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## Intrinsically Safe – the Workings of a Partnership with Nihon-Dengi

A long term relationship between Japanese engineering company Nihon-Dengi Ltd and Vaisala has proved a fruitful relationship especially in the food process and pharmaceutical manufacturing sectors. Vaisala instruments form key components in the air conditioning and control systems supplied by Nihon-Dengi Ltd in these markets.

**A**s a member of the leading Yamatake Group, Nihon-Dengi Ltd is part of an organization that has around 70 % or 80 % of market share in industrial and commercial air conditioning systems. The Nihon-Dengi Ltd was founded in 1959. On April 1st of this year, the company had a market capi-

talization of 470,490,000 yen. In the domestic market, in cooperation with KK Yamatake, they are considered to be a pioneer in the field of air conditioner instrumentation engineering. Their specialty is the automatic control of air conditioning.

As such, the company carries out work from design to installa-



*Vaisala HUMICAP® Humidity Transmitter HMP230 is used to enhance reliability in processing pharmaceuticals.*

tion and maintenance. Frequently, Vaisala instruments are incorporated into their systems. This is particular true for the food industry as well as pharmaceutical manufacturers. Each system requirement depends on the particular process being carried out at the factory. However, whatever the environment, the demands on Vaisala is they should be stable and perform well under demanding conditions in all types of high precision air conditioning systems.

#### **Collaboration at a number of levels**

Because of its expertise, Nihon-Dengi Ltd often works in collaboration with other specialist companies such as Freund Corporation. This company has a number of activities and, for example, manufactures a fluidity layer formed grain coating machine, which is used for coating formed grain for tablets and pills. For this application, it is important that air needed to dry the formed grain coating should be controlled to close tolerances

of temperature and relative humidity. This particular coating process also has a requirement for intrinsically safe instruments such as the products that Vaisala can provide. The process uses potentially harmful solvent such that the whole process room is specified as a hazard area.

#### **Intrinsically safe**

The Vaisala HUMICAP® Humidity and Temperature Transmitter HMT361 is one of the most popular products for intrinsically safe instruments used in areas such as clean rooms. Its mounting place depends on type of solvent, and the number of instruments required depends on space of the room. Another model, the HMT363 has been used in applications, for example, where only the sensor head is separately mounted in the room. Other instrument designs, the HMT364 and HMT368 are suitable for pressurized environments. However, in some types of medicine production, even though they may be in a non-pressurized environment, they

are often installed on the duct work easy to mount units.

The partnership with Nihon Dengi Ltd, is important because their engineering competence and knowledge of Vaisala products is key for all aspects of sensor operation in air conditioning systems. When newly installing equipment, setting up instruments correctly to avoid potential accuracy problems is important to ensure customer confidence in the short and long term.

Most major pharmaceutical company carries out annually validation of product process systems. On validation, they

must verify if the whole systems are maintaining designed performance and record the results. It is important that sensors using the process should be products that are calibrated by traceable references. The sensor should be reliable, long-term stability and less troubling. In that respect, Vaisala HUMICAP® Humidity and Temperature Transmitter Series HMT360 and HMP230, are useful for customers. Nihon-Dengi Ltd., who can perform every type of service for the customer is the most important partner, as well as user, for Vaisala and long may the relationship continue. ●



*Vaisala HUMICAP® Humidity Transmitter HMT360 is used in a coating system to ensure high quality of pharmaceuticals.*