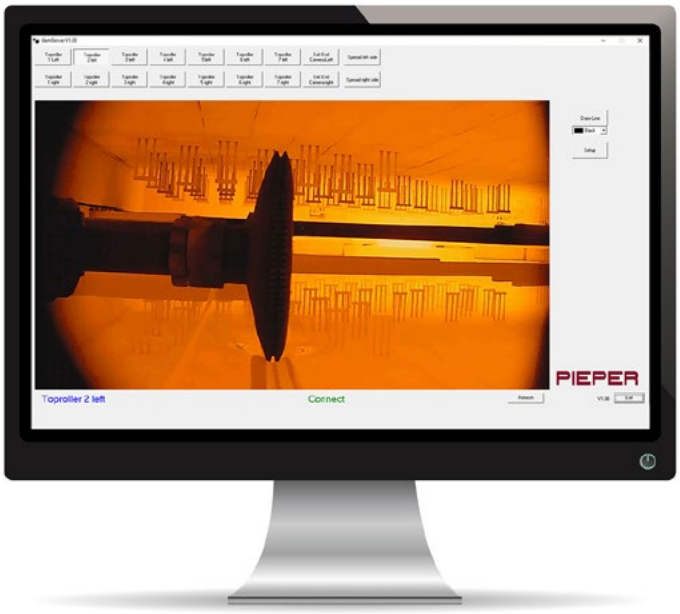


GEM-SOFTWARE

Glass Edge Management System

FUNCTIONALITY

The Glass Edge Management System developed by PIEPER has been specially tailored to the needs of the float glass industry.

During a production run, the float glass strip is repeatedly shifted arbitrarily, so that manual readjustment is necessary. Thereby, the GEM software supports in the spread-, top roller- and exit end-areas and can be installed on up to 24 cameras per production line - regardless as to whether a new or existing system is used.

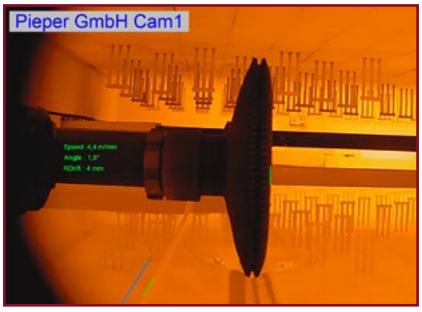
The application detects, analyses and provides information on gross and net widths, glass strip drift or the distance between a float glass edge and the top roller track.

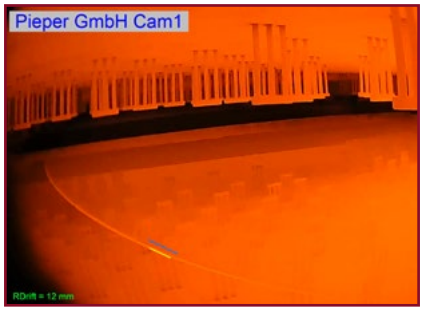
On monitors, the current position of the flat glass edges or top rollers is displayed with the help of overlay reference lines and text. The remote control software is used to check the images, set the required monitoring functions and calibrate the cameras during commissioning.

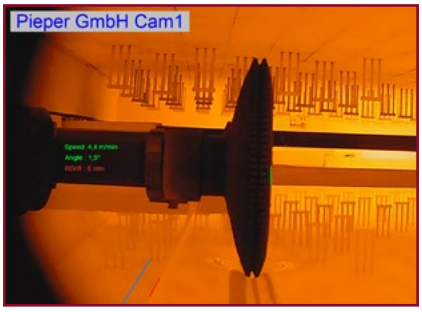
The values determined are displayed on the software interface and can optionally be output in parallel as an analogue 04..20 mA value. In addition, the positions are displayed on the monitor in color.

It is also possible to transmit the measured values e.g. via Profibus, Profinet or Modbus for further processing.

Thanks to automatic alarm in case of deviation of previously determined reference values, a quick correction is possible, thus avoiding rejects and optimizing production.





