



CONTINEST®
Space to go

RAPID RESPONSE SYSTEMS (RRS)



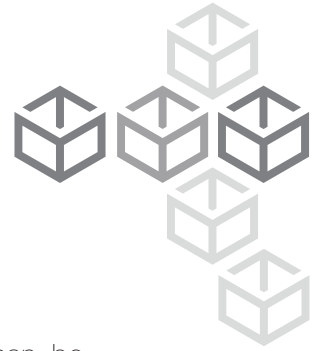
CONTINEST
THE LEADING
FOLDABLE
CONTAINER
SOLUTION

MOBILE | INNOVATIVE | SAFE

CATALOG 2021



Migration, border violations and terrorism are today's accurate and pressing issues which need rapid and compact solutions. Fusion Sentinel in combination with Continest systems are such a package that allows quick transportation and easy installation whenever and wherever it is needed.



RAPID RESPONSE SYSTEMS (RRS)

Continest Technologies Plc. developed a rapid response system which can be deployed quickly and efficiently. The system is very useful for disaster management since it was designed to fit all response necessities quickly. The applied technology is based on foldable containers which are sustainable and environmentally friendly. Due to foldability the system can be transported rapidly and set up fast within a few hours. The system consists of blocks such as; **medical, administrative** and **accommodation**. It can also be extended if needed making it suitable for people who have been injured and lost their homes. The RRS systems (RRS 1: Basic, RRS 2: Advanced, RRS 3: Extended) can be used in all environmental circumstances in case of human and natural disasters or catastrophes.



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THE UNITS ARE DESIGNED FOR ALL NEEDS FROM
THE BASIC TO THE MORE COMPLEX RESPONSES



Advantages:

- ▶ Developed for rapid response
- ▶ Fast and economical transport quick deployment and setup
- ▶ Efficient transport & storage and economical transport
- ▶ Sustainable technology
- ▶ 3 different response needs and complexities (RRS1, RRS2, RRS3)
- ▶ Extendable, scalable and modular system



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RAPID RESPONSE SYSTEM 1 (BASIC)



RRS 1 was designed for the basic functions of disaster management

Medical block for less complex injuries

- ▶ inpatient ward for 10 patients
- ▶ examination unit with triage, first aid and examination rooms

Accommodation block

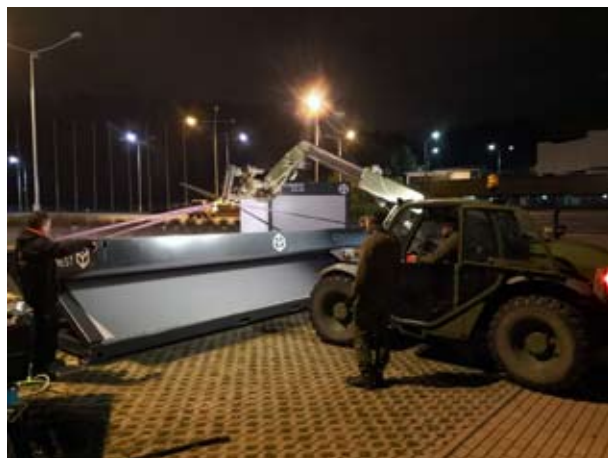
- ▶ Temporary accommodation for people whose homes have been damaged – this can help to provide rapid heated/cooled private living space instead of expensive gymnasiums, uncomfortable tents or various event halls.
- ▶ Two people can be accommodated in one block
- ▶ Medical and operative staff can also be accommodated in this system
- ▶ Accommodation capacity for 10 people

Office/Operative block:

- ▶ Operative block was designed for disaster management.

