



Light Emergency Stretcher Systems

Modern preparedness solutions for large accidents and disasters

Supporting a holistic approach to efficient patient evacuation



As a leading provider of products and solutions for patient logistics supporting a holistic evacuation strategy, we supply all necessary equipment to efficiently establish a casualty clearing station.

Our products and systems speed up the evacuation process. From fast initial MCI triage and efficient patient logistics, to hypothermia prevention and reduced need of stretcher transfers.

LESS® Evacuation System has developed over years, through field experience, and state-of-the-art medical research. LESS is used by leading ambulance/air ambulance and rescue services, airports, offshore and industry, as well as in national and international disaster management agencies.

Emergency Preparedness Systems Side 4-7

LESS deliver system solutions for any risk assessment, and we specialize in preparedness for mass casualty incidents.

Evacuation Side 8-21

LESS is a leading provider of material for modern preparedness and supporting a holistic approach to efficient patient evacuation.

Triage Side 24-25

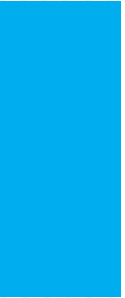
LESS has developed a triage marking system that is simple and easy to use. It works with any medical algorithms and is designed as first triage in a large accident or mass casualty incident.

Hypothermia Side 22-23

In an accident or trauma situation, a major task is always to keep the patient warm. LESS has developed easy to use and intuitive products for basic hypothermia prevention.

CBRNe & DECON solutions Side 26-28

Increased transportation of dangerous substances, increased globalization and a surge in travelling, and a new risk scenario worldwide; It calls for improved preparedness, better capability and more capacity in CBRNe.





Emergency Rescue Unit

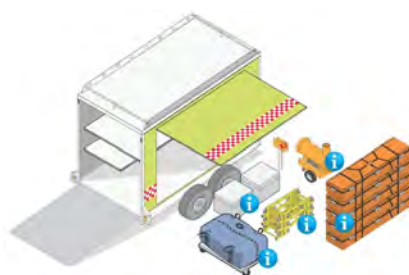
Trailer solution

LESS is a leading provider of products and solutions for patient logistics supporting a holistic evacuation strategy. We supply all necessary equipment to establish a casualty clearing station.

LESS® Emergency Rescue Unit is a trailer solution for mass casualty incidents and large evacuations. It is rigged with equipment to establish a casualty clearing station rapidly. Most units are tailor made for a certain level of preparedness according to a given risk assessment. Typical content is shown above, and can equally be rigged in a container or onto a rescue vehicle.

LESS® Emergency Rescue Unit is designed and equipped with efficiency and LEAN principles in mind, enabling best possible performance by rescue personnel. Focused on light weight materials and time saving solutions.

Same preparedness system can also be organized in a container or vehicle.



Typical content for fast rigging of a Casualty Clearing Station:

- 6 STRETCHER ROLLING KITS: 4 Stretchers, 4 Thermal Bags & Hoods, 2 Carrying Harness
- 6 Stretcher Stands, 1 Rapid Rescue Tent 36m2, 1 Heater 32 kW
- Other relevant equipment based on a Risk Analysis and specific requirements.



MCI Preparedness

Casualty Clearing Station - Triage Station

LESS collaborates with leading manufacturers and research organizations in the world working within mass casualty incidents, search and rescue in general and patient evacuation in specific. In this way we can offer the best possible solutions for mass casualty incident preparedness and solutions enabling effective evacuation chains according to a holistic strategy for search and rescue.

ROFI Rapid Rescue tent is designed as a casualty clearing station (or triage station). This tent can serve multiple purposes on the scene of accident, including being a warm shelter for personnel.

ROFI Rapid Rescue works perfectly in combination with LESS Mobile CBRN unit in a contaminated situation. ROFI Rapid Rescue can be rigged by 2 rescue workers in less than 10 min.

