

Keeping cool in Copenhagen

A story of how cask beer sales have started to develop in Denmark and how technology was used to ensure that the beer is served at its best, every time.

By **Nicholas Ricketts**

First cask beer in Denmark

Three years ago, work took me to Copenhagen, the capital city of Denmark. A beautiful city, but beer-wise, the choice in most bars was limited to one brand of lager and other bottom-fermented variants of the same. In a few pubs you could buy Draught Guinness and Kilkenny. It was suggested that I visit *Charlie's Bar*, which had just been re-opened in Pilestraede (Willow Street) in the centre of town. I could get a selection of English, German and Belgian beers there.

The owner was an Englishman, Iain Russell who had decided to buy the bar and stock any interesting import beers he could get hold of. He encouraged me to try the beer from the cask on the bar, and I must admit it was a pleasure. Some visits – and a few pints – later, Iain declared that he wanted to open another bar in Aalborg, which is the third largest city in Denmark. His dream was to have a bar selling beers direct from the cask, but without any barriers, gadgets or insulation covers.

Methods for handling cask beer

We agreed that one of the most important conditions for serving cask beer is to get it to the serving temperature before it is spiled⁽¹⁾. We looked at what was available:

The Cooling Saddle

It seemed that the saddle was the most favoured method. The saddle is a metal coil that is strapped to the cask. Chilled water is circulated through this coil. The cask also has to be enclosed in an insulated cover to keep out the warming effects of



Charlie's Bar in Pilestraede, Copenhagen.

the ambient atmosphere.

The saddle works, but can take up to 48 hrs to cool a cask to the required temperature. Also the cask is hidden under the insulated enclosure. It is effective if casks are cooled down before serving, but cool flat beer will result if the saddle is used to cool down a cask that has been tapped 'warm'.

The Cooling Probe

Another available option is the cooling probe, which is a metal element that is introduced into the barrel. Chilled water is circulated through this probe which is in direct contact with the beer.

However this system breaks the sterility of the cask, and risks introducing infection into the beer. The cooling convection currents could also affect the settling of the beer. Only really effective if casks are already cool before the probe is introduced, otherwise cool flat beer will result. Again, an insulated cover is required.

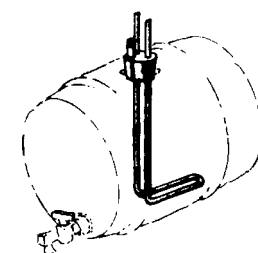
The Cask Tunnel

It was after much brainstorming and discussion that the cask tunnel was

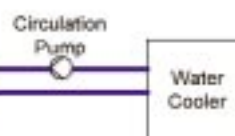
born. Most of the ideas had some kind of perspex or glass partition. These all created a barrier. The only way to have cold, naked casks behind the bar was to use cold air. We would use forced cold air currents to keep the beer at the right temperature.

It would create a cellar behind the bar. After much discussion, and quite a few pints, Iain Russell agreed that this would give him what he wanted and it was worth the financial risk.

There was no time for a prototype. The order was given to an experienced brewing engineer, Carl 'Iron Man' Nielsen, to build two cask tunnels – one would hold 10 casks, and the other would hold 8 casks. These were the prototypes,



The cooling probe.



LEFT: The cooling saddle principle: the saddle (left) is a metal coil that is strapped to the cask. Chilled water is circulated through this coil (main pic). The cask also has to be enclosed in an insulated cover.



Forced draught cask cooling principle used in the cask cooling tunnel.

but they also had to work. At the same time we realised that this, as far as we knew, had never been tried for beer before.

The system was made up of the framework that would hold the cask. This would have carefully placed vents to minimise the loss of cold air, plus of course the necessary refrigeration and control equipment. When not in use, roller blinds would act as a physical barrier to trap the cold air inside the tunnel.

We were concerned that too much cold air would leak out and cause discomfort to the bar staff, but this has not been the case.

Carl also developed a special cask tilt that could be pulled out from the tunnel. The tilt has a special mechanism that allows the bar staff to raise or lower the cask as

BELOW from left: The cooling tunnel under construction.

'Iron Man' Carl tests his handiwork.

The cask tilt.



The cask tunnel installed at the Wharf bar in Aalborg.



required. All casks used in Denmark are firkins (nine gallons).

To avoid unnecessary lifting of full casks, a hoist would be installed and the cellarman would lift the full cask up with the hoist, pull out the cask 'drawer' and drop the cask onto it. Once released from the hoist, the cask 'drawer' would be pushed back into the cask tunnel and the full cask of beer left to cool down to serving temperature, which would take 48 hours max.

Once at the right temperature, the cask is ready for spiling and serving. No pipes to clean, no beer losses, as close as you can get to a natural pint.

The cask cooling tunnel was finally completed in July 2002 and installed in *The Wharf* pub in Aalborg in Northern Jutland. It was an immediate hit with the local population, not only for its novelty

value, but also for delivering ales with interesting flavours and in peak condition. It has also been successfully patented, as has the cask tilt. The bar was awarded the Cask Marque in February 2003.

