



BeerTech Cellar Energy  
Wastage/Cost Saving Solutions  
Smart Cellar  
Smart Remote



# The Smart Cellar System

A plug and play control box installed into the main cellar chiller. This saves over 30% of the main cellar cooler costs by automatically switching off your main cellar chiller during non-trading hours (12pm -8am) and peak time hours between 4-7pm.

This is with the proviso that if the cellar temperature increases to 17 degrees, a probe detects this, bringing the main chiller back on. In this fashion, the beer in the keg can be maintained at the recommended 12 degrees. We have carried out extensive testing regards this and have summary evidential back up available on request.

The principle is that the beer in the keg increases in temperature at a much slower rate than the surrounding air temperature. This allows the cellar cooler to be switched off for extended periods of time whilst maintaining the correct beer temperature. The resultant savings are around one third of electricity costs, or around £1,000.00 per year.

## Add Smart Remote

This is a programmable timer device to allow the remote cooler to be switched off during non-trading hours. Given that a pub is closed for an average of 12 hours per day, it is possible to turn off each remote cooler for 9 hours per day. (We program the timer to turn the remote back on for 15 minutes every 2 hrs to refresh the water in the python) This saves a third of the energy used per annum, which averages in the region of £150.



# History to Date

An earlier version of the SmartCellar system along with Smart Remote is already installed throughout Whitbread, Marstons and Greene King managed sites, numbering around 3,000 installations.

The SmartCellar has now been upgraded to add a Blue Tooth Facility.

This allows an app. to be downloaded to a phone or similar into which the size of cooler and the cost of electricity is input. The system measures the duty cycle at any particular site and from that the savings can be worked out. In the earlier version this had to be read manually, from which a calculation had to be carried out to work out the savings.

However, with Bluetooth now added, the electricity cost and cooler size is input into the app. during installation of the system. When an engineer, area manager, tenant etc enters the cellar and connects to the SmartCellar via Bluetooth, the savings information will automatically be worked out by the app. A button on the app can then be pressed to send the savings information to a pre-designated e-mail, possibly head office or a personal one. This can be done weekly, monthly etc to allow an accurate payback time for each venue to be recorded.



# Smart Cellar Costs / Savings

Given that cellar chilling costs average £3,000 per annum, it is possible to save in excess of 1/3<sup>rd</sup> of that with the installation of SmartCellar, and the addition of Smart Remotes.



# Annual Savings Explained

## Cold Period

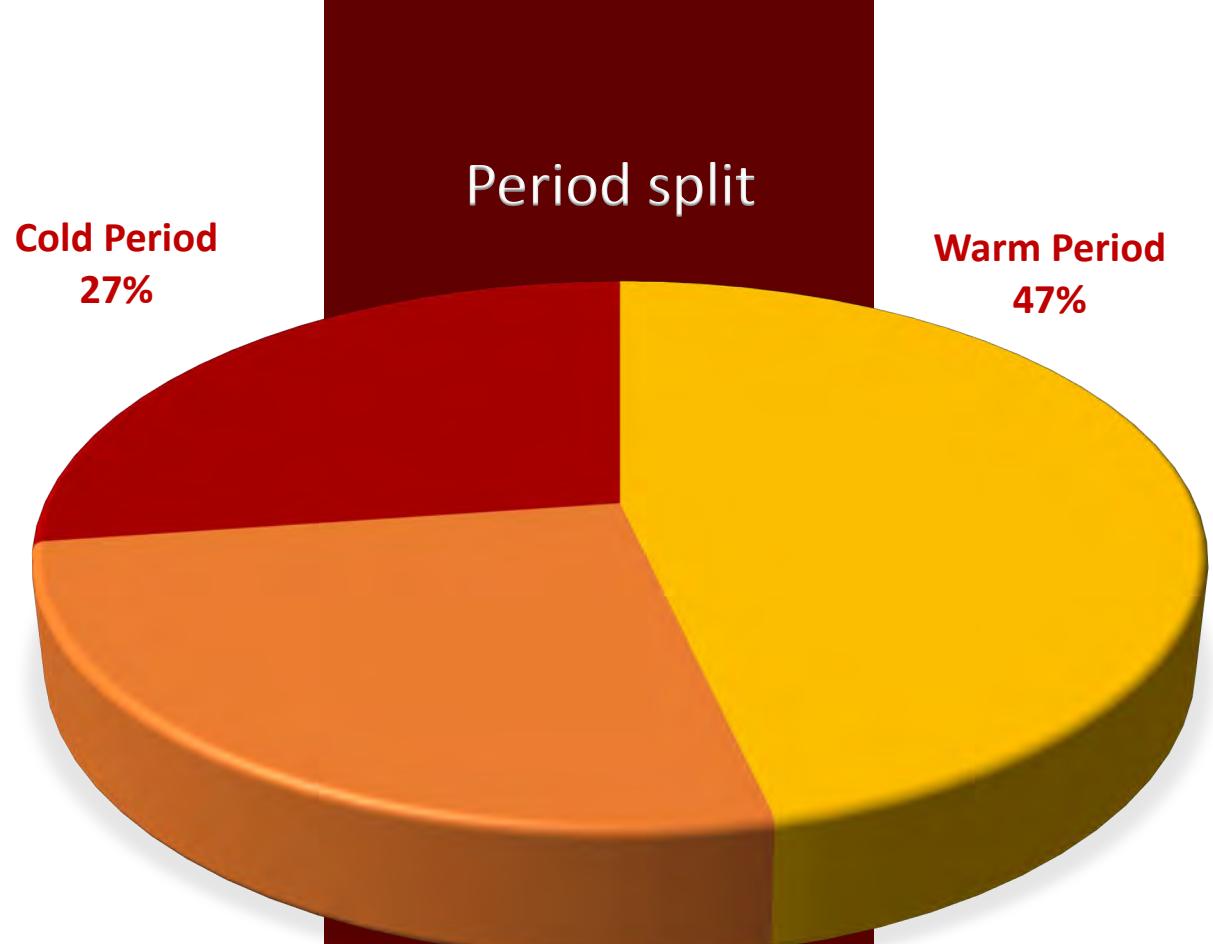
which we took to be below  
10 degrees: 94 Days

