DOWNSIDES TO OPERATING A WALK-IN CHILLER

Chillers operate in the same way as domestic or commercial refrigeration, only on a much larger scale. The evaporator (fans inside the cool store) and the external unit consume large amounts of energy to maintain the desired temperature inside. If the unit is old or poorly maintained then these working loads are much higher, and the same holds true for less than fully stocked chiller; without a cold mass of bottles and kegs, the temperature rises faster when the door is opened. Ageing door seals and a lack of wall insulation also contribute to temperature change, which in turn means the chiller requires more energy to run.

Sports clubs are often strapped for cash and the chiller could be a silent but considerable running cost. The good news is that there are measures that can be taken to improve efficiency.

ENSURING YOUR COOL STORE IS RUN AT MAXIMUM EFFICIENCY

If it is necessary to operate a chiller, there are several ways to maximise its efficiency:

- Installing plastic door flaps on the inside will help to retain the cold air inside more effectively when the door is opened.
- Regularly check the door seals. An effective seal should be sponge-like to touch and not have any tears.
- Every six months check the fans on the evaporator (inside) and the condenser (outside) and using a soft brush or a vacuum head, remove any dust or debris – this will reduce their workload.
- Alter the temperature differential to a larger range - it is often found on the thermostat inside the cool room. This refers to how far the temperature can fluctuate before the compressor will kick in to bring the temperature back to its set level. A larger range results in a reduced workload.
- If the chiller’s contents are non-perishable items only, such as beer kegs and drinks, the temperature range can usually be raised to between 7 - 9°C. Ensure that the change is made gradually, over a period of a few weeks. Always check the required storage temperature range of the drinks before making changes.
- Insulate the pipes that connect the evaporator to the condenser to avoid condensation forming.
- Stock the chiller so that there is at least a hand’s width gap between the wall and the products. This allows air to circulate easily and the products to be cooled efficiently.
- If the chiller is not fully stocked, a short term solution is to place large containers of water inside. This will help create a thermal mass, regulate temperature and mean the cool store will not need to work as hard.
- If the door seals and wall insulation are well maintained, then turning off the chiller during quiet periods (such as overnight) should reduce running costs without making a significant difference to the internal temperature. We recommend experimenting with this by checking the internal temperature before and after, as well as monitoring decreases in your energy bill. We don’t recommend turning a cool store off for a time period less than overnight. Always check the required storage temperature of the drinks before making changes.
- If your club has an off season with low demand, turn off the chiller and leave the door open to allow air to circulate.

CHILLER ALTERNATIVES

If bar operations do not justify running a chiller, for instance if the club is no longer serving beer from kegs, then using smaller commercial refrigeration units may be just as effective and much more efficient. Modern commercial refrigeration units with an MEPS (Minimum Energy Performance Standards) rating are significantly more efficient than walk-in chillers and older style commercial refrigeration. As bottled beer becomes a popular alternative to tap beer, switching to a modern, efficient stand-alone unit could reduce your club running costs considerably, as well as further reducing its environmental impact. Win-win!