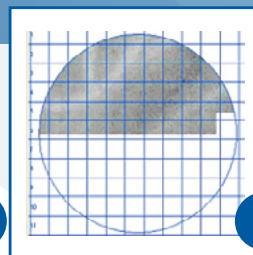
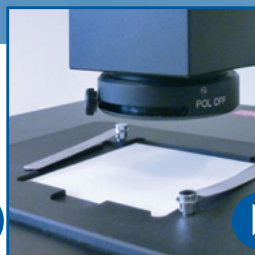
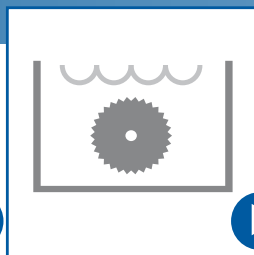
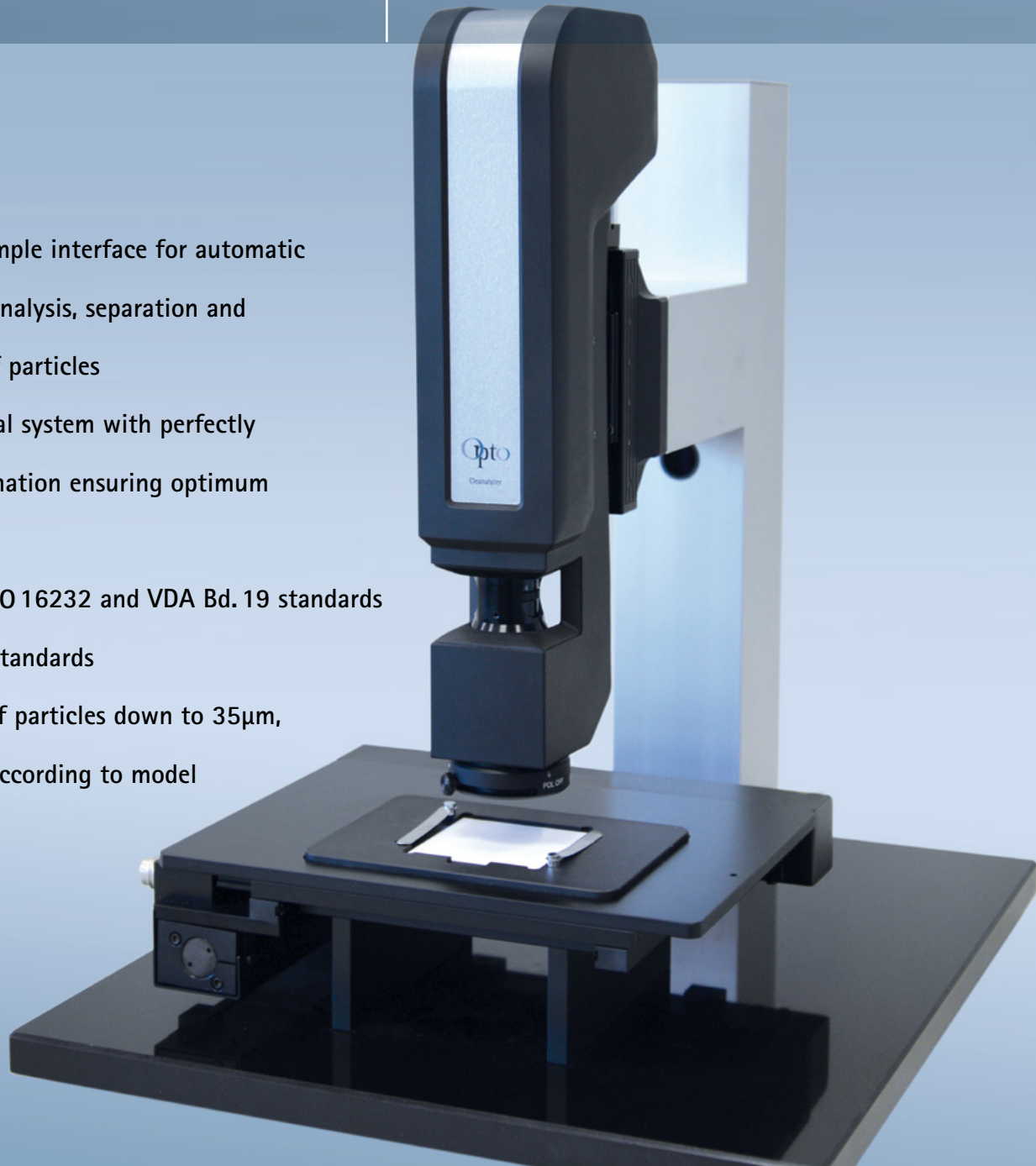