## Mid Period

which we took to be 10-15.5  
degrees: 92 Days

## Warm Period

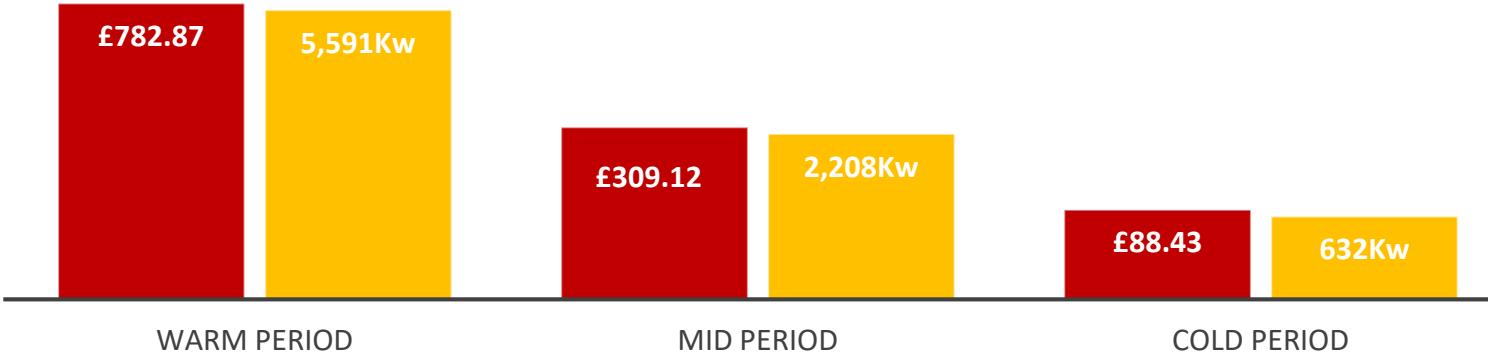
which we took to be above  
15.5 degrees: 179 Days



*There will of course be a difference in the amount of electricity used to chill the cellar dependant on the outside temperature. The duty cycle of a chiller will be far higher during the summer or warm period. Therefore, when trialling the system with both Whitbread's and Marstons the outside temperature was split into three different "seasons". The actual savings for all three periods were between 23% and 54% averaging out at 35%. Full Evidential back up figures and reports are available on request*

# Whitbread 12 Site Trial Recorded Savings - Smart Cellar

## SmartCellar Savings by Period



Savings recorded 2016 @ 10p per Kw. Adjusted figures below for 2019 ave @ 14p per Kw. The cost of electricity will of course continue to increase year on year

Trial Site	Saving: Warm Period 179 Days	Saving: Mid-Period 92 Days	Saving: Cold Period 94 Days	Total Saving: Average	Roi on SmartCellar
Average Inn	Av Daily Saving: 31.24 Kw x 14p x 179 days = <b>£782.87</b>	Av Daily Saving: 24.0 kw x 14p x 92 days = <b>£309.12</b>	Av Daily Saving: 6.72 Kw x 14p x 94 days = <b>£88.43</b>	Ave Daily Saving 20.71Kw x 14p x 365 Days = <b>£1,180.42</b>	12-16 Months: Reducing the average annual electricity consumption by <b>8,430Kw</b>

# Whitbread 12 Site Trial Recorded Savings - Smart Remote

Trials with 12 sites at Whitbread's produced and average saving of 3.01kw / 36p per day @ 14p per Kw/h.  
Annually therefore the average savings per Remote are £131.40

Designed in an IP65 rated Enclosure to withstand the cellar environment

Wired or plugged into the remote cooler making it part of the drinks cooling system

