EXERGEN INTEGRATES UNIQUE UNPOWERED IRT/C SENSOR IN MACHINES HIGHEST MECHATRONIC'S (MHM) INNOVATIVE SCREEN-PRINTING EQUIPMENT FOR TEXTILES

IR temperature sensor ensures that ink on delicate substrates can't overheat

Zijtaart, the Netherlands, Erl, Austria – June 29, 2021 - Exergen Global, today announced the integration of their unpowered IRt/c sensor solution into MHM's screen printing line which stands for innovation, quality and reliability. MHM, founded in 1980 has been a pioneer in the textile screen printing machines segment of which its flash cure excels in versatility.

Flash cure systems are dryers equipped with two different lamps being the MW (medium wave/carbon) and HTL lamps (Halogen Tungsten Lamps). The temperature can go up to 1200°C (2192°F) to 1600°C (2912°F). The challenge is whilst increasing efficiency and curing time, keeping a high-quality print by ensuring that the ink on delicate substrates can't overheat.

"As technology pioneers, we're always looking for ways to increase efficiency and quality in the most cost-effective ways possible. There are only a few infrared sensor companies which truly understand the challenges and opportunities in screen printing and that is without any doubt Exergen Global. Their IRt/c line stands for state-of-the-art solutions and services", said Walter Gatt, CTO of MHM.

The solution was found in Exergen's IRt/c.03 temperature sensor. This sensor provides a 3:1 field of view and can therefore be positioned behind the lamps. The IRt/c.03 is cooled by continuous airflow to prevent overheating. From its position, the sensor has a clear view of the printed t-shirts and measures the temperature fast and very accurately. As it measures the dry-out point it provides input when print out has sufficiently dried.

"Flash cure creates complex thermal management challenges. The need for a temperature solution was a must as the ink cannot be overheated as it will decrease the quality of the print", said Bram Stelt, CEO of Exergen Global. "As we have an in-depth understanding of the thermal management challenges in screen printing, we were able to provide the right IR sensor solution which will enable the operator to optimize the speed of drying, and thus the speed of t-shirt printing without jeopardizing the print quality", he added.

The IRt/c sensor from Exergen makes it possible to measure the exact t-shirt temperature during the curing process, by employing sensors with a resolution of approx. 0,0001°C (0.0002°F) and a repeatability error of 0,01°C (0.02°F). Once the user implements the parameters of kind of textile, color and ink, the optimal curing temperature will be known, and the sensor will indicate when it overheats. This ensures that MHM exactly knows when to remove the t-shirt. Because of the solutions that the teams of MHM and Exergen brought, MHM can increase the intensity of the radiant lamps, which produce more heat. Doing this and being able to control it, MHM increases the efficiency/speed of the process whilst prohibiting that the ink on delicate substrates loses quality.

MHM Transfer Foil Curing Machines: Perfection in screen printing

- The freestanding flash curing machines excel in versatility.
- An easily reprogrammable controller allows the operator to adjust drying time and temperature in a virtually limitless range. It also has an automatic mode in which the dryer is externally controlled by the carousel.
- Exergen's IRt/c.03 temperature sensor can be integrated in every machine prohibiting ink on delicate substrates to overheat.
- Due to clever lamp configuration a very even heat distribution on the surface is achieved. The specific features of the carbon IR lamps remove the need for a cool down station.
- MHM has its dryers equipped with two different lamps. These are the MW and HTL lamps. The most important differences between MW and HTL lamps are the drying time, temperature, and the current during stand-by mode.

Product information

The Exergen IRt/c sensor lines are extremely reliable with the highest performance and the following features: Self-powered, intrinsically safe, repeatability 0,01°C (0.02°F), resolution approx. 0,0001°C (0.0002°F) and very important, an interchangeability of +/- 1%. One of the main reasons for the unique performance of the IRt/c.03 is the custom designed and built thermopile-based sensor.

About Machines Highest Mechatronic (MHM) GmbH

MHM is an Austrian based manufacturer of screen-printing equipment, with production facilities in Erl, Austria. With offices in not only Austria but also Germany, the Netherlands, Mexico, USA, Turkey, and over 40 distributors worldwide, they provide the finest service and support in the industry. For more information, please visit www.mhmscreenprinting.com.

About Exergen Corporation and Exergen Global

Exergen Corporation, the global leader in industrial and medical non-invasive temperature technology, provides non-invasive temperature measurement devices providing lower cost, higher accuracy, less invasiveness, and greater reliability than ever previously possible. Exergen is well known for its award-winning temporal artery thermometer in the healthcare and consumer market. The company was founded by MIT Ph.D. and Harvard researcher Dr. Francesco Pompei, who owns more than 75 patents. Exergen Corporation is based in Watertown, Massachusetts, U.S. Exergen Global is the worldwide solutions provider of Exergen Corporation's industrial non-contact infrared temperature sensor solutions.

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