



# Professional Imaging

**dhc**  
Bilddatenbank

**dhc**<sup>®</sup>  
MicroCam

**dhc**  
Cleanalyzer

[www.dhssolution.com](http://www.dhssolution.com)

# ABOUT DHS SOLUTION

Since the early nineties dhs Solution has established itself internationally with its own imaging software in QA departments and laboratories in industry, research and development and media management. Today we also offer a wide range of services associated with the software solution as well as suitable hardware for imaging and data management. A perfect full service package, customisable to your individual needs.

The many years of experience of our staff and their direct day-to-day contact with you, the customer, add to the

quality of our products. Teamwork and short communication channels are also of key importance to us.

Our goal is to continuously improve customer quality and productivity by offering flexible and customised image management solutions.



## OUR COMPETENCIES

Competence means performing diagnoses, developing strategies, planning and implementing, all with one goal in mind – to improve quality. Software, service and hardware are the fields of expertise that have made dhs Solution a general contractor for “professional imaging”.

dhs Solution plans, organises and supports the end-to-end workflow in your QA laboratory.

You have a single point of contact for your complete imaging system. We provide custom technical consulting (software and hardware), assume responsibility for on-site system configuration and installation, train users for their special tasks and adapt dhs Image Data Base to your environment. The future begins today. Every day we diagnose, develop and plan in order to enhance the quality of our products and achieve all-round quality for our customers.

### Software

- Archiving
- Acquisition
- Processing
- Analysis
- Documentation



### Service

- System installation
- Custom programming
- Training
- Consulting
- Microscope maintenance/repair
- Service contract



### Hardware

- Microscopes
- Digital microscope cameras
- Macroscopes
- Lighting equipment
- PC systems



# PRODUCTS

dhs Image Data Base, dhs-Cleanalyzer and dhs-MicroCams® offer countless ways of combining software and hardware to support professional work in all laboratory applications.

## dhs Image Data Base



### Professional image management

dhs Image Data Base has been deployed for more than 20 years as a global, modular image management system in QA departments and laboratories for purposes of archiving, acquisition, processing, analysis and documentation. Its modular structure allows you to combine the software tools you need to satisfy your individual requirements. Ease of operation and clarity of structure simplify daily tasks so you can get down to real work right away.

Licensing options are available for single-user and multi-user solutions at different workplaces and even at different company locations. Your dhs Image Data Base does not require a particular interface and can be integrated into existing laboratory applications.

## dhs-Cleanalyzer



### Standard-compliant residual dirt analysis

Consisting of software and customer-selected hardware, dhs-Cleanalyzer was specifically designed for standard-compliant cleanliness analysis to evaluate filters and to determine component contamination levels.

The system supports all common national and international standards such as VDA Bd. 19, EN ISO 16232, EN ISO 4406 and others.

Four dhs-Cleanalyzer device models are available, enabling you to perform manual or fully automatic evaluations (depending on sample volumes). Further model selection parameters are the size (in  $\mu\text{m}$ ) of the particles to be analysed and metallic and non-metallic particle detection. Here too, dhs Image Data Base with its full range of options can be flexibly combined with dhs-Cleanalyzer hardware models. Conversely, our open-interface software can be integrated into existing hardware to build a fully customised system.

## dhs-MicroCam®



### Digital microscope cameras

The choice of source in the digital world of images is enormously important. This is why our dhs Solution offering comes with its own digital microscope camera series – dhs-MicroCam®.

dhs-MicroCam® is used in light microscopy, stereo microscopy and macroscopy. Our cameras can be adapted as an image source to all optical systems using the standardised C-mount thread.

All dhs-MicroCams® are integrated into dhs Image Data Base through their software. As a result, all convenient tools such as live image functions and parameter setting and saving are available to you. The dhs-MicroCams feature a variety of sensor technologies (CMOS and CCD, 1/2" and 1") and resolution variants to ensure that the right image source can be found for each scenario.

### Applications

- Interactive image measurement
- Determination of steel inclusions
- Particle and pore analysis
- Area detection
- Coating thickness measurement
- Cleanliness analysis
- Cast iron analysis
- Grain size determination
- Weld seam measurement



# PROFESSIONAL IMAGE MANAGEMENT

We have been developing digital image processing software for more than 20 years. In close cooperation with many thousands of users in various sectors. That's why our software solutions are both universal and individual. They combine modern digital processing technologies with solutions tailored to the needs of individual users. **dhs Image Data Base** is the imaging platform. It features all functions of innovative digital image management software, ranging from archiving, acquisition, processing and analysis through to documentation.

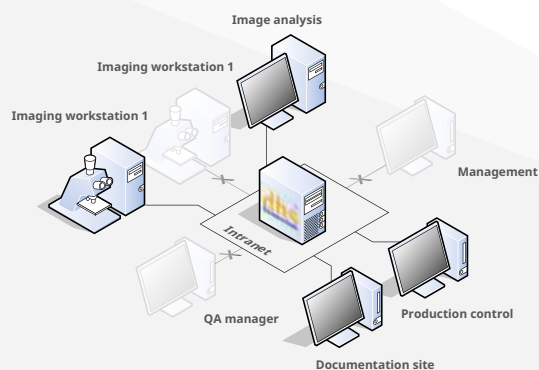
## Archiving

The basic module – the actual data base – is the control centre of our image management system. This is where images and data are managed and the entire application is controlled. The data base is of flexible design and can easily be adapted to individual needs.



