



Control technology in road construction



GIR 2002

Universal regulating device GIR 2002

The requirements imposed on us

In order to achieve functional and sustainable results with the laminar structure in road construction, the bitumen and bonding agent temperatures must be regulated constantly. The temperature range normally required to guarantee a fault-free process is between 60 and 70 °C, regardless of the outside temperature. For this purpose, WEIRO requires reliable temperature monitoring with automatic regulation functionality in order to ensure that the bitumen always has the necessary viscosity for the process. The higher the temperature, the less viscous the material becomes. If temperatures are too high, the water content volatilises, which can render the bitumen unusable due to excessive water loss. At low processing temperatures the material remains too viscous. This can cause problems when spraying on the asphalt and even bring the process to a standstill.

The spraying pressure in the binding agent circuit must also be monitored to ensure the correct process flow. The previous state of the art involved using a separator between the pressure sensor with internal membrane and the circulating binding agent. In this manner, the function was permanently ensured and the pressure sensor was protected from damage. However, it necessitated maintenance work. WEIRO needed the possibility to measure the operating pressure without having to perform the associated maintenance work.



BENEFITS:

- o No unnecessary material wear due to reliable temperature regulation
- o No downtimes due to unsuitable material properties
- o Sustainable, high-quality results
- o Multiple programmable regulating functions make this device usable for a wide range of material compositions at any time
- o Long-lasting, even in extreme climate zones
- o Exact and reliable regulation of your process values

Our solution

Our GIR 2002 Controller with display function is programmed to the necessary setpoints for the process. The GIR 2002 reacts to the signal of the Pt100 sensors depending on the transmitted temperature. The GIR 2002 ensures optimal temperature conditions in the range of the defined temperature zones with its regulating algorithm. The necessary chemical composition of the bitumen and the viscosity required for continuous processing are maintained. Our GIR 2002 monitors and regulates this process faultlessly and reliably. According to Merlin Weisig, head of development at WEIRO, it is "the right choice".

An additional solution from the Center of Competence Greisinger of the GHM GROUP enables precise measurement and monitoring of the spraying pressure during the spraying process without creating additional maintenance work.

Unlike sensors with an internal measuring membrane, our pressure sensors with flush front can be connected directly to the pipeline of the bitumen tank. The separator between the bitumen and sensor is no longer required as a result. Moreover, no material residue cools and deposits on the flush-front sensors, because the sensor is installed directly on the temperature-controlled binding agent tank. "They are maintenance-free, which eliminates elaborate maintenance and cleaning tasks and the spraying process can be monitored reliably", says Merlin Weisig.



BENEFITS: PRESSURE SENSOR

- o No modifications of the pipeline required
- o Reduces maintenance work and enables pressure measurement without separator – thus saving time and money
- o Temperature-resistant and thus ideally suited for applications with the standard material

Focus on the customer

Our space-saving GIR 2002 Controllers can be integrated into the compact switch cabinets of the skid sprayers. They regulate the material temperature from there reliable, without any influence of the outside temperature and thereby make an important contribution to the end product. A stable asphalt compound benefits not only our customer, but the infrastructure in the entire region.

It is the same with our flush-front pressure sensors. They integrate seamlessly into the WEIRO machine design and guarantee safe, low-maintenance operation. Because our sensors can be connected directly on the bitumen tank and the material does not have to enter the interior of the sensor, the installation of the sensors is made significantly easier, because no additional devices are required and the cleaning work is eliminated entirely.

On the whole, our products contribute to easy and space-saving installation and fault-free operation. This, in turn, leads to a reduction of cost-intensive downtimes. The customers of WEIRO also benefit from this directly.

Our customer

The WEIRO brand is the label of Weisig Maschinenbau GmbH. The company builds construction trailers and containers and asphalt skid sprayers which are used to ensure the laminar structure of the individual asphalt layers in road construction. The high quality of WEIRO road construction machines makes use problem-free, even in extreme climate zones like northern Scandinavia or the United Arab Emirates.



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