

Reference project  
**Injection molding machines**  
**Medical technology**

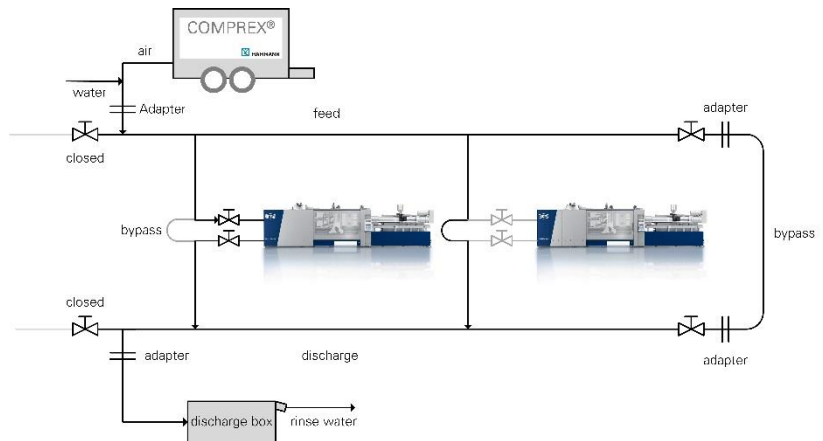


Figure 1: procedure of Complex® cleaning for injection molding machines

## Cleaning cooling circuits of injection molding machines including main system in clean room area

### Assignment

- clean an entire cooling system of injection molding systems with Complex® (Figure 1)
- remove deposits and biofilms from the system
- recover performance and reliability of cooling

### Technical Data

- cooling system for injection molding machines
  - feed and discharge of main circuit
  - cooling circuit of particular machines
  - diameters up to DN 80, Length approx. 80 m
- injection molding machines (Figure 2)
  - manufacturer: Netstal-Maschinen AG, Switzerland
  - various types and models



Figure 2: preparation of injection molding machines for cleaning

### Cleaning using the Complex® process

- mechanical cleaning by defined application of compressed air delivered by Complex® unit (Figure 3)
- successive cleaning of the system (Figure 1)
  - feed and discharge of main circuit
  - feed and discharge of particular machines
  - circuits for tools and machines of the individual injection molding machines
- access by standard adapters (Figure 4)
- monitoring of cleaning progress by the turbidity of rinse water (Figure 5)
- 2 x 2 technicians in shift work, approx. 20 hours on site



Figure 3: Complex® unit on site



Figure 4: adapters for supply of air and water

### Result of Complex® cleaning

- deposits and biofilms are mobilized and removed from the system (Figure 5)
- cooling performance and reliability recovered
- hygienic and efficient operation



Figure 5: turbidity of rinse water during cleaning procedure