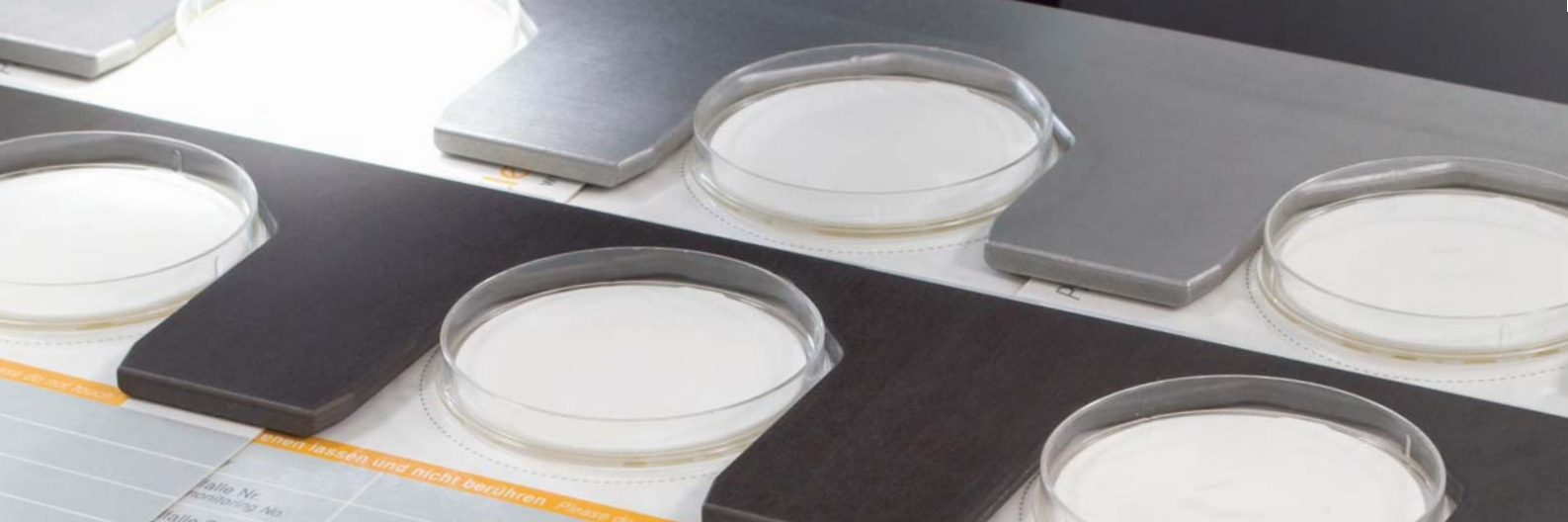




## PRODUCT OVERVIEW

### TECHNICAL CLEANLINESS

- ◆ PARTICLE MONITORING
- ◆ ASSEMBLY CLEANLINESS
- ◆ LABORATORY EQUIPMENT
- ◆ MEDICAL



A focus on particles: CleanControlling GmbH is an independent testing laboratory accredited according to DIN EN ISO 17025. We offer you our experience from over 55,000 cleanliness analyses and knowledge gained from over ten years of laboratory analysis, consulting and training.

Since our foundation in 2006, CleanControlling GmbH has developed to become one of the leading, most respected and most innovative companies in the area of technical cleanliness for industry and the automotive sector. Our key services are the implementation of cleanliness tests and the associated training in the field of the technical cleanliness.

Due to developments in terms of cleanliness in the medical field, and due to increasing demand from our customers and partners from medical technology, CleanControlling Medical GmbH & Co. KG was founded in 2014.

Since the requirements and expectations of technical cleanliness in industrial manufacturing are continuously increasing, we have created this catalog for you.

All of the products and services presented by us in the following have been tried out in practice. Our specialized product portfolio is based on the in-depth knowledge of our cleanliness experts.

We will also be glad to advise you in the selection of suitable products and procedures. Put your trust in excellently trained specialists and use our experience and expertise.

Your CleanControlling Team

## INTRODUCTION

Our prices are listed in our online shop at [www.shop.cleancontrolling.com](http://www.shop.cleancontrolling.com)

We would also be happy to provide you with an offer

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# 1 - PARTICLE MONITORING

The cleanliness quality that can be achieved in a preassembled product is determined by the interaction of numerous factors within the process chain. According to the VDA 19.2 guidelines "Technical cleanliness in assembly - Environment, Logistics, Personnel and Assembly Equipment", these influencing factors include the environment, logistics, personnel and the assembly equipment. This guideline is the basis for the following elaborations on particle monitoring.

The cleanliness quality can also be impaired by particle contamination during assembly. In many cleanliness-critical sectors therefore, the components must be protected during production from the entry of critical impurities from the environment.

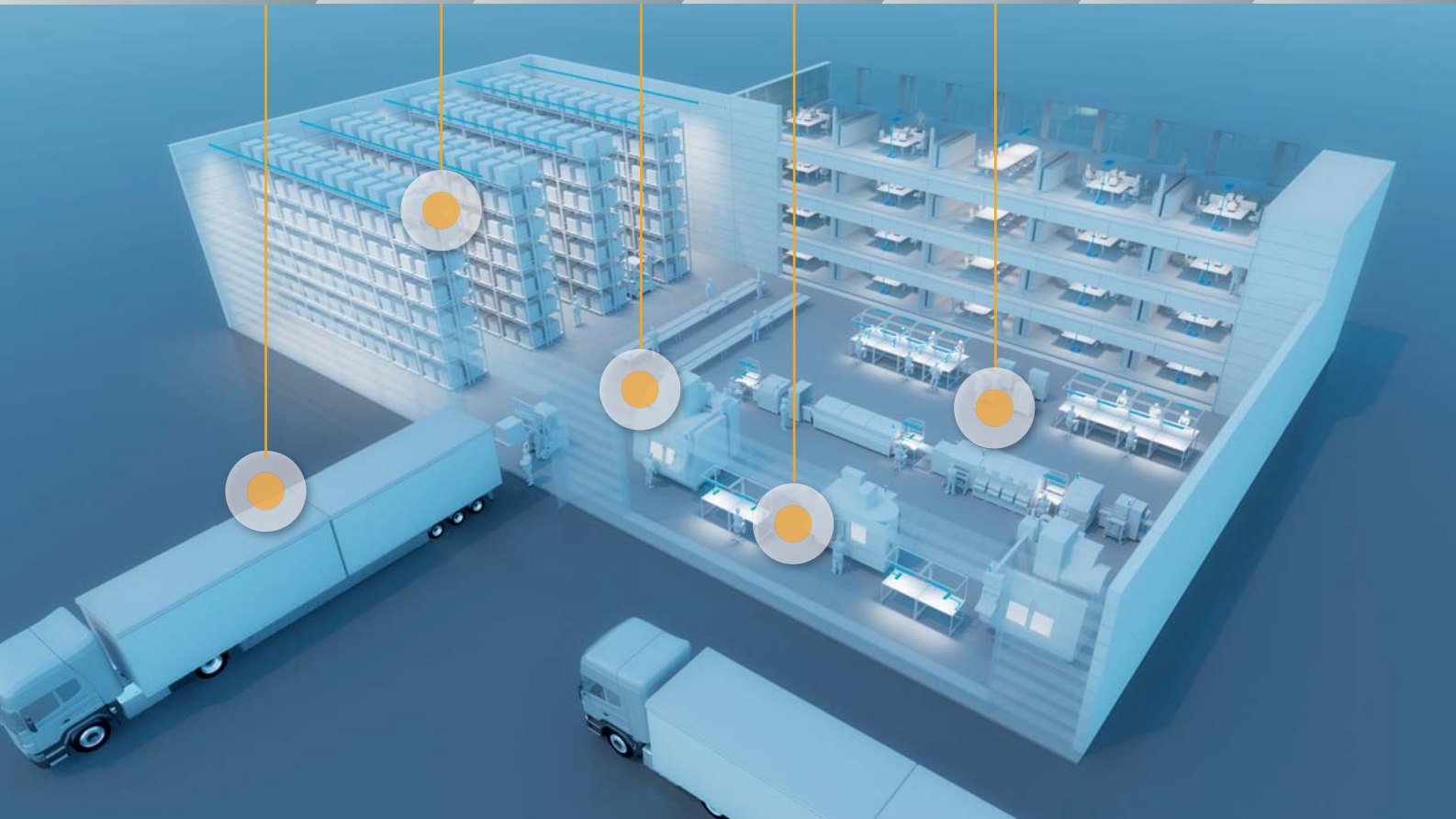
By means of particle monitoring, the cleanliness of the components can be determined and improved during assembly, or compliance with the cleanliness requirements can be ensured. Particle monitoring can be implemented using different measuring methods. All of them have the aim of locating critical particle sources.

CleanControlling GmbH supports particle monitoring in your company. Our company has a broad product range to monitor particles found in the production environment in accordance with VDA 19 Part 2 "Technical cleanliness in assembly - Environment, Logistics, Personnel and Assembly Equipment". In addition to our products, we offer you a comprehensive range of laboratory analysis services right up to consulting and training.

The satisfaction of our customers is the highest priority for our company. We are therefore always motivated - beyond our existing product range - to respond to any specific requirements of our customers and to develop individual, customized products. Just get in touch with us.

We would like to introduce you to our range of products and services in the field of particle monitoring in the following.

Single part logistics   Storage   Production   Cleaning   Assembly   Logistics   Customer



Technical cleanliness in the production chain

The particle trap is a further development of the options described in VDA 19.2 "Technical cleanliness in assembly - Environment, Logistics, Personnel and Assembly Equipment" for monitoring air particles which permits a correlation to be made to the actual contamination of surfaces. It serves for the determination of airborne particle contamination or for the observation of the particle volume at defined, particle-relevant locations in the assembly area, and the supply and process areas.

In addition to this, our company offers accessories matched to the particle traps for fast and optimal placement, as well as the corresponding stereo microscopic analyzes with meaningful test protocol, including picture documentation.



## Particle trap

white | ø 47 mm  
without microscopic evaluation



### Art.No. 30001

- Determination of airborne particle contamination
- Observation of the particle volume at defined locations  
for analysis of cleanliness values (Illig value) according to VDA 19.2

### Technical data

- Homogeneous white adhesive pad
- Completely removable mounting options (power strip)

### Accessories (optional)

- Mounting angle for particle traps (Art. No. 30005)
- Particle trap stand (Art. No. 30012)
- Microscopic evaluation | white pad (Art. No. 10040 + 10097)
- Blank value certificate | white pad (Art. No. 10041)
- Graphical overall evaluation for particle traps, white (Art. No. 20033)
- Fixing for particle trap
  - or JOMESA microscopes | 1 x (Art. No. 61136)
  - for JOMESA microscopes | 6 x (Art. No. 61417)
  - For LEICA microscopes or dhs-Cleanalyzer | 1 x (Art. No. 61137)



**Particle trap**

black | ø 41 mm  
without microscopic evaluation

**Art.No. 30023**

- Determination of airborne particle contamination
- Exposure of only bright and white particles and fibers

**Technical data**

- Homogeneous black adhesive pad
- Completely removable mounting options (power strip)

**Accessories (optional)**

- Mounting angle for particle traps (Art. No. 30005)
- Particle trap stand (Art. No. 30012)
- Microscopic evaluation I black pad (Art. No. 10073)
- Fixing for particle trap
  - for JOMESA microscopes I 1 x (Art. No. 61136)
  - for JOMESA microscopes I 6 x (Art. No. 61417)
  - for LEICA microscopes or dhs-Cleanalyzer I 1 x (Art. No. 61137)

**Note**

Automated standard analysis with determination of the sedimentation value is not possible

**Particle trap, sterile**

white | ø 41 mm  
without microscopic evaluation



**Art.No. 30038** 1 piece  
**30039** 5 pieces

- Determination of particle contamination that settles from the environment in cleanrooms
- Observation of the particle volume at defined locations for analysis of cleanliness values (Illig value) according to VDA 19.2

**Technical data**

- White adhesive pad
- Sterilized in a gas-plasma procedure
- Inner sterile packaging made from TYVEK/PEEL
- Outer sterile packaging
  - 1 piece I packaging unit: TYVEK/PEEL
  - 5 pieces I packaging unit: welded PE bag

**Accessories (optional)**

- Microscopic evaluation I white pad (Art. No. 10040 + 10097)
- Graphical overall evaluation for particle traps, white (Art. No. 20033)
- Fixing for particle trap
  - for JOMESA microscopes I 1 x (Art. No. 61136)
  - for JOMESA microscopes I 6 x (Art. No. 61417)
  - for LEICA microscopes or dhs-Cleanalyzer I 1 x (Art. No. 61137)



## Mounting angle

for particle trap



### Art.No. 30005

- Mounting angle for mounting on walls, steel beams, workbenches or other areas when no horizontal surface is available for the particle trap
- The particle trap can then be fixed to the mounting angle

### Technical data

- Completely removable mounting options
- Rounded corners (2xR5)

### Accessories (optional)

- Particle trap, white I Ø 47 mm (Art.No. 30001)
- Particle trap, black I Ø 41 mm (Art.No. 30023)

## Particle trap stand

Aluminium



### Art.No. 30012

- Particle traps can be easily and safely setup at any location with the help of the particle trap stand
- Particle traps can be placed at different heights

### Technical data

- Dimensions (L x W x H): 420 x 420 x 2196.5 mm
- 4 height adjustable booms for placement of the particle traps
- Easy disassembly in 3 parts
- 4 ESD guide rollers with adjuster for placement of the particle trap stand
- Solid aluminum frame profile

### Accessories (optional)

- Particle trap, white I Ø 47 mm (Art.No. 30001)
- Particle trap, black I Ø 41 mm (Art.No. 30023)

### Note

- Partikelfallenständer auch als Mietvariante erhältlich

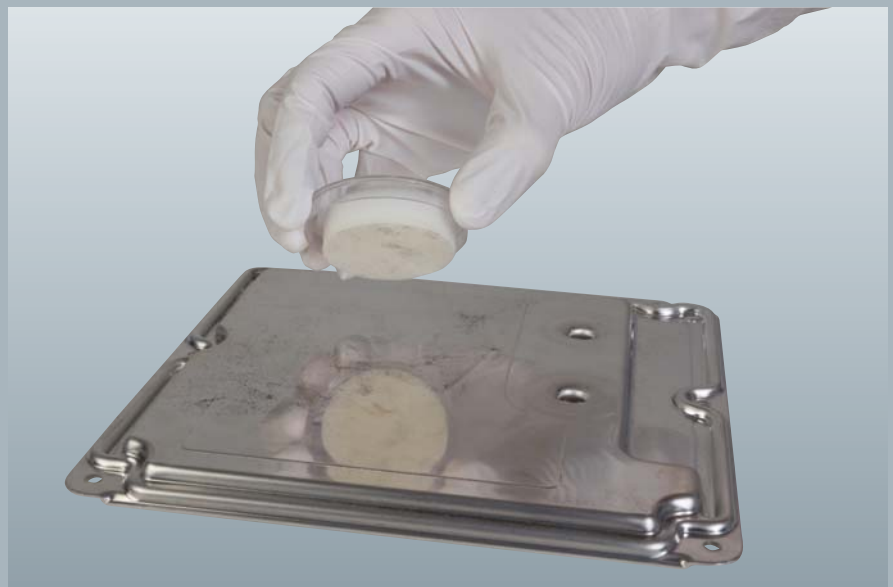


The particle stamp is a further development of the options described in VDA 19.2 "Technical cleanliness in assembly - Environment, logistics, personnel and assembly equipment" for monitoring particles which permits a correlation to be made to the actual contamination of surfaces. They are used to make a snapshot of the particle contamination of surfaces.

To meet the individual spatial conditions and production demands of our customers, our company has a series of different particle stamps offering different technical features and benefits.

This enables us to provide the customer with more flexibility, among other things in relation to the contact pressure, the representability of the received particle during a subsequent analysis and the usage - even at hard-to-reach places.

The actual state of surfaces can be received by implementation of a stamp test. On the surface of the particle stamp there is a particle pad to fix the extracted particles from a surface. The particle stamp can be used on hard-to-reach areas.