Basic module (object strip)

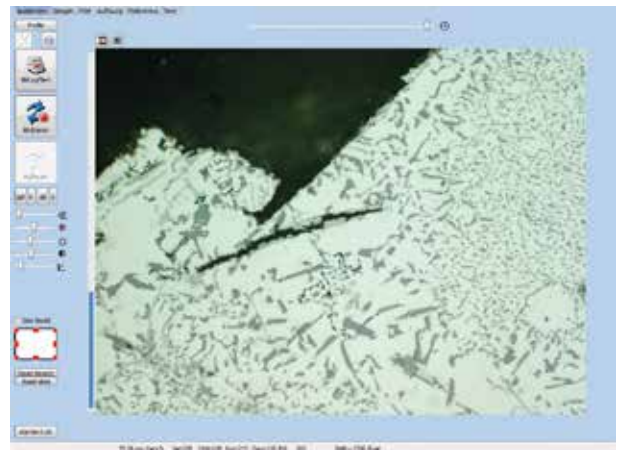
The licence server enables all software modules to be distributed to the workstations in your corporate network at low cost.



Licence management

## Acquisition

Images are obtained from a variety of sources and optical systems. Using image acquisition, images are transferred from the various camera systems to dhs Image Data Base® in all popular image data formats. All key parameters are supplied for optimal setting of the live image. Many automated functions make daily work that much easier.



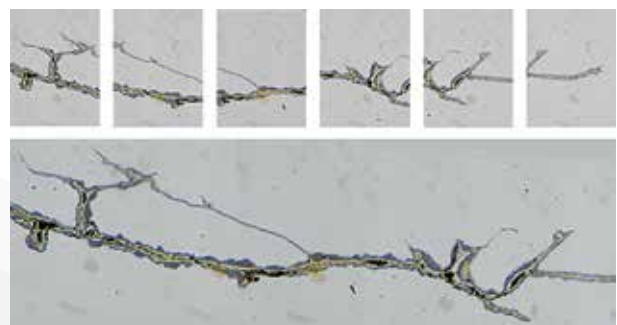
Module: Image Acquisition

## Processing

A large selection of add-on modules is available to:

- measure images (Measurement Tool)
- optimise images (Image Manipulation, HDR)
- combine images (Panorama Image/Sharpness Reconstruction)
- compare images (Metal Sections)
- manage and forward images (ImageWizard)

At the touch of a button the results (images and data) are transferred to the data base where they can be further processed.



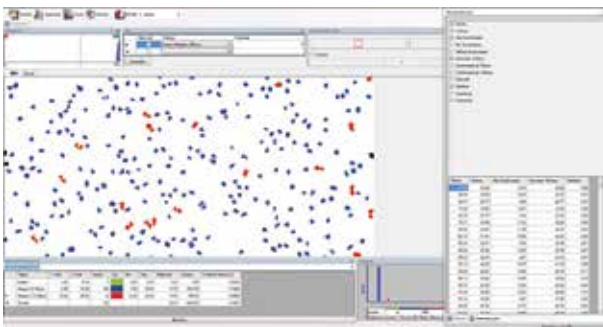
Module: Panorama Image



## Analysis

Software-based, fully automatic and time-saving tools for image analysis tasks are growing in importance. We offer practical tools for area detection, grain size determination and particle and pore analysis in metallography and metallurgy. Our focus here is on the simple and rapid analysis of samples and graphic display of the results. Coating thickness can also be measured and visualised fully automatically; for example, in paint shops, electroplating shops, hardening shops and in the plastics industry.

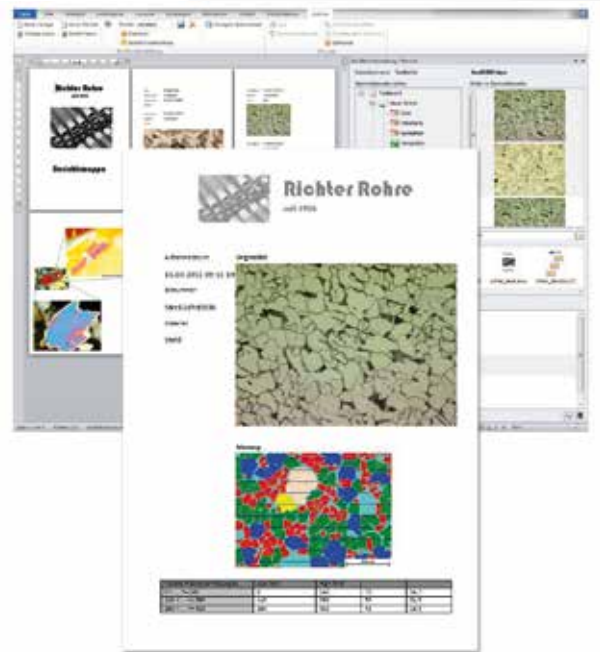
Standard-compliant evaluations of castings and steel materials round off our analysis package.



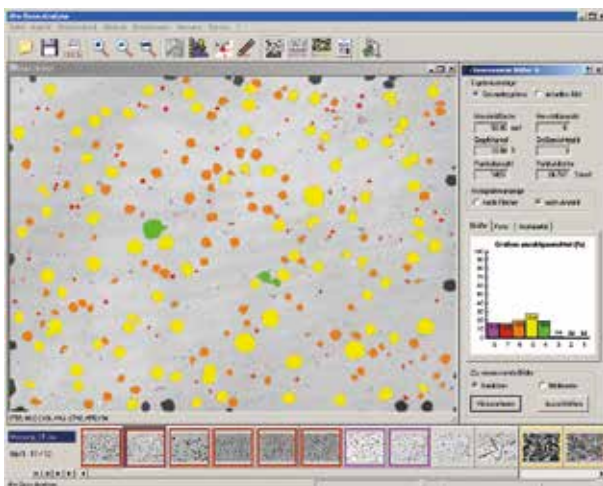
Module: Particle Analysis

## Documentation

Tests, evaluations and analyses are invariably documented at the end of each workflow. Results must be recorded, set down in reports or quickly communicated internally and externally. With this in mind, dhs Image Data Base provides convenient options for creating professional test reports as well as modern forms for internal and external communication.



