

The Dewpoint

Solutions to humidity problems
Produced by Seibu Giken DST AB



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Controlled moisture in food production

The slaughterhouse industry uses thousands of litres of water every day for cleaning its premises. This water has to go somewhere, but without risking product contamination.

Strict hygiene control is a must when food is handled. And this includes keeping tabs on moisture.

There are huge amounts of water in the slaughterhouse environment. The premises are ventilated with outdoor air, and additional water vapour is brought in during the humid summer months. A temperature of 1°C to 9°C is often maintained on slaughterhouse premises. When hot, moist outdoor air meets the cold air or cold surfaces on the premises, relative humidity is increased. A certain amount of moisture evaporates from the bodies of the animals and staff. This causes huge amounts of vapour and condensation on machines, ceilings and floors. Apart from the fact that the moisture increases the risk of contamination, it also makes the floors slippery. Drops of condensation from ceilings are of course unacceptable in environments in which foods are produced.

Controlling the level of moisture results in a drier, more consistent climate all year round. It prevents condensation and also considerably reduces drying times on premises which have been cleaned. It also ensures a much improved indoor climate for staff, as a drier chill is perceived to be less troublesome. If the air is dehumidified, there is less of a risk of slipping and the odours are not as strong. But above all, there is less of a risk of potential microbial growth, thereby allowing the quality of the products to be maintained.



No condensation on machines or other surfaces!

Leeum Museum of Art

The Leeum Samsung Museum of Art in Seoul is outstanding as regards design, architecture and technical solutions. This museum displays both traditional and contemporary Korean art alongside art from other parts of the world. The museum also includes the Samsung Child Education & Culture Center and an archive for preservation of Korean works of art.

The choice of lights, windows, ventilation, etc. has a major part to play in the indoor climate of any museum, and in turn this climate affects the artefacts.

Korhex, DST's representative in Korea, has supplied a number of dehumidifiers for the ventilation solution for this major art project, carefully adjusting the indoor climate to suit the unique cultural treasures exhibited and preserved by the museum.



Damp – the facts

100 % RH*
Fog or rain

~93-96 % RH
Salmonella bacteria die out
below this level

80 % RH
Annual average, outdoors

70 % RH
Massive increase in the
risk of mould and fungus
forming

60 % RH
Chocolate gets flecks
above this point

55-65% % RH
Massive humidity for
corrugated cardboard

35-40 % RH
Timber dry enough for
carpentry.

ca 30-40 % RH
Max limit for archives.

20-25 % RH,
Maximum humidity when
manufacturing corn starch
shapes.

10 % RH Maximum humidity
for
gelatine manufacture.

1-2 % RH*
Maximum humidity for
lithium battery manufacture.

Cold stores

Major benefits with dehumidification

Cold stores are used in many applications in the food industry. During the humid summer months, the increased moisture caused by warm, moist air meeting ice-cold surfaces can cause major problems with ice and frost, resulting in scenes such as the one shown in the photo on the left below. On the right, you can see what happens when moisture levels are controlled with a DST dehumidifier, in this case an R-060BR. A sorption dehumidifier effectively eliminates moisture problems.



Dehumidification not only keeps conveyor belts, curtain strips and photoelectric cells free of ice. The company that installed the dehumidifier below also found that doors and floors remained dry and ice-free once the dehumidifier had been started. Their fork lift trucks were able to operate as normal. There were no unpleasant icicles on the ceilings, and as there was no mist visibility was improved and the climate was a lot more pleasant for staff. Nor did staff have to spend time manually removing ice and frost, so saving a lot of time and effort. Costly production stoppages due to ice and frost were also prevented.



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"The Dew-Point" is a customer magazine produced by Seibu Giken DST. Its aim is to pass on knowledge regarding how moisture problems can be resolved and prevented.

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Seibu Giken DST AB

Seibu Giken DST AB is one of the world leaders in sorption technology. DST is developing and manufacturing sorption dehumidifiers, which are sold by a world-wide net of representatives.

The Seibu Giken DST range of products is specifically designed to solve humidity problems in commercial and industrial applications

Visit www.dst-sg.com to find out more about DST and our products, or to find the representative closest to you.

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