



COMPLETE
SOLUTION
FOR NDT

CLEANING

CLEANING LINE

Special process of cleaning and cleanliness verification was fully implemented originally in ATG in 2018 with primary focus on cleaning of parts for new turbopropeller engine Catalyst made by GE Aviation Czech. Process is fully in accordance with GE Aviation's P4TF21 and Safran's DT55-83 procedures and is especially suitable for cleaning of critical engine components.

Process consist of multi-level cleaning, that usually include following steps: **air pressure cleaning**, **chemical cleaning by izopropylalcohol**, **ultrasonic cleaning** and **high pressure rinsing**. All steps are performed in a pressurized clean room with protective tools to minimize possible contamination of the parts.

Cleanliness verification is performed on optical microscope, usually for specific classes of cleanliness. For this purpose ATG utilizes outstanding optical microscope from NIKON in combination with NIS Elements software.

Due to the high requirements created by the aerospace industry, this process can be also implemented in accordance with EN ISO 16 232 standard which is used in automotive industry.

Scope

Current process is able to clean parts and verify the cleanliness level according to number of particles and their sizes from 5 μm to 200 μm . Sizes of particles to be evaluated are as follows:

- 5 - 15 microns
- 15 - 25 microns
- 25 - 50 microns
- 50 - 100 microns
- 100 - 200 microns

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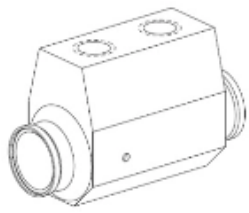
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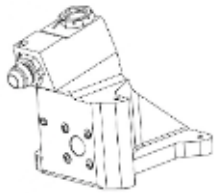
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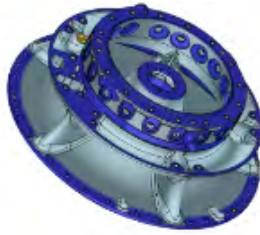
Parts to be tested in aerospace industry



ADAPTERS



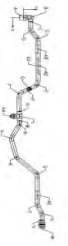
HEATING ELEMENTS



BEARINGS



VARIOUS
COMPONENTS



TUBES

Process steps

- Initial air-blow
- Alkaline pre-cleaning by immersion/flushing
- Ultrasonic bath if possible
- Immersion rinsing
- Air-blow
- High pressure rinsing
- Sample collection & cleanliness verification
- Final air-blow/drying



References

- GE AVIATION, Czech Republic
- HEGGEMANN, Germany
- MB AEROSPACE, Poland