Module: Reporting



Module: Cast Iron Analysis

## Features

- Archiving
- Acquisition
- Processing
- Analysis
- Documentation
- Universal and individual
- Flexible
- Cross-sector



# CAMERAS, MICROSCOPES AND PC HARDWARE

In conjunction with dhs Image Data Base, dhs Solution provides you with suitable hardware components as image sources and optical systems (microscope cameras and microscopes/macrosopes). Our own microscope cameras are perfectly matched to dhs Image Data Base.

The **dhs-MicroCam®** series offers a variety of modules with different resolutions and sensors. The right camera for every job. Our program also includes microscopes, macrosopes, microscope tables and controllers and suitable lighting equipment from well-known manufacturers.

As an authorised ZEISS dealer, dhs Solution offers expert advice and the right solution for your needs – including PC and monitor, if required!



Various dhs-MicroCam® models

## Features

- Digital microscope cameras
- Microscopes of well-known manufacturers
- Macrosopes
- Microscope tables and controllers
- Lighting equipment
- PC hardware



Zeiss stereo microscope



## SOFTWARE

### Archiving

Basic Module dhs Image Data Base	✓	✓	✓
Back-ups	✓	✓	✓
DatalmEx	✓	✓	✓
Viewer	✓	✓	✓
Licence Server	✓	✓	✓

### Acquisition

Image Acquisition	✓	✓	✓
Image Acquisition REM	✓	✓	✓

### Processing

Measurement Tool	✓	✓	✓
Measurement Tool Light	✓	✓	✓
Panoramic Image	✓	✓	✓
Sharpess Reconstruction	✓	✓	✓
ImageWizard	✓	✓	✓
Image Manipulation	✓	✓	✓
Metal Sections	✓	✓	✓
HDR (High Dynamic Range)	✓	✓	✓

### Analysis

Area Detection	✓	✓	✓
Grain Size	✓	✓	✓
Particle Analysis	✓	✓	✓
Coating Thickness	✓	✓	✓
Coating Thickness Professional	✓	✓	✓
Cast Iron Analysis Standard	✓	✓	✓
Cast Iron Analysis Advanced	✓	✓	✓
Cup grinding	✓	✓	✓
Steel inclusions	✓	✓	✓

### Documentation

Automatic Reporting	✓	✓	✓
Communication	✓	✓	✓

### Updates

from older versions to the newest version	✓	✓	✓
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## SERVICES

Installation + short introduction	✓	✓	✓
dhs Online-Support	✓	✓	✓
dhs Consulting	✓	✓	✓
User training at your site	✓	✓	✓
Administrators training	✓	✓	-
Programmers training	✓	-	-
Service-Contract	✓	✓	-
Custom Programmings	✓	✓	✓
Technical service/repairation for microscopes	●	✓	✓



## HARDWARE

### Digital Cameras

dhs-MicroCam® 1312	✓	●	✓
dhs-MicroCam® 3112	✓	●	✓
dhs-MicroCam® 4013	✓	●	✓
dhs-MicroCam® 5012	✓	●	✓
dhs-MicroCam® 5013	✓	●	✓
dhs-MicroCam® 2022	✓	●	✓
dhs-MicroCam® 5022	✓	●	✓
Canon EOS 600 D	✓	-	✓

### dhs-Cleanalyzer

dhs-Cleanalyzer Professional 5µm	✓	✓	-
dhs-Cleanalyzer Professional 15µm	✓	✓	-
dhs-Cleanalyzer Professional 50µm	✓	✓	-
dhs-Cleanalyzer Stereo	✓	✓	-
dhs-Cleanalyzer Stemi	✓	✓	✓
dhs-Cleanalyzer Scan	✓	✓	-
Particle Standard for dhs-Cleanalyzer	✓	✓	●
DKD Certificate for Particle Standard	✓	✓	●
Filter Holder for dhs-Cleanalyzer	✓	✓	●

### Microscopes and Accessories

Zeiss-Microscope	✓	✓	✓
MEIJI-Microscope	✓	✓	✓
Leica-Microscope	✓	✓	✓
dhs-Macroscopic	✓	-	✓
Illumination equipment	✓	✓	✓
dhs Video Converter USB	✓	-	-

### PC

Desktop-Computer	✓	✓	✓
Notebooks	✓	✓	✓
Displays	✓	✓	✓
Printer	✓	✓	✓



# FULL-SERVICE

A wide range of services complements our offering. We assume responsibility for installation and configuration of software and hardware components, customise the software to suit your needs and train your employees on site.

Our product specialists provide expert assistance quickly via a telephone hotline. Secure Internet-based remote maintenance software enables our service technicians to connect to your system immediately to answer your questions. Advanced training is also possible in this way. Custom requirements can be implemented quickly and inexpensively using the internal programming language integrated in the software.

Regular software revisions and maintenance of your microscopes ensure that your system is always “up-to-date”. Our service contract combines many service components at favourable terms and conditions.

dhs Solution has your interests at heart long after you have made your purchase – that’s our philosophy!