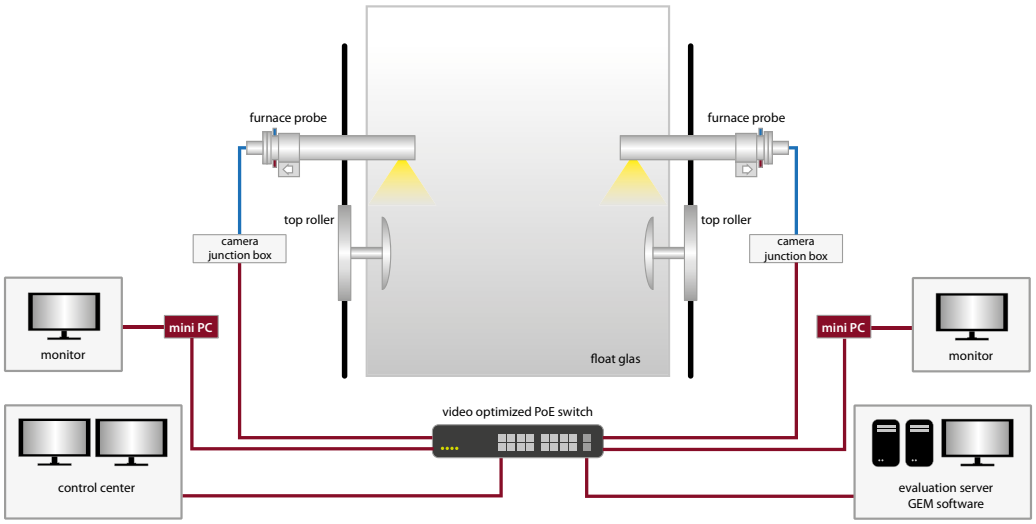


GEM-SOFTWARE - TECHNICAL DATA

MAIN FEATURES	
• Monitoring of up to 24 cameras per production line	• Specification of target positions in the video image (set-points)
• Applicable in spread, top roller and exit end areas	• Display of up to 10 text lines per camera incl. process information
• Processing of up to 4 cameras per PC system	• Texts can be displayed in different colors and sizes
• Display of 1, 2 or 4 camera views per monitor	• Transmission of measured values via ModbusTCP, 04..20 mA current (optional)
• Processing of Full HD cameras via the network	• Display of digital alarms when value exceeds or falls below measured value
• Remote monitoring and parameterization	• Changing color display for reference lines and alarms
• Drawing of user-defined reference lines	• Image display color and/or monochrome

SOFTWARE & LICENSES		
Option 1	GEM-BASE-STD	Basic software for one system with the following functions: • Video encoding in Full-HD • Freehand lines • Visualization of machine data (PLC) (Speed, Angle) • ModbusTCP interface
Option 2	GEM-BASE-PRO	Advanced functionality for GEM system ***(mandatory if minimum one camera is used with PRO functionalities)*** Additional to GEM-BASE-STD: • Analysis function for detection of the glass edge (Toproller, Spread, Exit-End)
Cam Option 1	GEM-CH-STD	License per camera in combination with the basic software (GEM-BASE-STD)
Cam Option 2	GEM-CH-PRO	License per camera in combination with the advanced software (GEM-BASE-PRO)
Optional	GEM-BASE-CUST	Additional project-based functions Costs and functionality depending on the individual requirements
Optional	GEM-BASE-PROFINET	Additional support for Profinet-IO including additional adapter (cable and power supply)
Optional	GEM-BASE-PROFIBUS	Additional support for Profinet-DP including additional adapter (cable and power supply)
HARDWARE		
	GEM-PC-MON-STD	Mini PC (2 x HDMI) displaying cameras in combination with GEM-CH-STD basic license Alternative: max. 2 cameras GEM-CH-STD / 2 monitor outputs
	GEM-PC-MON-PRO	Mini PC (4 x mini DisplayPort) for displaying 4 cameras in combination with GEM-CH-PRO license / 4 monitor outputs
	GEM-PC-CON	PC for client configuration ***(mandatory per system)*** • Drawing of freehand lines • Updates the server for software distribution • Interface to PLC system
	GEM-PC-ANALYTIC	Additional Workstation for Server Side Analytic function. Max. 20 cameras per system

GEM-SOFTWARE - APPLICATION EXAMPLE



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Änderungen ohne Ankündigung vorbehalten. | Subject to change without prior notice.