



life energy






the concept³



The **corpuls³** offers an entirely new and revolutionary design-concept compared with traditional compact defibrillator/monitoring devices.

It is designed as a complete modular system and can be split into:

-  **Monitoring unit**
-  **Patient box**
-  **Defibrillator/Pacer unit**

This means unrivalled ergonomics, functionality and flexibility:

With the Monitoring unit in your hand:

- **Take control of the situation!**

Attach the Patient box to the stretcher.

- **Eliminate cable trap and tangle!**

Leave the Defibrillator behind if it is not required.

- **Effective working!**

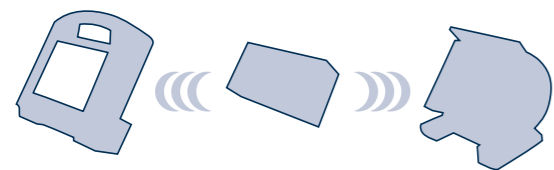


Semi modular use



Compact unit

Wireless communication



The unique wireless network-technology allows operation of the components independently as if they were physically connected.



monitoring unit

Maximum mobility, Simple user interface, Fast diagnosis

The Monitoring unit gives the user control of the **corpuls³**-system. Here you can configure your alarm limits, view and alter patient vital signs and document operations.

The detachable Monitoring unit guarantees easy handling yet provides a sophisticated solution at all times. Weighing only 2.7 kg (incl. battery) the unit is easy to operate when arm held. The contoured handle bar and all around protection ensures that the Monitoring unit will withstand even the harshest conditions.



Health insurance card reader

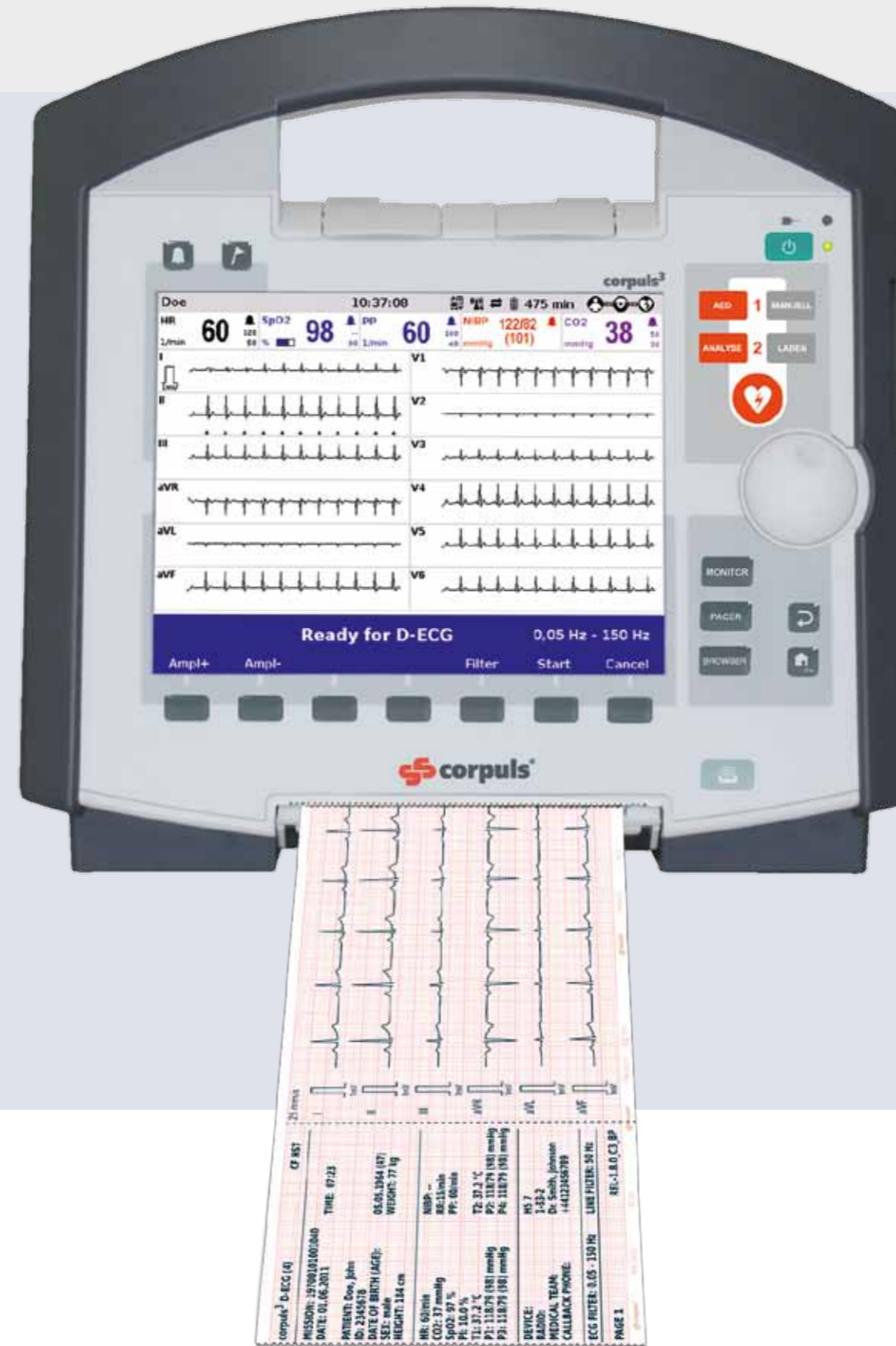
- Fast and easy download of the individual patient data