Always there for you, our product specialists



Staff training on site

## Features

- Installation
- User training
- Hotline
- Online support
- Custom modifications
- Software updates
- Service contract
- Microscope maintenance



### Interested?

Have we managed to arouse your curiosity and would you like to find out more about dhs Image Data Base?

- Visit us on the Internet at **[www.dhssolution.com](http://www.dhssolution.com)**
- Request our info folder with extensive detailed information and individual brochures.
- Would you like an individual software and hardware presentation at your company? Arrange a date with us or with our sales partners.

### Thank you

dhs thanks the many thousands of users who have made valuable contributions to the ongoing development and optimisation of our software by supplying feedback. It's due to them that dhs Image Data Base is one of the most practice-oriented applications on the market – once again, many thanks!

### We're always there for you!

The dhs head office is located in central Germany, just a stone's throw away from the Rhine Main and Ruhr economic centres. However, at the same time our location is so peaceful and in such an attractive landscape on the edge of the Westerwald that our team is able to devote its full concentration and commitment to further developing the dhs software and creating new ideas.

Proximity to our customers and partners is important to us. Despite our central geographic location we also make intensive use of all options offered by modern communication technology so you can be sure that we are there for you at all times.

Detailed directions on how to reach us can be sent to you on request via e-mail or can be found on our website at **[www.dhssolution.com](http://www.dhssolution.com)**



### **dhs Dietermann & Heuser Solution GmbH**

Herborner Str. 50  
35753 Greifenstein-Beilstein  
Germany

Phone: +49 (0)27 79 91 20-0  
Fax: +49 (0)27 79 91 20-99  
Email: [vertrieb@dhssolution.com](mailto:vertrieb@dhssolution.com)  
Web: [www.dhssolution.com](http://www.dhssolution.com)

# Application area

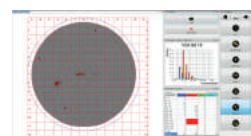
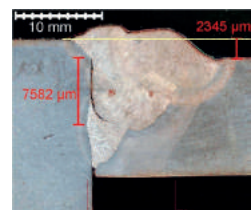
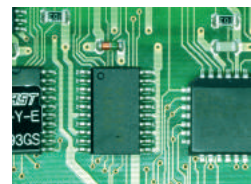
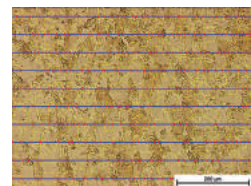
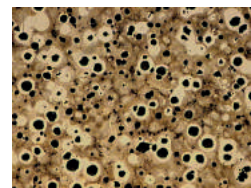
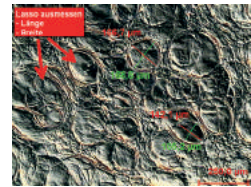


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- archiving
- acquisition
- processing
- analysis
- documentation.

Its **modular structure** allows you to **combine the software tools you need** to satisfy your individual requirements. Ease of operation and clarity of structure simplify daily tasks so you can get down to rework right away.

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## Interfaces

- Microscope
- Macroscopic
- Stereo microscope
- Scanning electron microscope
- Video microscope
- Macro copy stand with camera
- Hardness testing device
- Endoscope
- X-ray apparatus
- Interferometer
- etc.

## Image sources

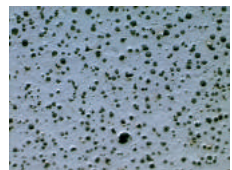
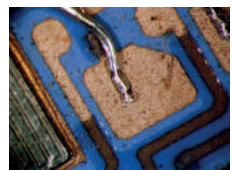
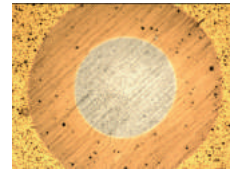
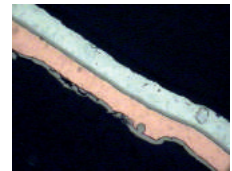
- analogue and/or digital microscop camera (CCD / CMOS)
- digitale photo camera
- Scanner
- etc.

## Branchen

- **Industry** (metals, plastics, woods, chemicals, pharmaceuticals, ceramics, motor vehicles, semiconductors, electrics / electronics, aerospace, foodstuffs etc.)
- **Life science** (clinics, veterinary applications, medical device manufacturers and laboratories of all kinds)
- **Research** (universities, institutes of technology, universities of applied sciences, vocational and technical schools, Fraunhofer Institutes, Max Planck Institutes etc.)
- Criminalistics, authorities, **industry associations, institutes** etc.

## Assignment of tasks

- Image management (data base)
- QA documentation and laboratory documentation
- Two-dimensional measurement of components
- Compilation of test reports with integrated images
- Compensation for insufficient depth of field at a microscope
- Comparison between images and workpieces
- Materialographic analysis
- Measurement of layer thickness
- Determination of steel inclusions
- Casting analysis
- Quality assessment of any kind of specimens /workpieces
- Assessment of surfaces
- Tests during production
- Measurement of welding seams
- Characterisation of pores or particles
- Documentation of incoming goods inspections
- Initial sampling with preparation of image material
- Standard-compliant residual dirt analysis
- Evaluation of the technical cleanliness in production
- Evaluation of the technical cleanliness of components
- Ergonomic examination of components on a PC monitor



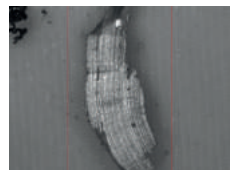
## Competencies

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**Personal feedback from our customer** you will find on [www.dhssolution.com](http://www.dhssolution.com) under the headline „References“.



