



MFCInternational
by RESPIREX

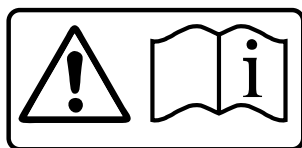
Single Assisted Decontamination Shower

User Instructions



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⚠ WARNING: Carefully read this manual before operating the Single Assisted Decontamination Shower.

NOTICE: The manufacturer takes no responsibility for the consequences of actions not complying with the instructions given in this manual.

Sales literature and product videos for the Single Assisted Decontamination Shower are available on our website, visit mfc-international.com or scan the QR code opposite.



Technical Data

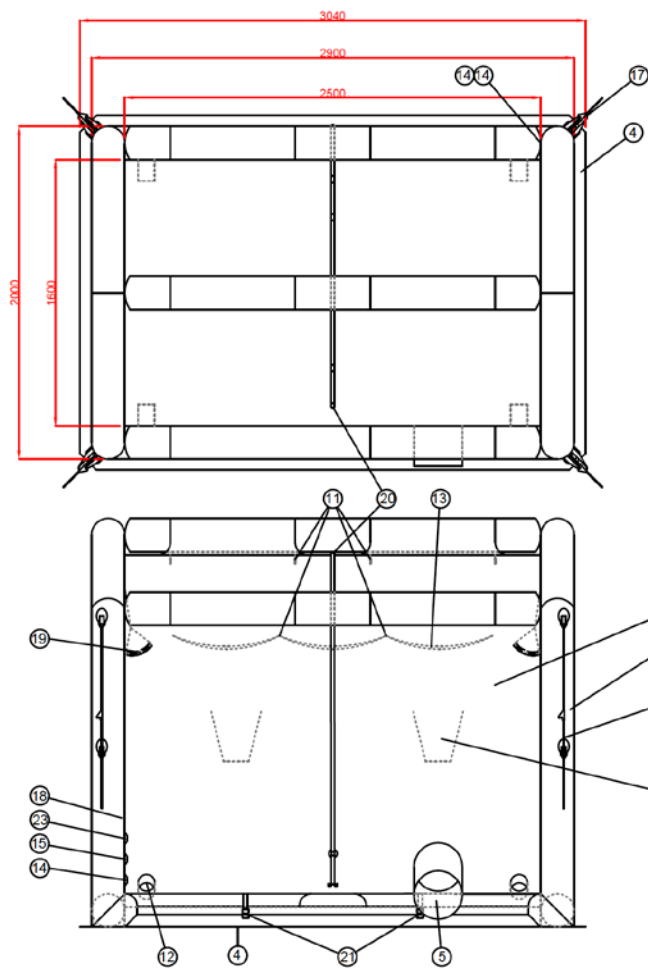
Technical Data	
Product Code	DSW029
Length (cm)	290
Int. Length (cm)	250
Width (cm)	200
Int. Width (cm)	160
Height (cm)	248
Int. Height (cm)	225
Int. Floor Area (sq.m)	
Air Requirements (ltr)	1185
Max. Water Inlet Pressure (bar)	3
Recommended Pump Flow Capacity (ltrs)	5 l/m per nozzle
Pack Size (cm)	50 × 50 × 100
Weight (kg)	30
Number of Shower Nozzles	2
Number of Shower Connectors	2
Number of Heater Sleeves	1
Number of Cable Sleeves	4

Decontamination Shower Accessories

A range of compatible accessories are available for the Single Assisted Decontamination Shower unit to provide a complete decontamination system. These include:

- Inlet Water Pumps
- Sump Pumps
- Electric Inflaters
- Clean & Dirty Water Pillow Tanks
- Clean & Dirty Water Hoses
- Dosatron Dosing System
- Generator
- Raised Flooring Panels
- Spray Guns & Brushes
- Portable Air Heaters
- Water Heaters
- Lighting
- Couplings and Connectors
- Inflatable platform
- Ballast bags
- Spare Parts

For more information about the accessories available for the single assisted decontamination shower, please contact our sales team on +44 (0)1443 433 075 or e-mail sales@mfc-international.com