Cleanalyzer

Precision measurement,
analysis and documentation
of filter particulates

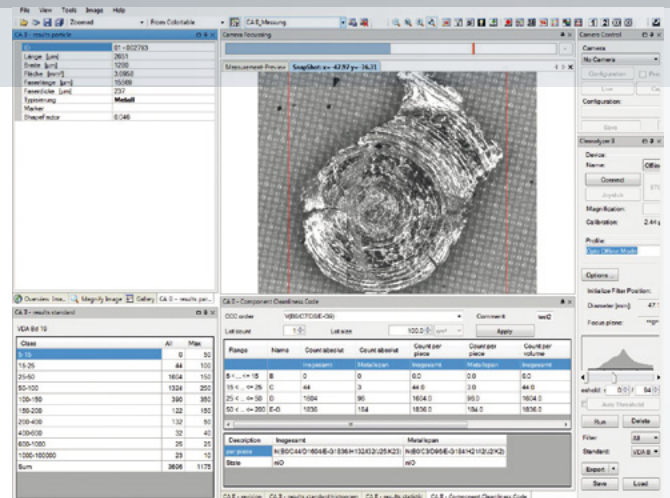
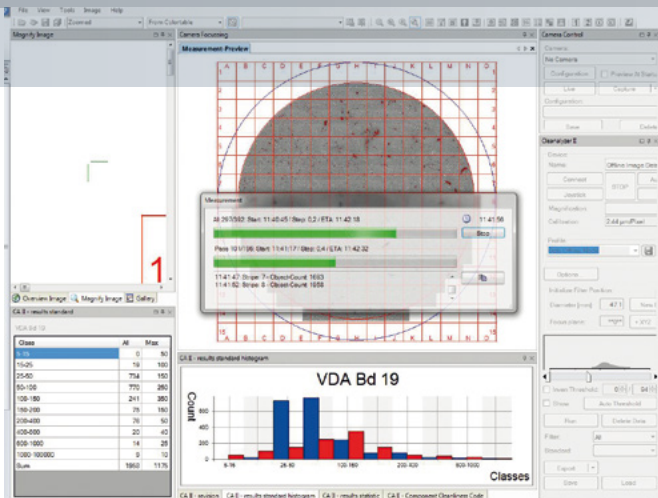
Designed, manufactured and tested in Germany to the highest optomechanical standards.

- Powerful yet simple interface for automatic measurement, analysis, separation and classification of particles
- High-end optical system with perfectly matched illumination ensuring optimum image quality
- Compliant to ISO 16232 and VDA Bd. 19 standards
- User creatable standards
- Measurement of particles down to 35µm, 15µm or 5µm according to model



Measurement

Analysis



Measured Cleanliness

Cleanalyzer is a precision engineered analytical system designed to examine microscopic particulate debris captured on filters – a key procedure in performing reliable and reproducible evaluation of component cleanliness.

Fully Featured

Precision mechanical parts machined to exact tolerances are susceptible to damage or malfunction caused by particulate contamination. To address this issue, component cleanliness must be measured, and quantified in order to guarantee full function and to avoid failures due to particulate damage.

The Cleanalyzer system is a powerful, fully integrated test platform which enables precision measurement, analysis and documentation of this critical cleanliness indicator. Cleanalyzer is compliant with current particulate standards.

Powerful as standard

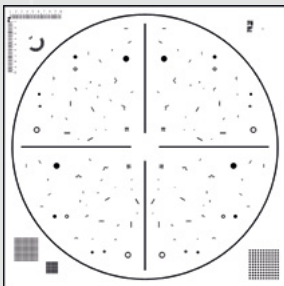
Cleanalyzer gives you the tools to precisely and repeatably document the cleanliness of your parts. No matter which version of Cleanalyzer you select, you will have one of the most fully functioning, and easy to use particle analysis systems available today:

- Simple interface with fast processing times
- Live results feed during scan
- Ultimate reliability and repeatability
- Same sophisticated software for all systems providing analysis of single particles, particle classes and particle types
- Easy documentation with freely configurable reporting and simple export into Excel and databases
- Individual particle locations can be stored and accessed for closer inspection in live mode or anytime from the database
- Automatic detection of reflecting particles (e.g. metals)



Cleanalyzer Specifications

	Cleanalyzer Professional 35 µm	Cleanalyzer Professional 15 µm	Cleanalyzer Professional 5 µm
Description	<ul style="list-style-type: none"> Fully automated process runs High-resolution, optical zoom system (15 µm and 5 µm version) High-resolution, fixed magnification optical system (35 µm version) PC controlled x/y stage with joystick Optimised LED ringlight illumination Available in three versions, measuring down to either 35 µm, 15 µm or 5 µm 		
High-resolution optics	Fixed magnification optic	Optical zoom system	Optical zoom system
Smallest measurable particle (according to VDA Bd. 19)	35 µm	15 µm	5 µm
Maximum resolution (acc. to VDA Bd. 19, pixel size)	3.5 µm per pixel	1.1 µm per pixel	0.5 µm per pixel
Measuring speed per filter (filter dia. 47 mm)	~3 min	~4 min	~4 min
Object field x	3.4 x 4.2 mm	8.8 x 6.5 - 1.4 x 1.1 mm	4.6 x 3.5 - 0.6 x 0.5 mm
Part number	043-102307-V2	043-102302	043-102305
Accessories			
Particle Standard Target	043-102302-72 043-102302-75 (incl. Certificate)		



Additional common features:

All systems are supplied with the powerful yet easy to use Cleanalyzer software suite:

- Image acquisition and display of intermediary results
- Analysis of number, shape, size and classification of particles
- Standards ISO 16232 and VDA Bd. 19 are included, easy user-creation of own standards
- Automatic detection of particle types (reflecting particle e.g. metals, fibres)
- Evaluation of more than 50 particle parameters for each article (length [according VDA], width, area, length of fibre, width of fibre, brightness, reflection rate and many more)
- Configuration and storage of different system setups for various measuring tasks
- Easy export function for all analysed data into Excel and databases
- Calculation of Component-Cleanliness-Code (CCC) according to ISO 16232
- Filtering of particle types and/or particle classes
- Efficient particle processing (e.g. separation of overlapping particles)
- Contemporary and fully customisable user interface for different measuring scenarios
- Compilation of overview image

071016

Opto GmbH

Lochhamer Schlag 14
82166 Gräfelfing
Munich, Germany

+49 89 89 80 550
info@opto.de
www.opto.de

Opto UK Ltd

Daresbury Innovation Centre
Keckwick Lane, Daresbury
Cheshire WA4 4FS, United Kingdom

+44 1925 606 595
info@opto-uk.com
www.opto-uk.com