

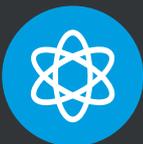


More than cleaning

## 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 4090 square feet, the specialists offer precision cleaning for high-quality parts, especially for maximum cleanliness requirements.

With the LPW ultrapure water system for supplying the laboratory areas and final cleaning in the cleanroom, even the highest quality requirements from medical technology, precision component production, the optical industry and the new portfolio of the automotive sector can be realised.

In addition, centralised control technology enables the documentation of all processes and environmental conditions

Cleanliness analysis, semi-automated preliminary tests can also be carried out in our laboratories on a CNp-wetbench or

on a CNp/ultrasonic double-tub system for chemical selection/chemical compatibility as well as for rinsing tests and process definition.

Technical equipment:

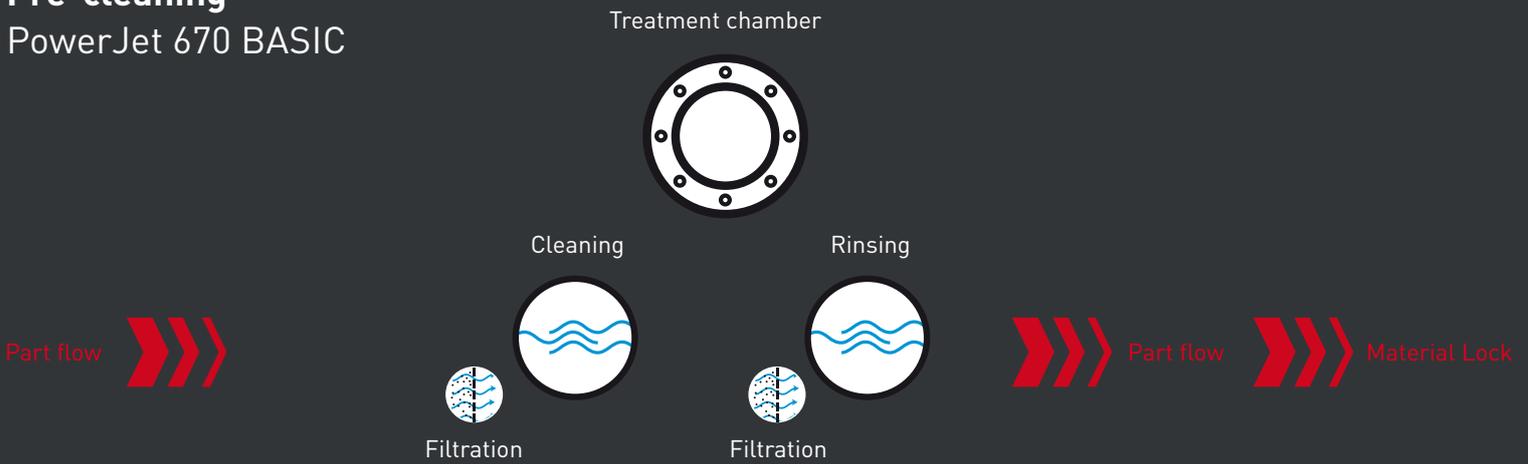
- » media supply: air, technical gases and liquids in the form of a demineralized water and ultrapure water supply
- » ISO 7-clean room with integrated air particle measurement and darkening options for the entire cleanroom for UV light inspection
- » mobile laminar flow unit in the clean room to create a working area under ISO 5-like environmental conditions.



# The Process



## Pre-cleaning PowerJet 670 BASIC



### 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/analytcs 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.

Basket sizes (external dimensions):  
670 x 480 x 300 mm  
530 x 320 x 200 mm  
Max. batch weight: 150-200kg

## Equipment



Fast emptying



Spray cleaning



Pressure flooding



Ultrasound systems



Hot-air drying

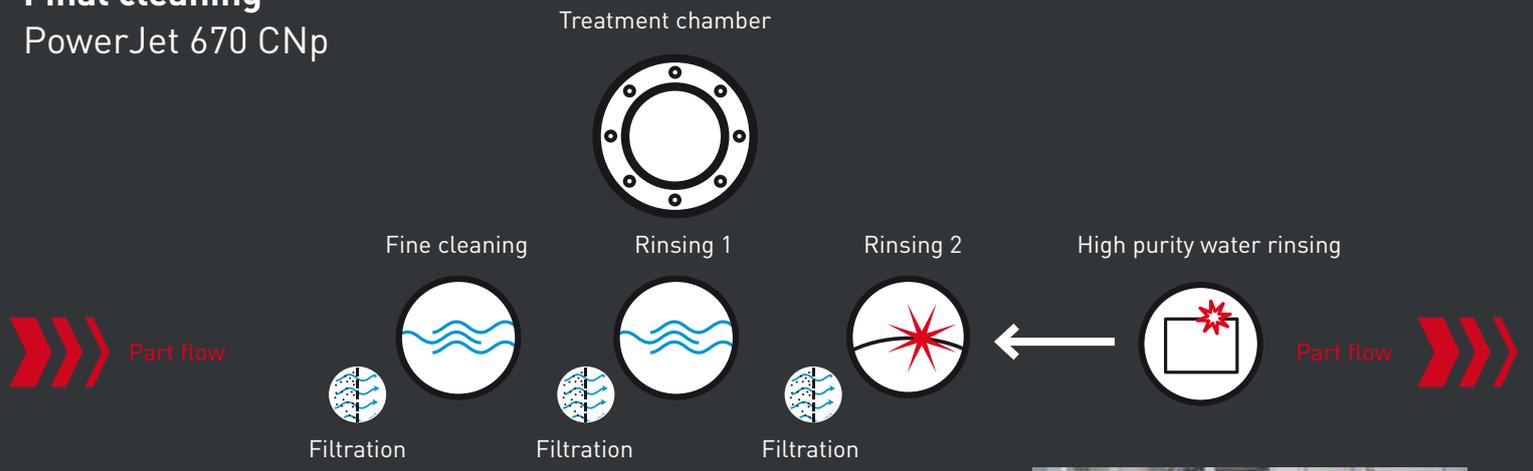


Vacuum drying

# CLEAN ROOM



## Final cleaning PowerJet 670 CNp



### Pure

Final fine cleaning begins after taking the pre-cleaned products through the material lock into the ISO 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.

### Water supply

The on-site media supply is designed with a conductivity value 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 the required water quality in each case.



Cyclic nucleation (CNp)



Ultrasoundsystems



Pressure flooding



Spray cleaning



Vacuum drying



Hot-air drying



IR drying



CNp drying

# Additional Services

## Cleanability

Factors from

- » the pre-processes
- » the auxiliary and operating materials used or
- » the environment and environmental parameters

They must be defined according to type and occurrence, their influence on the downstream processes must be assessed and their permitted limit values must be specified. These factors form the foundation of cleanability and have a direct influence on the feasibility and effort of a qualified cleaning process.

## 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 standardized and validatable process from receipt of goods to dispatch can be demonstrated.



More than cleaning

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