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Justrite Safety Group

Installation, Operation and Maintenance Instructions

Hughes Zero Power Cooler® (ZPC)

The following guide provides instructions for site personnel on the safe handling, start-up, installation and maintenance of the ZPC.

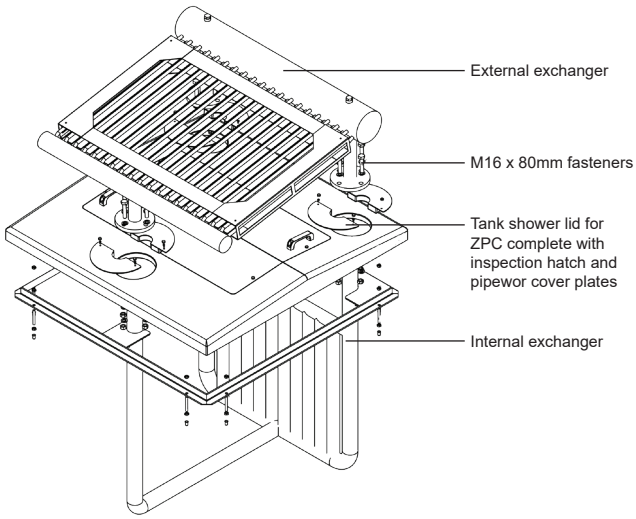
Please note:

The ZPC is transported to the customer site without being charged with water. It is the responsibility of site personnel to ensure that the ZPC exchangers are filled with potable water when installed at the final site location. If the exchanger is not fully charged, the cooling process will not work efficiently.

It is the responsibility of the customer to ensure that all site safety procedures and risk assessments are carried out and adhered to, most notably for working at height.

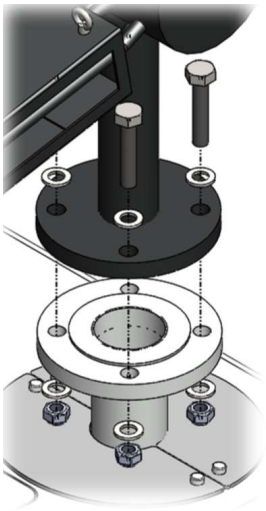
Personnel/operatives should read and fully understand this document to have a clear understanding of how to fill and maintain the ZPC safely.

Installation and Commissioning



- Remove any dust and debris from the ZPC exchangers.
- Remove any packaging from the external exchangers.

The ZPC is usually dispatched assembled - in the event it is supplied unassembled please follow the fittings procedure below:



- A trained site operative should carefully position the flanges of the external exchanger so they align with the internal exchanger below.
- Connect the exchangers via the three flanges by interposing the relevant gasket.
- Using the four M16x80 fasteners provided, bolt the flanges together until tight.

Filling the ZPC

- Remove the filler plugs from the top of the exchanger using a spanner.

  (Ensure the filler plugs are kept in a safe place until required for fitting and sealing.)

- Use a suitable small diameter hose and fit loosely into the expansion vase.
- Connect to the mains water supply, or a water tanker.

Note: to assist with the filling procedure the water can be directed into the exchanger using a funnel

Filling options:

- Do not leave the exchanger unattended while filling. Check the unit for leaks both inside and outside the tank shower water tank. If any leaks are observed, stop and tighten the joints.
- Filling is complete when the water flows out of the filling connection.
- Ensure all the air has been expelled. and when the water comes out without any bubbles, shut off the water supply.
- Remove the hose and check that the water level inside the expansion vase is 40mm below the filling connection.
- Replace the filler plugs into the exchanger taking care not to overtighten or damage the threads.

Note: The water level in the expansion vase must be checked after approximately 24 hours. If necessary, add water and check that the water level inside the expansion vase is 40mm below the filling connection.

Maintenance

A maintenance logbook should be created to record regular checks, and if necessary, repairs performed.

A liquid level check should be performed at least every 6 months:

- Access the ZPC, ensuring that all site safety procedures and risk assessments are carried out when working at height.
- Check the water level inside the expansion vase is not less than 40mm below the vase entrance.
- Add water if required.
- Ensure the external tank exchanger fins are clear and free of debris. If necessary, clean between the external fins using a brush. For internal cleaning use either compressed air or pressurized water to remove any debris.

In the event that the ZPC needs to be emptied:

- Remove the expansion vase filler plug.
- Insert a hose loosely and empty the tank using a vacuum pump until empty.
- Disconnect the three flanges to allow disassembly of the heat exchanger.
- Once the heat exchanger has been removed, drain the tank shower water tank and remove the lid.
- Disconnect the internal exchanger flange at the bottom of the tank to fully drain the internal exchanger.
- Ensure the internal flange connection is re-tightened.

If you require further assistance please contact us:
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