Standard Equipment

Valise (590023)

Kit bag (590028/1)

Inflation hose (HS-04-05-01-27-06)

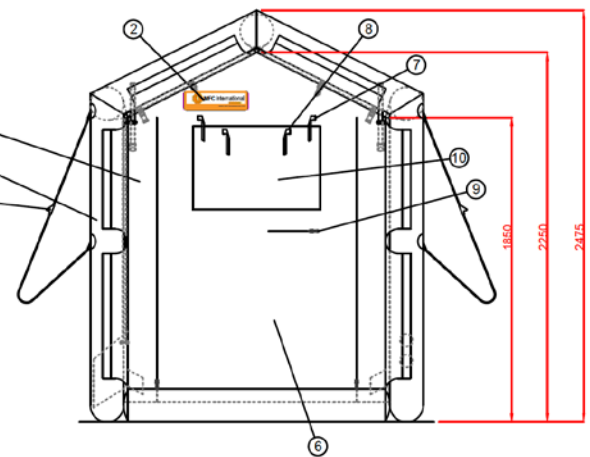
Ground spikes (490026 × 8)

Repair Kit (Colour dependant)

Tear aid kit (170014)

Mallet (220003)

Hand pump (180001)



Materials

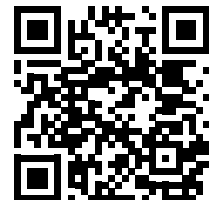
	Description	P/No.	Qty
1	Inflatable Frame.	540030	1
2	Label - MFC Logo.	160036	2
3	Detachable Canopy.	550033	1
4	Outer Floor.	DSW914	1
5	Heater sleeve c/w loop tie.		1
6	Door (zip closure) c/w inner flaps.		2
7	Loop ties & toggles for door.		4
8	Loop ties & toggles for window.		4
9	Equipment pass through (zip closure)		2
10	Window (c/w blind fitted outside, loop ties)		2
11	D ring (for hanging equipment - Max 3kg each)	530241	8
12	Cable sleeve c/w loop ties.		4
13	Webbing (for hanging equipment - max 3kg)	530242	1
14	Valve - Inf/Def	050065	3
15	Valve - Relief	050100	1
16	Guy line & runner	530132/2	4
17	Loops for ground spikes		4
18	Label - Data	160349	1
19	Self decon supporting handle	530040/01	4
20	Shower hose assembly - Camlock	630023	1
21	Ballast securing patch	530039/01	4
22	Storage pockets		4
23	Quick inflation point (optional)		1

Operational Instructions

1. Deployment

- 1.1. At deployment point, select best site, particularly if a long-term use is anticipated. The surface should be reasonably flat and level, free from stones, sharp objects, or holes in the ground. The surface must be free from oil or chemical spills.
- 1.2. If required, position a groundsheet under the Single Assisted Decontamination Shower before inflation to prevent damage to the sump.
- 1.3. Unpack the shower from its valise and unroll it.
 - 1.3.1. Unfasten the compression straps on the valise and open all sides, folding the flaps back over the valise
 - 1.3.1. Roll the valise over so that the shower is touching the ground and the base of the valise is pointing upwards, then lift off the valise
 - 1.3.1. Position the rolled shower centrally on the width of the groundsheet (if using), and at one end of the groundsheet's length. If necessary rotate the rolled shower so that it will unroll along the length of the ground sheet.
 - 1.3.1. Unroll the shower
 - 1.3.1. With one person at either end of the shower, take a corner each and unfold the first fold of the shower
 - 1.3.1. Repeat for the second fold
 - 1.3.1. Once the shower is unfolded peg the groundsheet loops or attach ballast to the ground sheet prior to commencing inflation
- 1.4. Deploying in windy conditions. To reduce the effect of strong winds on the shelter, it should be positioned, where possible, with the corner of the shelter facing into the wind. Make sure all guy-lines and webbing floor loops are used to secure the shelter to the ground and that a suitable amount of ballast is used

There is a demonstration video on how to unpack and inflate the Single Assisted Decontamination Shower available on our website, visit mfc-international.com or scan the QR code opposite.



