

## **Wear parts in dosing units for process chemicals**

### **Definition of wear parts:**

The materials in dosing units that come into direct contact with process chemicals are subjected to high stresses. The often highly concentrated process chemicals are in contact with e.g. hoses, seals, injection points or sometimes flow at high velocities through such components.

Squeeze hoses in peristaltic pumps or elastomer membranes in diaphragm pumps are also subject to high mechanical stress.

Other influences such as the high temperature of the environment or of the used process chemicals itself, heat radiation from other units and the operating hours are additional factors that strongly affect the durability of the parts in contact with the medium.

This means that all parts in contact with the process chemicals or with the application solution are subject to high wear (chemical, thermal, mechanical).

It is therefore necessary for the operator to have these wearing parts checked and serviced regularly. This includes, among other things, delivery or transport hoses, connection or suction components, sealings and the dosing units themselves.

### **Service life of wear parts:**

Since conditions can vary extremely from object to object, it is difficult to predict the durability of such parts.

Not all materials in the dosing units are suitable for all process chemicals on the market and may have to be adapted to the respective conditions. This requires consultation between the service staff of the machine and dosing unit manufacturers and the detergent suppliers. The manufacturers represented in the commercial dishwashing working group regularly exchange views on this kind of issues (see also Arbeitskreis Gewerbliches Geschirrspülen (AK GGS) "Compendium of practice for Commercial Dishwashing, [chap. 3: Commercial dishwashers](#)").

In general, the operator of the system is responsible for regular maintenance/inspection and the replacement of wearing parts. Regular maintenance of the components, e.g. by means of appropriate maintenance contracts, must be ensured and only carried out by qualified people. The

information in the user manual must be observed, especially the information on spare parts and material selection.

Some manufacturers specify fixed periods for replacement, e.g. for squeeze hose in dosing units.

If the manufacturer gives a time specification about the necessary replacement of wear parts, it is always an indefinite statement that can only have an orienting character.

Due to the different stresses (chemistry, operation time and environmental conditions, e.g. temperature and back pressure), only a non-binding recommendation can be made.

If the process chemicals are changed (alternative product and/or other manufacturer), all parts in contact with the medium must be flushed with water before using the new product, otherwise additional wear may occur due to chemical reactions or crystallization.

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