Large colour display (8,4")

- Up to 6 curves and all measured vital parameter values clearly displayed
- Individually configurable display views
- 12 lead diagnostic ECG preview

Wide thermal array printer

- Paper width: 106 mm
- Real-time printout of up to 6 leads simultaneously
- Printer settings individually configurable



1-2-3 work-flow in defibrillation mode

- Easy and fast operation in defibrillation mode
- Switch from conventional mode to AED mode (and vice versa) at any time

Jog-dial

- Menu navigation through jog-dial
- Intuitive user interface is fast, safe and effective
- Integrated visual alarm

Softkeys

- Fast and comfortable operation via 7 softkeys
- Direct access to all main functions

Function keys

- Direct access to the most important functions through special defined keys
- Fast immediate operation, no need for complex menu navigation

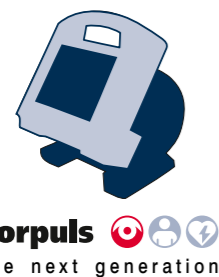


SIM-card interface and integrated modem for data transmission



Insurance card-reader

The Monitoring unit may be connected to the Defibrillator/Pacer unit even without Patient box in order to provide a compact unit. The monitor screen is tiltable at a 30° angle for total flexibility and visibility. Never lose sight of the patient's vital signs.



patient box

Uninterruptible monitoring from the EMS site into the hospital.

The Patient box is the "heart" of the system (weighing just 1.0 - 1.3 kg, depending on configuration). It contains all measuring parameters as well as interfaces and storage. Vital signs are monitored and stored here plus it can be easily placed directly with the patient and remain there throughout the entire operation.

The problem in the past of connecting and disconnecting of cables and sensors is now history. With the Patient box they are already preconnected inside the protective bag and can be used immediately. This ensures that in critical moments like moving the patient from the EMS stretcher to the clinic bed uninterrupted monitoring is maintained.



With a backlit monochrome display the Patient box can be used independently of the Monitoring unit (incl. voice recording and acoustic alarms). All measured data are recorded and data stored for later transfer.

Data transfer via: **CompactFlash®**
Bluetooth®

12 lead ECG

- Simultaneous 12 lead diagnostic ECG
- Optionally, measuring and interpretation software is available

SpO₂ (Masimo®)

- Measurement of blood oxygen saturation with Masimo® Rainbow® SET technology
- Unrivalled accuracy and measurement even with low perfusion

PI (Masimo®)

- Display of the perfusion index as numerical parameter with Masimo® Rainbow® SET technology

NIBP (SunTech®)

- Reliable automatic non-invasive blood pressure measurement for adults and neonates

CO₂

- Main stream technology capONE
- Method also applicable to non-intubated patients

2-channel temperature

- Measurement of both core and skin temperature

4-channel IBP

- Sophisticated intensive care IBP monitoring with up to 4 channels
- Simultaneous measurement of arterial, venous and intracranial pressure

SpCO, SpHB, SpMet (Masimo®)

- Innovative Masimo® Rainbow® SET technology for measurement of SpCO, SpHb and SpMet

CompactFlash drive®

- Data storage on CompactFlash card
- Transfer of recorded mission data via CompactFlash® card



corpuls 
the next generation

The Patient box accessory bag also protects casing, cables and sensors from damage. Only remove the cables you need. Keep the rest inside the bag which protects them from tangle, dirt and damage.



defibrillator/pacer unit



Improved ergonomics and flexibility

The modular design of the **corpuls³** enables you to totally disconnect the Defibrillator/Pacer unit when it is not needed – e. g. while transferring the patient into the hospital – you can leave the defibrillator in the emergency vehicle. The weight reduction not only offers you greater mobility and flexibility, but you also have all the advantages the **corpuls³** provides in ergonomics and functionality on the EMS site.

