



RESPIREX™

Medical CBRN Resilience

PPE and Decontamination Equipment



PRPS³

The Respirex Powered Respirator Protective Suit (PRPS³) is a one piece **gas-tight*** chemical protective suit for use by emergency response personnel after a CBRN incident.

The suit is manufactured from DuPont™ **Tychem® TK**, a high performance, seven layer, nonwoven, chemical barrier fabric that is also light in weight.

- Respiratory system comprising a belt mounted, battery powered, **CleanAIR® Chemical 2F powered respirator** (see opposite)
- Heavy duty **gas tight zip** fitted across the chest enclosed by double external storm flaps with hook & loop fastener
- **Gas-tight locking cuff** system for changing gloves
- **Four exhalation valves** maintain a comfortable working pressure inside the suit

**The updated Powered Respirator Protective Suit (PRPS³) has been assessed by a notified body to ensure it satisfies Annex II of the PPE regulation (EU) 2016/425 using technical standards EN 943-2 'Protective clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles Part 2: Performance requirements for "gas-tight" (Type 1) chemical protective suits for emergency teams (ET)'*



Twin **CleanAIR® CBRN filters** with splash guard cover are fitted externally at the rear of the suit



Permanently attached **Hazmax™ chemical safety boots**



Remote display in baser of hood to show status of PAPR unit



Choice of either **light-weight nitrile** or **heavy duty neoprene outer gloves**. Both glove types are bonded to a Kemblok chemical barrier inner glove.



CleanAIR® Chemical 2F PAPR

The CleanAIR® Chemical 2F Plus is a battery-powered air purifying respirator (PAPR), available with a range of particulate and combination particulate and chemical filters. The PAPR's intelligent flow control maintains a consistent 160l/min airflow regardless of filter clogging or battery charge.

The PAPR is available with a choice of rechargeable or single-use batteries and includes a remote display unit that can be mounted behind the visor of a compatible suit or hood.

The display on the PAPR body shows the airflow, battery and filter status with an audible warning for low airflow and low battery charge.



Accessories



Filters

CleanAIR® CBRN (A3B2E2K2P3) filters are supplied with the operational suits. Training suits are fitted with A2BEK-1P3RS filters



Single-Use Battery

A single-use primary cell with a 10 year shelf-life with remote display connector



Rechargeable Battery

A lithium-Ion rechargeable battery pack with remote display connector

SC1 Splash Suit

The single-use SC1 chemical protective suit is manufactured from our high-performance **Chemprotex™ 300** chemical barrier fabric. The liquid-tight (**Type 3**) design protects against contamination from liquid chemical splashes and can be used with breathing apparatus worn outside the suit or with a full facemask and filter. The SC1 is intended for use in areas that are not immediately dangerous to life or health.

- Protection against liquid chemicals (**Type 3**), infective agents and chemical warfare agents
- Rear-entry design with 91cm (36") Nylon **zip fitted across the shoulders**, with **double external zip flaps** and self adhesive tape closure



Integral hood with **neoprene rubber face grommet** to seal around the wearer's face mask



Chemically protective **Kemblok™ laminated glove** welded to the suit material



Supplied with separate **neoprene outer gloves** for mechanical protection



Integral **sock feet** with outer splash guard legs for use with the customer's own safety boots



Splashmaster Coveralls

Lightweight, **Type 3** liquid-tight, anti-static, limited re-use hooded coverall, designed for use with a full face mask and filter or appropriate facial and respiratory protection. Manufactured from **Chemprotex™ 300** the suit is highly chemically resistant and features a comfortable spun-bonded lining inside.

- Protection against liquid chemicals (**Type 3**), infective agents and chemical warfare agents. *[Respirex recommend taping around the facemask, at the wrists and ankles]*
- Nylon **zip fitted at the front** with **double external zip flaps** with hook and loop fastening



Integral hood with **elastic face seal** for a comfortable fit around a full or half mask respirator



Adjustable **throat flap** for improved seal around the base of a facemask



Elasticated wrists with thumb loop



Elasticated ankles
For use with customers own chemical safety boots. To maintain EN 1149-5:2018 certification ESD boots should be used.