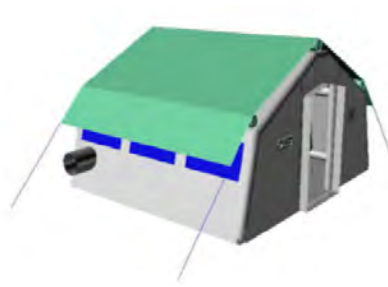


Same preparedness system can also be organized in a container or vehicle.



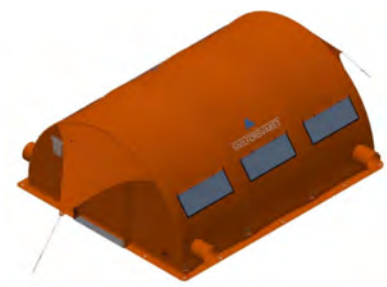
Tent

We can offer tents in many sizes and qualities according to particular needs.



ARGON

A range of low pressure tents in several sizes.



RAPID

High pressure tent in several sizes.



LED Tube Light

4800 lumen pr lamp. 2 lamps connected are easy to assemble and give good working light in tents from 20-40 m².



PowerDisk

50 000 lumen. Used with tripod up to 4.5 m. Excellent light for camp site or accident site.



Heater

We supply a range of heaters, from 4 kW Polarn Innovation mobile heater, to 32 kW blowers.



MSA Compressed air bottle

Composite material with aluminium base covered in carbon and glass fiber. Half the weight of steel bottles. 6,8 liters, 300 bar. CE-marked.



Reduction Valve

German made of high quality. 300-10 bar. Supplied with rubber protection.



Compressor

2 hp compressor for filling air in tent, with suction functionality for faster packing of tent. Weight 17 kgs.



8130

Container Preparedness

Tunnel preparedness



LESS® Container Preparedness is a solution for mass casualty incidents and large evacuations typically in road and railway tunnels, metro stations, mines etc. It contains necessary equipment to establish an efficient evacuation chain. Most units are tailor made for a certain level of preparedness according to a given risk assessment. Typical basic content is shown above.

The LESS® Concept is used by leading ambulance/ air ambulance and rescue services, airports, offshore and industry. LESS® Emergency Solutions are also used by national and international disaster management agencies.

Container

Product description	Qty.
10 foot Storage Container	1
Shelving	1
Lock Box	1

Emergency equipment

Product description	Qty.
LESS Stretcher Rolling Kit	3
LESS Thermal Bag	60
LESS Thermal Poncho	40
LESS Thermal Hood	120
LESS Stretcher Stand	4
LESS First Aid Kit	3
LESS Rescue Blankets	600
LESS Triage Pocket	2
LESS Body Bag	12



Similar content as shown above can also be rigged in a trailer or in an Emergency Vehicle.



3031 01

LESS® Emergency Stretcher Rolling Kit

LESS® Emergency Stretcher Rolling Kit is a functional solution designed for fast deployment of stretchers to an emergency scene with multiple injured. The stretcher kit bag is equipped with both wheels and sliders. The mobility allows one rescue worker to, without difficulty, carry a stretcher kit to the scene, even in rough terrain.

LESS® Emergency Stretcher Rolling Kit also contains carrying harnesses and hypothermia prevention sets. The Trolley bag can be adapted to specific needs to hold stretchers only (up to 5 pcs) or other equipment needed.

Specification

Weight	37 kg
Measure	210 x 50 x 40 cm
Volume	0,42 m³

Content

Qty.	Product number	Description
4	LESS 3001 31	Emergency stretcher, retractable handles, insulating properties
2	LESS 3013	Carrying Harness
4	LESS 3010	Thermal Bag
4	LESS 3011	Thermal Hood
1	LESS 3030 01	Trolley bag, large with wheels and handles



3032

LESS[®] Stretcher Rolling Kit PRO

LESS[®] Emergency Stretcher Rolling Kit PRO is a functional solution designed to swiftly bring the stretchers to the emergency scene and the multiple injured. The stretcher kit is equipped with both wheels and sliders. The mobility allows one rescue worker to, without difficulty, carry a stretcher kit to the scene, even in very rough terrain.