2. Preparing for Inflation

- 2.1. Locate the inflate/deflate valves and relief valves on the Single Assisted Decontamination Shower



Inflate /Deflate Valve and Cap



Pressure Relief Valve

- 2.2. Remove dust caps from inflate/deflate valves at both the 'entrance' and 'exit' ends; for each valve ensure the central valve diaphragm is closed, i.e. the internal spindle is raised. (push and turn 90° clockwise).

3. Inflation using Quick Inflation System

- 3.1. Locate the black hose with air cylinder discharge connector
- 3.2. Screw the discharge connector to the bottle
- 3.3. Open the air cylinder and let the shelter inflate
- 3.4. Close the air cylinder once the relief valve has opened

4. Inflation using an SCBA Cylinder

- 4.1. Attach the regulator to the cylinder and tighten securely, then connect the delivery hose to the Regulator.



- 4.2. Connect the delivery hose to the inflate/deflate valve of the shower



- 4.3. Slowly open the gas cylinder valve - The pressure in the cylinder will now be indicated on the regulators cylinder pressure gauge
- 4.4. **[Adjustable regulators only]** Set the working pressure by turning the handwheel clockwise until the desired pressure is indicated by the working pressure gauge (Maximum 8 bar recommended)
- 4.5. Slowly open the shut off valve, allowing gas to flow into the delivery hose
- 4.6. Do not disconnect the delivery hose during inflation. **⚠ WARNING:** Failure to do this may result in personal injury.
- 4.7. Inflate the shower until the relief valve activates.
- 4.8. **[Adjustable regulators only]** Close the handwheel, fully relieve the pressure in the regulator by opening the shut off valve,
- 4.9. Close the shut off valve, then close the cylinder valve.
- 4.10. Disconnect the delivery hose
- 4.11. Ensure the inflate / deflate valve dust cap is replaced to prevent ingress of dirt and water into the valve.

5. Inflation using a manual pump

- 5.1. Fit the correct inlet adapter for the Single Assisted Decontamination Shower's inflate / deflate valve to the manual pump's hose outlet
- 5.2. Attach bellows/pump hose to inflate/deflate valve.
- 5.3. Operate bellows/pump until the relief valve activates.
- 5.4. Remove hose and replace dust cap on inflate/deflate valve.

6. Inflation using an ARS electric inflater

- 6.1. Connect the inflater to the electrical supply (ensure there is RCD protection)
- 6.2. Locate the side of the shelter with two inflate/deflate valves
- 6.3. Connect delivery and sensor hoses to the Single Assisted Decontamination Shower's inflate/deflate valves. The inflate/deflate valve for the sensor hose connection (the smaller clear hose), needs to be open (the deflate position) - press the red spindle down and turn 90° counter clockwise)



- 6.4. Set the required pressure on the pump (380mbar /5.5psi).
- 6.5. Activate the pump and inflate the frame.
- 6.6. Keep the pump plugged into the system – it will automatically top-up the air pressure in the shower when required.

7. Anchor points / weights

- 7.1. Guy ropes are attached to each frame upright so that the Single Assisted Decontamination Shower can be firmly anchored to the ground using pegs or ground anchors. The guy ropes can alternatively be secured to strong points such as trees or vehicles. Peg out the guy lines and adjust the tensioners until they are tight enough to be secure, but with a small amount of slack in the line. Ideally when using pegs or ground anchors the uppermost line should be at an angle of 45 degrees to the ground.
- 7.2. If using water or sand ballast, position it either where straps are provided, or near the inflated frame. Secure the ballast using the frame ballast straps or attach it to the shower guy lines and adjust the tensioners until they are tight enough to be secure, but with a small amount of slack in the line.

⚠ WARNING: To prevent possible injury from tripping, care should be taken when stepping into and out of the shower tent.

Observation windows (with blinds) are fitted into the decontamination shower.

The canopy and external floor can be removed from the frame and replaced if required.

Rubber mats may be placed in shower enclosure to raise the user above the level of the wastewater.

