

## I.S.T., INTERNATIONAL LEADER IN INNOVATIVE SEWER TECHNOLOGIES CHOOSES EXERGEN'S IR TECHNOLOGY FOR QUALITY ASSURANCE

The Exergen IRt/c non-contact thermocouple is integrated in I.S.T.'s small, low weight and easy to use double six core light source to monitor the curing temperature in I.S.T.'s no-dig sewage UV curing system

**Zijtaart, the Netherlands, Bochum, Germany – October 20, 2022 - CleverIR, today announced the integration of their unpowered IRt/c sensor solution into I.S.T. Innovative Sewer Technologies GmbH (I.S.T) Double Six Core light source. I.S.T. is an international leader providing complete solutions for pipe and sewer rehabilitation. This very rapidly growing company is almost 25 years young and was founded in 1998 by managing director, Ir. Joerg Vogt.**

One of the many solutions I.S.T. provides is the Power Light System. This multifunctional system with perfectly matched modules for curing UV light reactive polyester resin impregnated hose liners offers numerous configuration options to suit almost all tasks for pipe dimensions from DN 150 to DN 1800 for circular and egg-shaped profiles. The UV light sources are available for different pipe diameters and shapes and are adapted to the requirements and customer priorities. The system is characterized by the following features, for example:

- selection of the right light sources for almost any liner diameter
- innovative protocol technology that records all relevant curing data enriching quality assurance
- and continuous performance monitoring of the UV lamps

In order to make this happen, they needed an extremely small, highly accurate infrared sensor which is spring-mounted and can be adjusted to the exact diameter of the piper or liner depending on the corresponding nominal diameter. The IR sensors are integrated in the Double Six Core light source, a light source of which one of the functionalities is to continuously monitor the performance of the UV lamps.

### Double Six Core | Technical data

Pipe dimensions	Circular profile: DN 1000 to DN 1600 Egg-shaped profile: DN 800/1200 to 1200/1800
Number of UV spotlights	6 per core
Number of cores	2 pc.
UV spotlight power	1,200 W
Total power	14,400 W
Exergen IR sensors	3 pc.
Ambient air sensor	1 pc.

The solution was found in Exergen's IRt/c-K-240F/120C temperature sensor. I.S.T. works with an UV liner which is impregnated with a resin that is curable with UV light. It will be positioned in such a way that the patch of the sewage pipe that needs repair is pressurized so it expands against the inner wall of the pipe. UV light sources are entered into the liner and they illuminate the inner wall of the hose creating a chemical reaction which hardens the resin. The newly formed layer of hardened resin now forms a novel inner layer of piping. It is therefore essential to know the exact temperature for which the Exergen's IRt/c-K-240F/120C appeared to be a perfect solution.

"Time is of the essence. UV curing of the resin should be not too long, not too short. The duration of the exposure can be monitored and controlled by measuring the temperature of the resin during the curing. The temperature of the resin is indicative for the extend of the curing: So if the operator carefully monitors the temperature of the resin, he knows at what speed he can cure the liner", said Bram Stelt, CEO of CleverIR, international distributor of Exergen's industrial IR family line.

"The requirements for the sensor were clear: small, very accurate and robust as it needs to stand up against harsh external influences. They needed an reliable IR sensor that can show them the exothermic reaction of the resin used (between 60°C and 90°C). Without this temperature information, it is not possible for the I.S.T. fieldworker to see whether the desired exothermic reaction is starting, and the resin is curing or not. In the worst case, if the resin in the liner is not fully cured, the liner must be completely removed and a new liner installed. This means higher costs, loss of time and double work," he added.

## Product information

The high performance, reliable IRt/c sensor from Exergen makes it possible to measure the exact curing temperature during the 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). Self-powered, intrinsically safe, and very important, an interchangeability of +/- 1%.

## About I.S.T GmbH

Headquartered in Bochum, I.S.T. is a key leading provider of complete solutions for pipe and sewer rehabilitation. The company is both manufacturer and dealer for a large number of successful sewer rehabilitation products. For example, the Power Cutter milling robots for applications from DN 100 to DN 700 as well as mobile UV, steam and hot water systems are assembled at the Bochum plant.

## About CleverIR: clever solutions in the infrared market

Formerly known as Exergen Global, CleverIR is a uniquely positioned group of experts carrying a nice portfolio of infrared sensor solutions. Very well-known brands such as the Exergen IRt/c line, Dali, Novus and AutoSmart focus on bringing accurate, reliable and of course easy to use, scalable infrared sensor solutions for a cost effective price. The sensor solutions can be found in a variety of vertical markets like print, textile, infrastructure, plastic and agriculture, automation and robotics amongst others.

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