Mass Decontamination Shower

The inflatable Mass Decontamination Shower from MFC International is lighter than traditional metal framed showers and extremely quick to deploy, allowing for rapid response in a mass casualty decontamination scenario.

The shower is partitioned into three lanes (male, female and assisted decon) with separate entrances and exits and screened pre and post decontamination changing areas. Each lane has two separate showering stations, allowing the front station to be fed with water treated with a cleanser or neutralising agent, while the rear station can be used to rinse off with clean water.

Raised floor panels or matting in the shower section prevent contact with contaminated shower wash-off, which is collected in a chemically resistant sump and pumped out through an internal sleeved port.

- Full range of accessories available
- Two external shut off taps provide individual control of front and back shower stations
 - shower brush connectors are always 'on' as guns & brushes have individual controls - other options on request
- Sleeves included for extraction of contaminated water, ducted hot air and cabling



 **726x452x302 cm**

 **140 kg**

 **160x100x80 cm**



Removable internal partitioning creates three separate decontamination lanes.

Four Person Decontamination Shower

The inflatable Four Person Shower is a quick deployment decontamination solution for up to four emergency responders or casualties. A detachable internal partition is provided, which splits the shower into two lanes. The shower system has two separate water feeds allowing the front half of the shower to be fed with water treated with a cleanser or neutralising agent, while the back half can be used to rinse off with clean water.




Raised floor panels or non-slip matting prevent contact with contaminated shower wash-off, which is collected in a chemically resistant sump. Sleeves for pumped extraction of contaminated water are included as standard.

- Two external shut off taps provide individual control of front and back shower stations
- shower brush connectors are always 'on' as guns & brushes have individual controls
- other options on request
- Each shower point has an over-head spray nozzle, a side spray nozzle and a brush/gun connection
- Set up within a matter of minutes and will stay standing without continuous inflation
- Lightweight and compact, the shower is easy to transport and store



Removable internal partition allows two separate decontamination lanes to be created.



 **350x290x290 cm**
 **30 kg**
 **128x70x50 cm**

Optional external sump attached to the shower (inflates with the shower) shown above. Version without sump also available.

Single Assisted Decontamination Shower

A versatile, lightweight and quick to deploy inflatable Single Assisted Decontamination Shower designed for the decontamination of both casualties and responders. Fully inflatable, the shower can be set up in a matter of minutes, and will stay standing without continuous inflation.

The shower is sized to accommodate a casualty on a spine board, with two medical personal in appropriate personal protective equipment. Designed to minimise water consumption, the shower includes two connection points for on demand spray guns or brushes and two shower nozzles with individual shut off valves.

The shower includes internal pockets and a hanging rail for equipment and a zipped pass-through port for transferring equipment without having to open the doors.

- Front and rear doors with roll-up windows and blinds and zipped pass-through ports
- Sleeves for a portable air heater and pumped extraction of contaminated water are included as standard
- Internal pockets and hanging rail for medical equipment
- Internal hanging points for IP67 lighting (supplied separately)



Internal grab handles for support while cleaning boots etc



Optional inflatable spine board platform

	290x200x248 cm
	30 kg
	50x50x100 cm

Single Decontamination Shower




A lightweight single-person decontamination shower with an optional external sump unit, the inflatable Single Decontamination Shower can be set up in a matter of minutes, and will stay standing without continuous inflation.

A raised floor panel prevents contact with contaminated shower wash-off, which is collected in a chemically resistant sump. Sleeves for pumped extraction of contaminated water are included as standard.

Single Decontamination Showers come with a viewing window and optional chemically resistant sleeves and nitrile rubber gloves to allow assisted decontamination by a third party stood outside of the unit.

