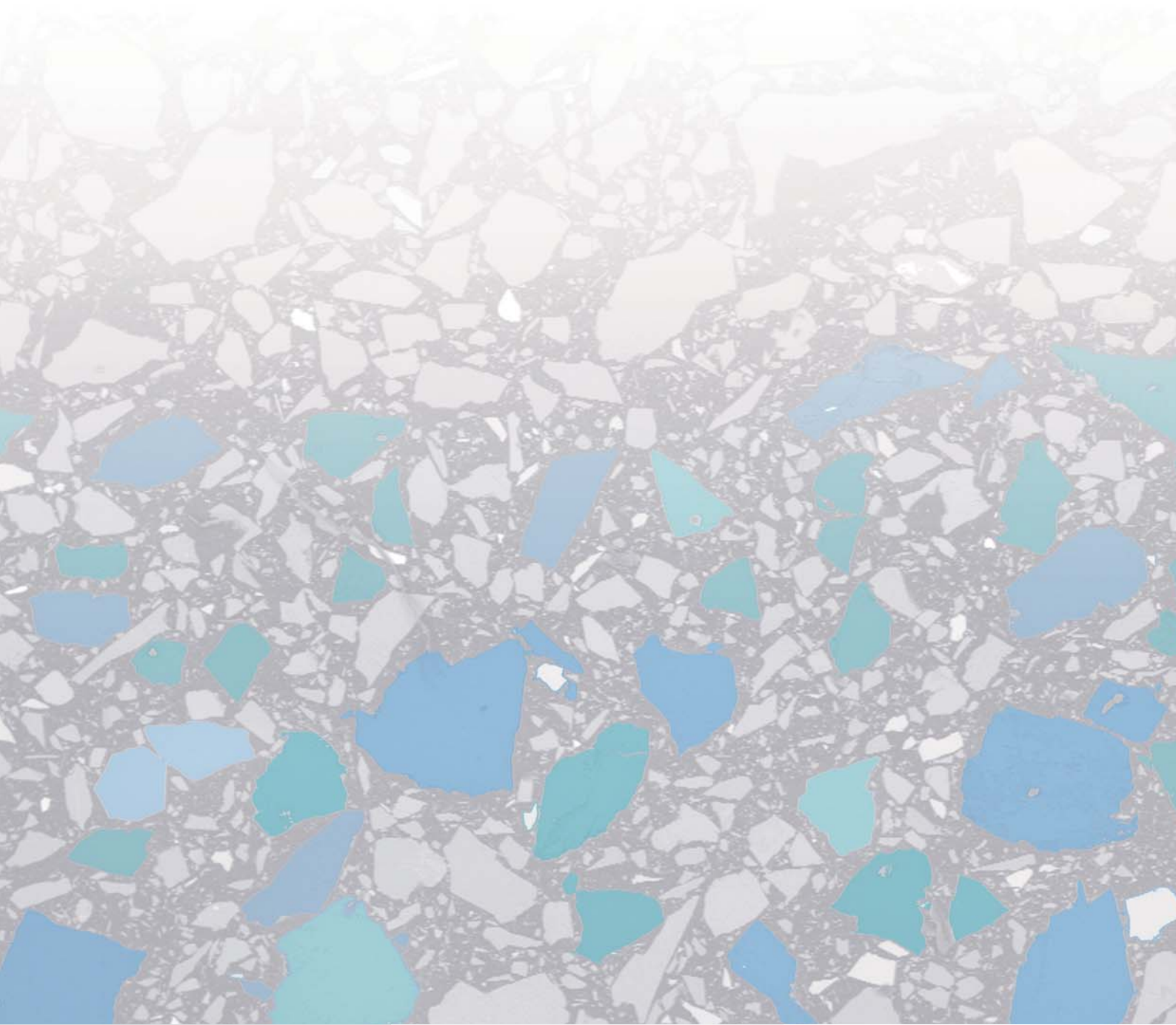


ParticleSCAN VP

A New Dimension in Process Control



We make it visible.

Carl Zeiss Microscopy

More than 160 years of experience in optics has laid the foundation for pioneering light, electron and ion beam microscopes from Carl Zeiss. Superior integration of imaging and analytical capabilities provides information beyond resolution, unlocking the best kept secrets of your sample.

With a broad technology portfolio Carl Zeiss provides instruments both tailored to your requirements and adaptable to your evolving needs. With our highly versatile application solutions we endeavor to be your partner of choice.

Regional demo centers provide you with access to our applications expertise developed in collaboration with world-class partners in industry and academia. Global customer support is provided by the Carl Zeiss Group together with an extensive network of authorized dealers.

SEM

Scanning Electron Microscopes

FE-SEM

Field Emission - Scanning Electron Microscopes

HIM

Helium Ion Microscope

CrossBeam®

CrossBeam® Workstations (FIB-SEM)

TEM

Transmission Electron Microscopes

ParticleScan VP

A turnkey system for process monitoring and production applications to drive manufacturing capability and yield improvements. A rugged and mobile Scanning Electron Microscope for automatic particle analysis.

ParticleSCAN VP


A New Dimension in Process Control

Benefits


- **Dedicated Particle Analysis Solution**
Turnkey platform for repetitive analysis in process monitoring, quality control and routine analysis applications
- **Rugged and Mobile**
Rapid installation and re-location of equipment, designed for industrial environments.
- **Variable Pressure SEM**
Charge compensation using variable pressure for measuring non-conducting particles or filtered samples
- **SmartPI™**
Smart Particle Investigator – Integrated Particle Analysis software for automatic and routine analysis with easy to use operator interface
- **Integrated EDS**
Particle identification by chemical classification combined with morphology measurements from a single application and user interface
- **High Performance SEM Platform**
Option to use as a conventional SEM with Carl Zeiss SmartSEM® software



Particles in
Clean
Manufacturing
Processes



Automotive
Engine Wear
Debris



Environmental
Particles



Metallic
Inclusions



Powders



Pharmaceutical
Products

ParticleSCAN VP

The Compact, Mobile and Flexible Turnkey Solution

Carl Zeiss Microscopy created the market for automatic particle analysis systems by monitoring wear debris in engine oil to determine the health of high performance engines. This expertise is now implemented in the powerful **SmartPI™** (Particle Investigator) software available on the new **ParticleSCAN VP** system and can be tailored for a wide range of particulate analyses from pharmaceutical powders to steel inclusions.

