

## CASE STUDY: CUBO<sub>2</sub> SMART

# Shellfish company chooses CO<sub>2</sub> refrigerant to future proof its investment.

John Lake Shellfish, a family owned business based in Norfolk, has been providing high quality shellfish for over 30 years and aren't new to adopting the best technology available for delivering their product to market profitably while maintaining their reputation for high quality.

They recently opted to use CO<sub>2</sub> as the refrigerant in a new Cockle and Whelk freezer room. The decision came about as a direct result of a desire to avoid the potential pitfalls of using traditional HFC refrigerants.

Environmental issues a given, they recently experienced first hand one of the penalties in using a refrigerant where the price under quota becomes unviable. They wanted a solution that provided a stable cost platform, whilst offering an environment benefit, to protect them against potential high service costs in the future.

John Lake turned to their refrigeration contractor, Fourstar Refrigeration. Steve and David Forster, owners of Fourstar, have a desire to look ahead and work towards a greener future, one in which Steve says...

*"Global Warming potential and Ozone depletion factors need to become obsolete terms. We can sleep soundly knowing that, on our watch at least, we've made a conscious effort to leave a better planet behind for our children and future generations"*

They realised their desire could become a reality after attending the CUBO<sub>2</sub> Smart training course at Cool Concerns in Tewksbury. Steve Benton at Cool Concerns quickly answered their concerns regarding the suitability of CO<sub>2</sub> for commercial systems. Like many engineers the thought of dealing with a 'high pressure' refrigerant had been a concern, but this was put into perspective. They left Cool Concerns with a detailed understanding of the transcritical booster cycle, a feeling of confidence about the future of CO<sub>2</sub> in the commercial sector and a fuelled desire to be pioneers of the technology. So, CO<sub>2</sub> was chosen for John Lake's freezer room project using three CUBO<sub>2</sub> Smart LT units linked to LU-VE's F35 evaporators.



Steve Forster explains the next steps...

*"The installation itself was incredibly straight forward. The K65 pipe work manipulates easily and smaller sizes are required than those needed for a traditional HFC system of similar duty. There's no solenoid required, as the electronic expansion valve does all the work. And the CUBO2 units arrive just like any other packaged unit, with filter driers and service valves all ready fitted and ready for connection.*

*A higher pressure regulator the nitrogen cylinder was required, to ensure a correct pressure and strength test, but other than this and a designated CO2 charging hose, all our regular installation tools and equipment was utilised as normal. The only challenge over installation of a traditional system, is the extra communication wiring required.*

*The MX Pro control panels utilise 4 probes per system, the coils for for the valve also require a 4 wire connection and then there's the communication between the Mx pro and the CUBO2. However it's all labelled explicitly, so with a spool of some good quality FTP selected, we soon had everything connected up and ready to go.*

*Commissioning did present some additional challenges, it was a steep learning curve understanding the pro's and cons of "floating suction" and "smooth lines functions". But thankfully, the highly detailed Cool Concerns "bible" supplied with the CUBO2 Smart units provided a step by step guide though each stage of the commissioning process, and we soon had all 3*

*systems humming away quietly and smoothly. Within a couple of days, we'd gently stepped the store down to -22°C and it held. I'm pleased to say it's all been working flawlessly for over a year, with incredible efficiency and performance"*

Steve and David were so impressed with the system they recently took delivery of another two CUBO2 units for a customer in Essex.

Steve was even more impressed when he popped the cover off the first unit to find some suggested changes had been adopted. Steve says *"I was pleased to see an "additional oil already charged" sticker and obvious signs that my concerns have now been addressed, in what is obviously a constant effort to keep improving an already reliable and practical product.*

***"...As such, I have no qualms in recommending a CUBO2 Smart to everyone of my customers who is looking for new equipment regardless. And I'm quick to underline that, although the costs are still off putting today, when you consider the technology within and the benefits tomorrow, its without doubt, the lucrative choice"***

**If you would like more details about our range of CO2 based packaged condensing units then please contact your local branch.**