- Over-head spray nozzle and side spray nozzle, with two brush/gun connections
- External shut off tap as standard - other options on request
- Lightweight and easily portable
- Internal grab handle for support while cleaning boots etc



 **156x143x263 cm**
 **25 kg**
 **70x45x30 cm**

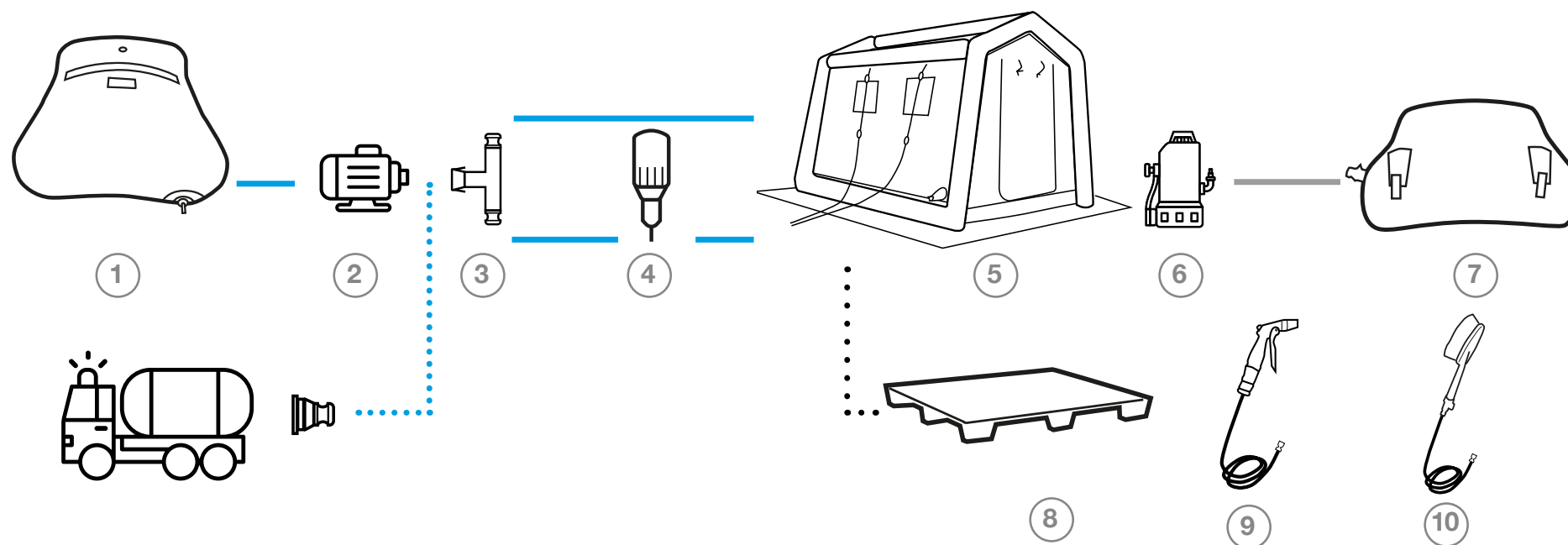


Optional gloves & sleeves
for decontamination
assistance from outside
the shower



Optional external sump
attached to the shower
(inflates with the shower)

Decontamination Shower System Schematic



Decontamination Shower Accessories



**Clean (Potable)
Water 1000 litre
Pillow Tank**

- Other sizes available,
see website for details

1



Inlet Water Pump
Close-coupled self-
priming centrifugal pump
(230V)

2



**Dosatron with
Trolley**

Installed into the water
supply line, the Dosatron
feeds the pre-set
percentage of cleaning/
neutralising agent into the
water.

4

Decontamination Shower Accessories (continued)



Submersible (Sump) Pump

A submersible drainage pump with a compact footprint and an integral float switch.

6



Dirty Water 1000 litre Pillow Tank

- Other sizes available, see website for details

7



Flooring Pallets

Manufactured from high-quality plastic for greater stability, our pallets are lightweight, nestable and easily portable.

8



Spray Guns & Brushes

Fitted to a coiled hose the brush & gun can both be turned off when not in use.

