



More than cleaning

POWERPULSE CNp

Semi-Automatic Ultrasonic CNp Cleaning System

PowerPulse CNp is a multi-stage, semi-automatic cleaning system with manual batch handling, engineered for reliable use in industrial production, including multi-shift operation. By combining pulsed vacuum cleaning based on cyclic nucleation (CNp) with ultrasound, the system enables both technologies to be used simultaneously or selectively, depending on component geometry, contamination, and cleanliness requirements.



KEY FEATURES

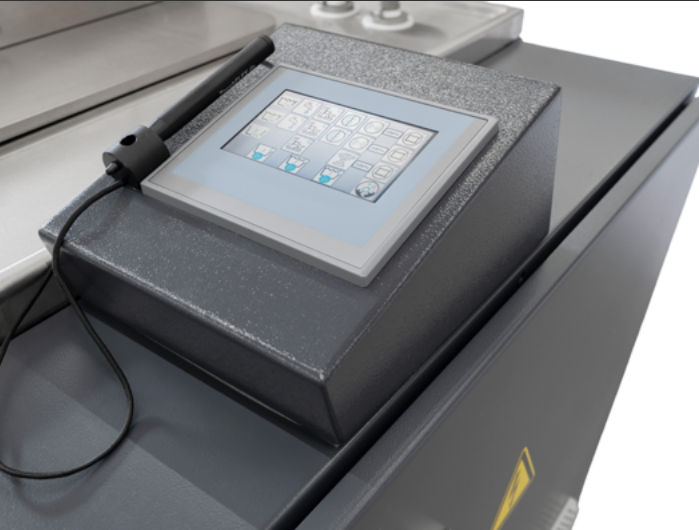
- » Foot print approx. 2.3 m²
- » Cleaning and rinsing with integrated full-flow filtration
- » Infrared/Vacuum Dryer
- » Cyclic nucleation (CNp) and ultrasound
- » 55 l usable volume/bath
- » Basket size 530 x 320 x 200 mm

Integrated full-flow filtration ensures stable process conditions and supports low-maintenance operation. A separate vacuum-infrared drying stage, fully embedded in the overall system concept, delivers efficient and reproducible drying results, even for sensitive parts and complex geometries.

This makes PowerPulse CNp a robust solution, ready for production, for permanent use in manufacturing environments where process stability, part protection, and consistent cleaning performance are essential.

FEATURES/SPECIFICATIONS

Feature	Value
Dimensions [depth x width x height]:	800 x 2,813 x 1,496 mm
Connected load:	35 A /15 kW
Filtration/heating circuit:	approx. 1 m²/h
Heating capacity:	approx. 5 kW
Ultrasonic performance:	approx. 9 W/L

