Fire Hose Inflation Unit

Operational Manual

Version 1.1, March 2024

DELIBERATLEY BLANK

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1. Disclaimer

Ballistic Engineering and Fabrication Pty Ltd shall in no way be liable, in negligence, for any loss sustained or incurred by anyone relying on the information, even if such information is or turns out to be wrong, incomplete out-of-date or misleading.

This information is not all inclusive and cannot consider all unique and customized installations and configurations. Some illustrations and photographs are typical representations and may not represent every component or every possible configuration.

The information contained in this publication is provided in good faith and is based on current and correct information at the time of publishing. However, the information is provided on the basis that the reader will be solely responsible for assessing the information and its applicability to their product's configuration.

2. General Safety

⚠ WARNING

Compressed Air

Do not use compressed air for any other purpose than that for which is provided.

Never direct a stream of compressed air towards your body or a body of another person.

Do not use compressed air to cool yourself or to blow dust from the clothes or hair.

Never indulge in so-called "practical jokes" with compressed air.

⚠ WARNING

Stored Energy

Whilst in operation, the Fire Hose Inflation Unit will store compressed air for the duration of use and during testing process.

Bleed off stored energy prior to disassembly of components.

⚠ WARNING

When opening the deflation vale, wear protective gloves, appropriate eye protection.

Pressurized air could cause debris to be blown and result in personal injury.

3. Introduction

The Fire Hose Inflation Unit allows the inflation of a fire hose, to be used for a long floatation device to enable rescue activities on water, ice, or mud. The unit consists of a modified blanking cap and plug which when connected to a fire hose will allow the hose to be inflated from a regulated air supply such as compressor or SCBA Cylinder with pressure regulator (i.e. High-pressure air bag regulator). This then creates a reasonably ridged and long floating fire hose.

4. Unit Overview

The blanking plug is fitted with an inflation valve with a built-in deflation valve, a pressure relief valve set between 8 to 10 BAR to prevent over inflation, an 8mm stainless steel quick link as an attachment point, and a shroud is fitted to protect the components from damage.

The blanking cap is fitted with an M8 stainless steel eye bolt as an attachment point.

An inflation adapter is also supplied to connect to an 8 BAR pressure regulator system. The regulator from the high-pressure air bag system is suitable. *A converter adapter is available to allow use of the 12 BAR regulator systems where applicable.*

A suitable 64mm non-percolating hose, synthetic such as Duraline is preferable. The hose should be fitted with aluminum couplings. Brass couplings have extra weight, reducing buoyancy and could cause hose ends to sink. The hose should be good serviceable condition as hose and couplings require to be airtight.

5. Operation

- Lay out fire hose as required.
- Connect the blanking cap and plug to either end of fire hose, use hose spanners to tighten and ensure airtight seal, ensure deflation valve is closed securely.
- Secure a float rope to the attachment points and affix to appropriate anchor as required.
- Connect air supply to the inflation valve.
- Set regulator to allow inflation of hose to reach 2 to 3 BAR pressure.
- At completion of use, operate the deflation valve to release stored energy prior to disconnecting blanking cap and plug. **Do not disconnect the couplings until the system is properly deflated.**

6. Operational Examples

Push out. Push or drag hose across the water surface towards casualty. Casualty can then hold the hose and be pulled back to shore. Or in flowing water can be pendulum back into the shore.

Bridge. Lowered into the water from on top of a bridge to span across the water as the casualty.

Hoop and Roll. A hoop is formed at the end of the inflated hose and secured with rope; the hoop is then push across the surface of the water towards the casualty. The inflated hose is then rotated to allow the hoop to Roll over the casualty. Then can be retrieved by pulling inflated hose back to the shore.