9

10



T-Piece

An adapter used to split the incoming water flow from a pump into separate feeds for the dosatron and rinsing water nozzles

3



Green (Clean Water) & Clear (Dirty Water) Hoses

Flexible reinforced hoses with a 25mm inside diameter and 33 mm outside diameter.



Portable air heater

A range of portable oil heaters designed to be positioned outside the shower or shelter with the heated air fed into the shelter through the heater sleeve via a heat resistant hose



Water Heaters

A portable multi-fuel water heater with a high flow rate specifically designed to supply tepid water for decontamination showers.

A compact butane gas fueled unit is also available for the single assisted decon.



LED Shelter Lights

Designed for ease of installation in inflatable structures these 23W, 2300 lumen lights feature durable waterproof construction.



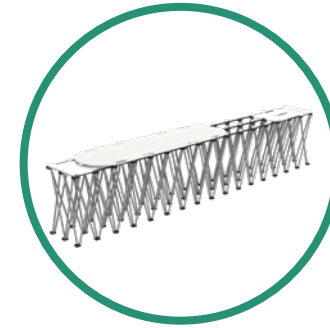
Generator

A 6kW 4-stroke petrol generator with a large fuel tank capable of 8 hours of continuous running time at rated power.



Electric Inflator

A high-performance 2kW, 230VAC electric inflator that can fully inflate any of our range of showers & shelters



Patient roller conveyor

A flexible roller conveyor that facilitates the handling of non-ambulatory casualties through a decontamination shower.

Decontamination Shower System Components

	Single Person Decon	Single Assisted Decon	Four Person Decon	Mass Decon
Clean Water Pillow Tank	1	1*	1	2
Clean Water Hoses	3	3*	4	8
Inlet Water Pump	1	1*	1	2
T-Piece	-	-	1	2
Dosatron & Trolley	1	Optional	1	2
Standard Floor Pallet	-	-	3	6
Cut-out Floor Pallet	1	-	1	2
Brush/Spray Gun	2	2	4	4
Sump Pump	1	1	1	2
Dirty Water Hoses	1	1	1	2
Dirty Water Pillow Tank	1	1	1	2

** For casualty decontamination a small 25L water container and portable water heater with pump is all that is required*

Inflatable Shelters

Inflatable Shelters provide a quickly deployable structure that is simple to use, lightweight, compact and easy to transport. They are ideal for emergency or humanitarian use, but have a wide range of other applications including field hospitals, command centres, crime scene preservation, storage areas and vehicle maintenance.

Our range of inflatable shelters can be set up in a matter of minutes, and will stay standing without continuous inflation. With no mechanical framework the shelters are lighter and more compact once packed.

All shelters are supplied with adjustable zipped entrances at the front and rear, providing a versatile solution that allows two or more shelters to be linked together if required. Shelters can be anchored on hard or soft standing, and guy ropes are provided for use in inclement weather.

The shelters are manufactured with a welded and taped PU frame that reduces weight and air leakage, allowing shelters to remain inflated for longer without the need for topping up (particularly in hot climates). The welded and taped canopy ensures seams remain waterproof even after repeated deployments.

Shelters are available in a range of flame resistant (FR) canopy material colours and come with a white translucent roof as standard, but can be ordered with the roof in the main canopy colour as an option.



Shelters are fitted with guylines for securing to pegs or ground anchors, but ballast bags are available as an option

Inflatable Shelters

	TYPE 9	TYPE 12	TYPE 16	TYPE 20	TYPE 25	TYPE 30	TYPE 36	TYPE 51
Length (cm)	300	400	400	500	500	600	600	850
Int. Length (cm)	300	400	400	500	500	600	600	850
Width (cm)	300	300	400	400	500	500	595	595
Int. Width (cm)	263	263	353	353	453	453	534	534
Height (cm)	263	263	280	280	290	290	308	308
Int. Height (cm)	238	238	254	254	265	265	275	275
Int. Floor Area (sq.m)	7.89	10.52	14.12	17.65	22.65	27.1	32.04	45.39
Air Requirements (ltr)	1300	1850	2600	2900	3050	3700	5900	8100
Packed size (cm)	120x66x41	120x66x41	130x66x50	130x66x50	140x80x66	140x80x60	140x80x60	160x80x66
Weight (kg)	36	45	58	68	78	88	105	125