Particle stamps can be developed and produced according to your specifications.

### Particle stamp

Spring-mounted | white |  $\varnothing$  41 mm  
without microscopic evaluation



#### Art.No. 30006

- Particles on a surface can be directly collected and analyzed
- A flexible spring element ensures uniform contact pressure and therefore even particle extraction independent of the tester

#### Technical data

- White adhesive pad

#### Accessories (optional)

- Microscopic evaluation | white pad (Art. No. 10040 + 10097)
- Blank value certificate | white pad (Art. No. 10041)
- Stand for particle stamp for JOMESA microscopes | 1 x (Art. No. 61611)
- Stand for particle traps for LEICA microscopes or dhs-Cleanalyzer | 1 x (Art. No. 61137)

### Particle stamp

non-spring mounted | white |  $\varnothing$  41 mm  
without microscopic evaluation



#### Art.No. 30007

- Particles on a surface can be directly collected and analyzed

#### Technical data

- Homogeneous white adhesive pad

#### Accessories (optional)

- Microscopic evaluation | white pad (Art. No. 10040 + 10097)
- Blank value certificate | white pad (Art. No. 10041)
- Stand for particle stamp for JOMESA microscopes | 1 x (Art. No. 61611)
- Stand for particle traps for LEICA microscopes or dhs-Cleanalyzer | 1 x (Art. No. 61137)

## Particle stamp

non-spring mounted | black | ø 41 mm  
without microscopic evaluation



### Art.No. 30010

- Particles on a surface can be directly collected and analyzed
- Exposure of only bright and white particles and fibers

### Technical data

- Homogeneous black adhesive pad

### Accessories (optional)

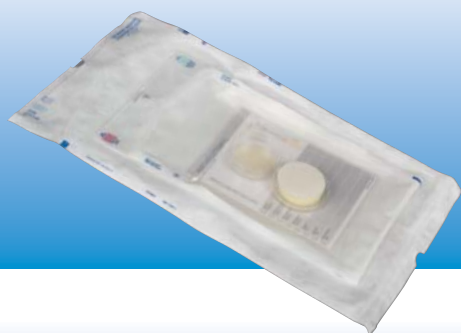
- Microscopic evaluation | black pad (Art. No. 10073)
- Stand for particle stamp for JOMESA microscopes | 1 x (Art. No. 61611)
- Stand for particle traps for LEICA microscopes or dhs-Cleanalyzer | 1 x (Art. No. 61137)

### Note

- Automated standard evaluation is not possible

## Particle stamp steril

spring-mounted | white | ø 41 mm  
without microscopic evaluation



Art.No. 30040 1 piece  
30041 5 pieces

- Particles on a surface in cleanrooms can be directly collected and analyzed
- A flexible spring element ensures uniform contact pressure and therefore even particle extraction independent of the tester

### Technical data

- White adhesive pad
- Sterilized in a gas-plasma procedure
- Inner sterile packaging made from TYVEK/PEEL
- Outer sterile packaging
  - 1 pieces | packaging unit: TYVEK/PEEL
  - 5 pieces | packaging unit: welded PE bag

### Accessories (optional)

- Microscopic evaluation | white pad (Art. No. 10040 + 10097)
- Blank value certificate | white pad (Art. No. 10041)
- Stand for particle stamp for JOMESA microscopes | 1 x (Art. No. 61611)
- Stand for particle traps for LEICA microscopes or dhs-Cleanalyzer | 1 x (Art. No. 61137)

## Particle stamp SEM

non-spring mounted | white |  $\varnothing$  41 mm  
without microscopic evaluation



### Art.No. 30035

- Particle stamp for the analysis using the scanning electron microscope (SEM)
- Suitable for the analysis of particles with particle size  $> 25 \mu\text{m}$  due to the material basic structures
- Analysis of purely metallic particles possible from a particle size  $> 5 \mu\text{m}$
- Particles on a surface can be directly collected and analyzed

### Technical data

- White adhesive pad (several hours vacuum stable)
- Pull-tab for easy removal of the protective film
- Material basic structure of carbon and oxygen and silicon-containing (own) particles  $< 25 \mu\text{m}$
- Conduct pad for fixation in the SEM-sampling table, which is attached on the underside of the SEM stamp
- Dimensions of the box ( $\varnothing 45.5 \text{ mm}$ ) optimally matched into the recess of the SEM-sampling table

### Accessories (optional)

- Microscopic evaluation | white pad (Art. No. 10040 + 10097)
- EDX analysis | filter scan (Art. No. 10009 + 10079)
- EDX analysis | per inorganic particle (Art. No. 10002)
- Blank value certificate | white pad (Art. No. 10041)
- Stand for particle stamp for JOMESA microscopes | 1 x (Art. No. 61611)
- Stand for particle traps for LEICA microscopes or dhs-Cleanalyzer | 1 x (Art. No. 61137)

## Particle stamp

non-spring mounted | white |  $\varnothing$  23 mm  
without microscopic evaluation



### Art.No. 30037

- The small diameter offers the possibility of stamping (hard-to-reach) areas and undercuts that were previously unreachable
- Particles on a surface can be directly collected and analyzed

### Technical data

- White adhesive pad
- Pull-tab for easy removal of the protective film

### Accessories (optional)

- Microscopic evaluation | white pad (Art. No. 10109)
- Stand for particle stamp for JOMESA microscopes | 1 x (Art. No. 61611)

## Particle stamp

spring-mounted | white |  $\varnothing$  13 mm  
without microscopic evaluation



### Art.No. 30036

- The small diameter offers the possibility of stamping areas and undercuts that were previously unreachable
- A flexible spring element ensures uniform contact pressure and therefore even particle extraction independent of the tester
- Particles on a surface can be directly extracted and analyzed

#### Technical data

- White adhesive pad
- Pull-tab for easy removal of the protective film

#### Accessories (optional)

- Microscopic evaluation | white pad (Art. No. 10108)
- Stand for particle stamp for JOMESA microscopes | 1 x (Art. No. 61611)



## Particle stamp

non-spring mounted | white |  $\varnothing$  10 mm  
without microscopic evaluation



### Art.No. 30027

- Particles on a surface can be directly extracted and analyzed

#### Technical data

- Homogeneous white adhesive pad

#### Accessories (optional)

- Microscopic evaluation | white pad (Art. No. 10108)
- Stand for particle stamp for JOMESA microscopes | 1 x (Art. No. 61611)
- Stand for particle traps for LEICA microscopes or dhs-Cleanalyzer | 1 x (Art. No. 61137)

#### Note

Particle stamp was developed as a custom-made product.  
The development of other variants with different technical characteristics is possible by arrangement



The particle rocker allows extraction of the particles from large surfaces such as components, assembly workplaces, driveways, bearing surfaces, containers and packaging.



## Particle rocker



### Art.No. 61250

- Extraction of large particle contamination on plane surfaces
- Due to the rolling movement, large particles can be extracted with little effort

### Technical data

- Particle extraction by affixing of a particle rocker pad, white or black (230 x 50 mm)
- Easy handling for replacing the particle rocker pad

### Accessories (optional)

- Particle rocker pad, white I 230 x 50 mm (Art. No. 30028)
- Particle rocker pad, black I 230 x 50 mm (Art. No. 30029)



**Particle rockerpad**

white  
without microscopic evaluation

**Art.No. 30028**

- Particle rocker pad for the particle rocker for determination of particle contamination of large-sized plane surfaces

**Technical data**

- Homogeneous white particle rocker pad
- Dimensions (L x W): 230 x 50 mm
- Transport/archiving packaging for the particle rocker pad to protect against foreign particles after particle extraction
- Labeling option on the transport/archiving packaging

**Accessories (optional)**

- Particle rocker (Art. No. 61250)
- Microscopic evaluation I particle rocker pad white (Art. No. 10065)
- Stand for particle rocker pad for JOMESA microscopes (Art. No. 61544)

**Particle rockerpad**

black  
without microscopic evaluation

**Art.No. 30029**

- Particle rocker pad for the particle rocker for determination of bright and white particle contamination of large-sized plane surfaces

**Technical data**

- Homogeneous black particle rocker pad
- Dimensions (L x W): 230 x 50 mm
- Transport/archiving packaging for the particle rocker pad to protect against foreign particles after particle extraction
- Labeling option on the transport/archiving packaging

**Accessories (optional)**

- Particle rocker (Art. No. 61250)
- Microscopic evaluation I particle rocker pad black (Art. No. 10066)
- Stand for particle rocker pad for JOMESA microscopes (Art. No. 61544)

**Note**

- Automated standard evaluation is not possible



**Stand for particle trap**

for JOMESA microscopes | 1 x

**Art.No. 61136**

- Insert plate for fixing of particle traps during microscopic analysis
- Precisely matched to JOMESA microscope systems
- Allows precise evaluation of the particle contamination

**Technical data**

- Material: aluminum (anodized)
- Dimensions (base plate L x W): 116 x 116 mm

**Stand for particle trap**für LEICA-Mikroskopes  
und dhs-Cleanalyzer | 1 x**Art.No. 61137**

- Insert plate for fixing of particle traps during microscopic analysis
- Precisely matched to LEICA Microsystems microscopes or dhs-Cleanalyzer
- Allows precise evaluation of the particle contamination

**Technical data**

- Material: aluminum (anodized)
- Dimensions (base plate L x W): 160 x 116 mm

**Stand for particle trap**

for JOMESA microscopes | 6 x

**Art.No. 61417**

- Insert plate for fixing of particle traps during microscopic analysis
- Precisely matched to 6-fold sample table from JOMESA for JOMESA microscope systems
- Allows precise evaluation of the particle contamination

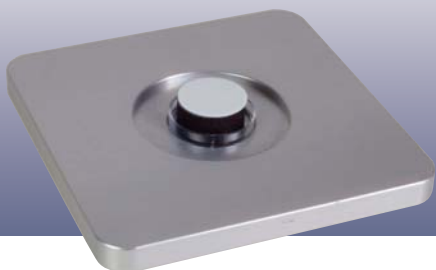
**Technical data**

- Material: aluminum (anodized) / steel
- Dimensions (L x W): 281 x 150 mm



### Stand for particle stamp

for JOMESA microscopes | 1 x



#### Art.No. 61611

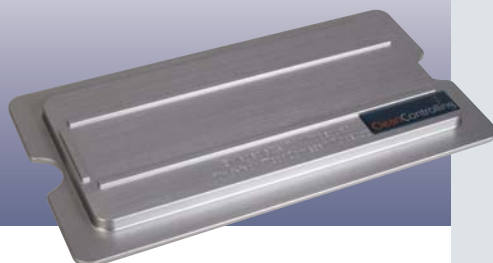
- Insert plate for fixing particle stamps of all sizes during microscopic evaluation
- Precisely matched to JOMESA microscope systems
- Allows precise evaluation of the particle contamination

#### Technical data

- Material: aluminum (anodized)
- Dimensions (base plate L x W): 116 x 116 mm

### Stand for particle rocker pad

for JOMESA microscopes



#### Art.No. 61544

- Insert plate for fixing of extraction pads for particle rocker during microscopic evaluation
- Precisely matched to 6-fold sample table from JOMESA for JOMESA microscope systems
- Allows precise evaluation of the particle contamination

#### Technical data

- Material: aluminum (anodized)
- Dimensions (base plate L x W): 281 mm x 150 mm
- Engraved with text

**Adhesive film**

for particles I white

**Art.No. 61139**

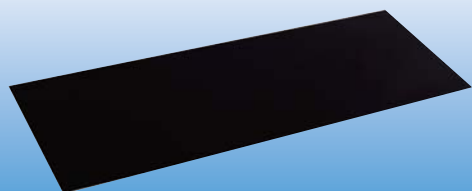
- Adhesive film for extraction of particles from large surfaces and their fixation
- Flexible application due to individual cropping of the film to the desired size

**Technical data**

- Dimensions (L x W): 360 x 130 mm
- Color: white

**Adhesive film**

for particles I black

**Art.No. 61028**

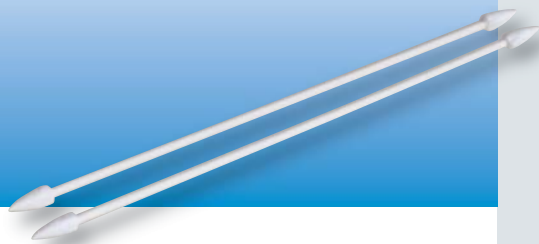
- Adhesive film for extraction of particles from large surfaces and their fixation
- White and bright particles can be visibly seen on the black background
- Flexible application due to individual cropping of the film to the desired size

**Technical data**

- Dimensions (L x W): 360 x 130 mm
- Color: black

**Swab**

Universal I cotton

**Art.No. 61503**

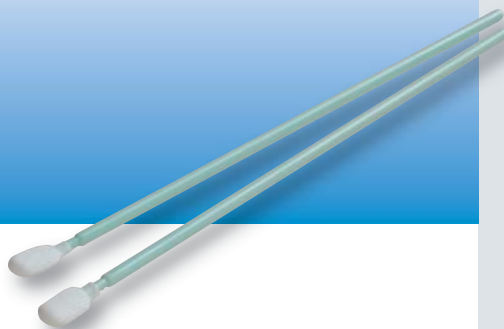
- Particle extraction and removal can be done even at places difficult to access
- Designed for application in precision areas
- Cotton is very resistant to chemicals and can therefore be used in many areas

**Technical data**

- Double, pointed head of cotton
- Head (cotton): approx. Ø 5.0 x 13.0 mm
- Handle (squeezed cotton): approx. Ø 2.5 x 146.0 mm
- 1000 swabs per packaging unit
- Not suitable for the cleanroom

**Swab**

Cleanroom I polyester

**Art.No. 61504**

- Particle extraction and removal can be done even at places difficult to access
- Suitable for cleanroom class 10 / ISO4
- Lint-free polyester head absorbs particles or residue without scratching the surface

**Technical data**

- Paddle-like polyester head
- Free of silicone, amides and phthalates
- Head (polyester): 7.5 x 3.0 x 16.0 mm
- Handle (polypropylene): approx. Ø 3.2 x 148.0 mm
- 00 swabs per packaging unit

The products we offer in the field of particle monitoring include analysis for particle traps, particle stamps and particle rockers.

The particles are thereby registered and sorted by type in accordance with VDA 19.1 / ISO 16232. A fixed number of the largest particle in each case is also visually documented.

The results of the analysis are documented by us and summarized in a meaningful result log.



Microscopic evaluation of a white pad



To be able to make comparisons with other sites or production areas, the "Illig value" is calculated according to VDA 19.2. This is a cleanliness or sedimentation value.

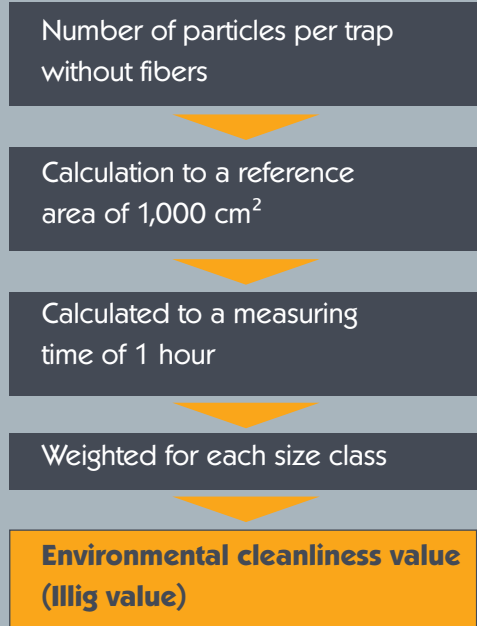
The standard procedure for the calculation of the Illig value ensures the comparability of different particle traps and their locations and thus makes it possible to measure, assess and where appropriate to "adjust" the cleanliness of the environment, if appropriate improvement measures have been taken and implemented.

In the procedure, the number of particles per particle trap on an area of 1.000 cm<sup>2</sup> is normalized and the evaluation is calculated for an measuring time of one hour. Furthermore, a weighting factor is applied to the result of the analysis in the individual particle size classes, and the weighted particle figures are summed. The procedure is graphically illustrated in the following figure "Procedure for calculation of the cleanliness value (Illig value)".