## dhs Dietermann & Heuser Solution GmbH

Herborner Str. 50

35753 Greifenstein-Beilstein, Germany

Phone: +49 (0)27 79 91 20-0

Fax: +49 (0)27 79 91 20-99

Email: [vertrieb@dhssolution.com](mailto:vertrieb@dhssolution.com)

Web: [www.dhssolution.com](http://www.dhssolution.com)

**dhs**  
Image Data Base

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Micro Cam

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Cleanalyzer

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Solutions for the standard-compliant  
**Technical  
Cleanliness Analysis**

High-quality optical components, modern camera systems and professional  
image analysis –  
for precise and user friendly evaluation of filters and particle traps



# DHS-CLEANANALYZER®

## Discovery

Device with simple operation and **fully automatic POL**. Standard-compliant **measurement from 25 µm**. Incl. Zeiss stereomicroscope, Märzhäuser control technology and high-resolution dhs-MicroCam®.



## Scan

High-quality flatbed scanner in combination with the cleanliness analysis software from dhs – including anodized aluminium plate with matching section to **insert the slide frames** (1 times, optional 6 times).

Also suitably for the evaluation of **particle traps**.

In addition for this, we offer an **special adapter**.

**For evaluating particles from 50 µm.**

**Inexpensive entry-level system** that can be easily upgraded later with other optical components.



## Professional

Fully automatic system with **zoom optics** (from 5µm and 15µm) and **fixed optics** (from 35µm) for higher volume of samples. With motorised Z axis and autofocus in the 5µm variant. Stable design with granite slab, aluminium profile column and adjustable LED lighting.



## Freely configurable Cleanliness-Systems - with already available microscopes!

Fully automatic **example system** consisting of: ZEISS microscope Axiomager, cross table with motorized x-/y-axis, tango-steering, adjustable LED lightning and dhs-MicroCam® 2213.

- Standard-compliant analyses to **particle sizes from 5µm**
- High-quality **microscope** suitable for **varied standard-compliant and analytical settings of tasks** (e.g. steel inclusions) - **upgradeable with all dhs-software-modules**, according to the application



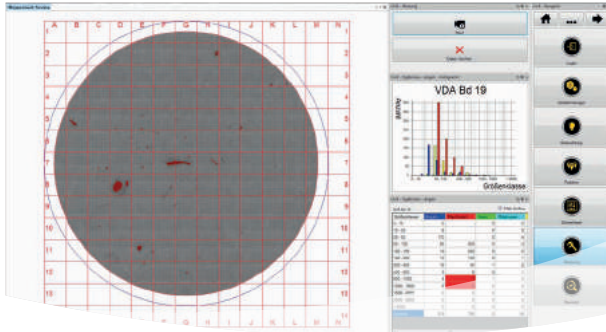
## Cleanliness Analysis Software

Intuitively operated analysis software, standard for all dhs-Cleanalyzer variants (**English / German**).

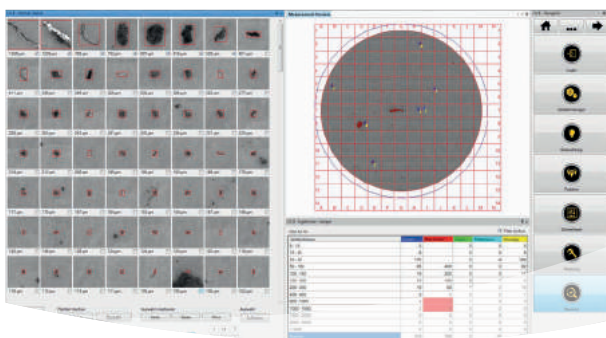
**Easy to learn operating routines** arranged in logical sequences, detailed measured value presentation in tables and diagrams.

Comprehensive **preclassifiers** can be **adjusted**

- Calculation of the standardised fibre criterion (developed length / maximum inscribed circle)
- Calculation of the coverage density as a percentage
- Option of combining incorrectly separated particles through erosion/dilation (useful for devices without polarisation)
- Determination of colour features for further characterisation of residual contaminants
- Clone assistant – tool for automated reproducible microscopy (option of recreating measuring conditions/device settings)
- Support for multi-filter analysis (fully automated analysis of multiple filters within a measuring cycle)
- Supports different filter shapes (circular, rectangular)



- Visualisation of all particles by means of a gallery view



## Features

- Systems especially developed for Cleanliness Analysis for different requirements and budgets
- Supports all current national and international standards, such as **VDA Vol. 19, EN ISO 16232, EN ISO 4406, SAE AS4059** etc.
- Users can integrate more standards with very little effort (= cost saving)
- Standard-compliant **measurements to particle sizes as low as 5µm (= optical resolution 0.5µm)**
- Simple operation with automatic sequences in managed routines, quick and flexible (= easy to learn)
- **Short throughput times**, with automatic systems without tying up employees
- Use of extremely precise measuring optics and high-resolution digital cameras
- Complete systems, **freely configurable**
- Adaption of already available microscopes for Cleanliness Analysis
- **Evaluations can always be followed live**  
= immediate control of the results, you can go directly to particles that are detected and cancel the evaluation in case of outliers
- No maximum particle size
- **Determination of geometric and reflection parameters to specify particles**, such as **metallic /non-metallic, fibres, etc.**
- **Z measurement** (determining the particle height)
- Results are presented in tables and diagrams
- System and measuring parameters are saved for reproducible analysis results
- dhs Particle standard with unique quality, incl. DKD-certification if required
- Direct connection to high-quality imaging package **dhs Image Data Base** (= structured long-term archiving and generation of reports at the press of a button)
- Project-related **trend analyses with long-term evaluations** possible
- Calculating the **Illig value for analysing particle traps** and professional **hall monitoring** (assembly cleanliness)
- **QDAS-surface**