Pre & Post Decontamination Modesty Packs

The **Pre Decontamination Modesty Pack** allows contaminated casualties to change from their own garments in as dignified a manner as possible prior to decontamination in a drench shower.

The **Post Decontamination Modesty Pack** is for use after casualties have set aside their own garments and have been decontaminated in a drench shower.

Packs are available in infant, junior, medium adult and large adult sizes.



Pre-Decontamination
Modesty Pack



Post-Decontamination
Modesty Pack

CBRN Body Bag

A **gas-tight body bag**, designed to contain chemically contaminated mortalities and body parts after a CBRN incident.

Manufactured in **Tychem® TK**, a high performance multi-layer chemical-barrier fabric, the CBRN body bag is lightweight and extremely durable.

- Heavy duty gas-tight zip around three sides of the bag for ease of access.
- Gas-tightness pressure test to ISO 17491-1:2012 Method 2 conducted prior to despatch to confirm the bag is gas-tight
- **Reinforced base** for abrasion protection
- **Waterproof A4 pouch** over viewing window enables the viewing window to be obscured if necessary and allows **identification paperwork** to be attached to the body bag
- Disposal by means of either **cremation or burial**



Clear **viewing window** for casualty identification (Adult/ Large bag only) with integral document pouch



2x Filter port with exhalation valve and shut off cap for use with a CBRN filter allowing gasses produced by the body as part of the decomposition process to safely pass out of the bag.



Absorbent pads are fitted in the base of the bag capable of holding more than five litres of fluid



(16x) Sturdy carrying straps allow four people in PPE to assist with lifting and carrying



Hazmax™ CBRN Boots

A specially developed version of our chemically protective Hazmax safety boot with an integral steel toe cap and midsole with a vulcanized rubber sole for superior slip resistance. The Hazmax CWA boot has been developed to provide enhanced protection against warfare agents

- Chemically resistant boot certified to EN 13832-3:2018 (footwear protecting against chemicals)
- **Antistatic** - Electrical resistance meets the requirements of EN ISO 20345:2011 A (0.1MΩ to 1,000MΩ)
- Vulcanized rubber sole for improved slip resistance (SRC)



CBRN Overboots

A specially developed version of our chemically protective Hazmax safety boot with an integral steel toe cap and midsole with a vulcanized rubber sole for superior slip resistance. The Hazmax CWA boot has been developed to provide enhanced protection against warfare agents

- Chemically resistant boot certified to EN 13832-3:2018 (footwear protecting against chemicals)
- **Antistatic** - Electrical resistance meets the requirements of EN ISO 20345:2011 A (0.1MΩ to 1,000MΩ)
- Vulcanized rubber sole for improved slip resistance (SRC)



Casualty Transport Bag

Designed to protect staff, vehicles and facilities from potentially contaminated CBRN casualties in transit, or at medical facilities prior to decontamination or treatment.

Manufactured in Chemprotex™ 300, a high performance chemical barrier material, the casualty transport bag features a full length nylon zipper with an elasticated facemask seal in the hood.

- Single size - Overall Length 2200mm), with a zip length of 1750mm
- Compatible with the majority of full face masks

PermaSURE® Toxicity Modeller

PermaSURE® is a risk assessment modeller app for IOS and Android phones and tablets that calculates the ingress of toxic liquids and gases through chemical protective garments and suggests a maximum safe exposure time for specific hazardous environments.