8. Shower System

One shower hose line runs across the shelter fitted with:

- 2x spray nozzles with shut off valves



Spray nozzle and shut-off valve

- 2x connection points for brushes and/or spray gun. The connection point coupling has an outer 'sleeve' which needs to be pushed back to insert (or remove) the plug coupling of the spray gun or brush.



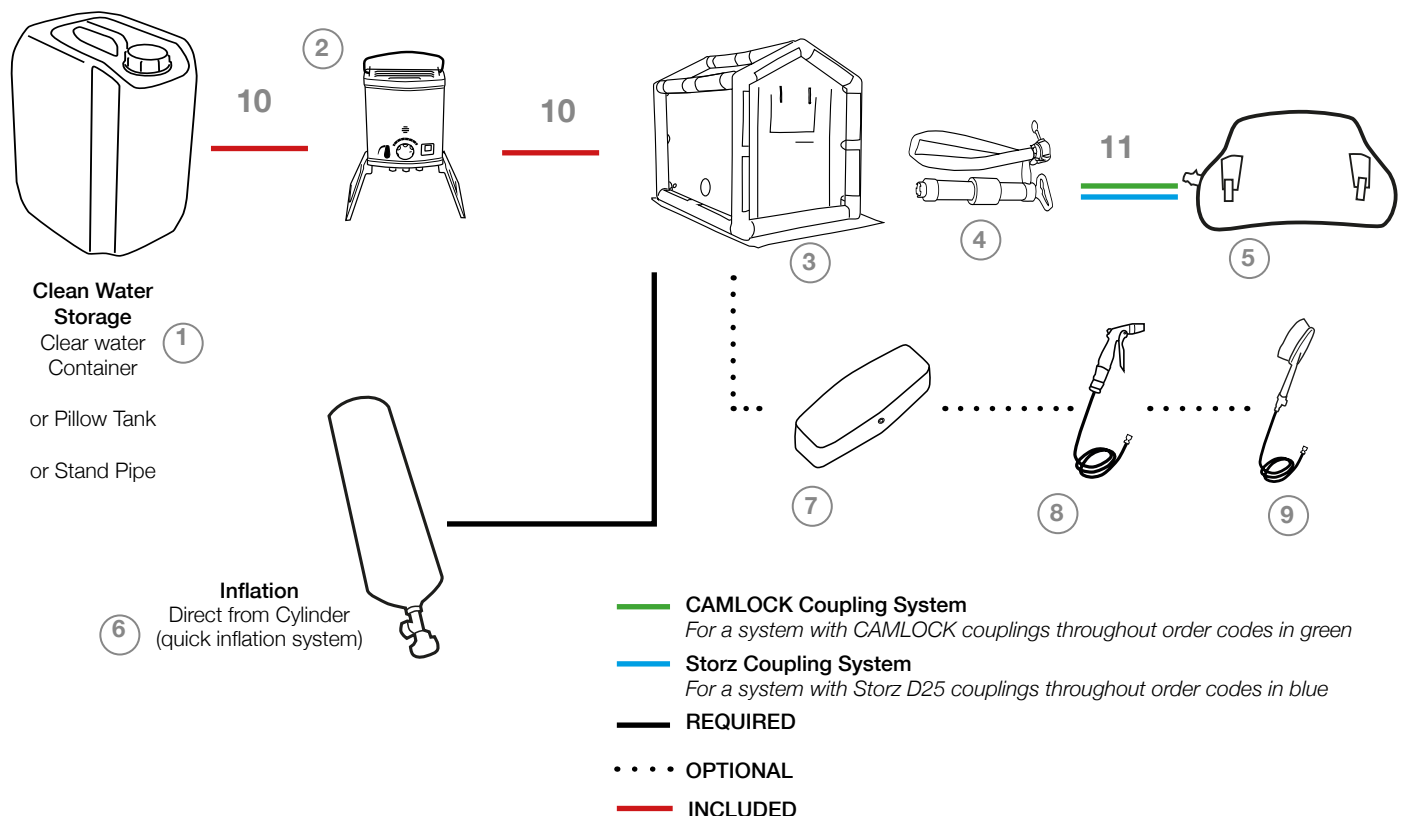
Spray gun/brush connection point

⚠ WARNING: Before decontamination of any person commences, we recommend running clean water through the whole system to flush out any contaminants that might be left in the hose from stagnant water

9. Wastewater

Waste water can be pumped from the Single Assisted Decontamination Shower sump by passing the pump hose/s through the sleeves on either side of the tent. A heater sleeve is fitted to allow heated air from a suitable heater/s to be pumped into the shower.

