

Ultrasonic cleaning trial report

Trial type: process proof. The result is judged by visual inspection; no laboratory analysis is needed for this application.

TRIAL NUMBER T-3173	DATE 30 June 2025	CUSTOMER Lock manufacturer	CONDUCTED BY Misonics
------------------------	----------------------	-------------------------------	--------------------------

1. SUMMARY

The trial assessed an ultrasonic cleaning process for brass lock components contaminated with oil, swarf and general dirt. The parts were cleaned in a water-based ultrasonic system with rotation during cleaning and hot-air drying.

- All contaminants were removed.
- 3.0 kW of ultrasonic power was used to loosen the soil.
- Rotation during cleaning and drying improved the result.
- All parts came out visually clean with a bright finish.

2. PARTS

Part	Type	Material	Geometry	Contamination
Brass lock components (various)	Separated parts	Brass	Smooth surface with holes	Oil, swarf, dirt

3. PROCESS

Parameter	Stage 1	Stage 2	Stage 3	Drying
Medium	Water-based cleaner	Demineralised water	Demineralised water with additive	Hot air
Concentration	4.0%	—	2.5%	—
Temperature	60 °C	60 °C	60 °C	110 °C
Time	240 + 300 s	60 + 60 s	60 s	300 s
Filter	50 µm bag	25 µm bag	10 µm bag	—
Process	Flood wash and ultrasonic	Ultrasonic and flood wash	Flood wash	—
Movement	Intermittent and continuous rotation	Intermittent and continuous rotation	Continuous rotation	—

Total cycle time: 20 minutes (17 minutes of stage time plus handling between stages). **Result:**

Visually clean

4. REMARKS

The results reflect the actual parts and contamination levels received for the trial. Future batches are assumed to carry similar contamination for the same result.

5. BEFORE AND AFTER



Before



After



Before (left) and after (right)



Before (left) and after (right)



Before (left) and after (right)



Before (left) and after (right)



Before (left) and after (right)

Customer name withheld.