APPLICATION STORY

FLIR ENHANCES WHOLE BODY CRYOTHERAPY EXPERIENCE

FLIR AX8 monitors and visualizes patient's full body temperature during cryotherapy treatment.

Combining thermal and visual cameras in a small, affordable package, the AX8 provides continuous temperature monitoring and alarming capabilities.

Cryotherapy is said to be an effective way to treat a wide range of conditions, ranging from weight loss, pain reduction, and skin tissue recovery. With the Cryocabin, the CTN Group and Finnish technology provider Cryotech Finland Ltd, offer a so-called Whole Body Cryotherapy that promises to enhance the patient's overall wellbeing, skin and body tone by exposing the whole body to extreme subzero temperatures, reaching minus 160 degrees Celsius. To make the treatment experience even more complete, the Cryocabin can also visually present the patient's body temperature in real time during the treatment, a functionality that is flawlessly delivered by the integrated AX8 thermal sensor from FLIR Systems.

Many celebrities and even athletes have touted the benefits of Whole Body Cryotherapy, which essentially involves standing in a deep-freezing chamber for up to three minutes, in order to help you lose weight, reduce pain, improve athletic performance, improve sleep and even slow aging. During the treatment session, the person will stand in a cabin which has an automated lift plate adjusting the height so that the person's shoulders are level with the upper rim of the chamber, thus enabling the client to breathe normal temperature ambient air during the treatment. Minimal clothing and protective foot wear is worn during the treatment, during which pressurized liquid nitrogen or air is converted into a super cooled gas mixture and circulated inside the cabin at temperatures between minus 120 to 160 degrees Celsius.

CRYOTHERAPY WITH THE CTN CRYOCABIN

The Finnish company Cryotech Nordic Ltd (CTN), focusing on Cryo, Laser, RF, and advanced Ultrasound technologies and their use in non-invasive health and

Dr. Timo Kylmälä, CTN Medical Director, M.D., Ph.D, Adjunct Professor. "The thermal view outside the cabin will give the therapist more control and confidence about the cryotherapy's proceeding. For the patient, the thermal image inside the cabin will make the cryotherapy experience more complete and visually interesting."

The FLIR AX8 continuously monitors the patient's upper body temperature and displays it on a patient screen, installed on top of the cabin, as well as on a display monitor outside of the cabin.

aesthetic applications, is an expert in cryotherapy technology. One of CTN's flagship products is the Cryocabin, a specially designed chamber which exposes the whole body to extreme subzero temperatures. The company says it has already delivered its Cryocabins to over 350 hospitals and medical facilities.

CONTINUOUS BODY TEMPERATURE MONITORING

Finish FLIR distributor and thermal technology integrator Infradex was contacted by CTN to see if they could provide a means to continuously monitor the body temperature of the patient while present in the Cryocabin. Hermanni Lehtomäki, Project Manager, comments: "Cryotherapy is all about bringing the patient's cabin space down to a certain temperature, so having a continuous overview of the patient's body temperature is interesting for both the patient and the therapist. We have many years of experience in using thermal imaging technology for temperature monitoring, so we knew we had just the right solution for CTN to meet their needs."

After thorough evaluation of CTN's requirements, Infradex decided to integrate the FLIR AX8 thermal sensor into the Cryocabin. Installed in the upper part of the cabin, the FLIR AX8 will continuously monitor the patient's upper body temperature and display it visually on a patient screen, installed on top of the cabin, as well as on a display monitor outside of the cabin, which is operated by the therapist.

The FLIR AX8 is a thermal sensor with imaging capabilities. Combining thermal and visual cameras in a small, affordable package, the AX8 provides continuous temperature monitoring and alarming capabilities.

COMPLETE EXPERIENCE

"We strongly believe that the integration of the FLIR AX8 camera is a strong asset that will make the CTN Cryocabin a more complete product and that will enable it to reach an even wider audience, like the rapidly increasing demand from the professional sports teams around the world," says Dr. Timo Kylmälä, CTN Medical Director, M.D., Ph.D, Adjunct Professor. "So, in this sense the thermal imaging camera is a strong marketing tool for CTN. People really like the thermal image add-on. But at the same time, the thermal view outside the cabin will give the therapist more control and confidence about the cryotherapy's proceeding. For the patient, the thermal image inside the cabin will make the cryotherapy experience more complete and visually interesting."

The Cryocabin is a specially designed chamber which exposes the whole body to extreme subzero temperatures.

THE RIGHT SENSOR FOR THE APPLICATION

"The FLIR AX8 is a rugged sensor that is ideal for integration into the Cryocabin," says Hermanni Lehtomäki. "We needed no special housing, wiring or fitting to include it into the Cryocabin design. The fact that the AX8 is so compact and has a flat structure, made it easy to integrate it into the upper instrument panel of the Cryocabin."

With connectors included, the AX8 is only 54 × 25 × 95 mm, making it easy to install in space-constrained areas like the Cryocabin. The sensor is also IP67 certified, which means that it is fully protected against dust ingress and can withstand immersion into water. In addition, the AX8 has PoE, which makes the installation all the more easy and affordable.

"With the FLIR AX8, we have provided our end customer with a product that allows him to go to market very fast," says Hermanni Lehtomäki. "Thanks to the sensor's easy installation and affordability, we could help out our customer very fast, and the customer was able to bring his Cryocabin to the market much faster too."

More information on Cryotech's Cryocabins: www.cryotechnordic.com

For more information about thermal imaging cameras or about this application, please visit:

www.flir.com/automation

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