LESS[®] Emergency Stretcher Rolling Kit PRO also contains carrying harnesses and hypothermia prevention sets, spider strap for stabilization of patient and Triage Pocket for initial triage. The Trolley bag can be adapted to specific needs to hold stretchers only (up to 5 pcs) or other equipment needed.

Specification

Weight	40 kg
Measure	210 x 50 x 40 cm
Volume	0,42 m ³

Content

Antall	Produktnummer	Beskrivelse
4	LESS 4001 01	Emergency stretcher, retractable handles, insulating properties
2	LESS 3013	Carrying Harness
4	LESS 3010	Thermal Bag
4	LESS 3011	Thermal Hood
1	LESS 3050 01	Triage Pocket
1	LESS 4012 01	Spider strap for stabilization of patient
1	LESS 3030 01	Trolley bag, large with wheels and handles



3031 11 / 3031 12

LESS® Stretcher Rolling Kit Compact

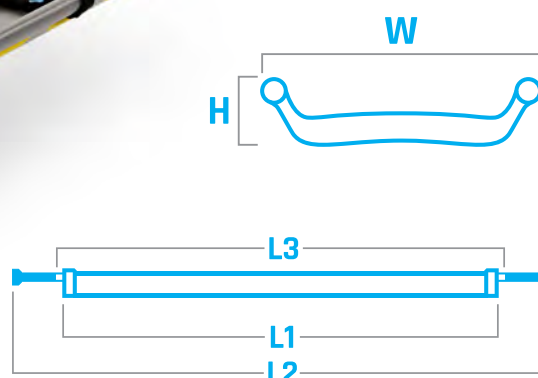
A functional solution for both active preparedness and exercises.

LESS® Stretcher Rolling Kit Compact is a practical solution for storing and transporting 1-2 emergency stretchers. The Stretcher Kit is tailor made for training purposes and emergency drills as well as real situations. The trolley bag has the same strong and durable construction as our full size stretcher kits.

LESS® Stretcher Rolling Kit Compact is ideal for small units of first responders to increase their mobility and enhance their capability.

Content

Single 3031 11	Duo 3031 12	Product no.	Description
1 stk	2 stk	3001 31	Emergency Stretcher, lightweight, insulating, retractable handles
2 stk	2 stk	3013	Carrying Harness
1	2	3010	Thermal Bag
1	2	3011	Thermal Hood
1	1	3030 10	Stretcher trolley, small



4001 01

LESS® Emergency Stretcher PRO

Retractable handles, thermal insulation, and radio translucent.

ESSENTIAL FEATURES - **LESS® Emergency Stretcher PRO** with retractable handles is a functional lightweight stretcher with an excellent insulation ability to protect the patient against hypothermia. Carrying handles on the sides makes this stretcher ideal for evacuation out of narrow spaces. Stretcher PRO has reinforced straps and adapted for fastening of patient with **LESS Spider Strap 4012**.

Width	45 cm
Height	9 cm
L3 Length (handles in)	197 cm
L2 Length (handles out)	237 cm
L1 Patient area	191 cm
Weight (incl. straps)	7 kg



EXtretcher S

Inflatable stretcher with hard cover slide board for rapid evacuation. Foot cover and straps for patient safety. Inflatable in 3 sec.



EXtretcher

Inflatable stretcher. Inflatable in 3 sec. Very compact storage. Without air, works as a soft stretcher. 8 carrying handles.



3013

LESS® Carrying Harness

Free Hand System. Carrying hooks adapted to LESS stretchers.

LESS® Carrying Harness, with hard-shell design, distributes the load on larger groups of muscles. During the transportation of the patient the crew has their hands free to secure themselves in difficult terrain or narrow passages in their path. The fastening hooks are easy to attach and to release. The harness comes in bright colors and reflectors for maximum security.

LESS® Carrying Harness can be used together with most stretchers in the market. Available also in black or camo colors.

Carrying patients in terrain or down through a building in rubbles is very heavy and a major burden on rescue personnel. **LESS® Carrying Harness** is designed to reduce strain on rescue personnel and increase their efficiency.

Part of LESS Evacuation System.