Enhance your therapy options with the smartMetronome

The smartMetronome supports you with the guidance to compression frequency and ventilation interval.



Compartment for corPatch therapy electrodes

- corPatch therapy electrodes stored in an easily accessible box
- Availability of electrodes visible at one glance
- Easy to check the expiry date

corPatch therapy master cable

- Usage with either shock paddles or therapy electrodes.
- Shaped cable easy to wrap around socket for storage
- Minimal reset force which guarantees an ergonomic and functional working

Carrying strap and bag

- Comfortable carrying strap for easy transport
- Ergonomic backpack carrying strap
- Strap can be stored in integrated bag

Functional stand

- Safe standing on every surface
- Impact protection
- Convenient storage for accessories like electrode gel, razor etc.

smartMetronome

- Minimises the interval without therapy
- Maximal amount of thorax compressions during reanimation
- Configurable and compliant with the ERC guidelines 2010



solutions for every scenario



Mounting

The mounting and storage of a defibrillator/patient monitoring system is essential as part of the solution to meet the range of demands users experience in EMS. GS evaluated the solutions required for mounting and charging from the very first stages of the conceptual design of this new generation of devices.

The new **corpuls³** modular system is equipped with totally new and innovative solutions to mount not only the defibrillator but also all the components of the system with or without power supply.

Mounting for the compact unit

- One hand release with handle
- Self locking safety mechanism
10 seconds after release
- Low weight, slim profile installation depth
- 12 V DC power supply or 100 - 250 V AC
- Adaptable to mount **corpuls 08/16** systems



Mounting for the Monitoring unit

- One hand release
- 12 V DC power supply or 100- 250 V AC
- Low weight, slim profile installation depth
- Also suitable for Monitoring unit with Patient box



Mounting for the Patient box

- The Patient box mounting means no more vehicle roof installation and/or extensions are required – cost saving
- 12 V DC power supply
- Easy mounting and release



Compact unit

The **corpuls³** can be used like traditional defibrillator/monitoring units.

Using the **corpuls³** as a compact unit at the EMS site you can experience the benefits and advantages the modular architecture of the system can bring to the scene.



Modular use

The **corpuls³** can be separated into a Monitoring unit, a Patient box and a Defibrillator/Pacer unit. The Patient box can remain with the patient throughout the entire operation and keeps you updated with all vital signs while you are holding the Monitoring unit. If you need the defibrillator or pacer – just use it! You decide, you choose the combination and use of the system to meet your needs.



Semi modular use

The concept of the **corpuls³** allows both compact and fully modular use. It is also possible to operate the unit in a semi modular format. Two combinations are possible:

1. Remove the Patient box and place it with the patient. Leave Monitoring unit together with the Defibrillator/Pacer unit and operate it similar to a compact device (see picture on the right).
2. Detach Monitoring unit and Patient box together from the Defibrillator/Pacer unit in order to get closer to the patient.



Compact monitor

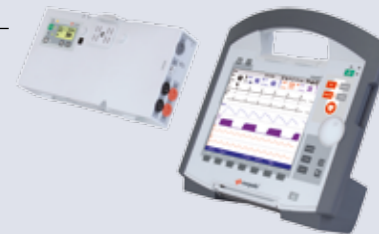
The Monitoring unit and Patient box together provide a fully functional transport monitor. This combination can work independently of the Defibrillator/Pacer unit and with its low weight, large screen, and wide printer and accessories provides a solution which outperforms many traditional transport monitoring systems.

So there is no need for an extra monitor in the emergency vehicle. Just buy one device and get two solutions.



Modular monitor

Separating the Patient box from the Monitoring unit is a unique feature no other device can offer. Functionally and ergonomically this system enables you to improve your results. All vital data is being transmitted in real-time to the Monitoring unit. So you never lose control over the patient.



First monitoring

It is also possible to use the Patient box on its own for basic monitoring. Vital signs can be displayed on a backlit monochrome display. In addition there is an acoustic alarm and a built in microphone.

