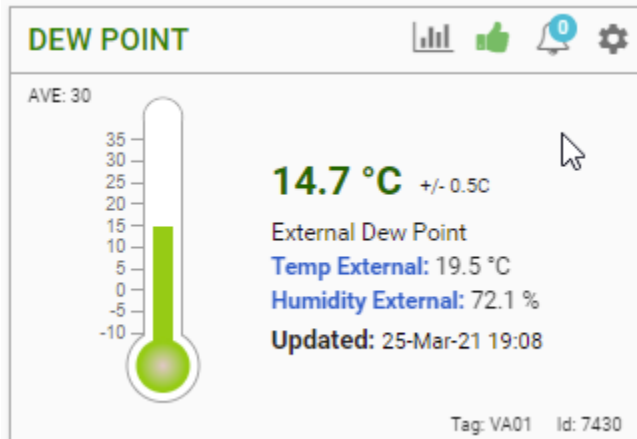**FAQ - How Arcoflex Manages Humidity**

In a cool room, normally operating at 6C or below, humidity management is crucial to reducing shrinkage and maintaining product vigour. Evaporators are notorious for stripping moisture out of the air, especially if incorrectly set, and water can often be seen flowing out through an exit pipe. In most situations, external air can be used to restore humidity without the need for humidifiers. It is all about Dew Point. The sensor below was taken for a shed in Portland, Victoria at 7.08pm.

The ideal storage humidity for live produce is 95% but in practise, this is difficult to achieve. Any humidity above 90% is considered adequate and anything below 85% is spoiling your produce. So how do we achieve this? It is very simple – draw in external air!

The way it works is quite straight forward. Air of a given temperature and humidity contains a certain amount of water. The air above contains roughly 11ml of water per cubic metre of air. If we now take that volume of air into the cool room, it will chill down but at the lower temps, the humidity rises because the colder air cannot hold as much moisture. Dew Point is that temperature where the current moisture hits saturation. Drive the temperature below this and the excess moisture must condense out – either as vapour, droplets on cold surfaces or in the evaporator.

So this means that we can use external air to humidify the room if we are careful:

- The above air is good enough for all temperatures below 14.7C
- We must not draw it in too quickly or we will get condensation problems, hence fungus and mould
- We should mix it first and pass it through the evaporator where excess moisture can be stripped out
- We should avoid really hot air, only to save on electricity, but it will yield higher humidity more easily

Arcoflex needs to dilute CO_2 in cool rooms constantly so by drawing in external air, we kill two birds with one stone. By not drawing the air too quickly, we save on energy costs. On top of this, Arcoflex has mechanisms to manage door access and compressor/evaporator operation.