LEAN evacuation with Carrying Harness

Read more about LESS® Carrying Harness 3013 on page 12.



Establishing stretcher team
Available civilians are a great resource for carrying patients. One trained rescue worker can lead a stretcher team of 4 people. This will relieve the professional rescue workers.

Resources 4 people - 100m

On average this team of 4 can walk 100m before at least one needs to rest the hand, or change side. Research with adult patient



2 person stretcher team
LESS specialty equipment can make an effective rescue. By using a LESS Carrying Harness 2 persons can safely evacuate a patient and have both hands free to assist the patient, manage communication aspects, rough terrain etc.

Resources 2 people - 1 km

On average this team of 2 can walk 1 km before at least one needs to rest. Research with adult patient



LESS® Thermal Bag, Poncho & Hood

Offer a cost efficient basic protection against hypothermia.

LESS® Thermal Bag, Poncho and Hood are designed as basic hypothermia prevention. The products are made of 3-tier (90 My) bubble wrap that provides protection from the elements of wind, rain, dust and snow, etc. The transparent material allows for visual observations of the patient's injuries. Used together with a **LESS® Emergency Stretcher** with insulating capability, the patient has a good basic protection. If available and necessary, any other insulating material should be used i.e. blankets.

LESS® Thermal Bag is very training friendly and easy to use. For practical storage in preparedness systems, we can supply Thermal Bags in a **LESS® Bag 3036** (see page 19) with clear external marking of content.

3010

Thermal Bag

Bag to be rolled tight around patient and closed with elastic and hooks. Very training friendly. Welded to avoid leakage of body fluids.

3010 02

Thermal Poncho

Integrated hood. One-size-fits-all. Easy to cover seated passengers in i.e. a buss or a train.

3011

Thermal Hood

Practical closing with Velcro. One-size-fits-all. The head being subject to major heat loss needs special attention during an accident.



3070

LESS® Stretcher Stand

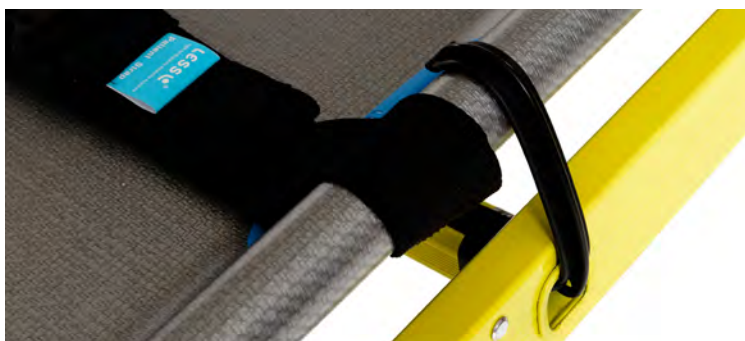
Multipurpose tool for large accidents and casualty clearing station.

LESS® Stretcher Stand developed as a multipurpose tool for large accidents and the organization of a casualty clearing station.

LESS® Stretcher Stand is produced in robust aluminum. Painted in RAL 1016 for high visibility. Four basic functions cover bench, table, shock position (30°) and ladder. When completely folded, the stretcher stand is very compact for storage in preparedness solutions.

LESS® Stretcher Stand has specially designed hooks holding the **LESS Emergency Stretchers** (series 3000, 3001 and 4001) onto the stretcher stand. Hooks adapted to other stretchers can be developed on customer specific requests.

Additionally it's lightweight, portable and easy to clean.



Specification

Measure (folded)	20 x 50 x 115 cm
Weight	11 kg



Flamor EL2000

Stretcher Carrier

Large wheels for improved access in terrain.

Flamor EL2000 Stretcher Carrier is a useful tool for easy evacuation in most situation, and it is key to enable an effective evacuation chain in a large accident or mass casualty incident.

The carrier can be operated by one or two rescue personnel. This stretcher carrier is part of **LESS System Solutions** for mass casualty incident preparedness.

Available in orange, green and black. Delivered with flat free compact tires as standard. **Flamor EL2000 Stretcher Carrier** is also ideal for stadium and event preparedness. Large wheels for improved access in terrain, and for best possible patient stability.