The advantage in using the sedimentation value is that the sedimentation results are comparable due to the standardized reference size. The results can be better documented by compressing them to a number per measuring point. However, detailed information is lost.

Calculation of environmental cleanliness or Illig value according to VDA 19.2

Particle size [µm]	Weighting factor
5 ≤ x < 15	0
15 ≤ x < 25	0
25 ≤ x < 50	0
50 ≤ x < 100	1
100 ≤ x < 150	4
150 ≤ x < 200	9
200 ≤ x < 400	16
400 ≤ x < 600	64
600 ≤ x < 1000	144
1000 ≤ x	400



## Microscopic evaluation

White pad

**Art.No. 10040 Ø 41-47 mm I from particle size 15 µm**  
**10097 Ø 41-47 mm I from particle size 5 µm**  
**10109 Ø 23 mm I from particle size 25 µm**  
**10108 Ø 10-13 mm I from particle size 25 µm**

- Photo-optical analysis with identification of metallic luminous and non-luminous particles by means of stereomicroscope
- Preparation of the test specification
- Classification of particles by class of size as per VDA 19.1 / ISO 16232
- Display of the 2 largest metallic luminous particles or non-luminous particles
- For the evaluation of particle traps:  
Additional evaluation of the cleanliness value (Illig value)
- Documentation of the findings
- Preparation of a test report
- Archiving of the sampled particle trap/particle stamp in the in-house archive

### Application option

- Microscopic evaluation from 15 µm particle size or from 5 µm particle size I Ø 41-47 mm (Art. No. 10040 + 10097)
  - All particle traps & particle stamps, white I Ø 41-47 mm (Art. No. 30001 / 30006 / 30007)
  - Particle traps & particle stamps, sterile white I Ø 41 mm (Art. No. 30038 / 30039 / 30039 / 30041)
- Microscopic evaluation from 25 µm particle size I Ø 23 mm (Art. No. 10109)
  - Particle stamp, spring-mounted I Ø 23 mm (Art. No. 30037)
- Microscopic evaluation from 25 µm particle size I Ø 10-13 mm (Art. No. 10108)
  - Particle stamp, spring-mounted I Ø 13mm (Art. No. 30036)
  - Particle stamp, non-spring mounted I Ø 10 mm (Art. No. 30027)

## Microscopic evaluation

### Black pad

#### Art.No. 10073 Ø 41 mm I from particle size 50 µm

- Photo-optical analysis by means of stereomicroscope with manual post processing
- Preparation of the test specification
- Classification of particles by class of size as per VDA 19.1 / ISO 16232
- Display of the 4 largest particles
- Documentation of the findings
- Preparation of a test report
- Archiving of the sampled particle trap/particle stamp in the in-house archive

#### Application option

- Particle trap, black I Ø 41 mm (Art. No. 30023)
- Particle stamp, non-spring mounted I black I Ø 41 mm (Art. No. 30010)

## Microscopic evaluation

### White particle rocker pad

#### Art.No. 10065 210 x 40 mm I from particle size 25 µm

- Photo-optical analysis with identification of metallic luminous and non-luminous particles by means of stereomicroscope
- Preparation of the test specification
- Classification of particles by class of size as per VDA 19.1 / ISO 16232
- Display of the 2 largest metallic luminous particles or non-luminous particles
- Documentation of the findings
- Preparation of a test report
- Archiving of the sampled particle rocker pad in the in-house archive

#### Application option

- Particle rocker pad, white (Art. No. 30028)

## Microscopic evaluation

Black particle rocker pad

**Art.No. 10066** 210 x 40 mm I from particle size 25 µm

- Photo-optical analysis by means of stereomicroscope with manual post processing
- Preparation of the test specification
- Classification of particles by class of size as per VDA 19.1 / ISO 16232
- Display of each of the 4 largest particles
- Documentation of the findings
- Preparation of a test report
- Archiving of the sampled particle rocker pad in the in-house archive

### Application option

- Particle rocker pad, black (Art. No. 30029)

## Blank value certificate

White pad

**Art.No. 10041** Ø 41-47 mm

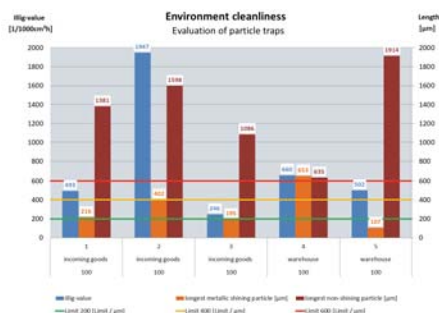
- With the blank value certificate, the particle coat from particle traps or particle stamps are analyzed prior to use
- The evaluation of the particle coat is optimized for critical ranges of application.

### Application option

- Particle trap, white I Ø 47 mm (Art. No. 30001)
- Particle stamp, spring-mounted I Ø 41 mm (Art. No. 30006)
- Particle stamp, non-spring mounted I Ø 41 mm (Art. No. 30007)

## Graphical overall evaluation

for white particle traps I  
with short report



**Art.No. 20033**

- Graphical display of the particle trap evaluations in the form of a short report
- Classification of the result of the particle traps based on customer or internal requirements

### Contents of short report

- Graphical display (chart) of the Illig value, metallic luminous particles and non-luminous particles with requirements/limit values (customer or internal)
- Single chart of the particle traps with particle distribution
- Display of the two largest metallic luminous particles, the two largest non-luminous particles and the two largest fibers
- Brief summary of the results

### Application option

- Particle trap, white I Ø 47 mm (Art. No. 30001)
- Particle trap, sterile I white I Ø 41 mm (Art. No. 30038 / 30039)

## REM / EDX analysis

Metallic/mineral particles

**Art.No. 10009 Filter scan I from particle size 50 µm**

**10079 Filter scan I from particle size 25 µm**

**10002 for each inorganic particle**

- Evaluation of the particles based on their characteristic X-ray spectra from an energy-dispersive X-ray spectroscopy
- Creation of a meaningful test protocol with evaluation of the existing specifications
- Archiving of the sampled analysis membranes in the in-house archive

### Application option

- Particle stamp, REM non-spring mounted I white I Ø 41 mm (Art. No. 30035)

### Note

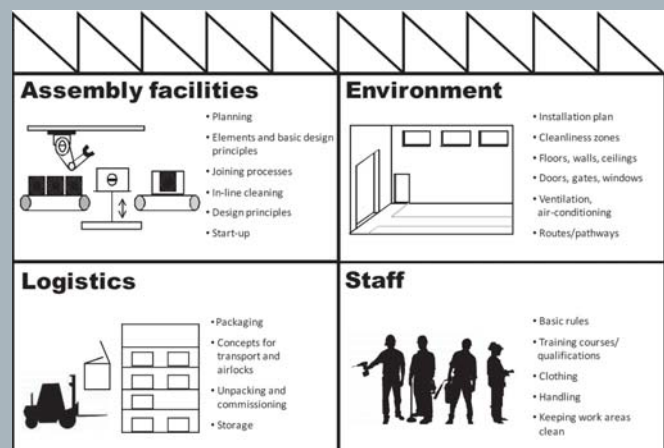
- REM/EDX analysis is carried out in cooperation with our partner laboratory
- Services is therefore not in the scope of the accreditation

## 2 - ASSEMBLY CLEANLINESS

According to VDA 19.2, the cleanliness specification of a component, an assembly or of the assembled system is the starting point for assembly cleanliness during production. The goal is long-term avoidance of the entry of particles during assembly and its adjacent processes, which according to the cleanliness specification must not occur in the component.

However, from a technical and economical perspective, it is rarely possible to completely prevent the emergence and spread of these function-critical particles during complete assembly, its environment and in all logistics processes. Rather, it must be ensured that these cannot reach the cleanliness-critical functional surfaces of the components or assemblies. To meet the large range of cleanliness requirements - especially considering the environmental factor - the VDA 19.2 classifies the spatial environment into "clean areas" with different levels of cleanliness for the design and organization of the assembly area.

In addition to the influencing factor from the environment, the influences of personnel, logistics and packaging, as well as the influences from the processes themselves and of the assembly facilities must be taken into account.



**VDA 19.2: Grouping of factors influencing cleanliness into topic blocks that correspond to the chapters in this guide**

CleanControlling GmbH supports you in ensuring assembly cleanliness in your company. Based on the above, and on the influencing factors defined in VDA 19.2, we offer a detailed training and consulting program, as well as a comprehensive product range for meaningful support of cleanliness zone and cleanliness room space concepts to reduce these influencing factors. Through our products - which we shall introduce to you in detail in the following - we would like to support you in meeting the high demands made of your products.

For support by means of training and consulting, please also request our separate consulting brochure and get an overview of our service range over the entire production creation process.





The VDA 19.2 "Technical cleanliness in assembly - Environment, Logistics, Personnel and Assembly Equipment" defines the basic function of a clean area as "a sealing-off of contamination influences from non-regulated areas such as mechanical processing or incoming goods, as well from natural environmental influences."

This results in the requirement that particle-generating production areas (e.g. machining) should be separated by design or at least spatially from production lines with cleanliness-sensitive components.

Our company offers you a range of marking tapes, floor markings and supplementary accessories that can be used for optical isolation from other production areas. We support you by this in the realization of cleanliness zones (SaS1) in your company in accordance with VDA 19.2.



## Floor marking tape



Art.No. 61252 5 m  
61252-1 10 m

- Floor marking tape for the identification of a cleanliness zone (SaS1) according to VDA 19.2
- Self-adhesive, strongly adherent tape for fast laying
- High durability and scratch resistance
- Can be removed almost residue-free
- Easy to clean with soap and water

**Technical data**

- Length: 5 m or 10 m
- Width: 75 mm
- Thickness: 0.5 mm
- Substrate: PVC
- Adhesive: acrylate
- Inscription: "SAUBERKEITSBEREICH - CLEANLINESS AREA"

**Note**

- Only suitable for indoor use
- Rotating and turning on the tape with forklifts and similar heavy vehicles should be avoided as this can result in destruction of the material



**Barrier / marking tape**

with upright

**Art.No. 61258**

- Barrier / marking tape for the identification of a cleanliness zone (SaS1) according to VDA 19.2
- Simple mounting of the powder-coated aluminum tube to the socket plate by quick release in the socket
- High stability and optimum support by heavy cast weight
- Self-winding tape belt within a tape cartridge
- Expansion option for 4 continuous longitudinal slots

**Technical data**

- Maximum extension length (marking tape): 3000 mm
- Marking tape width: 100 mm
- Profile tube height/diameter: 1000 mm / Ø 83 mm
- Profile tube/socket color: black
- Socket diameter: Ø 355 mm
- Inscription (3x on one side): "SAUBERKEITSBEREICH - CLEANLINESS AREA"

**Scope of delivery**

- 1 upright consisting of aluminum profile tube and socket plate
- 3 m tape belt within a tape cartridge

**Accessories (optional)**

- Wall connector 130 mm (Art. No. 61418)
- Tube display DIN A4 (Art. No. 61480)
- Removable frame, angled A4 or A3 I portrait format (Art. No. 61481 / 61482)
- Removable frame, straight A4 or A3 I portrait or landscape format (Art. No. 61483 / 61484 / 61485 / 61486)

**Barrier / marking tape**

for mounting on wall

**Art.No. 61389**

- Barrier / marking tape for the identification of a cleanliness zone (SaS1) according to VDA 19.2
- Self-winding tape belt within a tape cartridge is integrated in a short powder-coated aluminum profile

**Technical data**

- Maximum extension length (marking tape): 3 m
- Marking tape width: 100 mm
- Profile tube height/diameter: 173 mm / Ø 83 mm
- Profile tube color: black
- Inscription (3x on one side): "SAUBERKEITSBEREICH - CLEANLINESS AREA"

**Scope of delivery**

- 3 m tape belt within a tape cartridge
- Mounting back plate (suitable for dowels)

**Accessories (optional)**

- Wall connector 130 mm (Art. No. 61418)
- Tube display DIN A4 (Art. No. 61480)





## Wall connector

130 mm



**Art.No. 61418**

- Wall attachment to fix the tape belt to the wall

### Technical data

- Dimensions: 130 mm
- Material: aluminum
- Color: black

### Scope of delivery

- Wall connector
- Screws for mounting

## Tube display

for DIN A4



**Art.No. 61480**

- Tube display for DIN A4 print media for additional visualization of cleanliness areas
- For mounting on the barrier / marking tape (post and wall)

### Technical data

- Material: transparent Plexiglas
- Display height / diameter: 315 mm / Ø 83 mm

### Scope of delivery

- Tube display (without print media)
- Adapter for mounting on the barrier / marking tape





**Removable frame**

angled



**Art.No. 61481** Portrait format / DIN A4  
**61482** Portrait format / DIN A3

- Removable frame for print media  
for additional visualization of cleanliness areas
- For mounting on the barrier / marking tape (post)

**Technical data**

- Material: aluminum
- Color: black

**Scope of delivery**

- Removable frame
- Adapter for mounting on the barrier/marking tape

**Removable frame**

straight



**Art.No. 61484** Portrait format / DIN A4  
**61486** Portrait format / DIN A3  
**61483** Landscape format / DIN A4  
**61485** Landscape format / DIN A3

- Removable frame for print media  
for additional visualization of cleanliness areas
- For mounting on the barrier / marking tape (post)

**Technical data**

- Material: aluminum
- Color: black

**Scope of delivery**

- Removable frame
- Adapter for mounting on the barrier/marking tape

## CLEANING AND CONTAMINATION CONTROL EQUIPMENT - PERSONNEL

The mixed tasks carried out by workers are therefore a key point in the risk analysis and avoidance strategy. Contamination may be displaced via hands, gloves, clothing or footwear and transferred to functional surfaces and the direct environment when certain assembly tasks are carried out.

Our company offers you cleaning mats and various active cleaning systems for shoe soles that can be installed at the entrances and exits of the production area.

With our cleaning units for hands or gloves as well as for large flat surfaces, we provide you with the ability to reduce particle entry or particle spread.



## Cleaning mats

for cleaning shoe soles



### Art.No. 61254

- Reduction of particle entry by personnel when entering a cleanliness zone (CG 1) or a cleanliness room (CG 2) according to VDA 19.2
- Cleaning of coarse-profiled work shoes with round brush when entering and crossing
- Support in limiting access to authorized personnel by striking colors of the bristles and supplementary marking in the sole regions
- Easy cleaning ability by removal of the vulcanized rubber honeycomb mat from the stainless steel tray

### Technical data

- Overall dimensions (L x W x H): 900 mm x 810 mm x 27 mm
- Stainless steel tray: 2 mm (thickness)
- Dimensions of vulcanized rubber honeycomb mat: 800 x 600 mm
- Inscription: "SAUBERKEITSBEREICH - CLEANLINESS AREA"

### Accessories (optional)

- Vulcanized rubber honeycomb mat 800 mm x 600 mm (Art. No. 61284)
- Yellow round brush (Art. No. 61508)
- Grey round brush (Art. No. 61509)

### Vulcanized rubber honeycomb mat

800 x 600 mm



**Art.No. 61284**

- Vulcanized rubber honeycomb mat for replacement at the cleaning mat

**Technical data**

- Dimensions (L x W): 800 mm x 600 mm
- Bristle color: grey/yellow

### Round brush

yellow



**Art.No. 61508**

- Round brush for replacement at the rubber honeycomb mat

**Technical data**

- Color: yellow
- Minimum order quantity: 10 pieces

### Round brush

grey



**Art.No. 61509**

- Round brush for replacement at the rubber honeycomb mat

**Technical data**

- Color: grey
- Minimum order quantity: 10 pieces

**ProfilGate® b55 go**

Active cleaning system  
for sole cleaning

**Art.No. 61623**

- Reduction of particle entry by the personnel when entering a cleanliness zone (CG 1) or a cleanliness room (CG 2) according to VDA 19.2
- Its long brushes and patented system clean more thoroughly than other cleaning systems
- Shoe soles are actively cleaned when entering the cleaning area by submersion in the slanting bristles
- ProfilGate® b55 go can be driven on with light vehicles (up to 100 kg).