Single Assisted Decontamination Shower System Schematic - Off Grid System



A typical system set up will consist of the following equipment (this examples illustrates an off-grid setup).

1. Clean water storage, for this example we are using a 25L clear water container
2. Portable water heater including 12v pump
3. Single Assisted Decontamination Shower in TPU
4. Bilge pump
5. Dirty (contaminated) water pillow tank
6. Quick Inflation system allows you to inflate directly from an air cylinder, without a regulator
7. Inflatable spine board platform
8. Spray gun and hose
9. Spray brush and hose
10. Clean water hose provided with 2 Camlock or Storz couplings (included with portable water heater)
11. Dirty water hose

Notes:

- i. The choice of couplings for the system is important; standardising on a single coupling type will simplify set-up
- ii. When choosing electrical equipment (generators, pumps, heaters etc) it is sensible to ensure all equipment is of the same voltage, either 120VAC (which is typically used for outdoor construction and hazardous area equipment) or 230VAC

Connecting the system

The connection of the system components will depend to a large extent on the specific components chosen. The following is a guide based on the equipment recommended by MFC International - for details of all equipment please contact the sales department on +44 (0)1443 433 075 or email sales@mfc-international.com

1. Connect the clear water container to the portable water heater
2. Connect the propane cylinder to the portabe water heater
3. Connect the portable water heater to decontamination shower
4. Connect the blige pump or use a dirty water hose to run wastewater into a waste water pillow tanks
5. If required, inflate and install the spine board platform.
6. Connect the spray guns or brushes to the connectors inside the shower.
7. Attach the hot air duct to the portable air heater and feed this through the heater sleeve and secure, ensure the air heater is a safe distance from the shower canopy. (Optional)

Running the system

1. Close and fasten all the Decontamination Shower doors
2. Referring the manufacturers user instructions for the operation of each piece of equipment, start the generator (if using), start the water heater and air heater - these may take some time to come up to temperature - refer to the manufacturers instructions.
3. Turn on the the portable water heater (or open the valve on the clean water pillow tank). The shower should now be ready to use.

⚠ Warning: The temperature of the portable water heater is adjustable and is the responsibility of the operator to set. Please refer to the heaters user instructions.

Note: The Single Assisted Decontamination system is also available as an on-grid setup where water and power sources are already available at the site. Please refer to the sales literature for these options.

Packing the Single Assisted Decontamination Shower

1. After every use, disconnect the water supply hoses, drain any water from the base of the shower and allow the shower to dry out.
2. Reef the guy ropes neatly to prevent tangling.
3. Make sure all the zips are open to prevent damage when deflating.
4. To deflate the shower, depress the central spindle in the inflate/deflate valves at each end of the frame, and rotate them 90° counter clockwise (after which the valve will hold in the open position).



5. While the shower is deflating, tuck the vertical tubes on each side of the shower in towards the centre of the canopy



6. Before folding and packing the shower, ensure that as much air as possible has been expelled from the frame. Where possible use the deflation facility of the inflation pump to extract the air from the shower frame – make sure all the other inflate/deflate valves are closed. Once the air has been extracted, open all valves.

NOTE: To prevent possible damage, do not walk on the deflating shower unit to expel the air.

7. Lay the deflated shower unit so the shower roof is positioned directly in the middle with the sides tucked in towards the centre.



8. From one side, fold approximately one half over, on top of the main frame.



9. Fold the other side over on top of the first. (Use carrying valise for guide to packing width).



10. Roll from the one end, expelling the air through the inflate/deflate valves as you roll.



11. Once the shelter has been fully rolled, place the valise over the rolled shelter and continue to roll until the valise is upright.