ParticleSCAN VP is a turnkey system designed for use in a process monitoring and production environment applications to drive manufacturing capability and yield improvements.

ParticleSCAN VP is a rugged and mobile Scanning Electron Microscope with minimal environmental constraints that can be rapidly installed on site.

Combined with an optional X-Ray analysis system (EDS) the **SmartPI™** software can automatically measure, classify and record size, shape and chemical composition of particle samples. With a production mode interface wizard, non-skilled operators can load samples and select a preset routine for unattended analysis and reporting.

SmartPI™ then completes self-calibration and set-up routines before automatically analysing all of the required samples.

ParticleSCAN VP is an extremely broad and flexible platform. The **SmartPI™** configuration mode allows the user to select and modify all of the analysis parameters through a series of set-up wizards including SEM operation, preset sample holders, image processing, EDS parameters, particle classification and report generation. Each of these components can be edited individually or selected from preset functions to build a complete analysis routine. Particle data from the analysis are delivered in a custom report or a flexible database containing all the selected parameters. These data can be retrospectively re-processed with refined particle selection criteria, classifications or characteristics. Particle images of specific interest can be reviewed offline, re-measured or re-located on the original sample for further analysis if required.

SmartPI™ software is already used in a range of process monitoring applications to monitor manufacturing cleanliness in precision engineering of automotive components and sub-assemblies.

ParticleSCAN VP and **SmartPI™** have been designed for repeatable high volume analysis of routine samples in a production environment. Their ability to produce, analyse and report particulate data create a new dimension in process control abilities.

SmartPI™ Operation:

PRODUCTION MODE

- Automatic setup of SEM and X-ray operating conditions
- Production interface wizard to enter sample details and select analysis routine
- **SmartPI™** then automatically measures, classifies & records size, shape, & chemical compositions of each particle and produces a particle report

CONFIGURATION MODE

Easy to use software for setting up particle scans with ultimate user flexibility to configure:

- SEM setup & calibration
- Sample holders and scan process
- Image processing & analysis
- EDS selection & control
- Stop criteria
- Particle classification & reporting

REPORT MODE

- Tailored data reporting
- Retrospective data processing
- Single frame interactive analysis with anomaly investigation



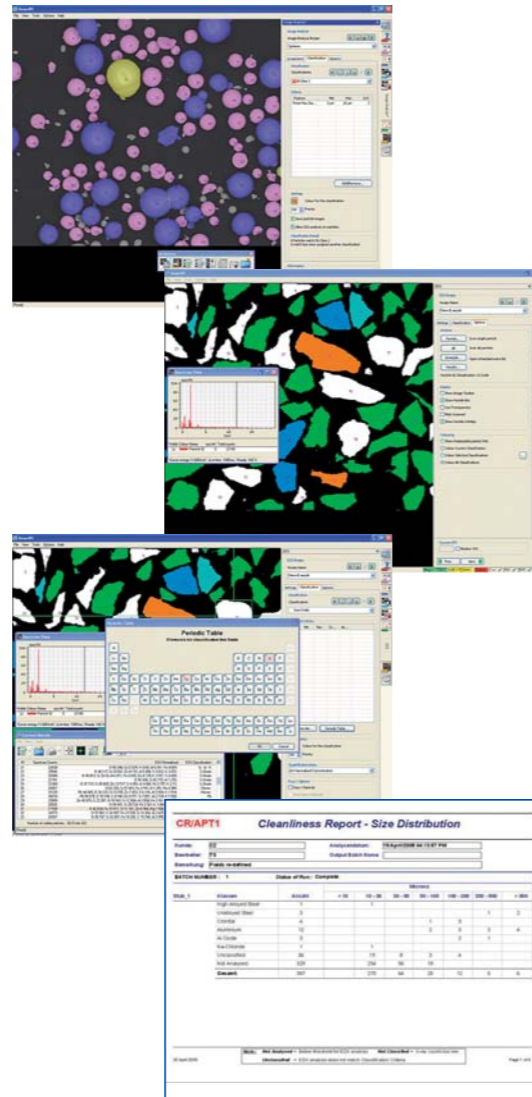
ParticleSCAN VP with SmartPI™ User Interface

ParticleSCAN VP System:

The ParticleSCAN VP Scanning Electron Microscope from Carl Zeiss Microscopy with an integrated liquid nitrogen free EDS system, is a dedicated process analysis tool for the production environment. Its rugged design and construction enable use on the factory floor instead of a dedicated analysis laboratory. The system has minimal environmental constraints and can be installed and running samples in less than an hour.

Remote diagnostic capabilities allow rapid and focused technical support to maximise the system up time required by a tool which can be an essential part of the manufacturing control process.

SmartPI™ software is also available for use on the EVO®, ULTRA and SUPRA® Scanning Electron Microscopes from Carl Zeiss Microscopy.



Hardware and Software

ParticleSCAN VP SmartPI™ Software Solution



ParticleSCAN VP Hardware Dimensions and Weight

Overall Dimensions
in mm

Overall Weight
475kg*

* Approximation – exact weight
determined by option
configuration





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We make it visible.