**Technical data**

- Dimensions (L x W x H): 980 mm x 718 mm x 55 mm
- Black and white bristles

**Scope of delivery**

- ProfilGate® b55 go cleaning system
- 2 ramps for use above the floor
- 2 fixing brackets

We are happy to advise you on this product

**Solamat 90**

Active cleaning system  
for sole cleaning

**Art.No. 61683**

- For reduction of particle entry by personnel when entering a cleanliness zone (CG 1) or a cleanliness room (CG 2) as per VDA 19.2
- Cleaning the soles against four countercurrent roller brushes and the sole edges by two lateral rotating nylon round brushes
- Cleaned-off dirt is caught in the drawer below the brush
- Ergonomically curved bracket for a firm grip of the user during cleaning

**Technical data**

- Drive: round belt drive and powerful motor
- Color: agate-grey with black holder
- Dimensions (L x W x H): 460 x 560 x 1140 mm
- Brushes: 4 nylon roller brushes,  
2 nylon round brushes
- Weight: 50 kg
- Starter: foot sensor with timer
- Power connector: 230 Volt

## Solamat 400

Active cleaning system  
for sole cleaning



### Art.No. 61684

- For reduction of particle entry by personnel when entering a cleanliness zone (CG 1) or a cleanliness room (CG 2) as per VDA 19.2
- Cleans the soles with four countercurrent roller brushes
- Drive is started by an optical sensor integrated in a hand rail, and it stopped automatically when the device is exited
- Cleaned-off dirt is caught in the drawer below the brush

### Technical data

- Drive: round belt drive and powerful motor (0.18 kW)
- Brush speed: infinitely adjustable with frequency converter
- Material: stainless steel
- Dimensions (L x W x H): 700 x 750 x 1280 mm
- Brushes: nylon roller brush (0.4 mm, black, rigid)
- Weight: 90 kg
- Start: optical sensor in the hand rail
- Power connector: 230 Volt

## Solamat 450

Active cleaning system  
for sole cleaning

### Art.No. 61685

- For reduction of particle entry by the personnel when entering a cleanliness zone (CG 1) or a cleanliness room (CG 2) according to VDA 19.2
- Cleans the soles with four countercurrent roller brushes
- Drive is started by an optical sensor integrated in a hand rail, and is stopped automatically when the device is exited
- Cleaned-off dirt is caught in the drawer below the brush
- Suction connector for connection to plant's own suction system or to the supplied extraction and filter device
- Extraction and filter device is coupled to Solamat 450 and starts/stops automatically with the sole cleaning

### Technical data

- Drive: round belt drive and powerful motor (0.18 kW)
- Brush speed: infinitely adjustable with frequency converter
- Material: stainless steel
- Dimensions (L x W x H): 700 x 750 x 1280 mm
- Brushes: nylon roller brush (0.4 mm, black, rigid)
- Weight: 91 kg
- Starter: optical sensor in the hand rail
- Power connector: 230 Volt
- Airflow (extraction and filter system): 2 x 3,600 (l/min)
- Vacuum: 250 mbar / 25 KPa
- Power rating: 2 x 1,500 W
- Filter class: dust class "M"

### Note

Industrial vacuum system is not included in the scope of delivery





### Glove cleaning system

**Art.No. 61205**

- For the regular cleaning of hands and gloves in production
- Removal of micro-particles to prevent negative influence of the production process
- Can be used free-standing or mounted at work stations or walls
- Adhesive roller can be easily replaced
- Leaves no residue on the material to be processed

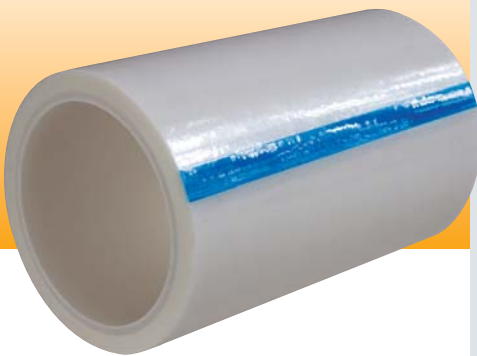
**Technical data**

Dimensions (L x W x H): 245 mm x 100 mm x 125 mm

**Accessories (optional)**

- Replacement - adhesive roll (No. 61206)

### Replacement - adhesive roll

**Art.No. 61206**

- Replacement adhesive roll for the hand cleaning system

**Technical data**

- Adhesive roll
- Removed in layers

**Assembly gloves**

white



Art.No.	61358	Size	6
	61359	Size	7
	61251	Size	8
	61360	Size	9
	61361	Size	10

- To perform precision work in the mechanical engineering industry and the automotive industry
- Contamination due to the glove color is clearly visible
- Excellent abrasion resistance for long durability
- Good perspiration absorption
- Excellent tactile sensitivity due to use of fine material
- High wearing comfort with seamless knit lining

**Technical data**

- Material: polyurethane foam
- 10 pairs per packaging unit

**Accessories (optional)**

- Hand and glove cleaner (Art. No. 61205)

**Assembly gloves**

white | ESD



Art.No.	6002051	Size	6
	6002052	Size	7
	6002053	Size	8
	6002054	Size	9
	6002055	Size	10

- To perform precision work e.g. in the final assembly of instrument panels, electronic components and boards, and for cabling and wiring
- Compliance with all the requirements for the protection against electrostatic discharge
- Excellent abrasion resistance for long durability
- Good perspiration absorption
- Excellent tactile sensitivity due to use of fine material
- High wearing comfort with seamless knit lining

**Technical data**

- Material: polyurethane foam
- 12 pairs per packaging unit
- Measurement data - according to EN 1149-1: surface resistance ( $\Omega$ ):  $4.02 \times 10^{10}$
- as per EN 1149-2: contact resistance ( $\Omega$ ):  $2.19 \times 10^7$
- as per EN 1149-3: charge dissipation T50 <0.01 seconds

**Accessories (optional)**

- Hand and glove cleaner (Art. No. 61205)

The aim of integrated cleaning during assembly is to remove particles immediately during or after their emergence to prevent any possible contamination of the components or the production environment.

Particles that are often only loosely bound on the surface can arise due to scoring when joining, handling or separating components. If these impurities are critical for further production process, measures should be taken for integrated cleaning during assembly. Various procedures are used for this, and these have to be selected for the specific application at hand.

A commonly used technique for manual cleaning of the workpiece carrier is the use of blow guns. However, in this case particles are distributed randomly into the direct process environment. Blow guns should therefore be generally replaced by suction guns in a cleanliness-sensitive production environment.. The suction gun is based on the Venturi principle. In this, a vacuum is generated in the suction tube by directing compressed air through a ring nozzle. Particle and chips are fed to the exhaust hose by the incoming air from the outside. The extracted particles are collected in a container. This allows particles to be defined removed from the process environment.

In combined Vac-blast systems, a compressed air jet can be activated in addition to the suction air flow. The compressed air jet is used, for example, to release stubborn dirt on surfaces or blows trapped particles out blind holes.

CleanControlling GmbH supports you in the process of integrated cleaning during assembly in your company. We offer you a wide range of suction systems or combined Vac-blast systems. In addition, we provide you with an extensive selection of brushes, nozzles and filters for the flexible use of our products in many areas.

**ELEPHANT Trolley EL 110 M**

Vac-blast system with  
integrated ionization

**Art.No. 61804**

- Cleaning equipment for manual, electrostatic-supported removal of dry dusts from surfaces
- Removal of electrostatic surface charges and release of particles adhering due to static charge from level or shaped surfaces by ionization, compressed air and extraction
- Complete mobile system with integrated cleaning head that can be moved manually over the component surface
- Energy-saving and low noise
- Integrated filter and brush are easily changeable

**Technical data**

- Dimensions (L x W x H): 530 x 320 x 600 mm
- Diameter (cleaning head): Ø 60 mm
- Weight: 18 kg
- Compressed air supply: max. 2 bar (Class 3, ISO 8573)
- Compressed air consumption: 60 l/min (at 1 bar)
- Nominal power: 190 m<sup>3</sup>/h (at 1900 Pa)
- Sound pressure level: 49 dB (without compressed air)
- Ambient temperature: 5 - 55 °C
- Supply voltage: 230 V
- Extraction hose/compressed air hose/high-voltage cable/sensor cable/power cable: 2 m
- With operating mode display

**Scope of delivery**

- ELEPHANT Trolley cleaning equipment
- Operating instructions

**Accessories (optional)**

- Brush for ELEPHANT Trolley EL 110 M (Art. No. 61805)

**Note**

Brush and compressed air supply line are not included in the scope of delivery

## Brush

for ELEPHANT Trolley EL 110 M



### Art.No. 61805

- Cleaning brush for ELEPHANT Trolley EL 110 M

### Technical data

- Cleaning brush Ø 60 mm with smooth bristles
- Black bristles made of polypropylene (PP)
- Bristle diameter: 0.2 mm
- Filament length: 30 mm

## Suction gun

SP 14 I MB 1,5 I Aerosol filter



### Art.No. 61111

- Suction gun SP 14 for targeted suction of non-toxic particles and short chips
- Type SP 14 MB 1.5 for moist particles - e.g. short metal chips during thread cutting
- Infinitely-variable adjustment of the suction power possible using a hand lever
- Extraction of particles up to max. 9.5 mm (round suction tube) or 3 mm (flattened suction tube or flat nozzle/brush)

### Technical data

- Compressed air connection: nominal width 10 mm, 6 bar, 420 NI/min
- Compressed air quality: class 5 (DIN ISO 8573-1)
- Suction power: vacuum -350 mbar (35 %)
- Suction volume flow: 500 NI/min
- Sound pressure: 80 dB
- Weight: 1.8 kg
- Suction tube: nominal width 14 mm

### Scope of delivery

- 1.5 liters - Container with removable aerosol filter
- Holder with mounting bracket for wall mounting
- Compressed air hose, nominal width 10 mm (3 m long)
- Antistatic exhaust hose, nominal width 20 mm (length 3m)
- 4-piece brush/nozzle set:
- Round brush Ø 40 mm (Art. No. 61144)
- Flat nozzle without bristles (Art. No. 61145)
- Flat brush with hard bristles (Art. No. 61146)
- Flat brush with soft bristles (Art. No. 61147)

### Accessories (optional)

- Fine filter for separation of aerosols (No. 61114)
- All round brushes and flat nozzles are suitable for suction mode (see Suction system accessories)

## Suction gun

SP 14 I WS I Felt filter

### Art.No. 61142

- Suction gun SP 14 for targeted suction of non-toxic particles and short chips
- Type SP 14 WS for dry particles - e.g. short metal chips
- Infinitely-variable adjustment of the suction power possible using a hand lever
- Extraction of particles up to max. 9.5 mm (round suction tube) or 3 mm (flattened suction tube or flat nozzle/brush)

### Technical data

- Compressed air connection: nominal width 10 mm, 6 bar, 420 NI/min
- Compressed air quality: class 5 (DIN ISO 8573-1)
- Suction power: vacuum -350 mbar (35 %)
- Suction volume flow: 500 NI/min
- Sound pressure: 80 dB
- Weight: 0.7 kg
- Suction tube: nominal width 14 mm

### Scope of delivery

- Felt Filter bag with screw lid
- Antistatic exhaust hose, nominal width 20 mm (length 0.3m)
- 4-piece brush/nozzle set:
- Round brush Ø 40 mm (Art. No. 61144)
- Flat nozzle without bristles (Art. No. 61145)
- Flat brush with hard bristles (Art. No. 61146)
- Flat brush with soft bristles (Art. No. 61147)

### Accessories (optional)

- Felt filter bag suction gun (Art. No. 68233)
- All round brushes and flat nozzles are suitable for suction mode (see Suction system accessories)





## Vac-blast system

BS 14 I MB 1,5 I Aerosol filter



### Art.No. 61273

- Vac-blast cleaner BS 14 for targeted suction of non-toxic particles and short chips
- Type BS 14 MB 1.5 for stubborn or trapped moist particles (e.g. short metal chips in blind holes)
- Button for additional activation of a compressed air jet to the suction air flow
- Extraction of particles up to max. 7 mm or 3 mm when using the flat nozzle (only in suction mode)

### Technical data

- Compressed air connection: 1/4", 6 bar, 420 NI/min (suction mode) and 460 NI/min (blast mode)
- Compressed air quality: class 5 (DIN ISO 8573-1)
- Suction power: vacuum -300 mbar (30 %)
- Suction volume flow: 380 NI/min
- Sound pressure: 75 dB (suction mode) and 77 dB (blast mode)
- Weight: 1.2 kg
- Suction tube: Ø 14 mm

### Scope of delivery

- 1.5 liters - container with removable aerosol filter
- Antistatic exhaust hose, nominal width 20 mm (length 1.5 m)
- Vac-blast unit with suction hose, nominal width 15 mm and compressed air hose, nominal width 3 mm (each 1.5 m long)
- Holder with mounting bracket for wall mounting

### Accessories (optional)

- Fine filter for separation of aerosols (No. 61114)
- All round brushes are suitable for suction and blast mode (see Suction system accessories)
- All flat nozzles are only suitable for suction mode (see Suction system accessories )

## Vac-blast system

BS 14 I MB 1.5 I Felt filter



### Art.No. 61290

- Vac-blast cleaner SP 14 for targeted suction of non-toxic particles and short chips
- Type BS 14 MB 1.5 for stubborn or trapped dry particles (e.g. short metal chips)
- Button for additional activation of a compressed air jet to the suction air flow
- Extraction of particles up to max. 7 mm or 3 mm when using the flat nozzle (only in suction mode)

### Technical data

- Compressed air connection: 1/4", 6 bar, 420 NI/min (suction mode) and 460 NI/min (blast mode)
- Compressed air quality: class 5 (DIN ISO 8573-1)
- Suction power: vacuum -300 mbar (30 %)
- Suction volume flow: 380 NI/min
- Sound pressure: 75 dB (suction mode) and 77 dB (blast mode)
- Weight: 1.05 kg
- Suction tube: Ø 14 mm

### Scope of delivery

- 1.5 liters - container with removable felt filter bag
- Antistatic exhaust hose, nominal width 20 mm (length 1.5 m)
- Vac-blast unit with suction hose, nominal width 15 mm and compressed air hose, nominal width 3 mm (each 1.5 m long)
- Holder with mounting bracket for wall mounting

### Accessories (optional)

- Felt filter bag vac-blast cleaner (Art. No. 61660)
- All round brushes are suitable for suction and blast mode (see Suction system accessories)
- All flat nozzles are only suitable for suction mode (see Suction system accessories)

## Vac-blast system

MS 14 | MB 2 | Aerosol filter



### Art.No. 61265

- Vac-blast cleaner MS 14 for targeted suction of non-toxic particles and short chips
- Type BS 14 MB 2 for stubborn or trapped moist particles - e.g. short metal chips in blind holes
- Button for additional activation of a compressed air jet to the suction air flow
- Extraction of particles up to max. 7 mm or 3 mm when using the flat nozzle (only in suction mode)

### Technical data

- Compressed air connection: 1/4", 6 bar, 310 NI/min (suction mode) and 350 NI/min (blast mode)
- Compressed air quality: class 5 (DIN ISO 8573-1)
- Suction power: vacuum -290 mbar (29 %)
- Suction volume flow: 230 NI/min
- Sound pressure: 62 dB (suction mode) and 72 dB (blast mode)
- Weight: 5.7 kg
- Suction tube: Ø 14 mm

### Scope of delivery

- 2 liters - Container (transparent) with mounted filter housing for aerosol filter
- Compressed air hose, nominal width 10 mm (3 m long)
- Vac-blast unit with suction hose, nominal width 15 mm and compressed air hose, nominal width 3 mm (each 1.6 m long)

### Accessories (optional)

- Fine filter for separation of aerosols (No. 61114)
- All round brushes are suitable for suction and blast mode (see Suction system accessories)
- All flat nozzles are only suitable for suction mode (see Suction system accessories)

**Aerosol suction system**

MS 15 I MB 2 I 3-fold aerosol filter

**Art.No. 61266**

- Vac-blast cleaner MS 15 for targeted suction of moist particles
- Type MS 15 MB 2 for moist particles  
e.g. short metal chips during thread cutting
- Activation of the compressed air supply line by a ball valve
- Extraction of particles up to max. 7 mm  
or 3 mm when using the flat nozzle (only in suction mode)
- A greater volume of liquid can be extracted by use of three stacked fine filters