Charlie's cask fridge

Whilst *The Wharf* was serving cask beer at its best, poor little *Charlie's Bar* in Copenhagen was still struggling with one cask on the bar. The beer was now selling well, but getting the temperature somewhere near the target serving temperature of around 12°C was proving a real struggle. In the winter it was possible to store casks in a cooler part of the pub before putting them



up for serving, but this mode of temperature control was still very hit-and-miss.

It was now time to do something to guarantee the perfect pint at *Charlie's Bar*. The whole floor area of the premises is only 72 sq. metres, which includes the bar and toilets. There was no room to adopt the cask tunnel concept here. The answer was to build cask fridges and have them in the bar.

There was just the right space where a wash-basin was located. This could house the fridge for serving the beers, as the space was wide and deep enough to hold eight casks in their tilted position. There was space on the outside wall almost opposite for another fridge to hold six casks, but only for storage. The fridges had to be purpose built to fit in the available spaces. It proved to be an extremely tight fit!

The fridges also have cask 'drawers' and the serving fridge has pneumatic tilting frames, so that the casks lift automatically as they are emptied. The fridges are sanitary and made from stainless steel with special glazed doors so the customers can see the whole display. Pipe connections for cleaning fluid and fresh water are also installed. There is also a hoist for lifting the full casks and depositing them on the extended 'drawers'. The fridge temperatures are controlled to 12°C.

The lines to the six new hand-pumps on the bar are also cooled to as are the hand-pump chambers themselves. This gives a perfect pint every time. *Charlie's bar* has also received the Cask Marque award.

The end of the story

The management, cellar men and staff at both bars take cask beer extremely seriously and it is their dedication and enthusiasm that make a visit an enjoyable experience. The results speak for themselves. Each bar sells about 20 casks every week and over 150 different beers have been tried to date.

British brewers are slowly getting interested. Brewers who are represented and have not been afraid to get involved with the export of cask beers to Denmark include, Banks, Marstons, Harveys, Youngs, Fullers, Shepherd Neame, Gales, Hook Norton, Black Sheep, Theakston's, Greene King and Crouch Vale, just to name a few. One famous northern brewer, when asked if he would like to sell some cask

beer to Denmark, replied "Oh no, we don't export!"

One factor with being 'far way, across the sea' is that casks take along time to get to their final destination, so by the time the beer is served up it has had considerable additional maturation time in the casks. This does wonders to the flavour.

Very few casks are actually 'bad' by the time they come to be served. If they leave the brewery in a healthy microbiological condition and in a clean cask, they survive the trip to Denmark. Casks should really have a best-after-date!

It is interesting that modern keg beer is at its best at the brewery, probably off the filter. Flavourwise, it all goes downhill from there. The pasteuriser does its bit to cook the beer and then all the potential risks from dissolved oxygen come into play with the beer's flavour, which gets less interesting with time. Cask beer with its very limited use of technology does exactly the opposite.

All casks are served without CO₂ top pressure and it is noticeable that many cask beers have undergone a positive change in their character a day after being tapped. The author is convinced that air is the cause. A small amount of oxygen dissolves in the beer causing the yeast to wake up and become active again. Without air the beer could not develop its final flavour. Because they are stored at the correct temperature of 12°C, some of the less popular cask beers have held up to six days, without any help from CO₂ cask-breathers.

The cask tunnel is an excellent concept for those wanting to serve beer direct from the cask. It is all very visible. The cask fridge in the bar is a solution where space is at a premium. It is also a very visible solution and the customers can see where their beer is coming from. Many UK pubs that do cool their cask beers provide a blanket solution – they cool the whole cellar. Cellars are often poorly insulated and draughty places, so the bills for cooling will be very high. There is generally no need to cool down keg beers and soft drinks as these have their own on-demand coolers.

An excellent guide to handling cask beers is *Cellarmanship* by Ivor Clissold. It was published in 1997 by CAMRA (currently out of print, but being reissued in 2005). To quote from the chapter on Cask Cooling:



The cask fridge – the cask cooling option used at Charlie's Bar.

"To keep traditional beer in its peak condition it must be kept at the right temperature. Outside a cooled cellar, other means must be found to keep the beer cool." In both the bars in Denmark, the ends have more than justified the 'means'.

We hope the Danish experience is of interest to brewers and publicans alike. ■

"It was an immediate hit with the local population, both for its novelty value, but also for delivering ales with interesting flavours and in peak condition. It has also been successfully patented, as has the cask tilt. The bar was awarded the Cask Marque in February 2003."

● Notes

1. The spile is a wooden peg that is inserted in the shive (the wooden bung in the belly of the cask) to control CO₂ content of the beer. There are two types. The soft spile allows the slow release of CO₂ and hard spile is used to seal the cask.

Cask breathers are simple diaphragm valves placed in-line between a gas regulator and the cask. They only supply CO₂ gas to the cask when beer is withdrawn.

Cooling probe drawing borrowed from *Cellarmanship* by Ivor Clissold with the kind permission of CAMRA Books.

If you have any comments or want further information you can write to the author at nrgy@gmx.net