Turing of the remote cooler at night saves additional energy as it stops the unit producing heat, which in turn reduces the load on the main chiller again saving money

Adjustable timings can maximize the savings even further

Wall Mounted and simple to install

Maintains beer quality by refreshing the water to the python every 2 hours



# System Summary

The Smart Cellar operates without staff input.	A by-pass button is incorporated to completely isolate the system from the main cooler to allow for servicing of both
System has clear guidance for staff, allowing them to monitor correct cellar conditions	Reduces noise pollution at night from Main Cellar Chiller Condenser Unit
An instructional card is attached to each system to further help in this regard	Can extend the life of the main chiller and also remote coolers
A code is required to enter the system to adjust any system parameters	The addition of a Cellar door alarm can help alter staff behaviour and further reduce costs

SmartCellar comes with 12 Month warranty

SmartRemote also carries a 12-month warranty

Time delay for Door Alarm is fully adjustable

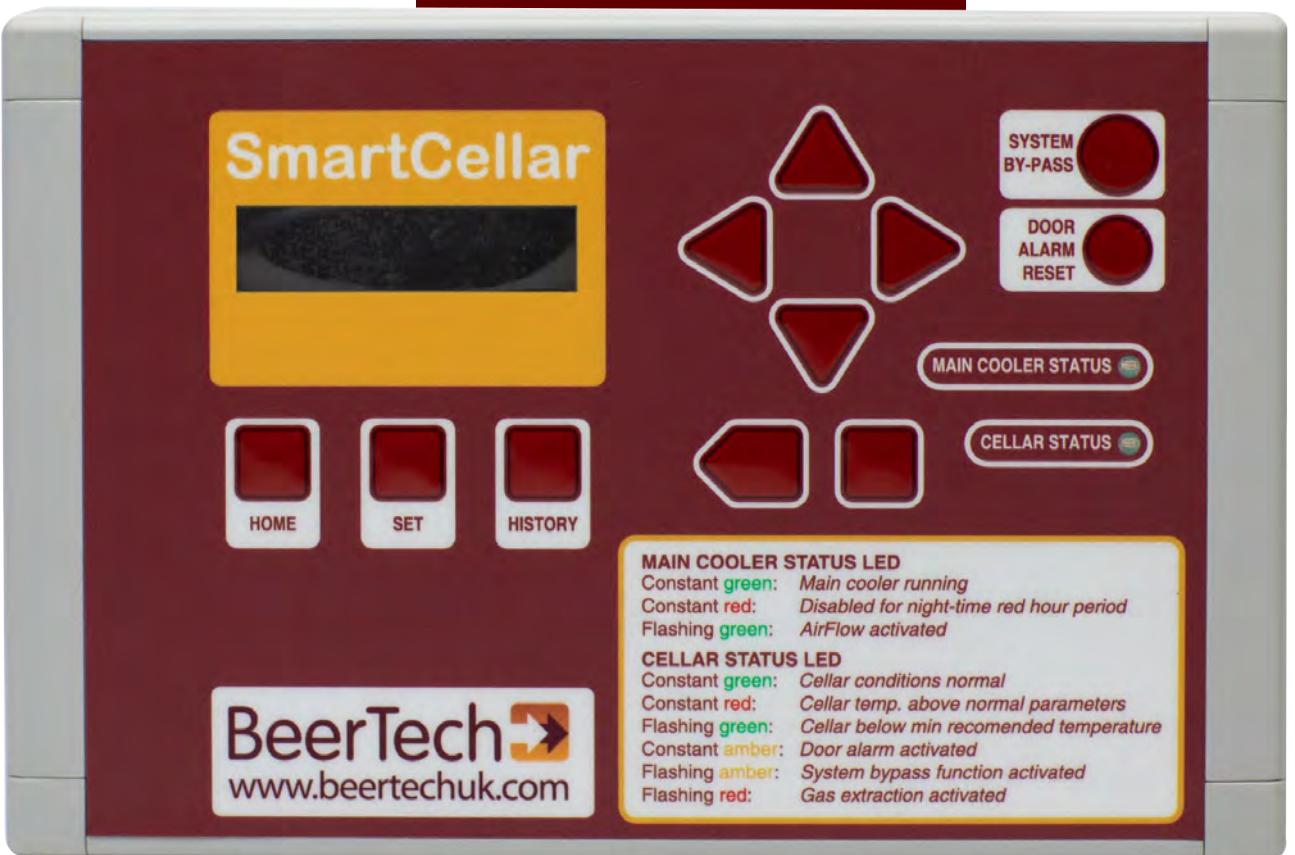
Easy Visual Indicators allow for quick checking of cellar Status

Visual indicator to show accurate cellar Temperature

IP65 Waterproofed casing for cellar environment

Installation is carried out by qualified technicians and takes no more then 2hrs

If the cellar gets too warm SmartCellar automatically switches the main chiller back on



BeerTech®

# BeerTech



Whitbread

