



DECONTAMINATION systems

Dear Reader,

It is my great pleasure to introduce the activity and product line of the GAMMA Technical Corporation, a significant defence equipment manufacturer company, with the widest defence product portfolio in Hungary.

GAMMA was founded in 1920 and with several decades of experience Gamma's products are mainly made for military, civil protection and radiation protection applications.

In 2015 another significant Hungarian defence producer, the Respirator Zrt (founded in 1928) merged into Gamma Zrt. Respirator Company developed series of decon containers, decon trailers and decon modules for different users and different operating purposes. Gamma Zrt. is the Respirator Zrt.'s legal successor in all respects, we kept the Respirator as a brand name and its product portfolio remains unchanged, the high standards of manufacturing will be maintained.

Our company has always been involved in the R&D of innovative technological solutions, where our intention is to pay special attention to the demand of our Customers. With all our expertise, we are open to support our partners in the planning and realization of any kind of projects in our fields of activity.

Our extensive product range consists of radiation detection and measuring instruments, integrated CBRN/HazMat reconnaissance systems, monitoring and early warning networks, meteorological instruments, as well as reconnaissance and first response vehicles, personal respiratory protective equipment, special purpose vehicles and trailers. The company has developed the Hungarian "KOMONDOR" Light Armoured Vehicle Family, too. The decontamination systems product category belongs to our Field Deployable system division.

In the followings, we are glad to give you a short summary of our CBRN decontamination product range what we think and hope to be of interest to you.

Please take the time and download our presentation and the product catalogues of our company using the links on the back of this catalogue. More details about the products can be found at our webpage (www.gammatech.hu).

Should you need any further information please do not hesitate to contact us, we will always be at your service with pleasure.

Yours faithfully,

Attila Zsitnyányi

CEO
GAMMA Technical Corporation



GAMMA decontamination solutions

Our strategic goal at the developments is to find a professional answer to the needs of decontamination applications, plus to meet the requirements and requests of the customer.



Gamma Technical Corporation makes developments for the following decontamination purposes:

- personnel decontamination system
- casualty decontamination system
- equipment decontamination systems



Multifunctional solution, flexible and customizable

- low, competitive price
- flexibility to individual customers' requirements
- wide range of interchangeable, specialized, modular superstructures
- quick reaction to demands, even for unique, special pieces

Gamma Zrt. developed different decon versions for special decontamination tasks, which can offer a wide range of possibilities for the potential customers to choose not only a system for a special application but they also can find their preferred transportation mode to it.



Container based decontamination systems

20-foot container with built-in modules, with integrated machinery elements, and also with loading spaces for the transportation of those equipment components which are used outside the container during its operation.



Accessories for decontamination system

Different pieces of equipment (e.g. trailer, water heater, AC, air heater, shower frame) which can also serve purposes other than decontamination application.

Trailer based decontamination systems

- one or two axle trailer with all integrated and loaded parts of a system
- one or two axle trailer with built-in modules, with integrated machinery elements, and with additional supporting equipment which are loaded on the platform of the towing vehicle

system variants	decontamination applications			remarks
	personnel decontamination	casualty decontamination	equipment decontamination	
SZMK personnel decontamination container	YES	-	-	-
SMR-U casualty decontamination equipment	(option)	YES	-	trailer with integrated module
SMR casualty decontamination equipment	(option)	YES	-	with independent module
SZMF-U personnel decontamination equipment	YES	(option)	-	trailer with integrated module
SZMF personnel decontamination equipment	YES	(option)	-	with independent module
BMK first responder decon kit	YES	-	YES	with air supported tent and basin
BMK-KML first responder decon kit	YES	-	YES	with frame supported tent and basin
ZMB bataillon level decontamination trailer	YES	-	YES	trailer with integrated modules + equipment on towing vehicle
... decontamination equipment being developed along your requirements	on request	on request	on request	-



System with independent modules

Optional package for a proper decontamination application if the customer would like to have a different transportation mode than a trailer.

Military related mass personnel decontamination system for combat capability recovering of troops that have acted on a CBRN contaminated territory.



