INTRODUCTION
Hydro Extrusions Hungary, the largest European extrusion plant for worldwide aluminium company, Hydro, recently incorporated AMETEK Land’s SPOT AL EQS pyrometer and SPOT Actuator to optimize the quality of its extruded aluminium profile products.

ABOUT HYDRO EXTRUSIONS HUNGARY
Hydro’s aluminium manufacturing plant, Hydro Extrusion Hungary, is located in Székesfehérvár and is the company’s largest European extrusion plant. The plant features six presses, surface coating capabilities and 220 machines for fabrication. Hydro delivers to customers in many industries, including automotive.

THE CHALLENGE
Hydro Extrusions Hungary was looking for an infrared pyrometer that would enable fast profile tracking and highly-accurate temperature measurement results. The company also required a pyrometer that was compact in size, insensitive to outside light conditions and easy to set up.

THE SOLUTION
Before commissioning the SPOT AL EQS pyrometer, Hydro Extrusions Hungary carried out rigorous tests alongside two alternative infrared pyrometers from other manufacturers.

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Process Reliability Team Leader,
Hydro Extrusions Hungary
“We decided to seek a new infrared solution as we needed to more accurately profile temperature measurement of our products after the quench zone,” said László Domokos, Process Reliability Team Leader at Hydro Extrusions Hungary. “Our tests with SPOT AL EQS pyrometer revealed that it offered accurate alignment on profiles every time, giving us greater reliability. With the addition of the SPOT Actuator, this pyrometer ensures that our customers receive the highest quality aluminium products.”

AMETEK Land’s SPOT AL EQS pyrometer was ideal for this application as it operated in the temperature range 200 to 700 °C / 392 to 1292 °F while offering quick and accurate temperature measurements. The innovative pyrometer was installed on two presses at the profile exit and quench. Hydro Extrusion Hungary integrated the data into their advanced data collection system, delivering enhanced process control.

Hydro Extrusion Hungary was also impressed with the fact that the profile tracking is automatic, as a result of the SPOT Actuator, which means operators do not have to spend time setting up the instruments.

“The SPOT AL EQS goes a long way to solving so many issues that aluminium producers can face,” said Manfred Hayk, Global Infrared (IR) Product Manager at AMETEK Land. “Hydro Extrusions Hungary have all the benefits of data capture, interpretation, management and autonomy that it offers. They can easily log into the pyrometer and SPOT Actuator Webserver for each measurement position and access all the data they need.”
The SPOT AL EQS pyrometer can automatically scan to identify profile positions after a die change; alert the customer to uneven die cavity or quench conditions; provide temperature measurements for perfect press and quench control and make slight positional adjustments to track wandering profiles.

Since implementing SPOT AL EQS, the plant has reduced quality problems in the finished profile.

ADVANTAGES OF SPOT AL EQS
AMETEK Land’s SPOT AL EQS pyrometer provides aluminium producers with complex embedded software algorithms for both temperature and emissivity outputs. Coupled with the smart SPOT Actuator for automatic alignment, the SPOT AL EQS pyrometer can provide accurate temperature measurements for most current extrusion, quench and strip applications.

Designed in close collaboration with industry-leading aluminium producers and plant control system engineers, the SPOT AL EQS pyrometer and the SPOT Actuator are helping lead the way in improving aluminium extrusion and strip plant throughput, quality and energy efficiency. The SPOT AL EQS pyrometer can capture huge amounts of data, while offering smart interpretation from multiple instruments, with application appropriate logging of derived parameters.

The pyrometer uses the latest cutting-edge temperature detector design in combination with the most-advanced data processing algorithms to provide extremely accurate and repeatable results with an industry-leading response time of 15 ms. Specifically designed to work in low emissivity environments in which regular pyrometers might struggle to provide accurate and reliable readings, the SPOT AL EQS pyrometer is able to measure a wide temperature range from 200 to 700 °C / 392 to 1292 °F.

BENEFITS OF ADDING THE SPOT ACTUATOR
In combination with the SPOT Actuator, the SPOT AL EQS pyrometer is an extremely flexible system with pre-configured algorithms that make it especially suitable for use at the extruder press exit and quench position, as well as at mill entry and exit positions in hot rolling mills.

AMETEK Land’s motorised SPOT Actuator simplifies the process of taking accurate temperature measurement readings. Traditionally, as die changes occur, they would require an operator to verify the correct pyrometer alignment and then either physically reposition the pyrometer’s mounting bracket or manually manipulate it using a motorised SPOT Actuator via a handheld, remote controlled keypad.

The SPOT Actuator enables an extremely accurate alignment as it takes 900 measurement points over 90 degrees and aligns on the optimum measurement position on the profile. This measurement combination can be very useful at the exit of the quench, as the extrusion may be liable to wander from side to side at this location. Using the SPOT AL EQS pyrometer with the SPOT Actuator can rapidly and repeatedly locate, target and measure the laterally shifting profile, producing an accurate temperature reading. The intelligent scanning function provides an additional mode that allows localisation to the hottest spot within a profile. For example, this is applicable to more complex profiles with hotter
inner structures that need to be cooled down to a certain temperature after the quench.

Compact, quick and easy to configure, the SPOT Actuator is designed for mounting the SPOT AL EQS pyrometer onto the press face or a suitable part of the press superstructure.

Another innovative feature of the SPOT Actuator is a hotspot “autoscan”, which, when triggered, causes the device to scan the entire range of movement and then align the SPOT AL EQS pyrometer with the hottest part of the extrusion. This can be activated either locally by the operator or from an external command. This functionality significantly simplifies the alignment of the pyrometer, allowing the operator to focus on more critical tasks.

AMETEK Land’s AMECare Performance Services ensure peak performance and maximum return on investment over the life of your equipment.

We will deliver this by:
- Proactively maintaining your equipment to maximize availability.
- Optimizing solutions to meet your unique applications.
- Enhancing user skills by providing access to product and application experts.

AMETEK Land’s global service network provides unparalleled after-sales services to ensure you get the best performance and value from your AMETEK Land products. Our dedicated service centre teams and on-site engineers are trained to deliver the highest standard of commissioning, maintenance and after-sales support.

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