## Base set for cleaning and extraction of components



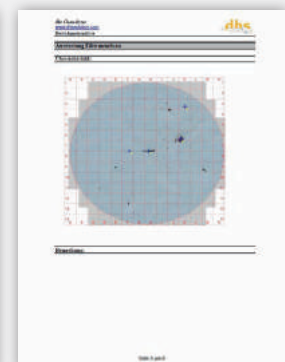
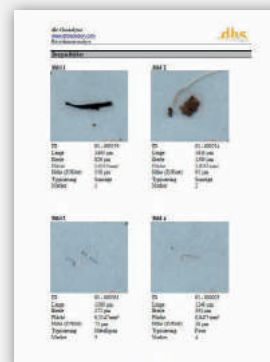
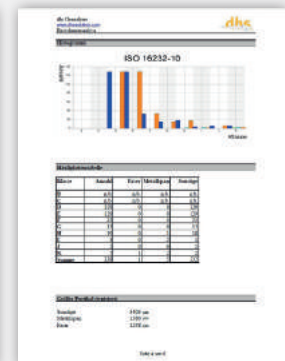
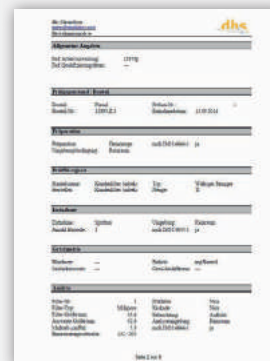
Basic equipment to the cleaning and extraction of components to VDA Bd. 19. Optionally ultrasonic trays and drying devices are offered, according to component size. We like to advice you individually.

## Adequate reports at the end of the workflow

All data, images, analysis values and statistics can be exported to the dhs Image Data Base with a mouse click for long-term archiving and for reporting.

Our dhs-Service contract includes annual equipment maintenance and calibration as well as software-updates!

## Example report with dhs Image Data base



## dhs Dietermann & Heuser Solution GmbH

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Germany

Phone: +49 (0)27 79 91 20-0  
Fax: +49 (0)27 79 91 20-99  
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# dhs-EasyController



In order **to check** low-magnification samples **quickly** (e.g. welds, visual inspections), we offer a **compact, inverse optical system** with an integrated digital camera, an LED ring light and software (optional) for image capture, image measurement and reporting.

## Ergonomics

The **samples** from production are placed **directly on the glass pane** and the measurement procedure can begin – with no time-consuming prior application of the sample and focusing.

The surface of the sample is **always at the same distance from the camera**.

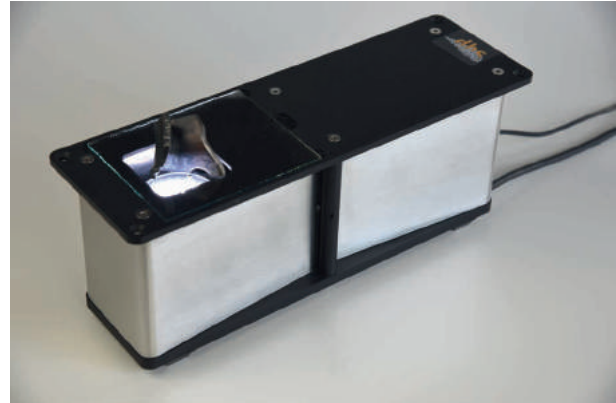
All optical components are housed in a compact stainless steel box which can be integrated into the work surface of a workstation for example.

## Optional Components

- Inverse macroscope with a fixed optical focal length
- Digital camera
- (4.92 Mpix resolution, CMOS, USB 3.0)
- LED ring light

## Optional software:

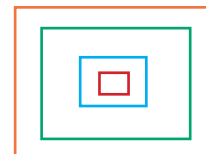
- interchangeable **objective lenses**
- different options of **illumination**
- **eyepieces**
- **bigger base plates**



## Device versions according to object field sizes

Art.-Nr.	Object field sizes (mm)	Total optical magnification (Stereomicroscope)
160DHS00004	26,5 x 20,0	Corresponds to 5 x
160DHS00005	20,0 x 15,0	Corresponds to 6 x
160DHS00006	9,1 x 6,8	Corresponds to 14 x
160DHS00007	4,2 x 3,2	Corresponds to 30 x

## Object field sizes (scale 1:1)

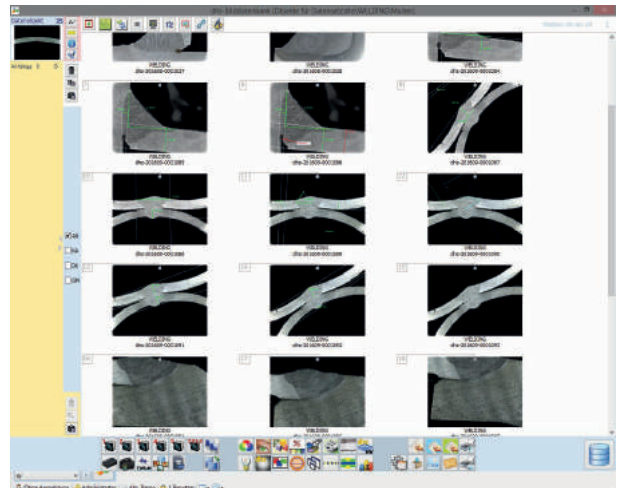
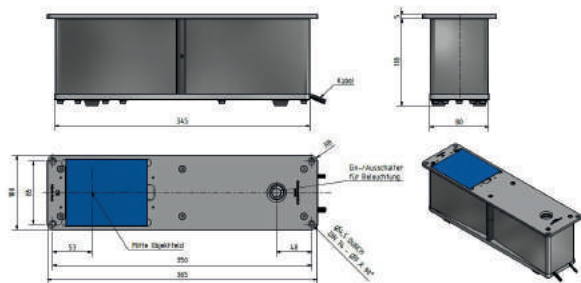