The capability of the system is based on 2 decontamination sections (separated from each other by a solid wall) with 2 personnel decon lines in each and having 3 showers in every line.

The 1st shower provides with a mixture of warm water and personal decon agent, the 2nd and 3rd ones provide with clean warm water for rinsing.

Capacity: 240-300 persons / hour.

Built-in equipment:

- water tank (1 200 L, stainless steel)
- central control panel
- hot water module
- power generator
- two shower sections (two decon lines / section)

Loaded-in equipment:

- two undressing tents
- two dressing tents
- collapsible water tank (3 000 L - as water source)
- collapsible water tank (6 000 L - for used water)
- mobile air conditioner
- tent heating module



Civil defence related mass personnel decontamination system for personnel decontamination of people evacuated from a CBRN contaminated territory, or it can serve as a showering facility to handle refugee masses.



The content of the system (if the customer requests) may be expanded with casualty decontamination elements. When the middle divider (between the middle lines) is taken out, the stretcher holding frame can be set up (for the decontamination of non-ambulant casualties). The decontamination of ambulant casualties will be carried out at both side-lanes. The personnel decon scaffold already contains all connection points for hand showers which will be needed for crew assistance.



Main units:

- personnel decontamination tent (air-supported, 9,7 * 5,9 * 3,6 m)
 - with undressing, wet-treatment and dressing areas,
 - with overpressure providing channels,
 - with interfaces for connection to other systems,
- personnel decon scaffold (with fixed shower heads)
- waste water collecting basin and pump
- water supply module (RBA-70KVi)
- collapsible water tank (3 000 L) (for clean water)
- collapsible water tank (6 000 L) (for waste water)
- tent lighting set
- area lighting set (TVK-2U)
- mobile area lighting set (MTVK-2)



Using this equipment in full autonomy is not planned, so it requires external (230 V AC) power supply. Its collapsible water tank (3 000 L) can serve as a water source or it can be supplied from pipe system.

Main characteristics:

- personnel decon lines: 4,
- number of shower heads: 12,
- need in water: 900 L/h/decon line

Casualty decontamination system for decontamination of injured people evacuated from a CBRN contaminated territory. Therefore on one hand it serves their individual protection while on the other hand to avoid the contamination spreading to the levels of medical care system.



Main units:

- casualty decontamination tent (air-supported, 9,7 * 5,9 * 3,6 m)
 - with preparation, wet-treatment and post-treatment areas
 - with overpressure providing channels
 - with interfaces for connection to other systems
- stretcher holding frame
- personnel decon scaffold (with fixed and hand shower heads)
- waste water collecting basin and pump
- one-axle trailer (3,5 t)
- water supply module (built into the trailer)
- main control panel (built into the trailer)
- collapsible water tank (3 000 L) (for clean water)
- collapsible water tank (6 000 L) (for waste water)
- tent lighting set
- area lighting set (TVK-2U)
- mobile area lighting set (MTVK-2)



Using this equipment in full autonomy is not planned, so it requires external (230 V AC) power supply.
 Its collapsible water tank (3 000 L) can serve as a water source or it can be supplied from pipe system.
 Without setting up the stretcher holding frame it can be used as a normal personnel decontamination tent (4 lines, with 3 showers in each).

Main characteristics:

- structure:
- stretcher decon line: 1,
- ambulant patient decon line: 2,
- number of shower heads: 6 fixed + 8 hand showers
- need in water:
 - stretcher line: 600 L/h
 - ambulant line (with assistance need): 600 L/h
 - ambulant line (w/o assistance need): 900 L/h



The function of the system is to decontaminate a battalion level subunit that has been operating on a CBRN contaminated territory. The basic modules allow to perform the decontamination of vehicles in a three-phase decontamination procedure. The additional equipment contains the units for the personnel decontamination and the units supporting the whole system.