**Technical data**

- Compressed air connection: 1/4", 6 bar, 300 NI/min
- Compressed air quality: class 5 (DIN ISO 8573-1)
- Suction power: vacuum -340 mbar (34 %)
- Suction volume flow: 250 NI/min
- Sound pressure: 68 dB
- Weight: 14 kg
- Suction tube: Ø 14 mm

**Scope of delivery**

- 2 liters - container (transparent) with mounted filter housing for three aerosol filters
- Suction unit with suction hose, nominal width 15 mm and (length 1.6 m)

**Accessories (optional)**

- Fine filter for separation of aerosols (No. 61114)
- All round brushes and flat nozzles are suitable for suction mode (see Suction system accessories)

**Round brush**

ø 22 mm | soft

**Art.No. 61115****Technical data**

- Round brush Ø 22 mm with smooth bristles
- Nominal width: 14 mm
- White polyamide bristles
- Bristle diameter: 0.1 mm
- Filament length: 8 mm

**Round brush**

ø 22 mm | hard

**Art.No. 61116****Technical data**

- Round brush Ø 22 mm with hard bristles
- Nominal width: 14 mm
- Black polyamide bristles
- Bristle diameter: 0.2 mm
- Filament length: 8 mm

**Double round brush**

ø 40 mm | soft

**Art.No. 61117****Technical data**

- Round brush Ø 40 mm with smooth bristles
- Nominal width 14 mm
- Black polyamide bristles
- Bristle diameter 0.1 mm
- Filament length
  - Outer bristle ring: 20 mm
  - Inner bristle ring: 10 mm

Inner bristle ring

**Round brush**

ø 40 mm | soft

**Art.No. 61144****Technical data**

- Round brush Ø 40 mm with smooth bristles
- Nominal width 14 mm
- Black polyamide bristles
- Bristle diameter 0.1 mm
- Filament length 10 mm

**Round brush**

ø 24 mm | soft | splayed

**Art.No. 61148****Technical data**

- Round brush Ø 24 mm with smooth bristles
- Nominal width 14 mm
- Bristle ring splayed to the outside
- White polyamide bristles
- Bristle diameter 0.1 mm
- Filament length 8 mm

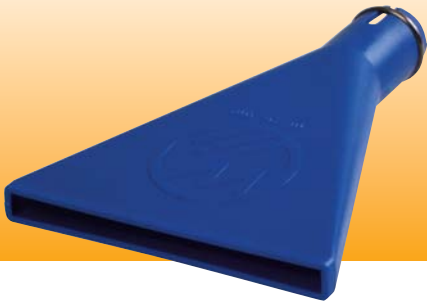
**Round brush**

ø 24 mm | hart | splayed

**Art.No. 61149****Technical data**

- Round brush Ø 24 mm with hard bristles
- Nominal width 14 mm
- Bristle ring splayed to the outside
- Black polyamide bristles
- Bristle diameter 0.2 mm
- Filament length 8 mm

**Flat nozzle**  
without bristles



**Art.No. 61145**

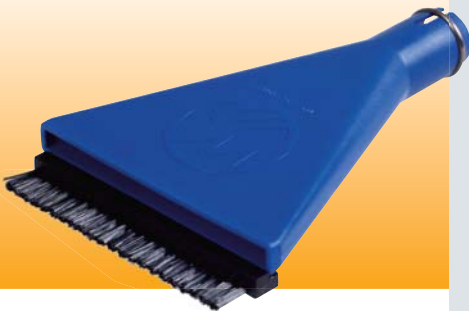
**Technical data**

- Flat nozzle without bristles
- Nominal width 14 mm

**Note**

- Flat nozzle is only suitable for suction mode

**Flat brush**  
hard bristles



**Art.No. 61146**

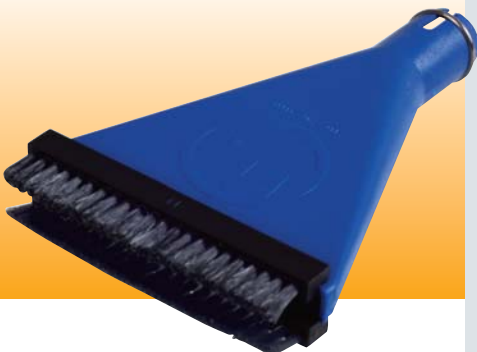
**Technical data**

- Flat brush with one row of hard bristles
- Nominal width 14 mm
- Black polyamide bristles
- Bristle diameter 0.2 mm
- Filament length 10 mm

**Note**

- Flat brush is only suitable for suction mode

**Flat brush**  
soft bristles



**Art.No. 61147**

**Technical data**

- Flat brush with two rows of soft bristles
- Nominal width 14 mm
- Black polyamide bristles
- Bristle diameter 0.1 mm
- Filament length 10 mm

**Note**

- Flat brush is only suitable for suction mode



**Replacement nozzle**

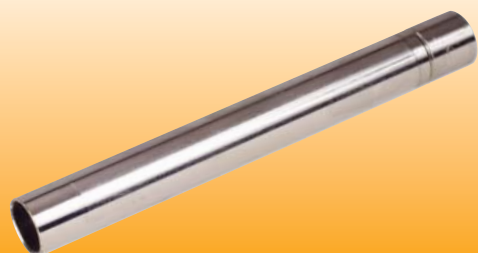
flat

**Art.No. 61153****Technical data**

- Replacement nozzle with flat suction tube
- made of nickel-plated brass
- Nominal width 14 mm
- Suction tube length 120 mm

**Replacement nozzle**

round

**Art.No. 61152****Technical data**

- Replacement nozzle with round suction tube
- Material: nickel-plated brass
- Nominal width 14 mm
- Suction tube length 120 mm

**Holder**

for 1.5 liters container

**Art.No. 61113**

- Holder with mounting bracket for wall mounting

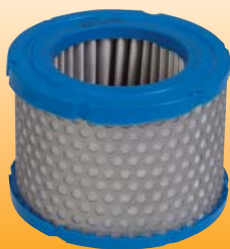
**Technical data**

- Dimension (W x H) 105 x 115 mm



**Fine filter**

for separation of aerosols

**Art.No. 61114**

- Suitable for moist particles, e.g. short metal chips during thread cutting

**Technical data**

- Filter height 60 mm
- Filter diameter Ø 85 mm

**Felt filter bag**

Suction gun

**Art.No. 61233**

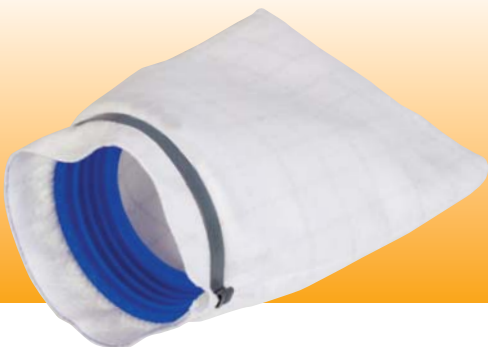
- Suitable for dry, non-toxic particles and short metal chips

**Technical data**

- Felt filter bag with screw lid
- Filter bag length 170 mm
- Including 0.3 m anti-static exhaust hose with nominal width 20 mm

**Felt filter bag**

Vac-blast system

**Art.No. 61660**

- Suitable for dry, non-toxic particles and short metal chips

**Technical data**

- Felt filter bag for screwing onto 1.5 liters container
- Filter bag length 170 mm

**EASY hand roller**

150 mm | 300 mm



**Art.No. 61477** 150 mm cleaning width  
**61408** 300 mm cleaning width

- Adhesive roller for extraction of particles
- For the regular cleaning of plane surfaces
- By rolling on an adhesive pad, the adherent particles are removed by the hand roller and fixed permanently onto the adhesive pad

**Technical data**

Cleaning width of 150 mm or 300 mm

**Accessories (optional)**

Adhesive pad (Art. No. 61421)

**PROFESSIONAL hand roller**

150 mm | 300 mm



**Art.No. 61478** 150 mm cleaning width  
**61409** 300 mm cleaning width

- Adhesive roller for extraction of particles
- For the regular cleaning of plane surfaces
- By rolling on an adhesive pad, the adherent particles are removed by the hand roller and fixed permanently onto the adhesive pad

**Technical data**

- Stable, robust design
- Cleaning width of 150 mm or 300 mm

**Accessories (optional)**

Adhesive pads (Art. No. 61421)

**Adhesive pads**

250 sheets | 330 x 235 mm

**Art.No. 61421**

- The particles extracted by the hand roller can be permanently fixed by rolling them onto the adhesive pads
- Cleaning the hand roller for re-use
- On saturation of the adhesive pad with particles, this side is separated and the new side is immediately activated

**Technical data**

- Dimensions (L x W): 330 x 235 mm
- 250 sheets per adhesive pad
- 5 adhesive pads per packaging unit

Particles on the surface can better be made visible through the use of a grazing light. This is due to the contrast created by the illuminated particles and the resulting shade. The degree of cleanliness is then assessed using a reference table, if required.

Different types of particles can be made visible depending on the light source used in the particle visualization. For instance, UV light makes fluorescent particles visible to the naked eye. You can also detect non-fluorescent particles with strong white light.

The particle visualization process combines the advantage of easy handling with the ability to quickly assess the state of cleanliness in your daily work routine. However, it is important to note that this is only a rough estimate of the state - without measuring and comparison values. References are necessary for the actual assessment of cleanliness.

Our product range in the field of particle visualization offers you a variety of tools to control possible contamination in everyday working life. This allows quality standards to be optimized even before more complex, indirect measuring methods are used.

## Particle visualization lamp

PVL 2 I UV light



### Art.No. 61210

- Visualization of fluorescent particles by UV light on all surfaces, e.g. plastic, stainless steel and aluminum as well as wipes or cleanroom clothing
- Allows the regular visual control of contamination in the cleanroom
- Cleaning operations can be directly optimized - without the use of a measuring device

### Technical data

- Dimensions (L): 190 mm, Ø 52 mm
- Wavelength: 365 nm (UV)
- Weight: 0.225 kg
- Resistant against disinfection agents and H2O2
- Waterproof
- Lithium-ion battery (approx. 1.5 h burn time)

### Scope of delivery

- Particle visualization lamp
- Protective cap & rollaway protection
- Charger with power supply
- Aluminum transport case
- Black glass top (100 x 100 mm)
- UV protective glasses



## Particle visualization lamp

PVL 3 | UV light | white light



### Art.No. 61193

- Visualization of fluorescent particles by UV light - e.g. for inspection in containers, machinery, process chambers, etc.
- Also enables the visualization of non-fluorescent particles by strong white light
- Switch between UV light and white light at the push of a button
- Cleaning operations can be directly without the use of a measuring device
- Adding a light conductor allows surfaces to be viewed in grazing light

### Technical data

- Dimensions (L): 220 mm, Ø 70 mm
- Wavelength: 365 nm (UV)
- Weight: 0.450 kg
- Resistant against disinfection agents and H2O2
- Waterproof
- Lithium-ion battery (approx. 1.5 h burn time)

### Scope of delivery

- Particle visualization lamp
- Protective cap + rollaway protection
- Charger with power unit
- Aluminum transport case
- Black glass top (100 x 100 mm)
- UV protective glasses
- Light conductor cable attachment



## Inspection lamp

LED



### Art.No. 61244

- Bright light and long duration due to highly efficient LED
- Provides infinite focusing and glare-free lighting

### Technical data

- Maximum light output: 140 lm
- Maximum lighting range: 120 m
- Maximum lighting time: 5 h
- Power supply: 1 x AA (1.5 V)
- Weight: 0.079 kg

### Scope of delivery

- Inspection lamp
- Transport bag



## Measuring magnifier



### Art.No. 61542

- Magnifier in best quality with very flat field of view and corrections for achromatic and astigmatic fields
- Coated lens system with sharp focus ring around the scale set
- The integrated measurement scale allows the size of the particles to be determined immediately

### Technical data

- Field of view: 35 mm
- 10-times magnification
- Crosshair measurement scale (15 mm)

### Scope of delivery

- Measuring magnifier
- Crosshair
- Storage pouch





**Screw cover**

Countersunk and pinhole bore according to DIN 974



Art.No.	61831	Natural I	M4	61839	Black I	M4
	61832	Natural I	M5	61840	Black I	M5
	61833	Natural I	M6	61841	Black I	M6
	61834	Natural I	M8	61842	Black I	M8
	61835	Natural I	M10	61843	Black I	M10
	61836	Natural I	M12	61844	Black I	M12
	61837	Natural I	M16	61845	Black I	M16
	61838	Natural I	M20	61846	Black I	M20

- Natural or black plastic cover to cover the countersunk and pinhole bore
- A perfectly smooth surface is created due to burr-free pressing of the cover into the sinkhole and pinhole bore according to DIN 974
- The closed surface resulting from the protected tearing edge can be cleaned well and easily

**Technical data**

- Material: POM
- 100 pieces per packaging unit

**Size chart (countersunk and pinhole bore cover DIN 974)**

Type	Ø H13 [mm]	Tmin912 [mm]	Tmin6912 [mm]	Height h [mm]
M4	8,0	6,0	5,0	3,25
M5	10,0	7,0	5,5	3,50
M6	11,0	8,0	6,0	3,00
M8	15,0	11,0	8,0	4,30
M10	18,0	13,0	9,5	4,50
M12	20,0	15,0	10,0	4,50
M16	26,0	20,0	13,0	5,80
M20	33,0	25,5	16,5	6,50



# 3 - LABORATORY EQUIPMENT

Special facilities, suitable premises, equipment and tools as well as a qualified, experienced and properly dressed staff are required for the inspection of technical cleanliness.

CleanControlling GmbH, as one of the leading and most recognized companies in the area of technical cleanliness has a broad product range in the field of laboratory equipment, and is therefore able to provide you with individual and flexible support in the implementation of cleanliness inspections in your company. In the following chapter we want to introduce to you our products in the areas of laboratory technology, laboratory equipment, laboratory supplies, packaging material, analysis and SEM accessories.

As an expert in the field of technical cleanliness we support you during the complex process of the cleanliness inspection in your company with a selection of laboratory equipment that shall be described in detail in the following chapter.



