



When Shire Pies Limited in Leamington Spa needed to keep their new purpose built production areas cool where they make pies and pasties for most of the countries football grounds their owner, Micheal Tizirki, contacted Celsius.

Problem

The production area was to contain many heat emitting machines, ovens, wash down plant, mixers, manufacturing lines, Shrink Wrap Tunnels etc. These would combine to produce a very warm internal environment and Michael wanted to provide his staff with the very best working environment.

Solution

To provide the required cooling Celsius installed a system of 4 no. Evaporative cooling units, these were mounted on the roof and ducted into the area to discharge over personnel around the area.

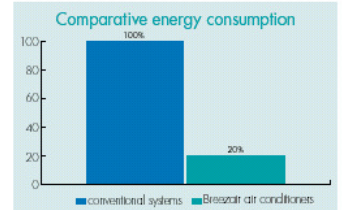
Evaporative coolers reduce the incoming temperature during the warmer months by as much as 10Co, they also filter the incoming air thus maintaining the high hygiene standards throughout the area. On the day of commissioning the external temperature was 24Co and the units were introducing air at 15Co.

Evaporative cooling is the most cost effective way of cooling industrial premises and also the most environmentally friendly as each unit only uses 1.5KW of electrical power, a standard water supply and no refrigerant gasses.

ADVANTAGES OF EVAPORATIVE COOLING SYSTEMS



- Introduces 100% fresh and filtered air
- Doors and windows can stay open
- Maintains some moisture in the air, particularly beneficial to those suffering from allergies and asthma
- Reduce fumes, particles in suspension and odours
- Cooling capacity efficiency is increased as the outdoor temperature rises.
- Low consumption, up to **80% more economical** than conventional equipment
- Easy to install and minimum maintenance
- Reduces static electricity



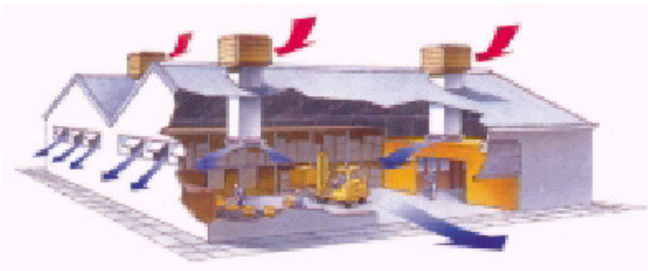
Conventional cooling systems - disadvantages

- Largely recirculates the same stale air
- Doors and windows have to stay shut
- Dries the air, which is detrimental to people with respiratory ailments
- Recirculated air can carry germs, odours and environmental contaminants
- Its operating effectiveness is reduced as the outside temperature rises
- High energy consumption
- More complex and costly installation and maintenance



TYPICAL TEMPERATURE REDUCTIONS USING EVAPORATIVE COOLING

Outside ambient temperature °C	Percentage relative humidity						
	20%	30%	40%	50%	60%	70%	80%
20	12,0	13,0	14,5	15,5	16,5	17,5	18,5
25	16,0	17,0	18,5	20,0	21,0	22,0	23,0
30	19,5	21,0	22,5	24,0	25,0	26,5	28,0
35	23,0	25,0	26,5	28,5	30,0	31,5	32,5
40	26,5	29,0	31,0	32,5	34,5	36,0	-
45	29,0	32,5	35,0	-	-	-	-



- **Perfect for:**
 - large factories, industrial complexes
 - printing works
 - plastics and textiles industries
 - laundries
 - farms and glasshouses
 - factory units
 - research centres
 - foundries, etc.