Main units of the trailer (ZMU):

- decon trailer (one-axle, 3,5t)
- generator
- pre-treatment module
- main-treatment module
- post-treatment module
- hose reel with HP-hoses (3 pc)
- central control panel
- area lighting equipment

ZMB	
Transportation dimensions of the system (L*W*H)	12 860 * 2 540 * 3.860 mm
Gross weight (trailer)	3,5 t
Trailer dimensions (L*W*H)	5 500 * 2 400 * 2 500 mm
Tent dimensions (L*W*H)	5 700 * 5 600 * 3 050 mm

Main units of the towing vehicle (ZMU-KF):

- water tank (3 000 L, stainless steel)
- collapsible water tank (3 000 L)
- personnel decon equipment
- hot water module
- chain crane
- decon agents
- equipment of the crew



The components of the additional equipment, supporting the use of the system, are mounted and loaded on a platform.

Decon system for first responders serves smaller decontamination operations of first responder teams or subunits after carrying out their tasks on a CBRN contaminated territory, for self decontamination and personnel decontamination.



Using this equipment in full autonomy is not planned, so it requires external (230 V AC) power supply. Its collapsible water tank (1 000 or 3 000 L) can serve as a water source or it can be supplied from pipe system.

Main units:

- protective equipment decontamination set:
 - decontamination pool (optionally with pneumatic brim)
 - plastic pallet (0,8 * 0,6 m) -4/ 6
 - decontamination ring (with 8 nozzles) - 2
 - decontamination kit
 - waste water pump
- personnel decontamination set:
 - optional tarpaulin for taking off the protective gears
 - personnel decontamination tent (3,0 * 3,0 m, with foldable frame or air-supported, 2,0 * 2,0 * 2,4 m)
 - personnel decontamination scaffold (2* fixed and 2* hand showers)
 - plastic pallet (0,8 * 0,6 m) - 6
- water supply module (RBA-35 or 70 KVi):
 - with fuel source (= 10 L / 20 L -canister)
 - with water filter unit
- collapsible water tank (1 000/3 000 L, closed) (for clean water)
- collapsible water tank (1 000/4 000 L, open) (for waste water)

Main characteristics:

- capacity: 24 - 40 persons/hour



Water supply modules are feeding units designated to provide water supply support to subunits and first responder teams during their decontamination operations after carrying out their professional tasks in an area contaminated by nuclear or radiological materials, by toxic industrial chemicals, by CWAs and BWAs.

Water supply modules are capable of providing **heated water (with admixed personnel decon agent)** for 1st wet phase "decon" of personnel decontamination, **heated (clean) water** for 2nd wet phase "rinsing" and **cold (clean) water** for any cleaning or maintenance needs.

Main units:

- water pump
- heat exchanger (flow through system)
- decon agent mixing unit

The modules can be fed with clean water from a collapsible water tank, water transportation vehicle or pipe system. The standard module is able to carry out the mixing of personal decon agent. Additional mixing unit for other decon agents can be integrated into the modules, as a separate option.

Water supply module (RBA-70kVi)

Main characteristics	
max. heating output	70 kW
flow through capacity	65 L/min
max. pressure	5,5 bar
max. fuel consumption	7,4 kg/h
dimensions (L*W*H)	900 * 680 * 940 mm
weight	264 kg



Main characteristics	
max. heating output	35 kW
max. fuel consumption	3,7 kg/h
dimensions (L*W*H)	1 150 * 470 * 587 mm
weight	144 kg



Water supply module (RBA-35kVi)



Main characteristics	
max. heating output	70 kW
flow through capacity	65 L/min
max. pressure	5,5 bar
max. fuel consumption	7,4 kg/h
dimensions (L*W*H)	1 000 * 880 * 600 mm
weight	250 kg



Integrated water supply module



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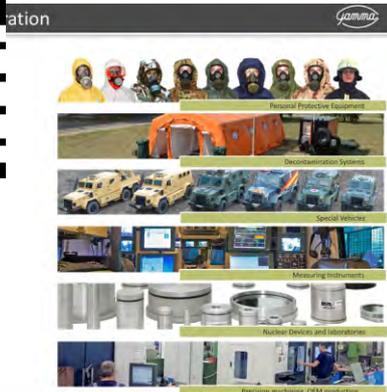
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