**Vacuum filtration unit**

for filter ø 47/50 mm

**Art.No. 61391**

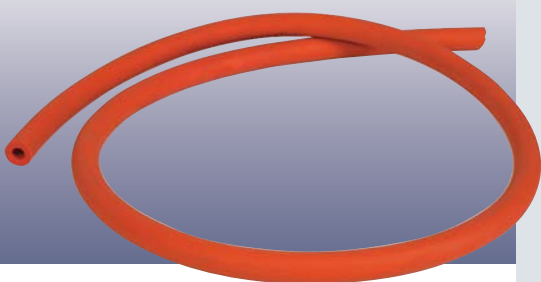
- Filtration unit for separation of extracted particles from the analysis liquid on the analysis filter surface
- Provides greatest possible freedom in relation to free movement and flexibility of the equipment (adapter, tweezers, etc.).
- Enables very good blank values, specifically for the inspection of small components or low batch sizes

**Technical data**

- Suitable for filter ø 47/50 mm
- Material: borosilicate glass
- Volume (filter funnel): 250 ml
- Volume (filtrate bottle): 1000 ml
- Autoclavable

**Accessories (optional)**

- Diaphragm pump ME 1C (Art.No 61492)
- Vulcanized rubber vacuum hose (Art.No. 61515)

**Vulcanized Rubber vacuum hose****Art.No. 61515**

- Thick-walled vulcanized rubber vacuum hose to connect the vacuum filtration unit and the diaphragm pump

**Technical data**

- Length: 1 m

## Diaphragm pump

ME 1C



### Art.No. 61492

- Pump for vacuum filtration
- High chemical resistance
- Variable adjustment of the effective pumping speed by means of a manual control valve with pressure gauge
- Less space required on the laboratory bench
- Extremely quiet operation
- Extremely long diaphragm life time
- Virtually maintenance-free

### Technical data

- Dimensions (W x H x D): 247 x 121 x 145 mm
- Weight: 5.0 kg
- Sound pressure level: 45 dB (at 50 Hz)
- Motor power: 0.04 kW
- Maximum pumping speed (50/60 Hz): 0.7/0.85 m<sup>3</sup>/h
- Connection suction/pressure side: hose nozzle DN 8-10 mm
- Central power button

### Accessories (optional)

- Vacuum filtration device for filter Ø 47/50 mm (Art. No. 61391)
- Rubber vacuum hose (Art.No. 61515)

## Desiccator

SICCO Star Vitrum



### Art.No. 61324

- Cooling of the filter membrane to room temperature and adjustment to laboratory conditions (e.g. air humidity)
- Compensation of fluctuations in ambient conditions for a good measurement result

### Technical data

- Material (frame): aluminum
- Material (panes): borosilicate glass 3.3
- Door with magnetic strip and rubber seal all around
- External dimensions (WxHxD): 310 x 525 x 375 mm
- Usable interior space (WxHxD): 260 x 480 x 330 mm
- Internal volume: 51 liters
- Weight: 14 kg
- Resistance to acids and organic substances

### Scope of delivery

- SICCO Star Vitrum desiccator
- 4 stainless steel intermediate shelves
- 1 bottom tray with silica gel
- 1 digital hygrometer

### Accessories (optional)

Desiccant (Art. No. 61325)

## Desiccant



### Art.No. 61325

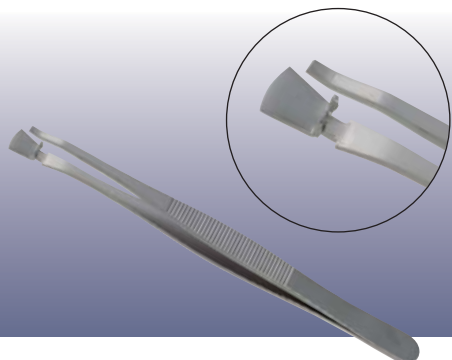
- Silica gel with color indicator from orange to dark brown to black
- Can be regenerated at approx. 80 – 90 °C

### Technical data

- Weight: 360 g
- Grain: 2.0 - 5.0 mm

**Tweezers**

with stop I wide

**Art.No. 61362**

- Tweezers with wide contact surface for handling filter membranes
- Smooth-polished inner surface to avoid damage to the membrane
- Stop pin, up curved side edges and the stop angle at lower bucket to touch the analysis area (effective filter to prevent surface)

**Technical data**

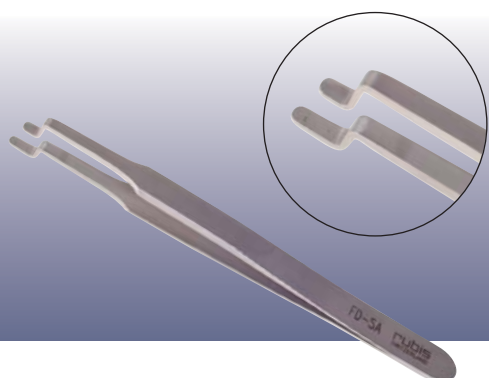
- Length: 120 mm
- Material: stainless steel
- Material type: anti-magnetic

**Accessories (optional)**

Tweezers holder (Art. No. 61366)

**Tweezers**

with stop I narrow

**Art.No. 61363**

- Tweezers with rounded tip for handling filter membranes
- Stop angle to prevent contact with the analysis surface (effective filter surface)

**Technical data**

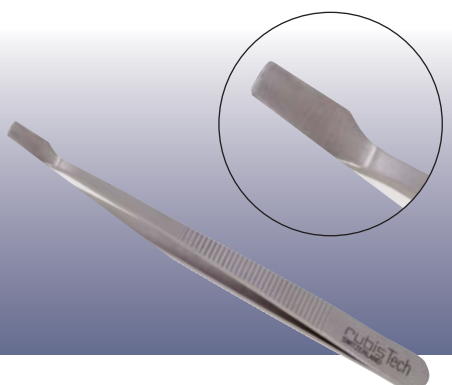
- Length: 118 mm
- Material: stainless steel
- Material type: anti-magnetic

**Accessories (optional)**

Tweezers holder (Art. No. 61366)

**Tweezers**

universal

**Art.No. 61364**

- Angled tweezers for universal use in the laboratory

**Technical data**

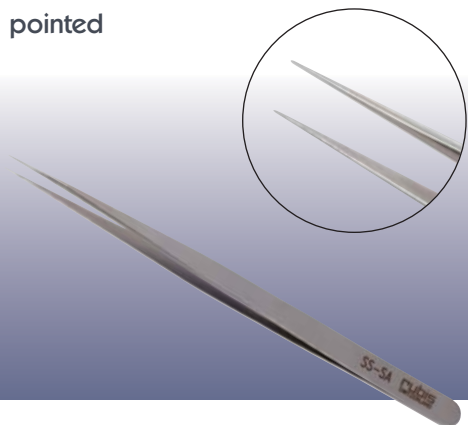
- Length: 105 mm
- Material: stainless steel
- Material type: anti-magnetic

**Accessories (optional)**

Tweezers holder (Art. No. 61366)

**Tweezers**

pointed

**Art.No. 61365**

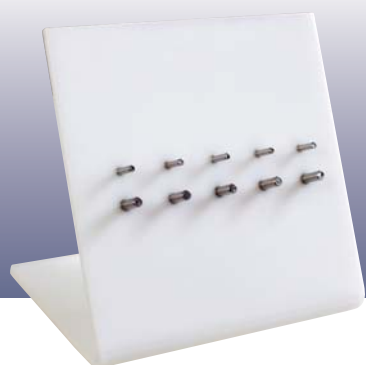
- Ultra-fine precision tweezers with straight tip (used for extraction of particles, etc.)

**Technical data**

- Length: 135 mm
- Material: stainless steel
- Material type: anti-magnetic

**Accessories (optional)**

Tweezers holder (Art. No. 61366)

**Tweezers holder****Art.No. 61366**

- Tweezers holder for storage of 5 tweezers

**Technical data**

- Material (holder): white acrylic
- Material (holding pins): stainless steel
- Dimensions (W x H): 152 x 157 mm

**Note**

Tweezers are not included in the scope of delivery

**Clip**

angled

**Art.No. 61722**

- Angled clip for gentle handling of components during particle extraction

**Technical data**

- Material: glass-fiber reinforced high-performance polymer
- Length: 265 mm



## Clip

**Art.No. 61682**

- Clip for gentle handling of components during particle extraction

**Technical data**

- Material: glass-fiber reinforced high-performance polymer
- Length: 145 mm

## Petri dish

**Art.No. 61182**

- For handling of the analysis filters after filtration - from drying up to evaluation
- Protects the analysis filter membranes against contamination by environmental influences

**Technical data**

- Material: soda-lime glass
- Diameter: Ø 80 mm
- Height: 15 mm

**Accessories (optional)**

Petri dish dispenser (Art. No. 61373)



## Petri dish dispenser

**Art.No. 61373**

- Petri dish dispenser with two dispenser compartments to store approx. 28 Petri dishes
- For use on the work table or for wall mounting

**Technical data**

- Material: acrylic glass
- Color: transparent
- Dimensions (L x W x H): 230 x 100 x 240 mm
- Suitable for Petri dishes up to Ø 97 mm



## Measuring glass



### Art.No. 61678

- Measuring glass for general laboratory use
- Smooth surfaces for easy and fast cleaning
- Good chemical resistance

### Technical data

- Material: polypropylene (PP)
- Color: transparent
- Capacity: 5000 ml
- Height: 270 mm
- With handle, scale and spout
- Graduation (interval): 100 ml
- Temperature resistance up to 100 °C

## Beaker

Art.No. 61677 150 ml

61676 400 ml

61536 600 ml

- Measuring glass for general laboratory use
- Very good chemical resistance
- Graduated for approximate reading of the contents

### Technical data

- Material: borosilicate glass 3.3
- Color: transparent
- Height:
  - 80 mm (Art. No. 61677)
  - 110 mm (Art. No. 61676)
  - 125 mm (Art. No. 61536)
- Graduation (interval): 50 ml
- High temperature resistance
- Autoclavable



## Instrument tray



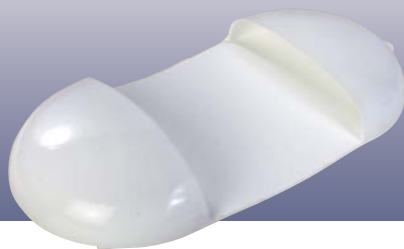
**Art.No. 61374 small**  
**61506 large**

- For clean storage and transport of instruments, Petri dishes, etc.
- Non-slip by feet at the bottom
- Resistant to solvents

**Technical data**

- Material: melamine
- Color: white
- Dimensions (L x W x H):
- 268 x 208 x 17 mm (Art. No. 61374)
- 428 x 288 x 17 mm (Art. No. 61506)

## Heat protection glove



**Art.No. 61368**

- Heat protection glove for removal of the hot Petri dishes from the oven after drying
- Combines good thermal stability, good cleanability and the prevention of fiber development
- No slipping due to rubber burl surface

**Technical data**

- Material: silicone rubber
- Temperature resistance: -60 – 250 °C



## Timer



**Art.No. 61679**

- Single-channel digital timer with acoustic alarm and memory function
- Countup and countdown option for 99 minutes 59 seconds

**Technical data**

- Color: white
- Dimensions (W x H): 67x70 mm
- Accuracy:  $\pm 0.01\%$  (3s)
- With LCD display

**Scope of delivery**

- Timer
- Magnetic fixture
- Calibration certificate
- Clip
- Stand



## Cleanroom coat



Art.No. 61497	Size	S
61498	Size	M
61499	Size	L
61500	Size	XL

- Cleanroom coat for protection of the cleanroom from contamination by the employees and its clothing
- Lint-free, high-tech synthetic fibers hold back the particles and prevent static charge

**Technical data**

- Material: 98% polyester, 2% carbon fibers
- Color: white
- Concealed zipper
- Stand-up collar with push button
- Sleeve with conductive knitted cuffs
- Push buttons for name tapes on the left side of chest
- Without pockets
- Washed can be used up to cleanroom class 10 / ISO 4

**Size table**

Sizes	S	M	L	XL
Ladies	36/38	40/42	44/46	48
Men	42/44	46/48	50/52	54/56



## Arm sleeves

**Art.No. 61134**

- Arm sleeves of anti-static material for protection against contamination
- Elastic at both ends for high wearing comfort

**Technical data**

- Material: Tyvek®
- Length: 500 mm
- Color: white
- 20 pieces per packaging unit



## Disposable caps



### Art.No. 61326

- Disposable caps for cleanroom protection against human contamination
- Fully effective particle barrier for perfect hygiene and clean working
- Flat packed on top of each other to prevent premature fiber breakage

#### Technical data

- Material: high quality, long fibred "non-woven" fleece material
- Color: white
- Size: M (approx. 54 cm head circumference)
- Packaging: cleanroom compatible, double plastic bag
- 100 pieces per packaging unit



#### Accessories (optional)

- Acrylic dispensing box for disposable caps (Art. No. 61944)

## Acrylic Dispenser for disposable caps

### Art.No. 61944

- Dispenser box with a hole in the lid for the removal of disposable caps
- Can be used as standing variant on a table, shelf or cabinet, as well as a suspended version on a wall

#### Technical data

- Material: acrylic
- Opening: Ø 100 mm
- With hinged lid
- Internal dimensions (L x W x H): 300 x 300 x 145 mm
- Rear holes for wall mounting

## Disposable aprons



### Art.No. 61371

- Disposable aprons to effectively protect against dirt, oil and wetness
- With neck strap for binding at the back

#### Technical data

- Material: 65% LDPE, 35% LLDPE
- Dimensions (L x W): 780 x 1400 mm
- Color: white
- One-size-fits-all
- 100 pieces per packaging unit



**Gloves**

for cleanroom



Art.No. 61087	Size	S
61076	Size	M
61044	Size	L

- Disposable gloves for protection of the cleanroom from human contamination
- Effective particle barrier for perfect hygiene and clean working
- On both sides wearable with rolled cuff
- Structured fingertips for improved grip

**Technical data**

- Material: nitrile G3 (latex free)
- Color: white
- Packaging: packaged in cleanroom-compliant polyethylene
- Antistatic
- Non-sterile
- Powder free
- Suitable for cleanrooms of class 1, ISO 3 or M 1.5
- 100 units per packaging unit

**Accessories**

Box for gloves (Art. No. 61372)

**Box**

for gloves

**Art.No. 61372**

- Box with two drawers for clean storage and removal of cleanroom gloves

**Technical data**

- Material: polypropylene (PP)
- Color: transparent
- Dimensions (L x W x H): 445 x 345 x 200 mm

## Laboratory shoes

ESD I safety level SB



Art.No. 61666	Size	36
61667	Size	37
61668	Size	38
61591	Size	39
61392	Size	40
61238	Size	41
61669	Size	42
61430	Size	43
61431	Size	44
61670	Size	45
61671	Size	46

- Suitable for use in cleanliness laboratory
- High wearing comfort with fixed heel strap and adjustable instep strap with elastic and Velcro closure
- Slip-resistant and anti-static with PUR-two-layer sole as per SRC

### Technical data

- Upper material: breathable microfiber fabric
- Material (lining): Silvertex (anti-bacterial)
- Color: white
- Equipped with steel cap as per EN ISO 20345: 2011 SB
- ESD equipment according to DIN EN 61340 with resistance  $R_{gp} 1 \times 10^5 - 35 \times 10^7 \Omega$



**Overshoe dispenser****BASIC****Art.No. 61191**

- Automatic, purely mechanical dispenser system to easily put on the overshoes
- Prevents the spread of dirt and bacteria in buildings
- Space saving due to compact dimensions
- Nylon overshoes in appropriate packaging units can be ordered at any time

**Technical data**

- Color: grey
- Dimensions (L x W x H): 440 x 228 x 142 mm
- Can be filled with approx. 100 overshoes

**Scope of delivery**

- Overshoe dispenser
- 1 pack with 50 pieces PE overshoes

**Accessories (optional)**

Overshoes for overshoe dispenser BASIC (Art. No. 61181)

**Overshoe dispenser****PROFESSIONAL****Art.No. 61586**

- Mechanical overshoe dispenser designed specifically for use in hygienic areas such as cleanrooms
- Prevents the spread of dirt and bacteria in buildings
- Dispenser guarantees extreme cleanliness because overshoe is not contaminated by touching with the hands
- User-friendly operation - use without bending and comfortable handle to hold when pulling on
- Two rollers at the rear are designed for flexible use of the dispenser
- Filling level can be monitored at any time through the inspection window

**Technical data**

- Material: ABS (Acrylonitrile-Butadiene-Styrene) / stainless steel
- Color: grey / white
- Dimensions (L x W x H): 740 x 300 x 730 mm
- Weight: 20 kg
- Can be filled with approx. 220 overshoes

**Accessories (optional)**

Overshoes for overshoe dispenser PROFESSIONAL (Art. No. 61587)



## Overshoes

for overshoe dispenser  
BASIC



### Art.No. 61181

- Replacement overshoe for overshoe dispenser BASIC
- Prevents the spread of dirt and bacteria in cleanrooms

#### Technical data

- Material: polyethylene (PE)
- Color: blue
- Universal size
- 100 pieces per packaging unit

## Overshoes

for overshoe dispenser  
PROFESSIONAL

### Art.No. 61587

- Replacement overshoe for overshoe dispenser PROFESSIONAL
- Prevents the spread of dirt and bacteria in cleanrooms

#### Technical data

- Material: cast polyethylene (CPE)
- Color: blue
- Universal size
- 110 pieces per packaging unit

