



Issue 5 The information hub is designed to provide - mainly technical - information relating to Water Coolers and Boilers, to assist you with your work

Hot water Capacity of Water Coolers and Boilers

What is the Hot Water Capacity of my Hot & Cold Water Cooler?

A simple question – difficult to answer! The Capacity of Water Cooler is affected by the mains water temperature, the way the Equipment is being used, as well as the design of the Equipment!

The Incoming mains water temperature

It takes longer to heat the colder the incoming mains water on a POU Cooler is. In summer it could be luke-warm, in winter it could be ice cold. Bottled Coolers perform more evenly throughout the seasons.

The fundamental design difference to Boilers

Because of the difference in cost between Boilers and Hot Water Coolers there is a temptation to place Hot & Cold Coolers in areas where the hot water demand outstrips its ability to deliver.

This difference in hot water output is due to the difference in the design of the Boiler in Coolers and in Boilers!

Hot Water Boilers, only add small amounts of mains water, at regular intervals, to the tank. This keeps the temperature in the tank stable. **Hot Water Tanks** in Coolers, on the other hand, are always filled to the top. The temperature can therefore vary greatly! In practice this means that the temperature is reasonably stable for 6 to 8 drinks. After that the temperature will continue to drop (until it will eventually be equal to the influent water temperature).

“Hot & Cold Water Coolers are suitable for a few cups at a time, with a sufficient recovery time before next use.”

Does the max Hot Water Temperature affect the amount of hot water one can draw off?

Yes. It will increase the “Instant Draw Off” by a few cups, but the basic design limitations still apply. Our ArcticStar 55 has a “Hot Water Booster” which raises the hot water temperature to 95/96C, and increases the “Instant Draw Off”. Please refer to our Water Cooler Range Leaflet for further details.



Instant Draw Off or Hourly Output?

“Instant draw off” measures the amount of hot water which can be drawn, without dropping outside an expected temperature range. “Hourly output” assumes an optimum cup cycle followed by an optimum recovery time. This is a theoretical calculation which is difficult to achieve in practice – why we prefer “instant draw off” as a measure.

The **KW rating of the Heating Element** is the main driver of heating performance. Table Top or Undersink Boilers are generally in the range of 1.5KW to 3KW.

Thermostats determine the upper and lower temperature settings. They are factory set.

If a customer asks “what is the highest (or lowest) temperature” or what is the “hourly capacity?”, the likely question behind that is, how many cups can I take off without affecting the temperature? The best answer is found in “initial draw off”.

