

Water backpack – technical information

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 Owner: **Assistant Director, Property and TSS**
 Responsible work team: **Fleet Liaison Engineering and Equipment Team**

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1 Introduction

- 1.1 This policy describes the water backpack and explains how to use, test and maintain it.
- 1.2 Two water backpacks are carried on all pumping appliances. Both should be stowed empty.



LFB image id: 1075259

2 Description

- 2.1 The water backpack is a self contained water carrier, designed to be worn on the back for use at heath, grass and small fires where access for appliances is restricted.
- 2.2 Designed to be operated either left or right handed.
- 2.3 The water backpack extinguisher consists of three main components; a backpack tank, a hose and a hand operated pump.

Technical details

- Capacity: 20 litres
- Weight empty: 3.5 kg
- Weight full: 23.5 kg
- Maximum flow rate (jet): 4.2 lpm
- Minimum flow rate (spray): 3.2 lpm

Backpack tank (bag)

- 2.4 The tank has a unique non-spill filling system comprising a 110mm inlet with a removable fine gauze mesh filter and a screw cap with retaining cord.
- 2.5 Thermo-welded in strong flexible PVC with internal water baffles.
- 2.6 It has strengthened back support and the exterior has a double reinforced lower section.
- 2.7 It is carried on the back by means of a padded hard wearing shoulder harness with adjustable metal buckles and is held in place by a chest strap.

- 2.8 Attached to one of the shoulder harnesses is a dog clip for attaching the hand pump when not in use.
- 2.9 It has two carrying handles on the top, one either side of the filler cap.
- 2.10 At the base is a brass instantaneous quick release outlet coupling and stop valve.

Hose

- 2.11 Connected to the coupling is a 1.5m length of 25mm flexible hose in impact resistant, high pressure industrial rubber.
- 2.12 Fitted with metal coil protectors at each end and brass hose end connections.

Hand pump

- 2.13 The manually operated hand-pump is constructed in brass.
- 2.14 Incorporating double handgrip sleeves for easier pump action.
- 2.15 Fitted with a brass adjustable spray/jet nozzle, with high impact moulded PVC protector cover.
- 2.16 Fitted with a dog clip and eyelet for attaching to the shoulder harness for easier carrying.

3 Safety precautions

- 3.1 Full structural firefighting PPE including firefighting gloves and eye protection should be worn when this equipment is being worn and operated.
- 3.2 Always seek assistance when putting on or removing the backpack if full or partially full.
- 3.3 When wearing the backpack, the harness is to be worn correctly with the chest strap secured to ensure the weight is evenly distributed.
- 3.4 When wearing the backpack, but not operating it, ensure that the hand pump is clipped to the dog-clip on the harness to avoid causing a trip hazard.
- 3.5 The water back pack is not to be used when BA is being worn.
- 3.6 Never operate the hand pump when pointed at another person.

4 Operational use

- 4.1 The backpack should whenever possible be filled with clean water from the hosereel. If water is not from appliances or mains ensure the filter is in place.
- 4.2 It may be filled while worn on the back. This should be the preferred method as this will assist the wearer to gauge the weight of water on their back.
- 4.3 If the backpack is filled with water first, always employ additional assistance to place pack on the users back.
- 4.4 Once donned the backpack should be adjusted to fit using the adjustable shoulder and chest straps. The chest strap should be fastened at all times that the backpack is worn.
- 4.5 The pump should be operated slowly at between 25 – 30 strokes per minute.
- 4.6 Adjust the spray/jet by turning the nozzle to achieve the desired spray pattern. Clockwise = minimum spray, through to anti-clockwise = maximum jet (2 turns). **Note: care should be taken to not unscrew the nozzle completely anti-clockwise.**
- 4.7 A distance of 3 metres is achievable on the spray setting and up to 12 metres for a jet.

- 4.8 When used operationally, the pump should not be placed on the ground as the weight of the water in the tank will overcome the valve mechanism and allow water to drain away. When not using the hand pump the operator should clip it onto the harness.