**Dust binding mat**

removable

**Art.No. 61576 blue****61709 white**

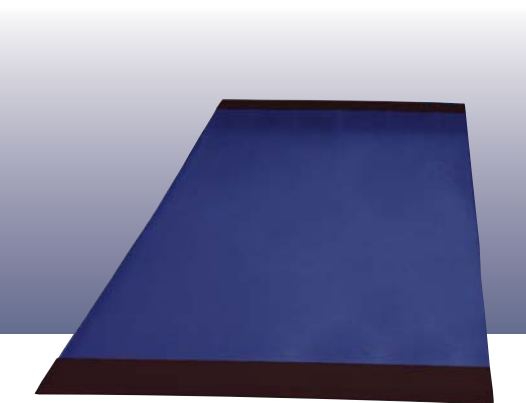
- Dust binding mat for decontamination of shoe soles and overshoes of staff
- Reduction of particle entry by personnel when entering a CLEANLINESS ZONE (CG1) or a CLEANLINESS ROOM (CG2) as per VDA 19.2
- Contaminated adhesive foil can be easily removed on degradation of adhesive strength - the new film is immediately activated
- Non-slip due to self-adhesive rubber mat
- Flexible in use due to easy roll-out and placement at the desired location

**Technical data**

- Material (film): polyethylene (0.045 mm thick)
- Dimensions (L x W x H): 660 x 1140 mm
- Coating: Environmentally friendly, water-based acrylic adhesive
- Consecutive numbering of the films
- 4 mats à 30 layers per packaging unit

**Dust binding mat**

permanent

**Art.No. 61511**

- For reduction of particle entry by personnel when entering a CLEANLINESS ZONE (CG1), a CLEANLINESS ROOM (CG2) or a CLEANROOM (CG3) as per VDA 19.2
- Dust binding mat for decontamination of shoe soles and overshoes of staff, as well as light trolleys
- Binds over 98 % of particles adhering to shoe soles and trolley edges
- Beveled edges on all 4 sides for trip-free walking and effortless driving with a transport trolley
- To restore its full effectiveness, it is sufficient to wipe, rinse and dry the dust binding mat

**Technical data**

- Material: polymer bacteriostatic, ESD, no outgassing
- Color: blue with black beveled edges
- Overall dimensions (L x W x H): 2000 x 1200 x 2.5 mm
- Load capacity: 84 kg/cm<sup>2</sup>

**Cleanroom wipes**

dry | white

**Art.No. 61256**

- Suitable for cleaning of cleanroom surfaces
- Enhanced tissue without chemicals, reduces ionic contamination
- Suitable for use in cleanrooms of class 100, ISO 5 or M 3.5
- In resealable bags packed for protection against contamination and dehydration

**Technical data**

- Material: 55% cellulose and 45% polyester
- Dimensions (L x W): 229 x 229 mm
- Lint-free and non-sterile
- 300 pieces per pack

**Accessories (optional)**

- Acrylic dispensing box for cleanroom wipes 230 x 230 mm (Art. No 61488)

**Acrylic dispensing box**

for cleanroom wipes 230 x 230 mm

**Art.No. 61488**

- Dispenser with cutout at front for removal of the cleanroom wipes
- Can be used as standing variant on a table, shelf or cabinet, as well as a suspended version on a wall

**Technical data**

- Material: acrylic
- Cutout at front 50 mm wide
- With hinged lid
- Internal dimensions (L x W x H): 245 x 245 x 145 mm
- Rear holes for wall mounting

**Cleanroom wipes**

pre-moisted | white

**Art.No. 6002221**

- Pre-moisted wipes suitable for cleaning of cleanroom surfaces
- Resealable bag for single wipe removal
- Suitable for cleanrooms class 100, ISO 5

**Technical data**

- Material: 100% polypropylene
- Pre-dampened with 70% isopropyl (IPA) and 30% DI water
- Dimensions (L x W): 230 x 280 mm
- 50 pieces per pack

**Precision wipe**

white

**Art.No. 61086**

- High-quality, high-performance single-layer paper wipes for easy, precise cleaning of sensitive surfaces and parts
- Suitable for the removal of liquid and dust
- Their anti-static effect reduces lint and prevents anti-static discharge
- Hygienic, user-friendly and water-repellent pop-up box for clean and fast removal
- Suitable for conducting wipe tests on components without definition of residual particulate contamination (according to Porsche Standard PN 132)

**Technical data**

- Material: 100% cellulose
- Dimensions (wipe L x W): 114 x 213 mm
- 1-ply
- 280 pieces per pack

**Sponge cloth**

micro-pore I white



<b>Art.No. 61402</b>	<b>fine</b>
<b>61403</b>	<b>medium</b>
<b>61404</b>	<b>coarse</b>

- Recommended for fine cleaning (Art. No. 61402), cleaning equipment and machines (Art. No. 61403) or cleaning large surfaces, floors and walls (Art. No. 61404)
- High abrasion resistance
- Extraction of tiny particles by capillary forces due to the extremely fine pore structure
- Labyrinth system effectively grips the particle
- Can be used repeatedly

**Technical data**

- Material: polyvinyl alcohol (PVA)
- Dimensions (L x W x H):
  - 230 x 230 x 2 mm (Art. No. 61402 | 61403)
  - 430 x 325 x 1.5 mm (Art. No. 61404)
- 25 pieces per packaging unit (Art. No. 61402 | 61403)
- 10 pieces per packaging unit (Art. No. 61404)

**Note**

Sponge cloth must be washed before first use.

## Cleanroom bags



Art. No.	61317	100 x 200 mm	250 pieces
	61411	200 x 300 mm	250 pieces
	61384	400 x 600 mm	50 pieces
	61501	600 x 800 mm	25 pieces
	61694	1000 x 1200 mm	10 pieces

- Cleanroom bags for packaging of small and medium-large cleanroom products
- Protection against contamination over the entire cleanroom process-chain
- Suitable for cleanrooms from class 8 DIN EN ISO 14644-1
- Packaging of components to deliver to our company for analysis

**Technical data**

- Material: LDPE (with additives)
- Color: transparent
- With bottom seal
- Easily sealable

## Laboratory bottle



Art.No.	61574	100 ml
	61681	250 ml

- Bottle for the bottling of analysis liquids (e.g. oil, etc.) for transport

**Technical data**

- Material (bottle): borosilicate glass 3.3
- Material (cap/pouring ring): Polypropylene
- Color: transparent/blue
- Dimensions (height/diameter):
  - 100 mm / Ø 56 mm (Art. No. 61574)
  - 138 mm / Ø 70 mm (Art. No. 61681)
- Very good chemical resistance
- High temperature resistance

The properties of analysis filters such as chemical resistance, particle retention capacity but also others such as optical characteristics can differ greatly depending on the problem and the analysis task. A careful selection of the filter is therefore essential, since this significantly influences the later analysis result - in addition to the selection of filtration equipment and the running of the filtration procedure.

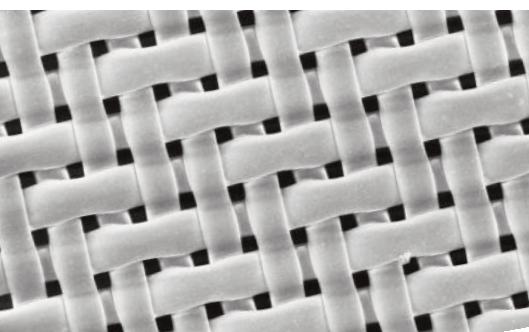
To meet the many plant and customer-specific requirements, CleanControlling provides you a large selection of analysis accessory products. This includes various filter membranes with different characteristics. In addition, we provide you with the suitable equipment for the preparation and archiving of the filters.

According to VDA 19.1, the guidance value, filter pore size =  $1/10$  (particle  $> 50\ \mu\text{m}$ ) to  $1/5$  (particle  $< 50\ \mu\text{m}$ ) of the smallest specified particle size applies for selection of the pore size.



**Filter membrane**

PET (Polyester)



Art.No. 61133	1 µm	100 pieces
61000	5 µm	100 pieces
61129	10 µm	100 pieces
61031	15 µm	100 pieces
61120	20 µm	100 pieces
61135	40 µm	100 pieces
61494	50 µm	100 pieces
61030	100 µm	50 pieces
61286	150 µm	50 pieces
61495	200 µm	50 pieces
61314	300 µm	100 pieces

- Filter membrane for analysis filtration during the extraction of components
- Separation of the relevant particle size for the analysis
- Various pore sizes can be selected in accordance with the cleanliness specification in order to safely remove even the smallest particle
- Mesh provides defined geometric pore size and therefore separation limits to facilitate light-optical analysis
- Easy handling due to minimal fluid intake

**Technical data**

- Material: Petex (Polyester)
- Dimensions: Ø 47 mm
- Color: white
- Precision mesh
- Laser-cut

**Technical Note**

According to VDA 19.1, the 5 µm PET (Art. No. 61000) is the standard analysis filter for cleanliness tests.





**Filter membrane**

Nylon

**Art.No. 61066 Nylon Ultipor® 5 µm 100 pieces**

- Filter membrane for analysis filtration during the extraction of components
- Separation of the relevant particle size for the analysis
- Foamed membrane filter provides a level surface well-suited to light-optical analysis of particularly small particles (from 2-5 µm) (Art. No. 61066)

**Technical data**

- Material: nylon (Polyamid)
- Dimensions:
- Ø 47 mm (Art. No. 61066)
- Color: white

**Filter membrane**

Cellulose nitrate

**Art.No. 61212 0,45 µm 100 pieces****61155 0,8 µm 100 pieces****61056 3 µm 100 pieces****61211 5 µm 100 pieces****61042 8 µm 100 pieces**

- Filter membrane for analysis filtration during the extraction of components
- Separation of the relevant particle size for the analysis
- Various pore sizes can be selected in accordance with the cleanliness specification in order to safely remove even the smallest particle
- Foamed membrane filter provides a level surface well-suited to light-optical analysis of particularly small particles (from 2-5 µm)

**Technical data**

- Material: cellulose nitrate
- Dimensions: Ø 47 mm
- Color: white
- Autoclavable



**Filter frame**

with archiving cards

**Art.No. 61138**

- Filter frames allow you to securely archive the sampled filter membranes
- Filter membranes can be measured and evaluated repeatedly
- With archiving cards for the fixation of the filter membrane against slipping and for centering of the filter
- The analysis number, for instance, can be documented on the rear side of the frame as an identification feature.

**Technical data**

- Dimensions of filter frame (L x W): 70 x 70 mm
- Suitable for filter membrane Ø 47 mm
- 20 filter frames and 20 archiving cards per packaging unit

**Archiving cards**

for filter frame

**Art.No. 61036**

- Archiving cards for filter frames for archiving sampled filter membranes
- For the fixation of the filter membrane against slipping and for centering of the filter

**Technical data**

- Dimensions (L x W): 55 x 55 mm
- 100 pieces per packaging unit

**Bellows****Art.No. 61367**

- Bellows for the removal of particles or fibers from filter frames
- Two-way valve to prevent back suction

**Technical data**

- Material: vulcanized rubber
- With metal nozzle

## Storage boxes

Storage box for  
filter membranes

**Art.No. 61493** for filter membranes  
**61490** for archiving cards  
**61491** for filter frames

- Boxes for clean storage of unused filter membranes, archiving cards and filter frames in the laboratory

**Technical data**

- Material: styrene-acrylonitrile (SAN)
- Color: transparent/white
- Dimensions (L x W x H):
  - 90 x 72 x 59 mm (Art. No. 61493)
  - 130 x 75 x 59 mm (Art. No. 61490)
  - 190 x 155 x 98 mm (Art. No. 61491)
- Volume:
  - 175 ml (Art. No. 61493)
  - 300 ml (Art. No. 61490)
  - 2000 ml (Art. No. 61491)

Storage box for  
archiving cardsStorage box for  
filter frames

## Drawer cabinet



**Art.No. 61051**

- Drawer cabinet with 16 drawers for archiving filter frames
- Can be labeled at label pouches on the drawers
- One drawer has a capacity of max. 105 filter frames

**Technical data**

- Material (housing): steel
- Material (drawers): polypropylene (PP)
- Color: white/night blue
- Dimensions (L x W x H): 400 x 400 x 395 mm

## Working normal



Art.No. 61130    Hydrophilic extractive media  
61131    Lipophilic extractive media

- Working normal for a capability proof of cleanliness analysis
- Is suitable for the determination of the recovery rate of test particles according to VDA 19.1
- Individually-created standard analysis allows control of the conformity of the number of particles before and after extraction
- Realistic application range, because the test particles are real chips from machining
- Support in the selection and evaluation of external service providers and suppliers

**Technical data**

- Consisting of glass specimen holder, standardized test particles and a setting adhesive
- Suitable for
  - Aqueous cleaners, e.g. purified water (Art. No. 61130)
  - Cold cleaners, e.g. HAKU, G60, Desolvit (Art. No. 61131)
- Individually-created standard analysis



## Standard normal


**Art.No. 61400 hydrophilic extractive media**  
**61401 lipophilic extractive media**

- Standard normal for a capability proof of extraction facilities
- Is suitable for the determination of the recovery rate of test particles according to VDA 19.1
- The individually-created standard analysis is not required due to the identical number of test particles applied on each specimen.
- Realistic application range, because the test particles are real chips from machining
- Decision support during set up of internal test laboratories and for self-monitoring of test procedures

**Technical data**

- Consisting of glass specimen holder, standardized test particles and a setting adhesive
- Specimen holders, each with two test particles of size classes H - K according to VDA 19

Size class as per VDA 19	Length range [μm]	Number
H	200-400	2
I	400-600	2
J	600-1000	2
K	1000-1500	2

- Suitable for
  - Aqueous cleaners, e.g. purified water (Art. No. 61400)
  - Cold cleaners, e.g. HAKU, G60, Desolvit (Art. No. 61401)

## Test particles



	Art.No.	Size class as per VDA 19	Length range [μm]
Milled aluminum	<b>61426</b>	H	200-400
	<b>61427</b>	I	400-600
	<b>61428</b>	J	600-1000
	<b>61429</b>	K	1000-1500
Milled stainless steel	<b>61422</b>	H	200-400
	<b>61423</b>	I	400-600
	<b>61424</b>	J	600-1000
	<b>61425</b>	K	1000-1500

- Specially manufactured metal chips with defined dimensions for the qualification of rinsing procedures
- The test process of a cleanliness analysis can be optimized by determining the recovery rate of the test particles
- Continuous monitoring and inspection of the cleaning performance of industrial parts cleaning systems
- Realistic application range, because the test particles are real chips from machining

### Technical data

- One packaging unit corresponds to 1 mg

**Extraction pad**

SEM analysis

Extraction pad /  
SEM analysis / Ø 12 mmExtraction pads /  
SEM analysis / Ø 25 mm**Microscope cleaner**Art.No. 61215 Ø 12 mm  
61216 Ø 25 mm

- Particle extraction pad for analysis using the scanning electron microscope (SEM)

**Technical data**

- Material (extraction pad): carbon
- Material (sample plate): aluminum
- Material (storage box): plastic
- Dimensions (pad):
  - Ø 12 mm (Art. No. 61215)
  - Ø 25 mm (Art. No. 61216)
- Dimensions (extraction pin): Ø 3 mm
- Color (extraction pad): black

**Scope of delivery**

- Extraction pad on sample plate
- Extraction pin for the scanning electron microscope
- Storage box with transparent cover

Art.No. 61547

- Bottle with compressed air - ideal for the cleaning microscopes

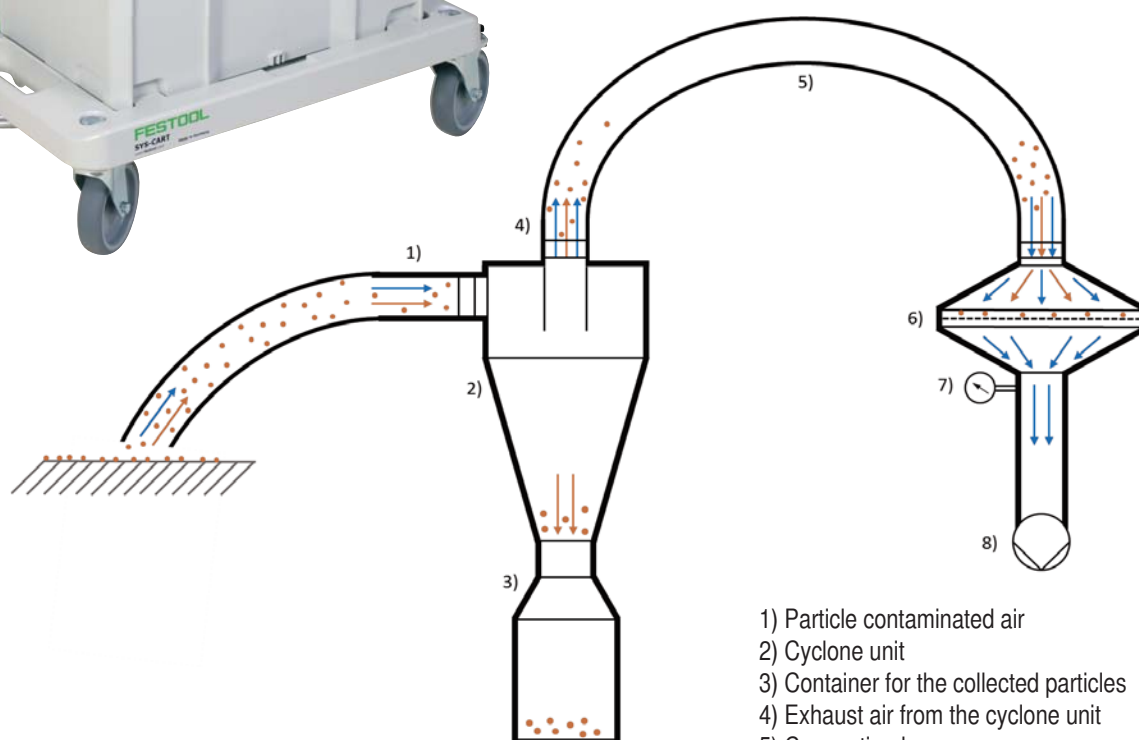
**Technical data**

- Filling quantity: 300 ml
- One-way plastic valve with tubes



**Extraction of dry and adherent particles on large surfaces as well as for extraction from the workpiece carrier and process environments.**

- The particles are suction-released from the surface by a suction nozzle or a brush nozzle, and sucked in. The removed particles are collected in a laboratory bottle.
- For protection and overload protection, there is a filter unit in addition to the cyclone unit.
- The absorbed particles can be further analyzed in combination with the filter unit.
- Suctioning is possible with or without the cyclone unit.
- A compact and combinable case system allows easy transportation of the particle suction extraction system and the equipment.



