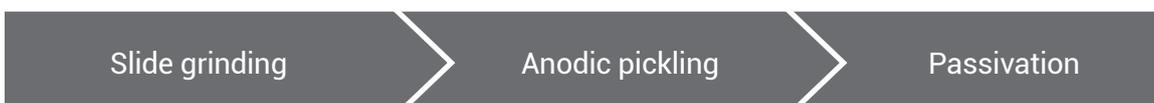


## Additional developments in surface treatment of diaphragm valve bodies

The surface of a stainless steel component plays a key role, as the nature and quality of the surface has a direct effect on the corrosion resistance and cleanability of the valve body. Processes are therefore always being further improved and new manufacturing processes integrated.

### Process sequence



# In-house machining expertise

## For reproducible processes and increased quality

With the commissioning of the surface technology centre (OTZ), GEMÜ is offering the required expertise to be able to carry out all machining steps themselves and to constantly improve the functionality of the surface.

### Slide grinding

In addition to the tried and tested manual grinding process, GEMÜ has established slide grinding. During this automated grinding process, the abrasive products, together with the workpieces, are placed in an oscillating drum with aqueous solution (compound).

#### Advantages

- Simultaneous machining of all media wetted areas
- Reproducible grinding result
- Up to 0.2  $\mu\text{m}$  ( $R_a$  value) possible
- No organized grinding direction, i.e. barely visible traces of grinding

### Anodic pickling

After slide grinding, the valve bodies are anodically pickled. With this procedure, the valve body is cleaned with an appropriate electrolyte under the influence of direct current. A little bit of material is removed here, so that you get a metallically pure surface.

The pickled surface is then subject to active passivation, which ensures the formation of a chromium-rich oxide layer (passive layer) with adequate stability.

#### Advantages

- Reproducible grade of surface finish
- The best possible corrosion resistance, through homogeneous and closed passive layer



Diaphragm valve body  
anodically pickled

Due to the unorganized grinding direction and the micro-roughness arising from this, the invading light is broken in various directions – the valve body appears matt.

**The surface with a matt effect has no effects on the cleanability or quality of the valve body.**

Slide-ground and anodically pickled valve bodies tend to be more high-quality due to the automated procedure and active passivation.