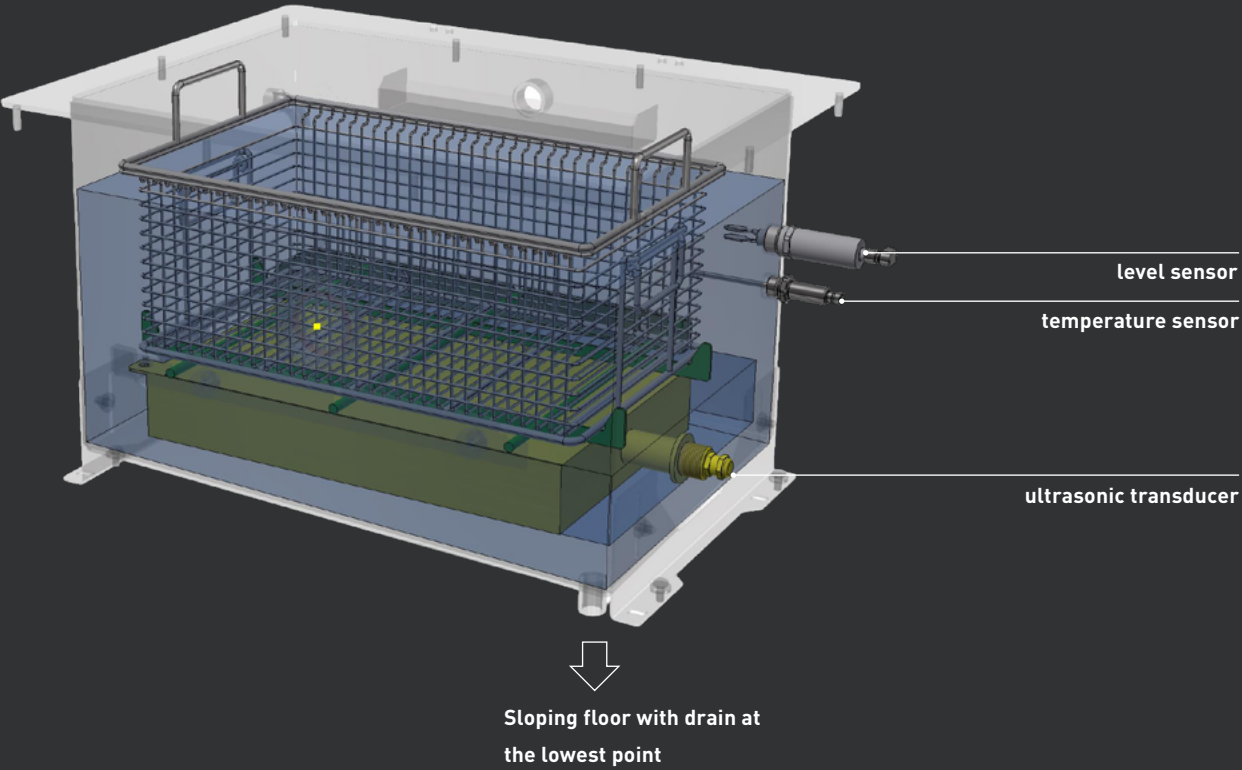


HMI
The HMI allows the respective parameter input and can also be operated with the Sm@rtClient via mobile devices (e.g. tablet).

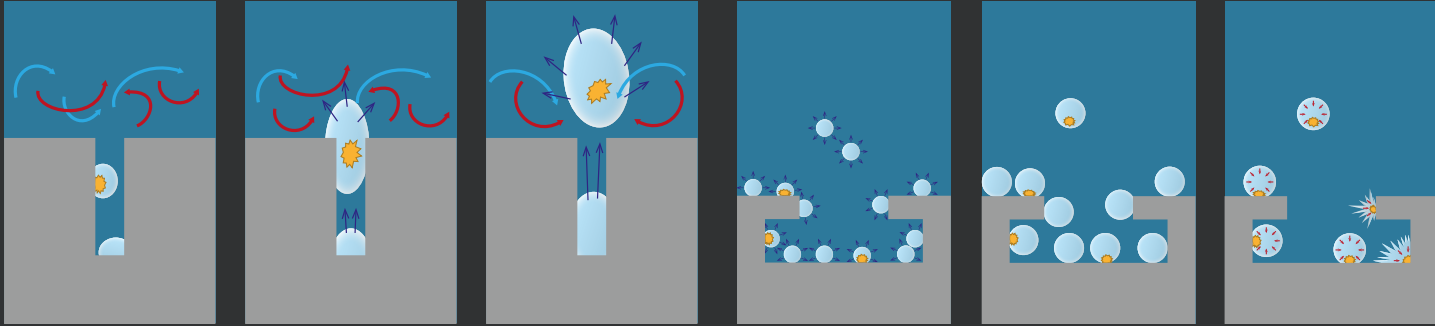


Drying chamber
The drying chamber allows a combination of vacuum and infrared drying.

DETAILS



THE PROCESS OF CYCLIC NUCLEATION



Asymetric Volume Flow
The asymmetric change of volume creates a pumping effect ensuring the exchange of media in capillaries and blind holes helping to remove impurities.

Cavitation
» Gas bubbles form on the reactive surface.
» The gas bubbles expand.
» The bubbles implode and generate cavitation.

Due to the isostatic distribution of pressure change in the cleaning fluid, Cyclic Nucleation (CNp) is highly effective in geometries difficult to clean, such as undercuts, and narrow channels.

POSSIBLE APPLICATIONS



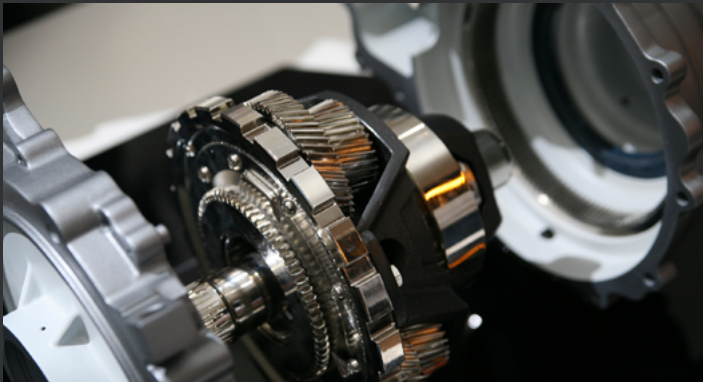
Medical technology

Cleaning of medical equipment, capillaries, stents.



Laboratories or high-quality individual components

Complex components or assemblies.



General Industry

Requirements from machining production or maintenance with high demands on technical cleanliness.



Additive Manufacturing

Depowdering or final cleaning after postprocessing.



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