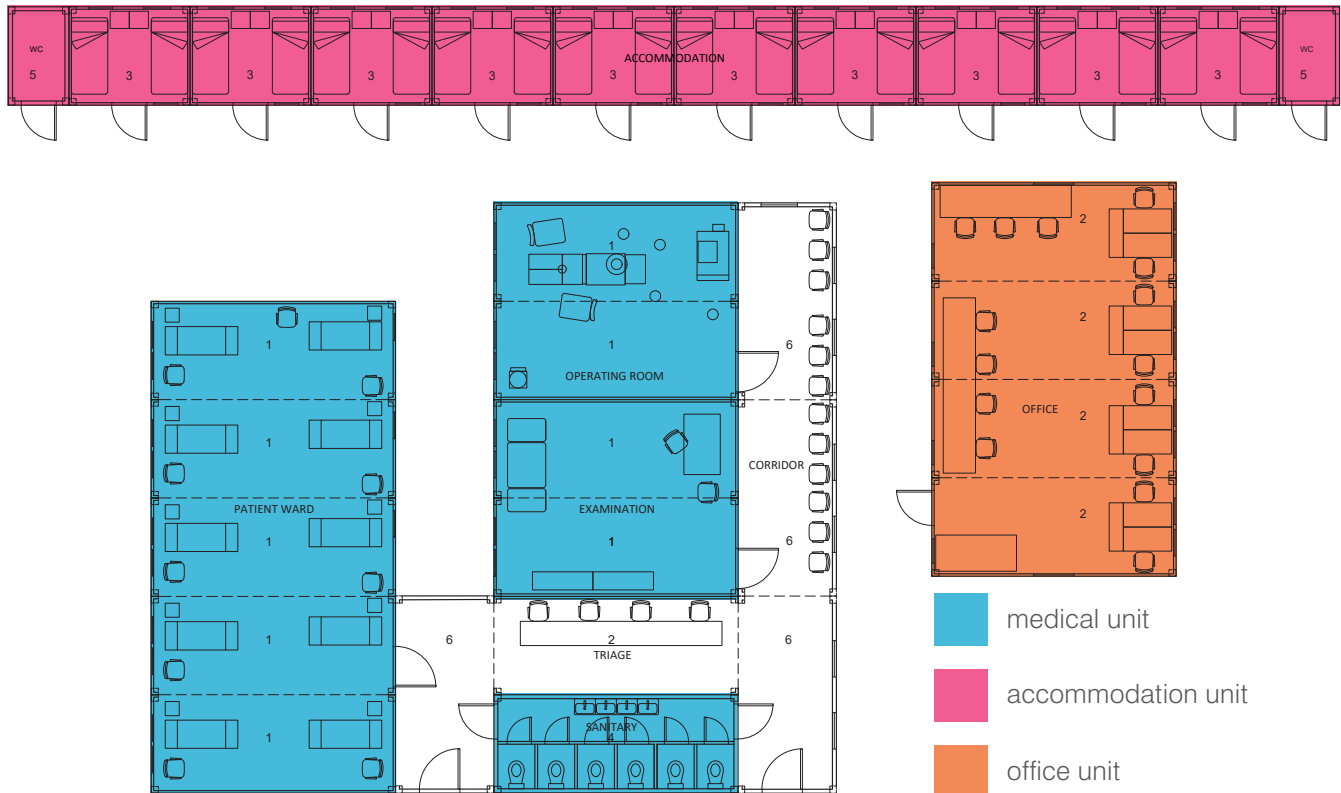


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RAPID RESPONSE SYSTEM 2 (ADVANCED)



RRS 2 is the advanced version of RRS 1. The unit includes larger operative and accommodation blocks and a surgery room for minor surgeries. This way the injured can be treated on the spot, no need to occupy capacities in public health institutions.

Medical block for less complex injuries

- ▶ inpatient ward for 10 patients
- ▶ examination unit with triage, first aid, AND/OR treatment rooms

Accommodation block

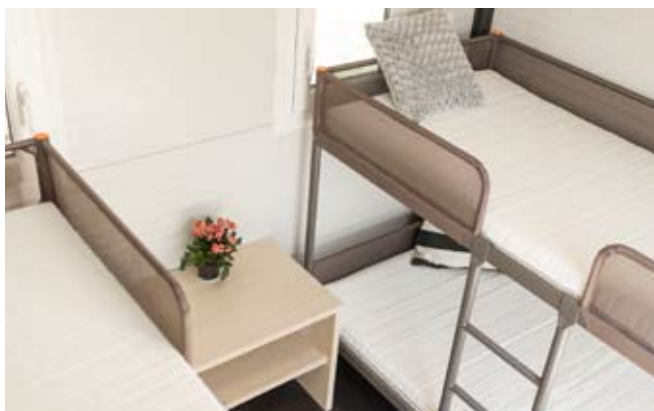
- ▶ Temporary accommodation for people whose homes have been damaged – this can help to provide rapid heated/cooled private living space instead of expensive gymnasiums, uncomfortable tents or various event halls.
- ▶ Two people can be accommodated in one block
- ▶ Medical and operative staff can also be accommodated in this system
- ▶ Accommodation capacity for 20 people

Office/Operative block

- ▶ Operative block was designed for disaster management
- ▶ The unit can be fully equipped with hybrid power management system which can generate instant energy.



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RAPID RESPONSE SYSTEM 3 (EXTENDED)



**RRS 3 is the most extended version of the RRS systems.
It was designed for high complexities of disaster management.**

Medical block

- ▶ inpatient ward for 20 patients
- ▶ examination unit with triage, first aid and examination rooms, surgical room, and ICU



Accommodation block

- ▶ Temporary accommodation for people whose homes have been damaged – this can help to provide rapid heated/cooled private living space instead of expensive gymnasiums, uncomfortable tents or various event halls.
- ▶ or heated/cooled private living space instead of expensive gymnasiums or other halls
- ▶ Two people can be accommodated in one block
- ▶ Medical and operative staff can also be accommodated in this system
- ▶ Accommodation capacity for 30 people

Office/Operative block:

- ▶ Office block was designed for the operative disaster management
- ▶ The unit can be fully equipped with hybrid power management system which can generate instant energy.