A CompactFlash® card provides internal memory for the device.



specifications

Monitoring unit

- 8.4" colour display, transfective, backlit; up to 6 traces simultaneously; 12 lead preview for diagnostic ECG
- 30° tiltable, all-around impact protection
- Visible alarm, speaker
- Intuitive user interface
- Printer: paper width 106 mm, paper length 22 m; up to 6 traces simultaneously printing; screenshot; Printing speed: 6.25, 12.5, 25, 50 mm/s; low maintenance design
- Weight: 2.7 kg
- Dimensions (HxWxD): 29.5 cm x 30.5 cm x 12 cm

Patient box

- 12 lead ECG, SpO₂, PI, NIBD, CO₂, 4xIBD, 2xTEMP, SpCO, SpHb, SpMet
- CompactFlash® drive; acoustic alarm; microphone for voice recording
- Backlit monochrome LCD-display (20 mm x 40 mm)
- Accessory bag for cables and sensors
- Weight: 1 - 1.3 kg
- Dimensions (HxWxD): 13.5 cm x 26.5 cm x 5.5 cm

Defibrillator/Pacer unit

- Biphasic, rectangular waveform, full impedance compensation
- AED protocol according to AHA/ERC 2010 Resuscitation Guidelines
- 2 to 200 Joules, configurable energy protocol, 1-2-3
- Patented safety shockpaddles
- smartMetronome for enhanced therapy options
- Transcutaneous pacer with FIX-, DEMAND- and OVERDRIVE-Mode for Ramp-Down Pacing (max. 300/min); Stimulation via **corPatch** therapy electrodes; intensity 0 to 150 mA, frequency 30 to 150/min
- Weight: 3.7 kg
- Dimensions (HxWxD): 29 cm x 30 cm x 19 cm

General specifications

- Operating temperature:
 - Monitoring, ECG, Defib, Display: -20 °C to +55 °C
 - SpO₂, NIBP, IBP, Temp: 0 °C to +55 °C
 - CO₂: 0 °C to +45 °C
 - SpCO, SpMet, SpHB: 0 °C to +70 °C
- Dust and splash-proof (IP54)
- Impact protection (DIN EN 1789)
- MIL STD 810G (United States Military Standard)
- MIL STD 3009 (Night vision imaging system (NVIS) compatible, optional)
- RTCA DO 160 F - Sections: 4, 5, 6, 7, 20, 21, 25 (aircraft approved)
- Li-Ion Battery (3 batteries, identical in construction)
- Power supply 12 V DC, 100 – 250 V AC with mains adapter (compact device or each individual module)
- Weight complete device: 7.4 kg (basic configuration)
- Dimensions (HxWxD): 36 cm x 30.5 cm x 23 cm (compact device)

energy management

One for all - all for one

When being used as a compact device each component can revert to the battery capacity of the other components. The exchange and use of energy of the other devices is made by special contacts between the components.

This means that you can use the energy of three batteries at anytime.



Contacts between Monitoring unit and Patient box

Three components – three batteries – three times energy management!

Each device has identical batteries. They can be easily replaced by hand without tools as needed.

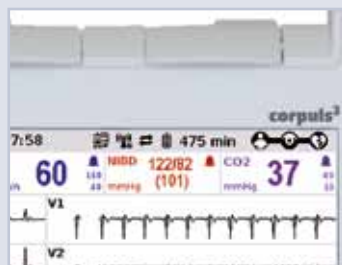


Exchange of the battery can be done by hand

Flexibility counts

- the **corpuls³** takes over!

Do you have enough energy left to safely complete your operation? The **corpuls³** gives an exact forecast of the capacity left in each battery minute by minute. It evaluates the actual energy usage to determine an exact forecast of the running time remaining for the system.



Screenshot of remaining running time while fully connected

User-friendly charging through magnetic contact

Charging the device or one of the components is easy and fast. Each component has a magnetic contact, which can be attached to a special magnetic plug for charging. Attached to each other the batteries can be charged or alternatively the unit can be operated on mains only – even without any batteries inserted into the device.

If you are in a hurry? Disconnecting the device from a mains plug is no longer required. Just take the unit and move away. The magnetic plug automatically disconnects without damaging the device.



The modules can be charged either by 12 V DC directly or with a mains adapter from 100 V to 250 V AC.

medical technology, setting the benchmark



www.corpuls.com

Life energy

GS Elektromedizinische Geräte G. Stemple GmbH is a successful internationally operating family-owned enterprise that develops and manufactures in Germany innovative medical equipment for the Emergency Medical Services (EMS) and intensive care for about 30 years. The company has always set standards in implementing the newest medical-scientific findings as well as ergonomic and economical aspects in their **corpuls**[®] defibrillator/patient monitoring systems. Furthermore, the brand stands for innovative technology combined with pragmatic functionality.

Always being state-of-the-art in product design and technology and focussing on the current needs of EMS-customers, **corpuls**[®] products offer reliable and safe support in the ongoing struggle to save lives. Long years of deployment of the devices in the toughest environments and many satisfied customers are the best proof for the success of the **corpuls**[®] philosophy and gives daily motivation to all GS employees.