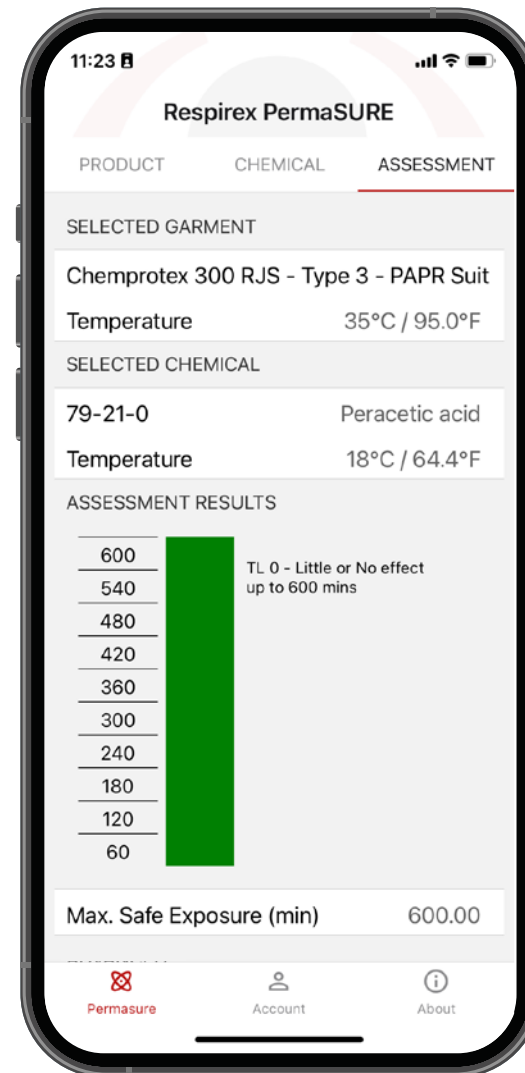
However good a practical chemical barrier is, some will permeate through. However desirable, it is impossible to create a barrier to achieve “zero ingress”.

Pathways for chemicals into a garment are by

- permeation through the fabric and
- leakage (for example, hoods, cuffs, collars and closures).

Leakage, especially for vaporous chemicals, can be mitigated by using gas-tight fully encapsulated ensembles.

The cumulative chemical ingress is significant in terms of health and safety risk assessments. PermaSURE® incorporates an extensive chemical database of over 3,000 chemicals and calculates a recommended maximum safe exposure time for different chemical protective garments.



DuPont™ Tychem® TK

A high strength, tear resistant, 100% nonwoven polyester staple fabric sandwiched between two proprietary non-halogenated 5-layer chemical barrier films. This combination provides excellent chemical protection in relatively durable material.



Abrasion



Flex



Tear



Tensile



Puncture



Ignition



>480mins

DuPont™ and Tychem® are trademarks or registered trademarks of E.I. du Pont de Nemours and Company



Chemprotex™ 300 Material

A high-performance, lightweight non-woven, chemical barrier fabric designed for single-use garments. It incorporates a 5-layer chemical barrier film, with a protective polyethylene top layer and spun bonded non-woven inner. This combination provides excellent chemical protection in a comfortable lightweight fabric. The material is halogen free and can be recycled as mixed polyolefin where facilities exist. Chemprotex™ 300 is compatible with the PermaSure® risk assessment modelling app (see opposite)



Abrasion



Flex



Tear



Tensile



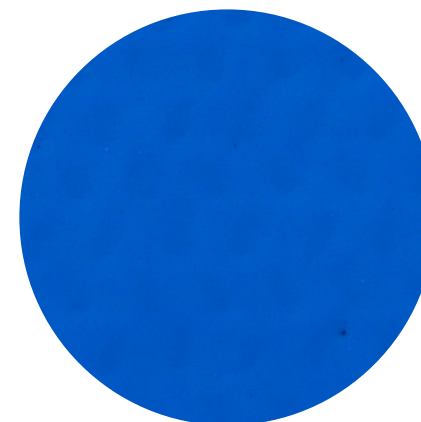
Puncture



Ignition



>480mins





RESPIREX™


Living + Breathing Personal Protection



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