5 Maintenance and testing

- 5.1 Inspection frequency:

- On acceptance.
- Before use.
- After use.
- Weekly.

Assembly

- 5.2 The backpack is usually delivered partially assembled and should be prepared as follows:
- (a) Remove the adhesive tape and the plastic protection cap from the lower section of the hand-pump (as necessary).
 - (b) Connect the female screw end of the hose to the lower section of the pump. Tighten just beyond hand tight only, to avoid accidental loosening. Do not use any tightening tools for this operation as this may damage the fitting.
 - (c) Connect the other end of the hose to the quick release outlet coupling.

Inspection

- 5.3 The backpack should be visually inspected, for damage and/or wear and tear.
- 5.4 The hand-pump must be checked to ensure the smooth action of the pump mechanism. A small amount of Lithium grease (available on POMS S9880) is to be applied to the piston rod, behind the guide nut to guarantee smooth action. **Nitrile gloves** (available on POMS V2481/2/3) **must be worn when applying Lithium grease.**
- 5.5 Inspect that the guide nut, nozzle holding nut and the hose connection coupling are all securely tightened.
- 5.6 The outlet quick release coupling should be checked, to ensure that it is free of dirt or other debris and that this component is functioning correctly.
- 5.7 The stop valve should be checked, to ensure it is not leaking due to dirt or other debris being lodged in the internal mechanism.
- 5.8 After use the backpack extinguisher should be cleaned, using clean water and soft damp cloth. To remove stubborn stains, diluted detergent may be used. Abrasive cleaning materials must not be used.
- 5.9 The tank should be dried naturally in a warm airy place, not near hot pipes or heating appliances.
- 5.10 Tests should be recorded on the appropriate standard test card.

6 Defects

- 6.1 The water backpack is a category B item of equipment under the vehicle and equipment contract.

6.2 The component parts of the water backpack are available on POMS:

- Water backpack complete S9895
- Tank/bag S9881
- Filler cap S9884
- Filler filter S9885
- Hose S9882
- Pump assembly S9892
- Nozzle S9883

7 Associated material

7.1 To be read in conjunction with the following material where necessary:

- Policy number 540 – Manual handling operations procedure.
- Policy number 688 – Extinguisher – water (9 litre) – technical information.
- Policy number 707 – The control of infection and infectious diseases policy.
- Policy number 724 – Appliance inventories and operational readiness - NOG.
- Policy number 985 - Operational safety management - knowledge skills and competence – NOG.

Document history

Assessments

An equality or sustainability impact assessment and/or a risk assessment was last completed on:

EIA	12/07/2022	SIA	30/04/2019	HSWIA	30/04/2019	RA	
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Audit trail

Listed below is a brief audit trail, detailing amendments made to this policy/procedure.

Page/para nos.	Brief description of change	Date
Throughout	The content of this policy has been updated. Please read through the complete policy to familiarise yourself with the content.	07/12/2009
Page 1	Responsible work team changed from Engineering Fleet and Equipment Team to Fleet Liaison Engineering and Equipment Team.	29/10/2012
Throughout	Premier FireServe has been updated to 'the service provider.'	11/12/2012
Page 3 para4.1	Structural added firefighting PPE.	22/01/2013
Page4para 5.14	Ref. to Electronic records deleted.	22/01/2013
Page 5	Subject list and FOIA exemptions tables updated.	27/01/2015
Throughout	Minor amendments made throughout, with additional information added, please read the complete policy to familiarise yourself with the content.	04/04/2016
Section 7	Associated material added.	
Page 1	Owner title changed to reflect the change in organisational structure and governance due to the abolition of the London Fire and Emergency Planning Authority.	19/03/2019
Section 1	Image changed to show latest version	31/05/2019
Throughout	Cross references updated.	24/06/2022
Throughout	Reviewed as current with no changes made.	12/07/2022

Subject list

You can find this policy under the following subjects.

Equipment – operational	Technical information
Water	Water backpack

Freedom of Information Act exemptions

This policy/procedure has been securely marked due to:

Considered by: (responsible work team)	FOIA exemption	Security marking classification