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Küppers Elektromechanik GmbH

KEM Process Industry

Application Spotlight

2K painting of plastic windows

INDIVIDUAL PAINTING OF PLASTIC WINDOWS IN SECONDS

Technical Data

Medium:	Paint	Hardener
Temperature:	+23 °C [73 °F]	+23 °C [73 °F]
Pressure:	4 bar [58 psi]	4 bar [58 psi]
Measuring range:	0.020 up to 0.100 l/min	0.005 up to 0.030 l/min
Viscosity:	170 mm²/s	53 mm²/s
Density at 20 °C:	1.30 g/cm³	1.07 - 1.09 g/cm³

Application

The world market leader in the field of wooden and plastic roof windows produces window components of the most diverse variations for the European market with the aid of electrostatic systems. Customer-specific requirements are automated and integrated into the production process. Within 48 hours after receipt of order, the high-quality windows are ready for delivery.

In four painting cabins there are two 2K painting systems each, which are equipped with one KEM gear flow cell for paint and one for hardener. As the window frames pass through the cabins, they are sprayed with a mixture of paint and hardener. This is a process of highest precision under high voltage. Only the exact mixing ratio can guarantee the outstanding surface quality of the windows - a special challenge for the measurement technology. Because beyond that the continuously measured flow rates must be transmitted to the process control system as quickly as possible.

Solution

16 KEM Gear Flow Meters (ZHM ST Series) as well as one fiberoptical Amplifier (FOP) and one Lightpulse Amplifier (OPTV) each

Advantages

- Specially coated gear wheels for water-based paints
- Interference-free pulse recording and transmission without electrical connection to the receiver
- Short response times and high-precision measurement
- Intrinsically safe sensor and amplifier with explosion protection according to ATEX, IECEx, CSA and others

Certificates:

- *Pressure Equipment Directive 97/23/EC, 2014/68/EU*
- *HP0 - Certification*
- *Explosion protection according to 2014/34/EU*
- *CSA/UL - Certification*
- *Accreditation according to ISO 17025*

Gear Flow Meter (ZHM ST Series)

Fiberoptical Amplifier (FOP) and Lightpulse Receiver (OPTV)

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