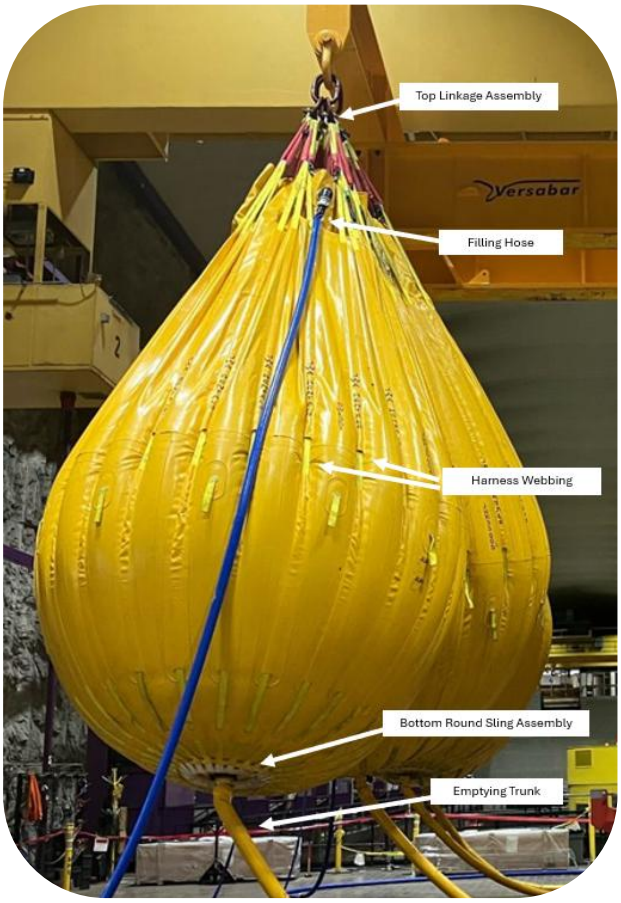
Guidance for the Operation of Water Weight Load Test Bags

The use of Water Weight Load Test Bags is guided by the:
LIFTING EQUIPMENT ENGINEERS ASSOCIATION (LEEA) and their document **LEEA 051 version 1 dated 1st October 2012.**

It is based on a HSE Safety Notice that was issued to the Offshore Industry following a 45t water bag failing during a load test.

Key to the design, manufacturer and inspection of load test bags are the following definitions:

- **Water Bag** – an assembly of a bag and a lifting set
- **Bag** – the part which contains the water including the discharge pipe
- **Lifting Set** – the part which carries the load of the bag and water



LEEA advises that Water Bags are work equipment and are therefore subject to the requirements of PUWER. In addition the Lifting Set is a lifting accessory and therefore subject to the requirements of LOLER. Use of a water bag for testing lifting equipment is a lifting operation and therefore subject to the requirements of LOLER.

LEEA goes on to recognise that in the event of a failure extensive damage to both the lifting equipment and nearby equipment can occur. This is the result of the 'potential energy' in the system dissipating.

Irrespective of the type of test weights used, whenever a load test is to be conducted, the possibility that the item under test will fail should be addressed in the risk assessment and lift plan.

Note

These Guidance notes assume that the bag in use has been inspected by a competent person in accordance with JWA definitions and is in a complete and fit for use condition.
While JW Automarine are a leader in the development and production of these bags, the guidance detailed here should always be seen as a starting point for safe use.
For information about servicing and inspection contact sales@jwautomarine.com

General Hints on the use of Load Test Bags

1. Prior to the operation, locate the Load Test Bag Logbook and Certificate
2. Ensure the water supply is available and connections are compatible with JWA supplied fittings. The standard fitting on our water bags are 2.5" filling hose with Camlok valve. Other fittings are available if required.
3. Ensure any load measuring telemetry is available.
4. Ensure you know where the water is to be dumped after the test is complete, check with JWA for details of the dump trunk length.
5. Check the workspace for snags, trips hazard and obstructions, to prevent injury to personnel or damage to equipment.
6. Water Weight Load Test Bags should not be used when wind speed is greater than 25 knots.
7. Load Test bags should never be loaded with more than their rated safe working load capacity.
8. Do not hang any additional load off the water bag harnesses or handling straps.
9. When using more than one water bag from a single point, ensure that the filling hoses face outwards and are not trapped between the bags. This will also ensure that the dump trunks do not get trapped either.
10. Do not remove any of the rigging on the water bag. This is supplied as a complete unit and fit for purpose. If you have any specific problem during test, please contact sales@jwautomarine.com for advice.
11. Never walk away from the bag when filling / whilst test is being conducted and never walk under the load.
12. If you are having rigging problems, please contact info@jwarentals.com as we may be able to assist you with suggesting an alternative solution.

Single Bag - Rig and Fill

a. Unroll the bag and lay it out on ground/deck (if practicable), or the bag can be lifted straight form its storage container if folded.
b. All bags are clearly marked with serial number and SWL. Check the bag number against the certificate number, also check the last inspection date in the Logbook, this should be within 6 months.
c. Check all slings and shackles are connected correctly and that shackles are fitted with safety clips.
d. Check the dump trunk rope (and internal line on low headroom bags) for ease of movement and that they are not impaired by slings or shackles.
e. Connect the telemetry/load cell shackle between the crane hook and the main ring on the bag, ensuring the load cell is loaded on a single point on the load pin.
f. Now begin to raise the bag, unrolling if necessary, again checking for snags or sharp objects.
g. Before the bag is fully lifted, connect the filling hose and check connection is in lock position.
h. Once fully lifted, pull the dump trunk up using the dump trunk rope, until the top of trunk is level with the top of the bag.
i. Tie off to the dump trunk flange at the bottom of the bag using a slip knot. Ensure there is enough slack left at the bottom to allow for bag swelling as it fills.
j. Connect the filling hose to the water source.
k. Commence filling – ensure water bag is clear of the ground before starting to fill, do not lay the bag on the ground when filled with water.

Emptying the Water

a. Position the bag in the required water dump zone and ensure that the area is clear and safe.
b. The dump trunk rope should now be laid out, ensuring that it is completely free of loops and knots and can run freely.
c. The slipknot now needs to be released by pulling on the tail - it is advisable to wear heavy-duty gloves for this operation to avoid rope burns, as the trunk will have water in it so there will be a load on then rope.
d. Once again, check the area that the water will discharge into. Once clear, lower the end of the drainage trunk so the water can run out.
e. When the bag is completely empty, pull the dump trunk back up to the top of the bag and tie off to one of the straps.

Repacking

a. Lower the bag, either to the ground to be rolled up, or flake & fold into the correct storage container.
b. Disconnect the filling hose and load cell shackle.
c. Any issues with the bag during use or packing should be noted and reported, so that an inspection and any subsequent action can be taken.