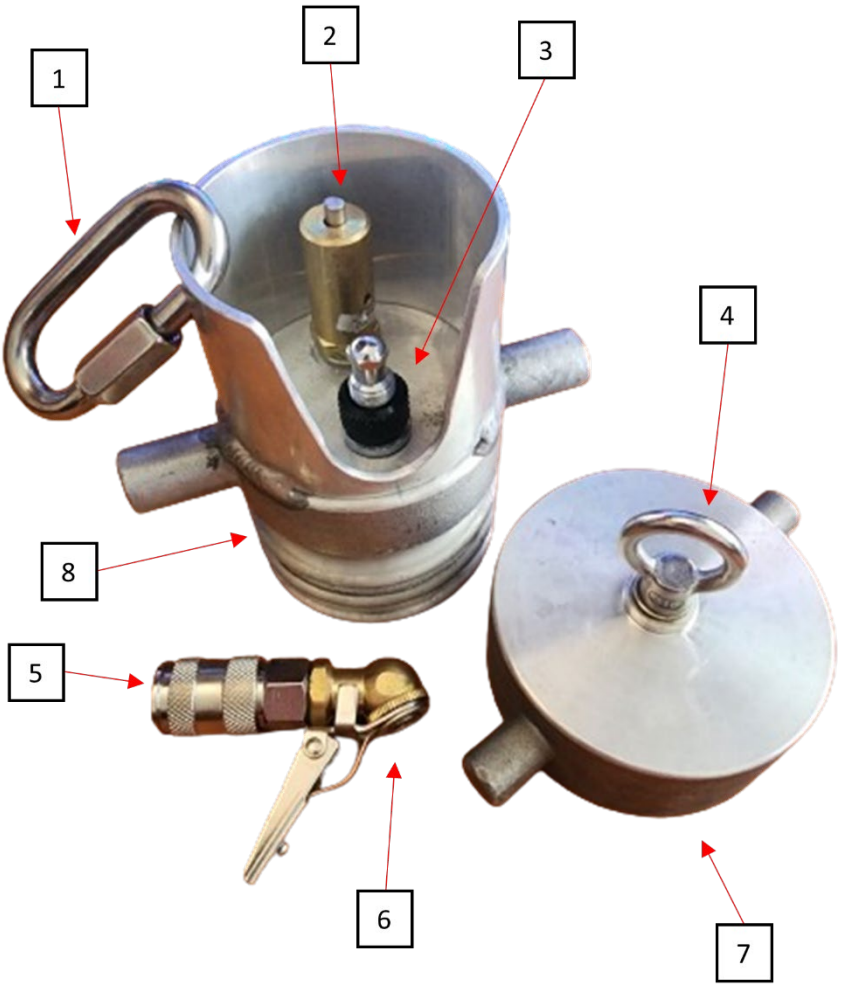
7. Maintenance

The Fire Hose Inflation Unit requires regular maintenance to ensure that it is fit for use and ready for operation.

Maintenance checks should be conducted as indicated in the below table.

Test Type	Frequency	Action
Visual Examination	• Brought into service. • Prior to use. • After use.	• Inspect couplings for damage. An airtight seal is required, any defects will cause them to leak. • Check that seals are in place and good condition. • Ensure deflation valve is closed
Operational Test	• Brought into service. • After use. • Annually.	• Hoses should be tested accordingly. • Connect blanking cap and plug together, attach air supply, and submerge in water. Pressurise to 7 BAR and inspect for leaks. Air bubbles will indicate a leak. • Increase pressure to 10 BAR slowly until the pressure relief valves activates. Do not exceed 10 BAR. • Ensure deflation valve operates.

8. Parts



FHIU-QRTKIT		
#	**Description**	**Part Number**
1	8mm Stainless Steel Quick Link	B-QLSS8MM
2	10 BAR Pressure Relief Valve	B-PR10BAR
3	Inflation / Deflation Valve	B-ID6MM
4	M8 Stainless Steel Eye Bolt	B-EBSSM8
5	Quick Coupling (suit 8 BAR Air Bag Regulator system)	B-QCR501
6	Clip On Inflation Chuck (Schrader Style)	B-TC6MM
7	Modified QRT Cap	B-123084
8	Modified QRT Plug	B-123087
	Storage Case	B-369120
	Converter Adapter (adapt 12 BAR to 8 BAR systems) – Please contact us	B-QC12BAR

9. Revision

Revision #	Date	Author	Comment
1.0	18/12/2023	Matthew Lowry	Original Document - QRT
1.1	04/03/2024	Matthew Lowry	Addition of 12 BAR to 8 BAR Adapter information

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