## Information in the overview

- For quick and accurate low-magnification checking of production samples
- Inverse optical system and software (optional)
- Four device versions with different fixed focal lengths available

### Additional technical data

- Power supply and USB 3.0 connecting cable for PCs integrated
- Dimensions:  
365 x 100 x 123 (W x H x D mm)
- PC requirements: From WIN 7
- Graphics card:  
AGP or PCIExpress graphics card  
(at least 1 GB own memory/processor)  
Recommended:  
The latest model from AMD or Nvidia
- USB 3.0 ports: 1 x



### Software

In conjunction with the integrated optical system, the software ensures **perfect image quality in the live image**. Target and actual values can be compared and tolerance values determined quickly. All images and data are then compiled in a report.

**Efficient – the best possible result in just a few steps!**

### dhs Dietermann & Heuser Solution GmbH

Herborner Str. 50  
35753 Greifenstein-Beilstein  
GERMANY

Phone: +49 (0)27 79 91 20-0

Fax: +49 (0)27 79 91 20-99

Email: [vertrieb@dhssolution.com](mailto:vertrieb@dhssolution.com)

Web: [www.dhssolution.com](http://www.dhssolution.com)

**dhs**  
Image Data Base

**dhs**  
MicroCam

**dhs**  
Cleanalyzer

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# pixel-fox®



## Easy Imaging

In **3 Schritten** zum besten Ergebnis  
*In 3 steps to the best result*

1

Software installieren  
*Install software*

2

Kamera anbringen  
*Connect camera*

3

Aufnehmen,  
Vermessen, Speichern  
& Dokumentieren  
*Acquire, measure, store  
& document*

pixel-fox® ist das clevere Imaging-Paket mit digitaler Mikroskopkamera und Software – zum Aufnehmen, Vermessen, Speichern und Dokumentieren von Bildern.

*pixel-fox® is the clever imaging package with digital microscope camera and software – for image acquisition, measuring, storage and documentation.*



## pixel-fox® Basispaket

**pixel-fox® ist das Imaging-Paket mit digitaler Mikroskopkamera und Software (sechssprachig)** – zum Aufnehmen, Vermessen, Speichern und Dokumentieren von Bildern.

Durch die standardisierte USB 3.0 Schnittstelle und das C-Mount-Gewinde an der Kamera kann pixel-fox® an allen handelsüblichen Mikroskopen, Makroskopen, Endoskopen, Objektiven (u.a.m.) eingesetzt werden. Ob in Industrie, BioMed, Qualitätssicherung, Labor, Forschung & Lehre, Ausbildung etc. – hochwertige Hardware und eine vielfältige, intuitiv zu bedienende Software sorgen für eine optimale Darstellung Ihrer Proben in kürzester Zeit.

***pixel-fox® is the imaging package with digital microscope camera and software (available in six languages)***  
– for image acquisition, measurement, storage and documentation.

*Thanks to the standardised USB 3.0 interface and the C-mount thread on the camera, pixel-fox® can be mounted on any generally available microscope, macroscope, endoscope, lens (and much more). Whether in industry, LifeScience, quality assurance, laboratories, research & teaching, training etc. – high quality hardware and a variegated, easy to use software provides an optimal representation of your specimens in shortest time.*



pixel-fox® Basispaket / pixel-fox® Basic package

## Inhalt pixel-fox® Basispaket

- Digitalkamera mit 4,92 Mpix Auflösung (2569 x 1920 Px), ½" CMOS-Sensor und USB 3.0 Schnittstelle, C-Mount-Gewinde
- Objektmikrometer zur Kalibrierung
- Software-Stick mit pixel-fox® Software zur Bildaufnahme, Bildvermessung und Dokumentation, Installationsanleitung, HTML-basierte Online-Hilfe
- Dongle zur Lizenzierung
- Anschlusskabel 3m zur Stromversorgung und Datenübertragung in den PC mit verschraubbarem Winkel-Stecker

## pixel-fox® Software Features

- zur Bildaufnahme und Parametrierung (Weißabgleich, Belichtungszeit, Farbsättigung, Nachschärfen, Spiegeln, Shadingkorrektur u.a.m.)
- zum 2D-Vermessen (Strecken, Kreise, Winkel, Flächen, Lot fällen u.a.m.)
- zum Speichern (\*.jpg, \*.bmp, \*.png und pixel-fox®-Format)
- zur Dokumentation (mit integriertem Berichtsgenerator für MS-Excel-Berichte)
- in sechs Sprachen umschaltbar (DE, EN, IT, FR, ES, PL)

## Content pixel-fox® Basic package

- Digital camera with 4,92 Mpix resolution (2569 x 1920 Px), ½" CMOS-sensor and USB 3.0 interface, C-mount thread
- Stage micrometer for calibration
- Software-Stick with pixel-fox® software for image acquisition, measurement and documentation, installation manual, HTML based online help section
- Dongle for licensing
- 3-metre cable for power supply and data transfer in PC with screwable, angled connection

## pixel-fox® Software Features

- for acquisition and adjusting images (exposure time, color saturation, white balance, shading correction, mirroring, sharpen and much more)
- for measurement 2D (lines, circles, areas, angles, drop perpendicular and much more)
- for storage (\*.jpg, \*.bmp, \*.png and pixel-fox® format)
- for documentation (create MS-Excel-reports with integrated configurator)
- switchable in six languages (DE, EN, IT, FR, ES, PL)

## pixel-fox® Software

Möchten Sie Bildinhalte zweidimensional vermessen oder am Live-Bild prüfen?

