

Process observation and visual control systems

# lumiglas

Solution packages for biogas production



Remote monitoring with Ex-cameras, and all components  
for producers and operators of biogas plants

**PAPENMEIER**

## System solutions for controlling biogas processes

The safety regulations stipulated by professional farming associations require, amongst other things, that any sight glass fittings and electrically operated processes for the production of biogas are gas-tight and explosion-protected.

You can benefit from Papenmeier's long experience in the manufacture of electrical plant that meets the highest demands on Ex protection.

Because of the safety factor, the popular VISULEX Ex-camera system, part of the Lumiglas range, is ideal for use in this sector.

The remotely operated camera transmits data for visual control or analysis from any desired position. Remote-controlled disc wipers with a spray nozzle ensure an unobstructed view.

### The Lumiglas system package for biogas production comprises:

- VISULEX Ex video camera technology; Sony colour camera 1/4" CCD sensor
- Zoom lens 4.6 - 46 degrees
- Focal length 4.2 to 42 mm
- Light sensitivity 0.1 Lux

### Equipped with:

- Lumiglas VISULEX Ex housing approved to EC type examination certificate  
 II 2G EEx dII C T4/T6 (zones 1 & 2)
- For further information, please ask for data sheet 07.75

- Lumiglas Ex-luminaire approved to EC production sample test certificate  
 II 2G EEx dII C T4/T6 (zones 1 & 2)
- For further information please ask for data sheet 07.25

- Lumiglas disc wiper mechanism
- Lumiglas spray device
- Motorised drive for Lumiglas wiper (Ex version is in progress)
- For further information please ask for data sheets 09.03, 02.01 and 02.03

- Lumiglas sight glass unit, made of steel or synthetic resin, as carrier base; if required the unit can also be used for direct visual inspection.

The system package is installed on the fermenter either by mounting it on the Lumiglas sight glass unit or at a point of your preference.

- For further information please ask for data sheet 01.01.

### Further data for the VISULEX Ex-camera system:

Signal transmission by two-wire method up to 500 m

- Cable 3 x 2 x 0.56 mm<sup>2</sup>
- Power supply
- Camera control
- Video signal

### Control unit:

- Cabinet suitable for up to six cameras
- Video server with 100/1000 Mb/s ethernet interface (optional)
- TCP/IP logger
- Resolution 752 x 582 pixels
- Light sensitivity 0.1 Lux
- Picture transmission in quality PAL video format
- Zoom and focus adjustment
- For further info please ask for data sheet 07.79.

LumiCam camera control software - Zoom, focus, aperture, shutter, gain, preset positions, date and time as well as image storage





Photo: Biogas e. V.

For plant operators, there are two alternative solutions for incorporating the Lumiglas system.

**Small package solution for local observation:**

Optional provision by the operator of:

- Video monitor for direct process observation
- One-off use of a notebook with Lumicam software for setting the basic camera functions

**Large package solution for global observation:**

Optional provision by the operator of:

- Commercial type PC incl. monitor
- Internet access (DSL or similar)
- Remote monitoring software (e. g. "pcAnywhere")



Having the ability to continuously observe biogas production processes has become increasingly important to plant operators. The resulting need is met by Lumiglas products – from Papenmeier, specialists in the field of Ex-protected cameras and luminaires, and the associated components they have developed for this purpose.

Lumiglas solution packages provide the plant operator with the ideal solution for observing and documenting the entire gas production process – from fermentation to biogas formation – and, if necessary, to link it to subsidiary processes from a single command position. An additional advantage is that this can be done either from a point close to the plant or from anywhere in the world.

The standard solution meets most requirements. But, as you yourself know, a standard solution is only as good as its individual adaptation.

That's reason enough for us to look forward to hearing from you so that we can work out the optimum solution to your specific problem.

Please contact your local Lumiglas agency or get in touch with our in-house technical expert direct:

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