

Frequently Asked Questions

NEW! Zero Power Cooling System for Emergency Tank Showers

As this is the world's first zero power cooling system you may have some questions. Some of the most frequently asked are answered here, however if you would like to discuss anything in more detail please don't hesitate to contact Hughes on +44 (0)161 430 6618 or via sales@hughes-safety.com



Why would I choose the Zero Power Cooling System rather than one of the existing chillers?

Passive cooling of your emergency tank shower requires no electricity to work; if you have a remote location or area that does not have suitable power then our Zero Power Cooling System is ideal. A table comparing our flameproof chiller, non-flameproof chiller and the Zero Power Cooling System can be viewed on our website.

How does it work?

During the cooler night-time ambient temperatures, the convection process of the passive cooling system draws heat out of the stored water in the tank and reduces the water temperature to safe working limits. During the daytime, the external exchanger is heated by solar radiation and the coolant no longer circulates. This causes the coolant in the system to stratify, hot water stays to the top and cooler water remains lower down preventing the water in the tank heating up.

In what locations has it been tested?

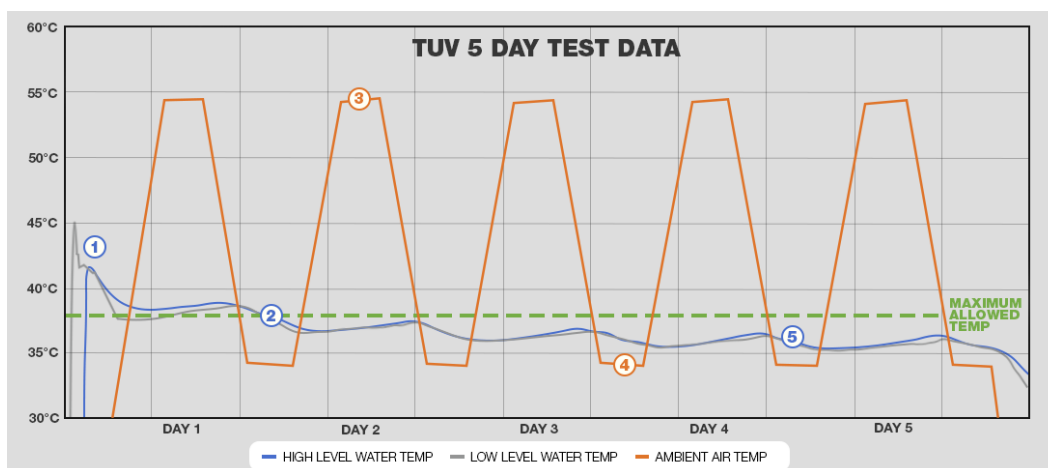
The cooling system has been tested in the UAE during the summer months where temperatures reached up to 55°C during the day and 35°C at night. There are also units currently in use in Saudi Arabia and Oman.

What temperature range will the system maintain?

Testing has proven that the unit will maintain a water temperature of 2°C higher than the average night-time temperature. For example, if your average night-time temperature is 32°C in the summer the water in the tank shower will be maintained at or below 34°C. (ANSI Z358.1-2014 stipulates water should be maintained between 16-38°C)

Do you have valid results available to view?

TUV, an independent laboratory based in Italy and the UK, have performed extensive tests on the Zero Power Cooling System, a summary of the results can be seen below. A copy of the TUV test can be found on our website.



1. Water temperature at start of test
2. Point at which water reaches a safe temperature
3. Daytime temperature level (55°C)
4. Night time temperature level (34°C)
5. Consistent water temperature (+/- 1.5°C)

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How long does it take to cool the water?

Please see commissioning time table below:

Inlet Water Temperature	Commissioning Time - Days						
60°C	3	3	3	4	4	5	6
55°C	2	2	3	3	4	4	5
50°C	2	2	2	3	3	3	4
45°C	1	1	1	2	2	2	3
40°C	1	1	1	1	1	1	1
Night Air Temperature	22°C	24°C	26°C	28°C	30°C	32°C	34°C

What type of sites is this suitable for?

The system is designed for use outdoors and in both hazardous and non-hazardous areas.

Can it be retrofitted to an existing emergency tank shower? If so, which models?

Any of our 1500 litre and 1200 litre emergency tank showers can be retrofitted to accept the cooling system. (EXP-J-14K/1500K; EXP-J-14K/1500KS; EXP-J-14K/1200K; EXP-J-14K/1200KS)

When retrofitting, is it easy for me to install or do you offer an installation service?

A retrofit kit and instructions are provided allowing your engineers to fit the Zero Power Cooling System to our emergency tank showers on site. Hughes can offer further support where needed - please contact our sales team for more information.

What are the maintenance requirements?

No maintenance is necessary, it is completely sealed and requires no spare parts.

Will it work for my site if the ambient night-time temperature does not drop below 38°C? Will the water available in the day still be tepid?

If your location has temperatures consistently above the 38°C average at night, please contact our sales team for the best solution for your requirements.

If you require any further information or want to discuss your requirements in more detail please contact Hughes Safety Showers directly on +44 (0)161 430 6618 or via sales@hughes-safety.com

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