ENERGY SUPPLY FOR RAPID RESPONSE SYSTEMS IN DISASTER MANAGEMENT



The energy systems for RRS systems are provided by AXSOL for self-sufficient power supply in use in settlements, villages, and camp solutions as well as agricultural and industrial operations or research stations in on-grid and off-grid areas, thus enabling an uninterrupted, more secure power supply.

The core of AXSOL's energy systems is the **system control**. With its help data and logs of the individual subsystems such as the power electronics are collected centrally and processed for efficient energy management with an ideal power mix. To this end, electricity from renewable sources is first consumed as a priority, stored in the event of a surplus, and the amount of electricity drawn from the grid is thus reduced. If this electricity is not sufficient at a certain point in time, the diesel generator is started at an ideal speed at an early stage. Based on the load profile, the power data of the renewable generation sources (wind power & photovoltaics) and the battery capacity of the system, these bottlenecks can be identified at an early stage and an uninterrupted power supply can be guaranteed. In this way, AXSOL's system control can reduce the operating times as well as the average fuel consumption per kWh - and subsequently also the wear and operating costs of the diesel generator to a minimum.

In the field of **battery storage**, the current state-of-the-art technology LiFePO₄ offers ideal conditions for stationary storage applications due to its durability, highest safety, and easy handling. The individual battery modules with integrated battery management system (BMS) are installed in special 19" rack cabinets to guarantee easy exchangeability and maintenance. By connecting the battery modules in series, voltages of up to 1,000 V are achieved, while at the same time reducing the load on the battery cells by reducing the discharge currents that occur, thus extending life expectancy. A Battery Main Controller monitors and regulates the individual module rows and transmits the corresponding data to the system control.

	CONFIG. 1 (40 – 50 PAX)	CONFIG. 2 (60 – 70 PAX)	CONFIG. 3 (80 – 100 PAX)
BATTERY CAPACITY (KWH)	450	650	900
PHOTOVOLTAIC (KWP)	75	150	150
SYSTEM OUTPUT (KW)	100	150	250
BACKUP GENSET (KW)	67.5	100	135



The main energy supplier for the power supply of the application are the **regenerative energy generators**. The ground-mounted photovoltaic system has individual monocrystalline PV modules, which are connected in series to form individual strings of up to 1,000 V. The strings are connected to the DC channels of the power and control electronics. The strings are each connected to the DC channels of the power and control electronics and the yield is increased by MPPT.

The **diesel generator** serves mainly as a "back-up" source of energy in the event of a prolonged power failure and achieves 100% self-sufficiency if required. If the power supply from the grid cannot be maintained for a longer period of time, the genset is started automatically and the batteries are charged in time, or the generated energy is consumed directly. For the most efficient power generation, the genset runs at optimum speed when charging the batteries to reduce fuel consumption and maintenance. The generators are oversized by approximately 30%, which allows them to cover peak loads even in extreme temperatures. The output voltage is 400 V (three-phase, 50 Hz). Against the influence of sand and dust in the environment, the systems are equipped with filters and sand traps on the air intake to avoid contamination and operational problems.

The installation platform for the central system components is formed by one 20-foot ISO container, which contains the battery storage system, the power and control electronics, as well as a switch cabinet and the control electronics with operating panel. On the outside, the container remains unchanged to ensure the CSC safety standard (International Convention for Safe Containers) and thus safe transport according to international guidelines. To protect the sensitive electronics inside from the high ambient temperatures, sandwich panels with mineral wool are provided as insulation on the container walls. In addition, an active air-conditioning system specially adapted to the waste heat of the components regulates the interior to the ideal operating temperature. Reinforcements and corresponding connection points will be provided in the interior of the containers for mounting the installation devices (19" rack cabinets, control cabinet, power, and control electronics). The doors and corresponding locking devices are standard, but optionally anti-theft devices can be attached to the container.

The electrical safety concept is designed according to VDE and CE and thus complies with all necessary European safety standards. The power system is implemented as an IT system, so there is no galvanic isolation between active conductors and grounded parts. A first fault does not lead to shutdown of the system, thus providing a high level of fail-safety. Insulation faults are detected using insulation monitoring devices. In addition, residual current devices (RCD) as well as upstream overcurrent protection devices (OCP) are used to interrupt the electrical circuit in case of overcurrent and fault currents.



AXSOL

AXSOL (D) – the energy experts who are disrupting the way energy is harvested, stored and managed.



CONTINEST

Continest is an innovative market-leading foldable container manufacturer. The containers are uniquely developed for easy and quick set up and transport thus being environmentally friendly and sustainable. The solution offers an 80% cost cut on logistic and storage and a similar reduction of CO2 and GHG emissions. The containers have been developed for various puposes such as defense, medical, event (cultural & sports) and urban needs.





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CNHYBRID





CONTINVEST FACTORY #1

H-8000 Székesfehérvár, Bárándi u. 13.



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CONTINEST TECHNOLOGIES Plc.

H-2000 Szentendre, Fő tér 14.

www.continest.com

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