

CASE STUDY



Precision cleaning prior to vacuum coating

Machine: Swash 4200 / Industrial sector: Tool coating / 171



- Industry:** Physical vapour deposition (PVD) and CVD coating
- Cleaning problem:** Replacement of a water-based ultrasonic cleaning machine that is operated with acetone, a DI water rinsing as well as an IPA drying phase
- Soiling:** Cooling lubricants, mineral oil, polishing paste and abrasions
- Solution:** Cleaning under vacuum in a single cleaning chamber with non-chlorinated AIII hydrocarbon and detergent (option)
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| Phase 1: | Immerse cleaning with AIII solvent | 65°C | 4 min. |
| Phase 2: | Immerse cleaning with ultrasonics | 62°C | 4 min. |
| Phase 3: | Vapour phase | 85°C | 6 min. |
| Phase 4: | Vacuum drying | 60°C | 3 min. |
| Phase 5: | Detergent cleaning | 60°C | 2 min. |
| Phase 6: | Rinsing with DI water | 45°C | 2 min. |
| Phase 7: | Vacuum drying | 60°C | 1 min. |
- Approx. cycle time: 22 min.
- Requested quality:** Precision cleaning, stainless drying prior to physical vapour deposition (PVD)
- Return on investment:** The cleaning and drying quality is better than the results achieved with the acetone, the detergent and the IPA drying. Tapped blind holes and coolant bores are efficiently cleaned. There is no remaining solvent film and no risk of corrosion. The investment and operating costs have been reduced by 50%. The machine complies with legal requirements (SUVA and EU).
- Special feature of the application:** More and more Swash machines replace a water-based cleaning prior to the PVD and therewith prove to be a qualitative better cleaning method. Basket dimensions: 670 x 480 x 320 mm.