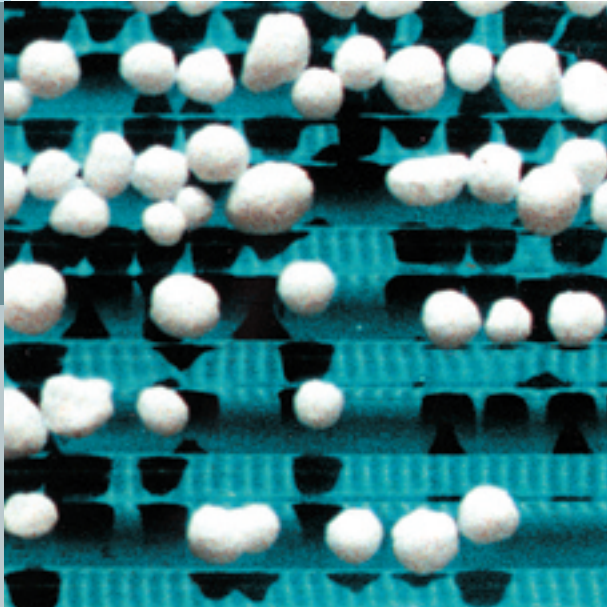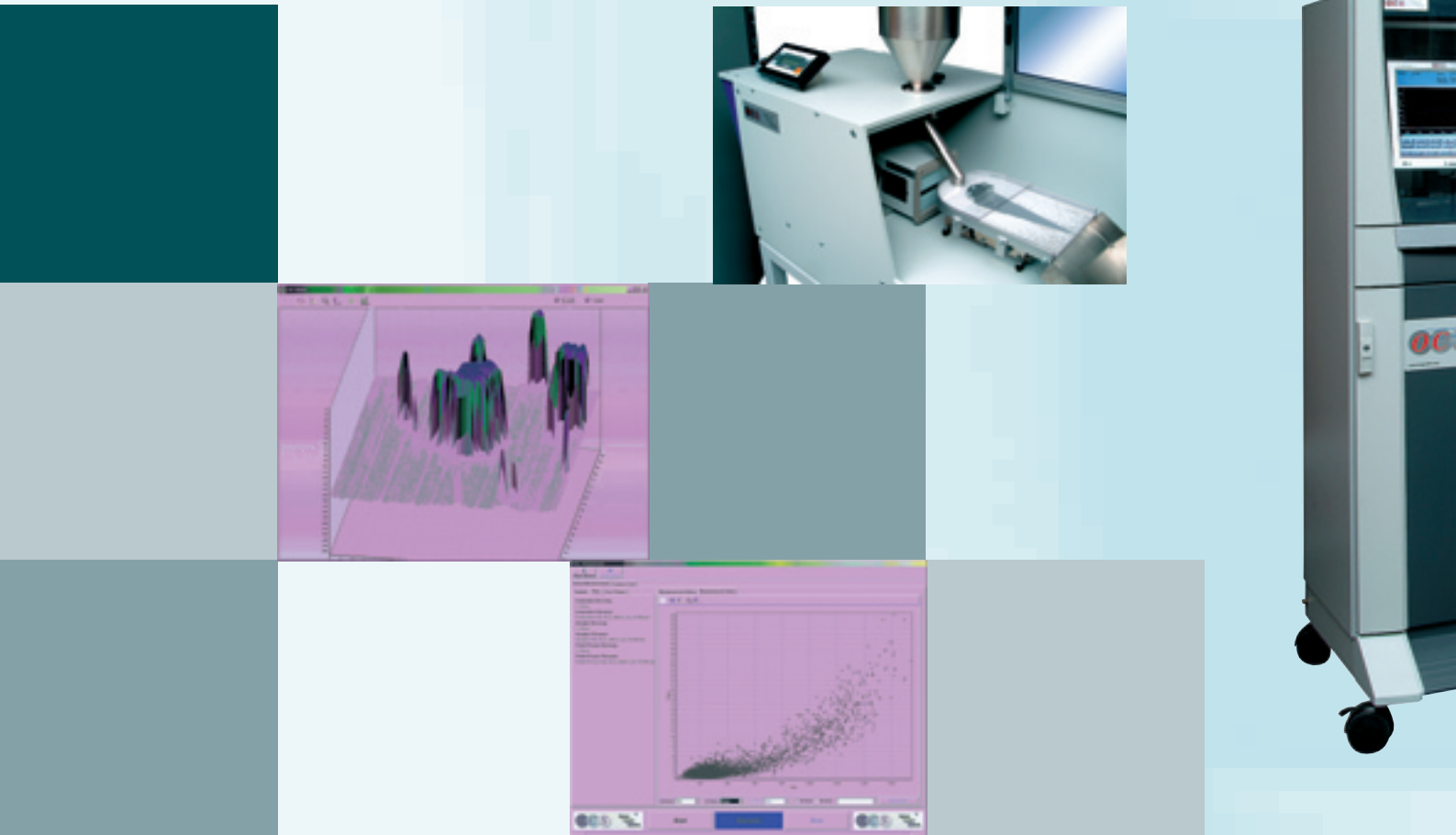**O C S** ®
Optical
Control
Systems

