



More than cleaning

TEST AND SERVICE CENTRE FOR HIGH PURITY AND MORE

High-quality industrial cleaning
with the whole range of water-based procedures

//Atomic residues



//Bacteria



//Toxic residues



//Particles



//Film type contaminations



PRECISION CLEANING
AT THE HIGHEST LEVEL



THE LPW TEST AND SERVICE CENTRE

Grey. Clean. Pure.

State-of-the-art systems, the latest technologies and analytics at the highest level – the new LPW Test and Service Centre (TDZ) at the company headquarters in Riederich incorporates all this.

Over an area of 300 square metres, the specialists offer precision cleaning for high-quality parts, especially for maximum cleanliness requirements.

Grey. Clean. Pure. The products pass through these three steps in the new Test and Service Centre. Each part is individual with its own requirements and a clearly defined aspiration.

The requirements as well as industrial cleaning technology as a whole are in a process of elementary change. Film type and finest particle contaminations, for example, are no longer solely in the focus of the classic high purity branches such as the semiconductor suppliers or medical

technology. The processes of change in the automotive industry also signal a growing demand. There are also regulatory changes which quite simply demand new strategies, especially in the quality-relevant cleaning and drying processes.

The new Test and Service Centre offers the perfect framework for this: both in the form of trials or contract cleaning. LPW – more than cleaning.



1st place at the CLEAN 2018

The Fraunhofer IPA Institute honours pioneering developments, new applications and innovative technologies with the annual CLEAN award for cleanliness technology. LPW won first prize with the CNp process in 2018.

The Process



GREY AREA

CLEAN AREA

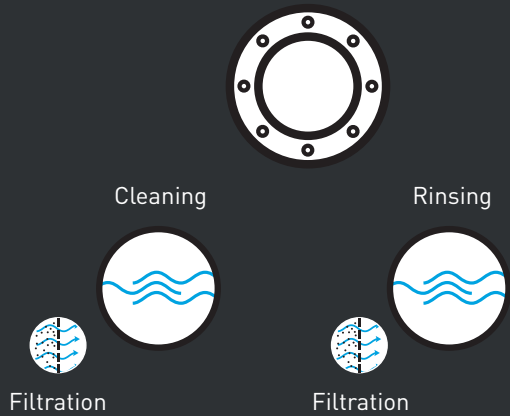
Pre-cleaning

Powerjet 670 TS basic

Treatment chamber



Part flow



Part flow

Preliminary trials and process

Suitable preliminary trials assure an optimum cleaning result and accompany every further step.

The preliminary trials are conducted by the LPW-internal cleanliness analysis or by external laboratory/analytics specialists.

Grey and clean

The goods are pre-cleaned and prepared for final cleaning in the clean room in the upstream grey area. Pre-cleaning is always mandatory for all products. It serves to eliminate undesirable contaminations and ensures that the prerequisites for a defined fine cleaning result can be achieved prior to final cleaning.

Batch size:
670 x 480 x 300 mm
Max. batch weight:
150-200 kg

Equipment



Fast emptying



Spray cleaning



Pressure flooding



Ultrasoundsystems



Hot-air drying



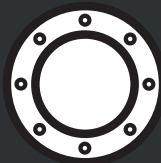
Vacuum drying

CLEAN ROOM



Final cleaning Powerjet 670 T3 CNp

Treatment chamber



Fine cleaning

Rinsing 1

Rinsing 2

High purity water rinsing



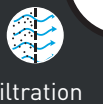
Part flow



Part flow



Filtration



Filtration



Filtration



Pure

Final fine cleaning begins after taking the pre-cleaned products through the material lock into the ISO class 7 clean room. The products are processed to the required level of technical cleanliness with the high purity cleaning plant and then packed.

In addition to the well-known, proven ultrasound cleaning, the innovative CNp cleaning technique in connection with

suitable drying achieves top level results. The system also offers non-contact drying processes for critical requirements in addition to the classic processes. Of course, initial packing takes place directly in the clean room.

Water supply

The on-site media supply is designed with a conductance of $< 0.1 \mu\text{s}/\text{cm}$ and a TOC value of $< 30 \text{ ppb}$ so that the final cleaning system can be supplied with a total treatment capacity of $1.5 \text{ m}^3/\text{h}$ and a water quality adapted to the respective cleaning requirements.



Cyclic nucleation (CNp)



Ultrasound systems



Pressure flooding



Spray cleaning



Vacuum drying



Hot-air drying



IR drying



CNp drying

Additional Services

Deburring

After upstream microscopic component analyses and suitable preliminary trials, any flaky burr and grinding burr in the grey area can be removed before the final cleaning processes with the aid of the innovative, robot-supported ultrasound deburring.

Analysis

We will be glad to conduct an initial analysis, e.g. In accordance with VDA19, directly at LPW. Certified evaluations of the preliminary trials or single samples from the cleaned batches can also be provided in cooperation with external laboratories/ analytics specialists.

Documentation

All operational processes and their basic parameters can be documented and reproduced with a central control technology. In this way, a standardised and validatable process from receipt of goods to dispatch can be demonstrated.



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