Flamor EL2000 Stretcher Carrier comes with a flexible fixation to accommodate **LESS® Emergency Stretchers** (serie 3001 and 4001) as well as other models, army stretcher, NATO-stretcher (STANAG 2040) and backboards.

Specification

	Open	Folded
Length	145,5 cm	52 cm
Width	62 cm	62 cm
Height	86 cm	84 cm
Weight	25 kg	25 kg





8101

LESS[®] Training Dolly 112

Robust in polyester.

8101	Adult
8101 01	Youth
8101 02	Child

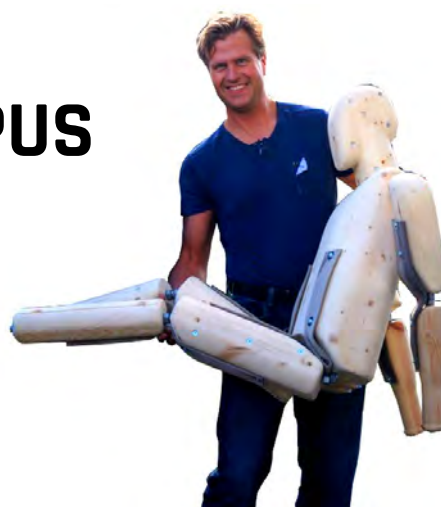
Training dolls for rescue simulation in dangerous scenarios. Using training dolls eliminates the use of personnel in situations with risks involved.

Filling bags included for use of different fillings according to specific training scenario. The weight should be evenly distributed in the training doll. Max weight recommended is 70 kg.

8102

LESS[®] Training Doll CORPUS

Made in wood, produced in Sweden.





LESS® Body Bag

Handles, U-zipper and ID-pocket.

All our body bags come with 10 handles and zipper on three sides. The bags has a plastic pocket to hold ID information in case of a major incident. The bag is solid to avoid leakage and reduce infection risk. All bags can be incinerated.

8106

LESS® Body Bag Degradable

This body bag is environmentally friendly. The bag is made of biodegradable polypropylene and polyethylene, which makes it both degradable in soil and environmentally friendly when incinerated. Degradable materials have a reduced durability and must be used somewhat more gently. This body bag is part of LESS Evacuation System and LESS Emergency Rescue Trailer.

8106 220 x 90 cm

8106 12 / 8106 22 / 8106 25

LESS® Body Bag PEVA

Chloride free solution in PEVA is suitable for more robust use. PEVA satisfies new demands from the crematories on reduced emissions from incineration.

8106 12	150 x 90 cm	Small	100 kg
8106 22	220 x 100 cm	STD	120 kg
8106 25	250 x 120 cm	XL	150 kg



3036

LESS® Bag

Robust bag with carrying straps. Fits 10 pcs LESS Thermal Bags for good visibility and easy to organize in a preparedness set-up. External transparent pocket (A4) for clear marking of content.



4012 01

LESS® Spider Strap

For safe stabilization of the patient onto a backboard or LESS PRO stretcher 4001 01 with side handles. Functional cover with Velcro integrated in the strap. Pockets and elastic strip for medical equipment to be kept during transport.



4012

LESS® Stretcher Strap

Replacement kit with straps for LESS stretchers 3001 31 and 4001 01. Comes in 3-pack.



3020

LESS® Wall Bracket

LESS Wall bracket for LESS Emergency Stretchers making the stretcher visible and easy available when needed. Mounting instructions included.



LESS® Tool Box in aluminium

Robust tool boxes for daily use in a rough environment and transport of tools and equipment. Made in 100 % aluminium and with profiles for increased strength. Available in various sizes. Request an offer.



3019

LESS® Emergency Wool Blanket

Fire resistant wool blanket compliant with ASTM D-4151-92. LESS Wool Blanket is made of wool (70%) together with other fibers (30%). Size 210x150cm. Weight 1800g.

LEAN evacuation with Carrying Harness

Read more about LESS® Carrying Harness 3013 on page 12.



