monitoring unit of the patient's compartment is of exemplary clarity. Based on the latest CAN-Bus technology we designed a reliable and intuitive keypad.

Appropriate equipment provided, the unit lets you select the room temperature, the lighting adapted to the requirements or give a visual and audible signal to the driver. Additional features include control of the roof ventilation and an icon in the display is immediately apparent that all doors are closed. Furthermore a charge indicator for the vehicle battery and additional battery is shown.

YOUR BENEFITS AT A GLANCE:

COMFORT

COMFORT

You deserve it:

- Easy access and exit is assured, also a back-saving loading and unloading
- Sound insulated cab with optimized cruise comfort
- Optimal suspension performance for both patients and attendants
- 1.90 m standing height inside the patient's compartment for extra comfort

The vehicle is 200mm wider and 80mm longer than its predecessor.

ECONOMY

POWERFUL PERFORMANCE, VERY MODEST IN COST

An integrated emergency light solution based on energy-efficient LED technology ensures optimum aerodynamics, which contributes to the economy due to the associated fuel saving.

- Over **610 kg** payload sets new standard
- Economical diesel engine (gasoline expected available in 2012)
- High durability
- Low operating costs, long service intervals

SECURITY

DYNAMIC CRASH TEST

As a leading manufacturer of ambulances, it is a primary goal for C.MIESEN to develop standardized and reliable vehicles for our demanding customers.

The sustainable safety of our products is our priority. Therefore, our **BONNA *VF*-212** was examined by the independent French testing laboratory UTAC in accordance with the strict safety standard DIN EN 1789.

For this purpose, the bodyshell of the elongated chassis was tested in a series of dynamic crash tests, referring to the current requirements of DIN EN 1789:2010. All standard weights and corresponding equipment packages were stowed in the vehicle realistically.

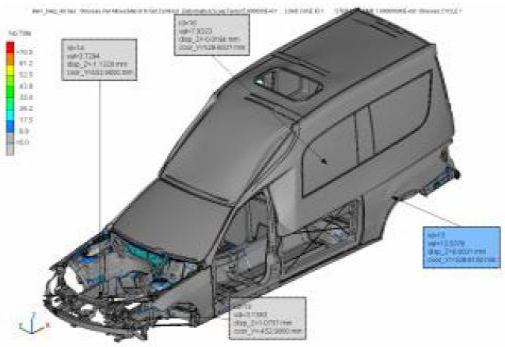
Then the vehicle was accelerated and then decelerated abruptly so that a gravitational acceleration of 10G impinged on the vehicle.

The results speak for themselves:

After completion of all crash-test experiments it has been confirmed by the French testing institute UTAC that our conversions based on the *VF*-212 chassis meet and exceed the latest conditions of standard DIN EN 1789:2010 Type A1, A2 and B entirety.

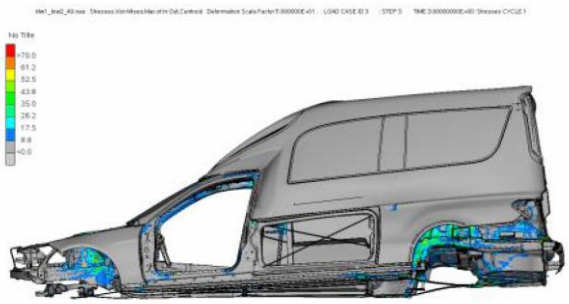
We send you the corresponding proof upon request.

In order to guarantee you a high degree of reliability and safety over the years, our development team put the vehicle and its concept to the acid test.



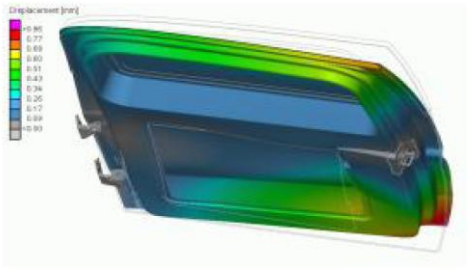
RESISTANT TO TWISTING

During the test phase the *VF*-212 showed superior distortion characteristics and surprised with a superb stiffness.



TORSIONAL STRENGTH- AND KERB TEST

Even a kerb test should not be missed. For this purpose the vehicle is driven on a kerb with three wheels. It must have all doors and flaps open and close smoothly.



Deformationen 100-fach
überhöht dargestellt

DOOR- AND HATCH-TEST

In experiments the opening and closing of doors and hatches was tested in continuous operation to ensure that they work reliable in everyday use. We only use original Daimler hinges.

TIGHTNESS TEST

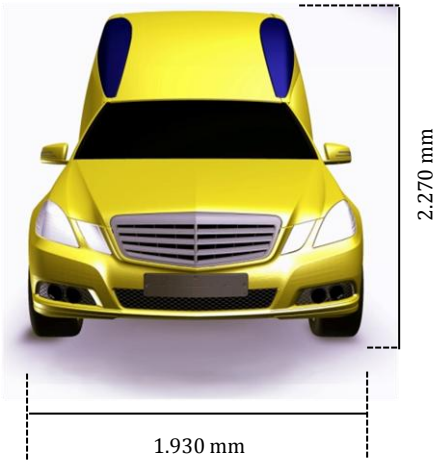
During this test run, the body was examined under various conditions to find out whether it is tight. Here, too, results were obtained, which are to our complete satisfaction.

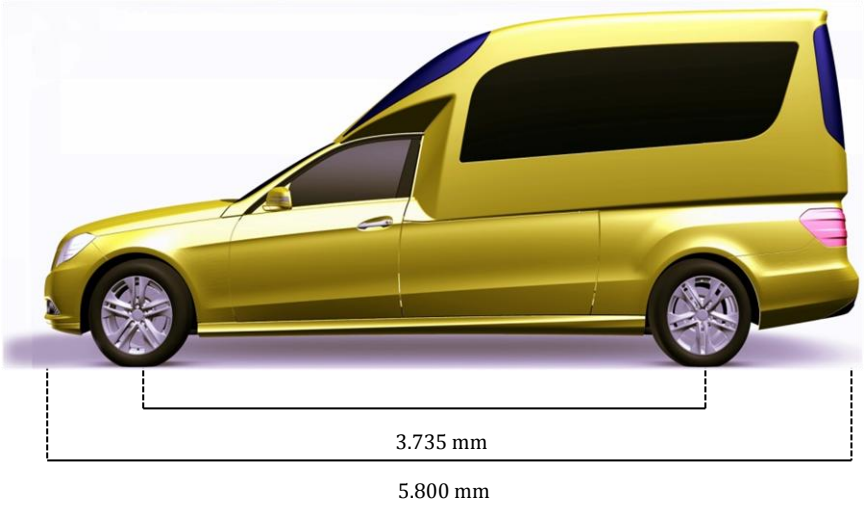
TECHNICAL SPECIFICATIONS

E250 CDI Blue Efficiency

Motor	OM 651
Numer of cylinders	4
Cylinder capacity	2.143 cm^3
Nominal capacity	150 kW (204 HP)
Performance	204 CV / 500 Nm
Acceleration 0 – 100 km/h	9,1 seconds
Max. speed	210 km/h
Fuel	Diesel
Gear	Standard 7-gear automatic transmission
Exhaust emission standard	EURO5
Wheelbase	3735 mm
Turning circle	13,70 m
Tires	245 / 45 R 17

VEHICLE DIMENSIONS





If you are interested in this product or have any questions, please contact our sales team.

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