The Solution for the Polymer Industry

Pellet
Size & Shape
Distribution

PSSD

The Original by OCS

Granules Inspection PSSD

Granules Inspection PSSD

The PSSD is a modular inspection system for the rapid analysis of the size and shape of granules. The pellets which are to be inspected are moved by the vibrating channel and are measured individually in the free fall between the camera and the light source. This universal measurement principle enables the system to analyse up to 50 kg granules per hour, depending on the granule size and it's bulk density.

The use of a high resolution CCD camera with automatic controllable lighting offers a continuous reproducibility of the measured results. This instrument can analyse granules and particles from 80 µm upwards, independent of their colour.

The optimal operation in a laboratory environment, as well as in an online measurement station is a paramount factor in the quality control. This instrument offers a huge variety of customised configurations to fit perfectly the customer's needs and objectives. For example, when installed in a bypass of the production line, this system will allow for a fast response to production problems.

The measured data are stored in a control protocol on the image processing computer to enable future analysis, and this data can be transferred to the control room. During the measurement process, the images and the stored data are displayed in real time on the monitor. The results can be shown in a table or in a graphic and can be printed as well.

Not only can this instrument perform an exacting analysis of the granules, it can also be used for recording, archiving and documentation purposes. Each variation of the pellet's shape, size, diameter, elongation, roundness, roughness and/or convexity will be recorded in the measurement protocol on a multidimensional characteristics vector with an error map.

With this tailor-made and sophisticated software package, this instrument will perfectly fulfill all your needs!

Characteristics and Performances

- **Modular architecture**
  Possibility of extension, easy adaptation and upgrade.
- **Utilisation**
  Windows interface and easy customisation.
- **Optimal lighting techniques**
  Use of a special lighting technique to avoid colour related troubles during the pellet analysis.
- **Real-time image analysis**
  Fast evaluation, analysis and representation of the measured results in different formats: table with size groups, time evolution, mosaic view, histogram, distribution.
- **Table view**
  Results displayed in table according to the shape, size, diameter, elongation, roundness, roughness, and/or convexity.
- **Mosaic view**
  Continuous display in real picture of the variations.
- **Graphic of the characteristics**
  Graphical display of the repartition by size, shape, etc.
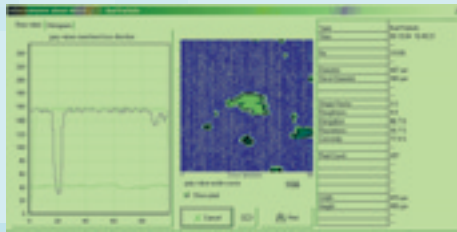
Technical Data

• Time evolution
Graphical display of the repartition of the characteristic according to the time evolution.

• Process synchronisation
Interconnections between the inspection system and external instruments like BDE or SAP.

• Interface for external applications
Alarm interface, digital balance...

• Open database
The data from the protocol can be easily converted into all the common database format (MS Access, Excel ...).

Scope of application

- **Opaque Granules**
- **Coloured Granules**
- **Non transparent Granules**
- **Transparent Granules**

• Camera
CCD Line Scan Sensor 4096 Pixel (max. 80 MHz)

• Lighting
High Frequency synchronised fluorescent lamp
Power consumption: 32 W, White light spectrum

• Computer
Industrial CPU Pentium, up-to-date technology

• Interface
Ethernet 10/100 M Base-T, digital and analog E/A, USB, Modbus, Profibus, RS232 Connection BDE, SAP or SQL

• Remote control
Extender   max. 100 m
Service   Remote control

• Software
Operating System   Windows XP

• Size
Dimension (l,w,h)   100 x 50 x 50 cm
Weight   approx. 60 kg

• Performance
max. 50 kg/hour

• Power Supply
230V AC / 50 Hz
115V AC / 60 Hz

• Temperature
10 - 40°C

OCS - Optical Control Systems GmbH

Benefits
- **Accurate and continuous automatic analysis**
- **Optimisation of the production process by providing detailed measured information**
- **24 hour online production surveillance**
- **Trend analysis parallel to the production**
- **Logging of the production process**

OCS ® Optical Control Systems

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