Establishing stretcher team

Available civilians are a great resource for carrying patients. One trained rescue worker can lead a stretcher team of 4 people. This will relieve the professional rescue workers.

Resources 4 people - 100m

On average this team of 4 can walk 100m before at least one need to rest the hand, or change side. Research with adult patient.



2 person stretcher team

LESS specialty equipment can make an effective rescue. By using a LESS Carrying Harness 2 persons can safely evacuate a patient and have both hands free to assist the patient, manage communication aspects, rough terrain etc.

Resources 2 people - 1 km

On average this team of 2 can walk 1 km before at least one need to rest. Research with adult patient and using of Carrying Harness.



8107

LESS® Soft Stretcher

4 handles each side. Comes in a storage bag.

Measure	75x205cm (30x63cm i veske)
Load	200 kg
Weight	1,6 kg



8107 01

LESS® Soft Stretcher Heavy Duty

6 handles each side, and 2 handles each end. Anti-slip foot rest. Can accommodate LESS stretcher or backboard.

Measure	95x190 cm
Load	350 kg
Weight	2,5 kg



10226

PAX Soft Stretcher

Multiple use soft stretcher according to EN 1865 with anti-slip protection.

Measure	80x200 cm
Load	150 kg
Weight	1,5 kg



12352

PAX Patient Transport Sack

Multiple use transport sack with belts according to DIN/EN 1865.

Measure	95x190 cm
Load	350 kg
Weight	2,5 kg



3050

LESS® Triage Pocket™

Four categories reflective bands

LESS® Triage Pocket is a functional bag that attaches with a strap around the waist. The pocket contains 10 reflective tapes of each four categories of red [IMMEDIATE], yellow [URGENT], green [DELAYED] and grey [no signs of life]. The reflective tapes are very effective and easy to use for identification of patient priority. The system is designed for first phase triage in major accidents, and works well together with all major triage algorithms.

Contains 10 pcs reflective bands of each category. Part of LESS Evacuation System.



LESS® Triagemappe Triage Pocket can be supplied in any language, subject to a minimum quantity. Available in orange, black, and camo.



Compact Heater 4000

Mobile heater. Lightweight and very flexible when off-road.

Compact Heater 4000 is lightweight and very mobile and easy to carry out to an accident site. It has the capacity to keep a vehicle warm while rescue operations are on-going, even in harsh winter conditions. With **Compact Heater 4000** it is easy to establish a warm working environment in a small tent, or a site covered with a tarpaulin.

Equipped with the latest Eberspächer Airtronic heat unit, the **Compact Heater 4000** is very reliable. Also easy to clean.

LESS also supply heaters with larger capacity when needed.

Specification

Power	1,0 - 4,0 kW
Air throughput	185 kg/h
Fuel	Diesel
Fuel consumption	0,13 - 0,51 l/h
Fuel tank	8 liter
Electric power	7-40 W
Voltage	12 / 220 V
Weight	11 kg



Star Progetti

HYPOTHERMSAVE®

Mobile heater - Infra red

There is a growing understanding of the importance of protecting patients from loss of body temperature and to prevent hypothermia.

The importance of establishing a warm environment is fundamental on most scenes of accidents. An IR-lamp can be the solution in a number of situations.

HypothermSave® can be carried, or fixed to a tripod depending on the need. Easy to operate and gives instant heating. Works both in small and larger accident sites. Safety switch turns off in the case of the lamp falling. Robust design with a frame in cast aluminum.

Specification

Effect	1500/2000 W
Outdoor use	IP66
Light source	InFraCaLoR® bulb
Colour	RAL 3000 red and yellow
Size	59 x 33 x 22 cm
Weight	11,2 kg

Helios Radiant®

Safety Glass Tent Heater

For fast internal heating in tents. One lamp covers 12-14m². Effect 2000W. IP23 class. Weight 5kgs. Pictured to the right.





8120

LESS[®] Mobile CBRN Unit

Very easy to transport, handle and rig.