- 1) Particle contaminated air
- 2) Cyclone unit
- 3) Container for the collected particles
- 4) Exhaust air from the cyclone unit
- 5) Connection hose
- 6) Filter unit with analysis filter
- 7) Differential pressure measurement
- 8) Operated by vacuum cleaner or compressed air



## Particle suction extraction system

C|PS<sup>2</sup>

**Art.No. 61398**

### Technical data

- Dimensions CPS2 (L x W x H): 375 x 245 x 350 mm
- Weight: 9.5 kg
- Sound pressure: approx. 60 dB in compressed-air operation
- Network pressure: 7 - 8 bar
- Operating pressure: 5 bar
- Supply voltage: 230 V
- With differential pressure display
- Max. volume flow vacuum cleaner: 3700 l/min
- Max. vacuum of vacuum cleaner: 2400 Pa
- Power of vacuum cleaner: 400-1200 W
- Dimensions of vacuum cleaner (L x W x H): 430 x 330 x 442 mm

### Scope of delivery

#### CASE 1

##### Basic equipment

- 1 x 0.5 m connection hose between the cyclone / filter unit
- 2 x suction hose, length 1 m or 2 m, internal diameter 16 mm
- 1 x measuring device for the vacuum measurement, Testo 526-1
- 2 x plugs for the cyclone unit and the filter unit
- 6 x plugs for the hose ends
- 1 x side cover of the cyclone unit

#### CASE 2

##### Compressed air equipment

- Compressed air hose 5 m with pressure network adapter (nominal width 12x2)
- Muffler for exhaust compressed air

#### CASE 3

##### Power supply

- 1 x power hub
- 4 x 230 V/50 Hz power outlets
- 10 m power cable
- Grounding cable 2.4 m for push button adapter at the extraction system



Particles collected by laboratory bottle or analysis filters





Extensive range  
of accessories



Transport case

#### CASE 4

##### Analysis and extraction equipment

- Drawer 1
  - 1 x tweezers for handling filter membranes (Art. No. 61364)
  - 1 PU (100 pieces) x filter membrane PET 5 µm for the filter unit (Art. No. 6002095)
  - 2 x water resistant fiber pins
  - 1 PU (20 pieces) x filter frame and archiving cards (Art. No. 61138)
  - 1 x suction nozzle Ø 12 mm
  - 1 x hand piece for plug-in brush (L x D) 100 x 35 mm
  - 1 x plug-in brush (internal diameter 16 mm / brush length 20 mm)
  - 1 x timer
- Drawer 2
  - 6 x laboratory bottles 100 ml (Art. No. 61574)
  - 1 x Testo high-speed printer
  - 3 x thermal spare paper rolls
- Drawer 3
  - 1 x cleaning wire
  - 1 x cleaning tab
  - 1 PU (40 pieces) x cleanroom wipes, pre-moisted (Art. No. 6002221)
  - 5 x microfiber wipes

##### VACUUM CLEANER

- FESTOOL mobile dust extractor CLEANTEC CTL MINI (Art. No. 61705)
- With adaptation options for the case system
- Suction hose depot with 3.5 m suction hose and 7.5 m power cable

##### CREEPER CART

- Roll shelf SYS-CART for easy transport
- With adaptation options for the case system
- With 4 guide rollers, 2 of those can be fixed

According to the medical device regulations, medical devices “shall be designed, manufactured and packaged in such a way as to minimize the risk posed by contaminants and residues to patients and to the persons involved in the transport, storage and use of the devices, taking account of the intended purpose of the device”.

In other words, the medical device must be clean, i.e. as far as technically possible free of residues.

For this, a wide range of factors must be considered.

An important factor here is the cleaning of the product in a suitable and validated cleaning process.

This must ensure that no auxiliary and operating materials, and no cleaning agent residues remain on the devices. Due to the common cleaning procedure in medical practices and hospitals, auxiliary and operating materials in particular cannot be cleaned or rather only poorly. It is therefore clearly the responsibility of the manufacturer to remove these residues, especially in case of non-sterile delivered devices.

The microbiological cleanliness is another important factor, as a marker for the basic cleaning success of the process, as well as when the devices are transferred directly after cleaning to a sterilization process, in which a certain degree of biological contamination must not be exceeded, in order to ensure the success of the sterilization procedure.

To check the success of the cleaning, we support you with a wide a range of testing services, but we also would like to supply you with materials that ensure the packaging and shipment of the products to be tested without additional contamination.

Generally, on the subject of cleanliness, but above all in relation to biological cleanliness, the environment and the handling of the devices in this environment plays an extremely important role.

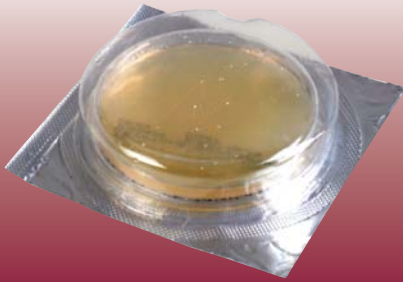
Already simple measures, such as touching the clean devices exclusively with clean gloves, can result in a great improvement or even maintain the cleanliness of the devices.

Furthermore, a generally clean environment naturally also contributes to an improvement/conservation of product cleanliness. For monitoring this environment cleanliness, we also provide products for microbiological monitoring in addition to the products for particle monitoring mentioned in the previous chapters. Agar contact plates can be used for i.e. sampling at a particular location as well as for the monitoring of the environment. For this purpose, the plates are laid out opened, thereby catching the organisms depositing from the air. Afterwards the plates can be closed and sent back to CleanControlling Medical for incubation and evaluation.

In the following section we would like to describe in more detail our products for environmental monitoring and for clean handling and packaging.

**Contact plates**

Bacteria / CASO

**Art.No. 61697**

- Contact plate for hygiene monitoring of surfaces to check for bacteria

**Technical data**

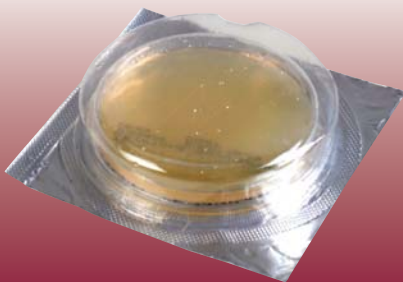
- Medium: Trypton soya agar
- Dimensions: Ø 55 mm
- Packaging: cellophane bag (double packed)
- Sterile
- Stored at room temperature (up to 25 °C)
- Contact plate with life after production of at least 7 months; the expiration date is noted on the plate

**Scope of delivery**

- 1 blister à 6 contact plates
- 6 sampling bags, small, for return shipment

**Contact plates**

Bacteria / CASO / with neutralizer

**Art.No. 61698**

- Contact plate for hygiene monitoring of surfaces to check for bacteria
- With neutralizer to counteract the effect of cleaning and disinfection agents and therefore permit disinfected surfaces to be checked

**Technical data**

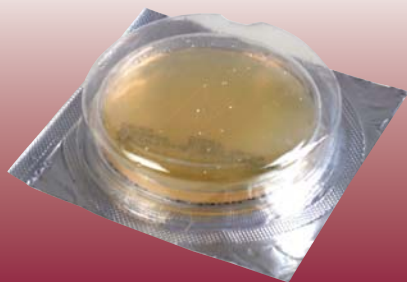
- Medium: Trypton soya agar with TLHTh (neutralizer)
- Dimensions: Ø 55 mm
- Packaging: cellophane bag (double packed)
- Sterile
- Stored at room temperature (up to 25 °C)
- 6 pieces per packaging unit
- Contact plate with life after production of at least 7 months (the expiration date is noted on the plate)

**Scope of delivery**

- 1 blister à 6 contact plates
- 6 sampling bags, small, for return shipment

**Contact plates**

Fungus

**Art.No. 61699**

- Contact plate for hygiene monitoring of surfaces to check for fungus (yeasts and mold)

**Technical data**

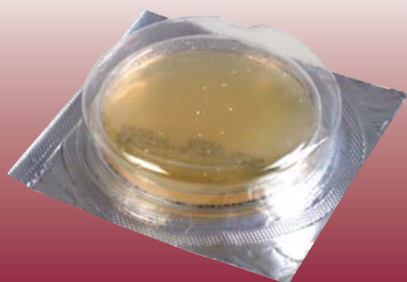
- Medium: Sabouraud Dextrose (4%) Agar
- Dimensions: Ø 55 mm
- Packaging: cellophane bag (double packed)
- Sterile
- Stored at room temperature (up to 25 °C)
- 6 pieces per packaging unit
- Contact plate with life after production of at least 7 months (the expiration date is noted on the plate)

**Scope of delivery**

- 1 blister à contact 6 plates
- 6 sampling bags, small, for return shipment

**Contact plates**

Fungus / with neutralizer

**Art.No. 61700**

- Contact plate for hygiene monitoring of surfaces to check for fungus (yeasts and mold)
- With neutralizer to counteract the effect of cleaning and disinfection agents and therefore permit disinfected surfaces to be checked

**Technical data**

- Medium: Sabouraud Dextrose (4 %) Agar with TLHTh (neutralizer)
- Diameter: Ø 55 mm
- Packaging: cellophane bag (double packed)
- Sterile
- Stored at room temperature (up to 25 °C)
- 6 pieces per packaging unit
- Contact plate with life after production of at least 7 months (the expiration date is noted on the plate)

**Scope of delivery**

- 1 blister à contact 6 plates
- 6 sampling bags, small, for return shipment

## Gloves

Nitrile



Art.No. 61686	Size	S 100 pieces
61687	Size	M 100 pieces
61688	Size	L 100 pieces
61689	Size	XL 90 pieces

- Gloves for hygienically improved handling of products in production and sampling
- Low thickness and textured fingertips for excellent grip
- Particularly kind to the skin - ideal also for people with a latex allergy (non-allergenic)

### Technical data

- Material: nitrile
- Color: blue
- Length: 240 mm
- Good chemical resistance



## Sampling bag



Art.No. 61695	small
61696	large

- Sterile, endotoxin-free and non-cytotoxic bag for the safe packaging of samples for shipment to the laboratory
- Wire tab keeps bag open during filling

### Technical data

- Material: LDPE
- Thickness:
  - 76 µm (Art. No. 61695)
  - 101 µm (Art. No. 61696)
- Color: transparent
- Dimensions (L x W):
  - 178 x 305 mm (Art. No. 61695)
  - 305 x 508 mm (Art. No. 61696)
- Closed by 2 round wires
- With inscription label
- 10 pieces per packaging unit

Current, more detailed information on planned conferences is available at [www.cleancontrolling.de](http://www.cleancontrolling.de)



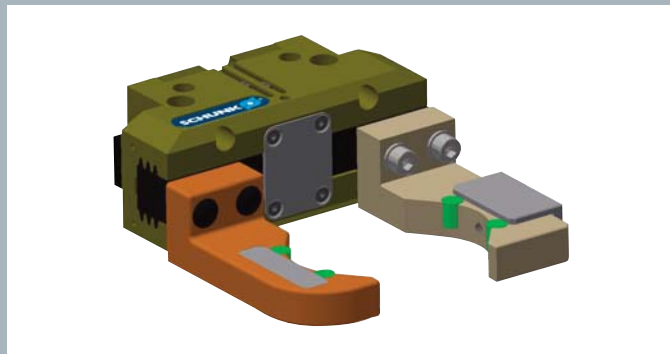
The CleanControlling conferences not only impart the technical contents, they also provide an opportunity for networking in the world of technical cleanliness and a chance for exchanging experience.



- ◆ Basics of technical cleanliness according to VDA 19.1/VDA 19.2



- ◆ Planning and design of cleanliness-sensitive assembly devices according to VDA 19.2

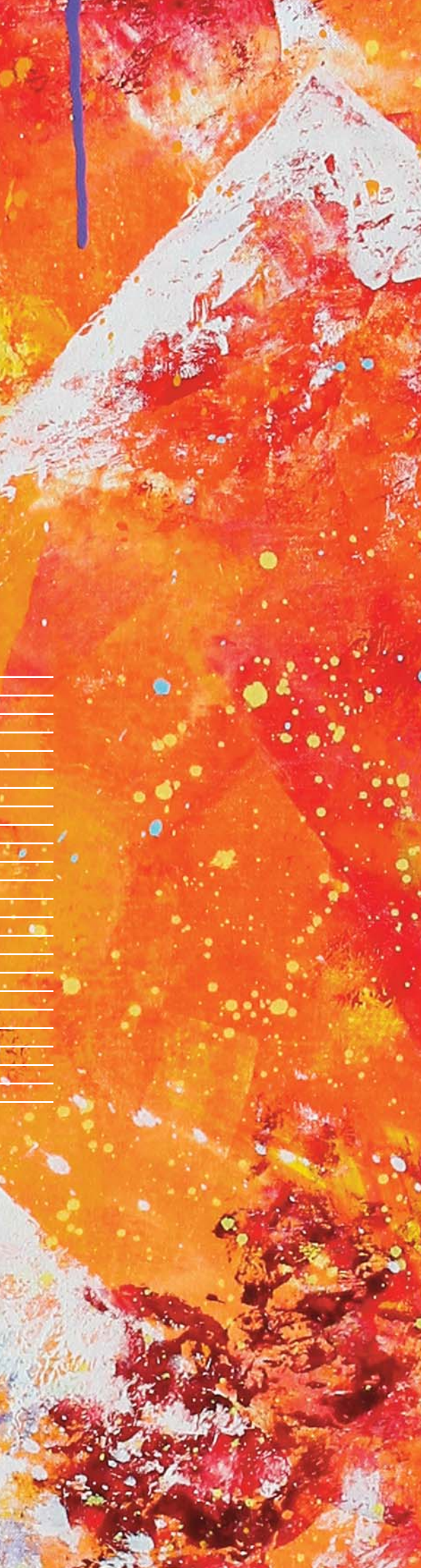


- ◆ Additional conferences on current topics of technical cleanliness



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