






focus-on-patients

Concept

The **corpuls³** with its revolutionary device design has already proven reliable time and time again in the preclinical emergency medical service. In co-operation with competent partners from the field of hyperbaric medicine, a HBO version of the **corpuls³** has been developed especially for use in hyperbaric chambers.

Due to the modular design, the system can be separated into:

-  **Monitoring Unit**
-  **Patient Box**
-  **Defibrillator/Pacer Unit**

In this way, maximum flexibility in monitoring and in resuscitation with defibrillation is achieved in hyperbaric chambers as well.

Advantages of the **corpuls³** hyperbaric:

- Certification for use in hyperbaric chambers with up to 3 barg as per German Lloyd Rules for Underwater Technology, Chapter 1 – Diving Systems and Diving Simulators, Section 2, N, 4.5.2
- Comprehensive monitoring as well as safe defibrillation and pacing in the hyperbaric chamber
- Continuous, non-invasive measurement of the carbon monoxide concentration (SpCO) in the blood
- Complete monitoring of the vital parameters by wireless technology outside the hyperbaric chamber as well
- Support of users by AED protocol according to the current ERC/AHA Guidelines and smartMetronome
- Rapid diagnosis and therapy thanks to intuitive operation

The system has been tested for use in hyperbaric chambers and certified for application as patient monitor and defibrillator/pacer by DNV GL SE.



General specifications:

- Dust and splashproof (IP55)
- Vibration- and shock-tested in accordance with DIN EN 1789
- MIL STD 810 G – categories 4, 8, 9, procedure 1 (US military standard)
- Lithium-ion battery (3 identical batteries)
- Dimensions of complete device (HxWxD): 36 cm x 30.5 cm x 23 cm

Monitor

- 8.4" color display, transfective, back-lit
- 6 curves/13 vital parameters
- 30° pivotable, all-around shock protection
- Insurance card reader
- Printer: paper width 106 mm, paper length 22 m
- Weight: 2.7 kg
- Dimensions (HxWxD): 29.5 cm x 30.5 cm x 12 cm

* **corPatch CPR** is a licensed product of ZOLL Medical Corporation.

Patient Box

- **corPatch CPR** Feedbacksensor*
- 12-lead D-ECG, HR, SpO₂, PP, PI, SpCO, SpMet, SpHb, NIBP, CO₂, RR, 2xTEMP, 4xIBP
- CompactFlash® memory
- Acoustic alarm, voice recording microphone
- Accessory bag for sensors and cables
- Weight: 1.0 to 1.3 kg (depending on configuration)
- Dimensions (HxWxD): 13.5 cm x 26.5 cm x 5.5 cm

Defibrillator/Pacer Unit

- Biphasic rectangular waveform, impedance-compensated
- AED protocol according to the current ERC/AHA Guidelines
- 2 to 200 J, configurable energy protocol
- smartMetronome
- Weight: 3.7 kg
- Dimensions (HxWxD): 29 cm x 30 cm x 19 cm

Emergency treatment

In today's medicine, hyperbaric chamber therapy is considered to be an effective therapeutic measure in cases of carbon monoxide poisoning, diving accidents, arterial gas embolisms and gas gangrene. Particularly when such conditions are diagnosed, the patients are often in poor physical condition and their lives are acutely threatened. Comprehensive and reliable monitoring therefore has the highest priority.

Advanced Life Support under hyperbaric conditions

If the patient suffers cardiac arrest, the hyperbaric treatment should normally not be discontinued abruptly. The HBO version of the **corpuls³** enables the hyperbaric chamber personnel to enhance the effectiveness of resuscitation by early shock delivery in spite of increased ambient pressure. In this process, the **corpuls³** guides the user safely through the currently valid resuscitation algorithm and supports the correct implementation of the therapy by means of SmartMetronome.

*"We have been working with the **corpuls³** for over 2 years meanwhile, and we have never had any problems with the equipment, even under the toughest conditions. The modular equipment system and the wireless data transmission of the **corpuls³** enable us to continuously monitor our patients' vital parameters. This is of paramount importance for us, and particularly so in emergency treatment and in the treatment of intensive care patients. The additional possibility of safe defibrillation even under ongoing hyperbaric therapy allows us to treat the patient as quickly as possible. We are glad to have such a reliable, high-quality device as the **corpuls³** at our disposal."*



Michael Kemmerer, Managing Director
Druckkammerzentren Rhein Main Taunus GmbH



With the integrated **Masimo Rainbow SET[®]** technology SpCO, SpMet and SpHb can already be determined on the emergency scene.



HBO therapy with monitoring

To enable maximum mobility in spite of confined spatial conditions, various holders are available for the 3 modules of the **corpuls³**.

Thus, the patient box can for example be fixed directly to the stretcher and the monitor can be taken along to the control room.

The following vital parameters can be measured with the **corpuls³** during hyperbaric therapy:

- HR
- SpO₂
- NIBP
- CO₂, RR (intubated and not intubated)
- SpCO, SpHB, SpMet
- 12-lead diagnostic ECG
- 4-channel IBP
- 2-channel temperature

Up to 6 curves and 13 vital parameters are generously depicted on the 8.4" large display.

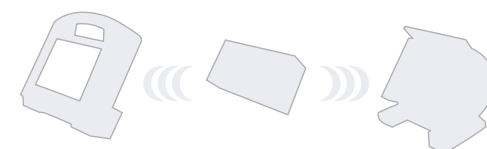


"We are operating with the **corpuls³** regularly under excess pressure (up to 300 kPa total pressure).

Normally, we are using it as patient monitor for ECG monitoring, non-invasive and invasive blood pressure measurement as well as for continuous monitoring of the oxygen saturation.

The device works faultlessly in all areas. We are very satisfied with our device and consider it in its present version absolutely suitable for operation under excess pressure (in the hyperbaric chamber)"

Dr. med. Holger Schöppenthau, Medical Director of the HBO Hyperbaric Chamber Centre at the Unfallklinik Murnau



Unique radio technology for wireless communication

Due to the wireless communication between the individual modules, patients can also be monitored reliably from the control room of the hyperbaric chamber.



Medical technology, setting the benchmark



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GS Elektromedizinische Geräte GmbH has been developing and manufacturing innovative high-end devices for emergency and intensive care for over 30 years.

The systems and solutions for monitoring and treating patients with life-threatening trauma or cardiovascular conditions sold under the trade name **corpuls®** are used every day in over 60 countries worldwide.

corpuls® defibrillators and patient monitoring systems have always set standards in implementing the newest medical-scientific findings as well as with regard to innovation and ergonomics. They guarantee reliable and safe assistance in the fight for human lives.

Long years of deployment of the devices in the toughest environments and ten thousands of satisfied customers are the best proof for the success of our chosen path and provide daily motivation for our employees.

The outstanding innovative achievement of the GS team has been granted several awards lately, among others the German Industrie-preis (Industrial Award) in the category medical technology, second place at the Deutscher Innovationspreis, as „Selected landmark“ in the „Germany - Land of Ideas“ competition and an award and special award for innovation at BAYERN'S BEST 50.

