# 1830.1
# Online Monitoring by Camera for Scraper Centrifuges

+ **Possible uses:**
  + **Monitoring of the centrifuge chamber from the control room**
  + **Continuous and contact-free measurement of the fill level**
  + **Measurement of the luminosity, which gives information about dryness and purity of the product**
+ **The spray ring plus the camera and plausibility software make possible very reliable measurements even when there are difficult conditions in the centrifuge chamber**
+ **System enables process optimisation (shorter cycles, better product quality), automation and monitoring**
+ **ATEX-certified camera and lighting**

Camera

Spray ring

Camera software

Light

Plausibility software

**Key functions**

Using a process camera and camera software, the process area can be monitored from the control room, the fill level measured, and the luminosity at the cake surface measured.

Here, in contrast to a mechanical fill level measurement, the level measurement is continuous and contact-free. The luminosity measurement can be used to determine whether the cake is dry or liquid residue is present at the surface. This function can be used to optimise the cake washing process. Moreover, the purity of the product can be determined.

Multi-channel data is checked for plausibility using a Ferrum software app, which means that very reliable measurements are obtained. Consequently, online monitoring by camera is suitable for process optimisation, automation and monitoring. The end result is a shortened batch/cycle time with higher throughput. Dependent on the material, the investment pays for itself in next to no time.

**Options:**

+ Camera available in the following variants:
  + Both explosion-proof (Ex) and standard versions
  + Material of product-contacted parts 2.4602 (alloy 22)
  + Integration of the signals in the Ferrum centrifuge control system or output of the plausibility signals for external controls
+ Measurement options
  + Fill level measurement including plausibility checking of the signals
  + Luminosity measurement including plausibility checking of the signals
  + Fill level and luminosity measurement including plausibility checking of the signals
+ Centrifuge-specific camera connections possible
+ Possibility of extending the system to multiple cameras

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# Online Monitoring by Camera for Scraper Centrifuges

## Technical data

| Camera | |
|---|---|
| ATEX approval | Ex II ½ G D Ex db op is IIC T* Ga/Gb<br>**Dependent on the power consumption and ambient temperature* |
| Integral spray ring | For camera lens cleaning (cleaning liquid and nitrogen) |
| IP level | IP66 |

| Light HYL80 | |
|---|---|
| ATEX approval | EEx d IIC T6 |
| IP level | IP66 |

| Other system components | |
|---|---|
| Vector control module | Embedded processor with pre-installed camera software |
| Plausibility software | With Ferrum control systems, directly integrated in the centrifuge control<br>With external control, pre-installed on a separate CPU (including switch, without control cabinet and cabling) |
| Dimmer | For regulation of luminosity |

### Configuration

**Online monitoring camera system comprises**

- **A** **Camera**
- **B** **Light source**
- **C** **Dimmer**
- **D** **Vector control module**
- **E** **Switch (only for external control)**
- **F** **Black box (only with external control)**