LESS[®] Mobile CBRN Unit is a lightweight solution for best possible mobility and speed at a scene of accident. This unit is rigged by one person in less than 3 min. The unit consists of a PVC shower cabinet, electric pump, 2 pcs LESS 3001 31 Emergency Stretchers and 2 pcs LESS 3070 Stretcher Stands. Additional equipment not included is light, pressure spray cans, special soap etc.

LESS[®] Mobile CBRN Unit is designed for Emergency Rooms that do not have fixed installations. The unit is rigged so fast and easy, it makes it very training friendly. This unit has the mobility to even be brought out to a scene of accident if needed. This is part of LESS Evacuation Systems.

LESS AS cooperated with Futuretech Kärcher Group and can supply their range of spray cans and special soaps and detergents. Through our collaboration with Protec Tech in Germany, we can design and produce larger CBRNe solutions to customer specifications.

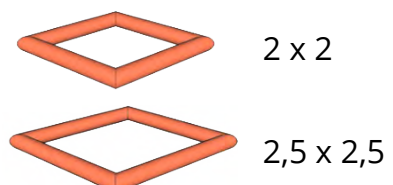


HF-S04P

LESS[®] Decontamination of personnel

Very easy to transport, handle and rig.
Inside shower room: 1,65 x 1,65 m
Weighs only 50kg.

Decon basin





DECON-solutions

LESS collaborates with several of the market leaders within DECON-solutions. We can tailor-make solutions to most risk scenarios and specific needs.



Decontamination Agents

Our decontamination agents come from the market leader in Europe within decontamination; Futuretech Kärcher Group. It is of utmost importance that soaps and decon agents does not open pores in the skin, transporting contamination further into the body.



CBRN Sprayers



DS 5

A light-weight multi-purpose pressure sprayer. Integrated manual pump for the application of liquid decontamination agents. Filling capacity of 5 liters. The area to be decontaminated can be optimally covered with the decontamination agent by the spray lance.



DS 10

A universal pressure sprayer with an integrated mixing device. Manual pump for the application of practically all standard decontamination agents. The tank and the pump are made of stainless steel. Filling capacity of 10 liters. Use practically any kind of liquid or powder-type decontamination agents.



Mobile Patient Isolation Unit

Negative pressure isolation stretchers for contagious patients.



EBV BioBag

Mobile Patient Isolation Unit

High quality isolation stretcher with tested weldings. Negative pressure isolation stretcher for contagious patients. Can be run with positive pressure for sensitive patients. Clear PVC windows for easy monitoring of the patient. Complete unit packed in a carrying bag for transport and storage. Ready for use within few minutes. Easy to use, requires very little instructions. Training friendly.



PIU VBS 93 NEG

Mobile Patient Isolation Unit

Robust negative pressure ventilated Patient Isolation Unit for highly infectious patients. Design and dimensions allow transport on standard stretchers in vehicles, helicopters & air-planes. All materials are fully tested and certified against all known chemical and biological warfare agents and are easy to decontaminate according to military NBC-standards.

Preparedness when needed

Some examples



LESS® Stretcher Rolling Kits in an ambulance

From wall-mounted brackets, the stretcher rolling kits can easily be deployed to the scene of accident when needed. These Stretcher Rolling Kits are key components in a decentralized preparedness model for LEAN response in an emergency.



LESS® Built-in kit

LESS Stretcher Rolling Kit is easy to accommodate on a rescue vehicle. Gjøvik Brannvesen (Gjøvik Fire & Rescue) have designed sliding brackets to ensure that the stretcher pack is integrated onto their rescue vehicle and always available at a scene of accident.



Foto: © Stiftelsen Norsk Luftambulanse

LESS® Stretcher Kit in HEMS

The Foundation Norwegian Air Ambulance is a pioneer in R&D on large accidents and evacuation chains. They have been instrumental in developing new specifications for tools as well as improved routines and SOP's .



LESS in Emergency Response Units

There are numerous ways to organize an Emergency Response Unit. LESS stretchers are often chosen for their unique features, light weight and good organization in Stretcher Rolling Kits.



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LESS Emergency Equipment



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