Nachdem die Software installiert und die Kamera montiert wurde, gelangen Sie mit pixel-fox® in wenigen Schritten zum besten Ergebnis:

1. System kalibrieren mit Hilfe des mitgelieferten Glasmaßstabs
2. Bild aufnehmen und die passende Kalibrierung zuweisen
3. Bild vermessen mit den vielfältigen Möglichkeiten (Strecken, Kreise, Winkel, Flächen, Lot fällen) oder mittels vorher erstellter Overlays (z.B. Raster) am Live-Bild vergleichen
4. MS-Excel-Berichte erstellen mit dem integrierten Berichtsgenerator

**Zum Leistungsumfang der Software gehören darüber hinaus:**

- skalierbarer Maßstabsbalken
- Beschriftungen (Pfeile und Texte)
- Digitalzoom
- Fadenkreuzeinblendung
- Farbauswahl für Linien und Beschriftung
- Linealeinblendung am Bildrand und Online-Meßwertvorschau
- Benutzung der pixel-fox® Kamera als Twain-Quelle in anderen Anwendungen
- Digitale Lupe
- Raster als Overlay
- Übergabe der Messwertergebnisse in MS-Excel
- „Fangen“ von Messpunkten
- Abspeichern von „Arbeitssitzungen“
- parallele Hilfslinien

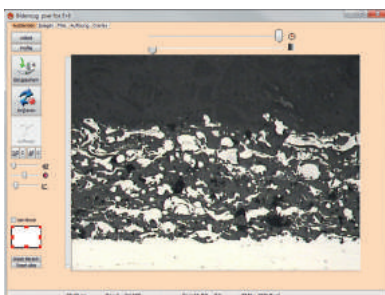
*Would you like two-dimensionally measure image contents or do compare on live-image?*

*After the software was installed and the camera was mounted, reach with pixel-fox® in a few steps to the best result:*

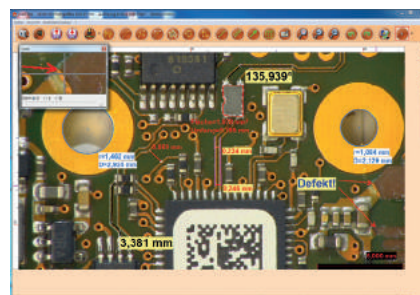
1. *Calibrate the system with the provided stage micrometer*
2. *Acquire an image and assign the appropriate calibration*
3. *Measure image with variegated options (lines, circles, areas, angles, drop perpendicular) or compare image with previously generated overlays on live-image*
4. *Create MS-Excel-reports with the integrated configurator*

**The software also includes:**

- *scaleable scalebars*
- *labelling (arrows and texts)*
- *digital zoom*
- *show crosshairs*
- *colour settings for lines and labellings*
- *ruler shown on edge of screen and online preview of measured value*
- *using the pixel-fox® camera in other programmes via TWAIN drivers*
- *digital loupe*
- *export measured data to MS-Excel*
- *„snap up“ measurement points*
- *saving work sessions*
- *parallel guidelines*



Bildeinzug / Image aquisition



Bildvermessung / Measurement

## Beratung • Kauf • Support

pixel-fox® unterstützt die Sprachen Deutsch/Englisch/Französisch/ Spanisch/Italienisch/ Polnisch und wird international ausschließlich über qualifizierte und autorisierte Handelspartner vertrieben, die Ihnen gerne für alle Fragen zur Verfügung stehen. Brauchen Sie technische Hilfe? – über unsere Website [www.pixel-fox.com](http://www.pixel-fox.com) gelangen Sie direkt in unser **Kundencenter**. Dort können Sie sich zu jeder Zeit direkt an unsere Imaging-Spezialisten wenden. Die PC-Systemvoraussetzungen zur Nutzung von pixel-fox® finden Sie ebenfalls in der jeweils aktuellen Fassung auf unserer Website.

## Advice • Purchase • Support

*pixel-fox® assists the languages German/English/French/Spanish/ Italien/Polish and is sold internationally exclusively by qualified and authorised dealers who are glad to answer all your questions. If you need technical help, you reach our **customer center** through our website [www.pixel-fox.com](http://www.pixel-fox.com) directly. There you can turn to our image specialists at any time. On our website you can also find the latest version of the system requirements for using pixel-fox®.*

Überreicht durch / presented by

### dhs Dietermann & Heuser Solution GmbH

Herborner Str. 50  
35753 Greifenstein-Beilstein, GERMANY

Telefon: +49 (0)27 79 91 20-0  
Telefax: +49 (0)27 79 91 20-99  
E-Mail: [support@pixel-fox.com](mailto:support@pixel-fox.com)  
Internet: [www.pixel-fox.com](http://www.pixel-fox.com)



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