12. Fold up the ends of the valise and secure the webbing straps. Complete the packing procedure by folding up the two remaining sides of the valise and secure the webbing straps.



There is a demonstration video on how to pack the Single Assisted Decontamination Shower available on our website, visit mfc-international.com or scan the QR code opposite



Storage

1. On return to base the Single Assisted Decontamination Shower should be unpacked, inflated, and left to dry. Water should be expelled from the shower hose where possible – this can be done by opening all valves and allowing the water to drain.
2. When the shower unit is completely dry it should be checked for wear or damage. If none is found it should be repacked in the valise (see Packing the single assisted decontamination shower section).
3. If any damage is found it should be repaired immediately in accordance with the repair instructions located on page 15.
4. The packed shower should be stored off the ground in a cool, dry location away from direct sunlight and heat sources such as hot pipes or stoves.

Maintenance & Test Procedures

Cleaning

This should be carried out using soap and water.

⚠ WARNING: To prevent possible damage, do not use strong detergents, bleach, or any type of hydrocarbons.

If the Single Assisted Decontamination Shower canopy become excessively contaminated, and cannot easily be decontaminated, they should be removed and incinerated. A replacement shower canopy can be sourced from the manufacturer (see back cover for contact details).

Shower system fittings and hoses

The holes in the shower heads may become partially blocked with sediment over a period of time. This may be rectified by unscrewing the brass nozzles and cleaning the parts with soap and water, thoroughly dry the parts before reassembly. Ensure any sealing washers or PTFE tap are refitted. Check hoses and fittings for leaks and repair / replace as necessary.

⚠ WARNING: To prevent possible damage. Do not use strong detergents, bleach, or any type of hydrocarbons.

Quarterly Inspection & Maintenance

1. Check control equipment as per relevant user manual.
2. Inflate shower unit to working pressure.
3. Check audible relief valve operation. If using an ARS inflater, set the target pressure for the inflater higher than the operating pressure of the shelter (380mbar /5.5psi)
4. While the shower is inflating, check connections and valves for leaks using brush and soapy water (keep the electric inflater away from any water).
5. When relief valve has operated, and the unit is at working pressure; it can be left to stand for a length of time that would be comparable to an operational situation (e.g. 6 to 8 hours).
6. After this time, the shower unit should still be firm.
7. If the shower frame has become soft, the air-loss should be located by applying a soapy-water solution.
8. Any significant leaks (see below) should be marked and repaired using the repair kit provided.
9. Check shower hoses and fittings for leaks, and repair / replace as necessary.

Recommendations

Shower units should undergo an annual test carried out by the manufacturer, or persons certified by the manufacturer. If in doubt, contact the service department. <http://servicetech.org.uk/>

Repairs

As a rule, punctures and other damage will need to be assessed in two categories.

1. Repairs that are manageable at the base workshop will be minor punctures to any area of the Single Assisted Decontamination Shower. These can normally be repaired by the application of a small repair patch.
2. Repairs that should be carried out by MFC will be the more serious kind, such as damaged valves, badly torn fabric and the replacement of damaged fittings.

If in doubt as to the extent of the damage and the level of repairs necessary, please contact the MFC service department on +44 (0)1443 433 075.

Trouble shooting

No water from the shower nozzles

- Is the electrical supply to the pump turned on
- Are the shut off valves on each shower head turned on
- Is the inlet pump primed - Disconnect the pump outlet and check that water flows when the pump is on.
- Is the supply valve on the pillow tank or water source open
- Are the shower nozzles blocked - unscrew and clean with soap and water

The shower unit will not fully inflate

- Are all of the inflate/deflate valves closed (check all valves on the entry and exit sides of the shower - three valves in total)
- If using an ARS inflater the valve that the sensor (clear) hose connects needs to be open - ensure there is no air escaping from the valve connector or at the inflater
- Is there dirt in the inflate/deflate valve allowing air to escape
- Is the frame damaged - can you feel air escaping from any part of the frame



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