

Project Note

Laboratory mixer: Greater functionality at a lower cost

Although only a fifth as expensive to build as its predecessor model, the new laboratory mixer for a biotech company worked better and was easier to use. Zühlke developed it entirely, from initial idea to pilot lot.

Task

The biotech firm Prionics was developing a test procedure for detecting prion diseases (e.g. BSE) in animals. Test preparations involved placing tissue samples in the lab mixer “PrioCLIP™” along with a buffer solution and homogenising them. The mixer container had to be extremely impervious and operable with one hand.

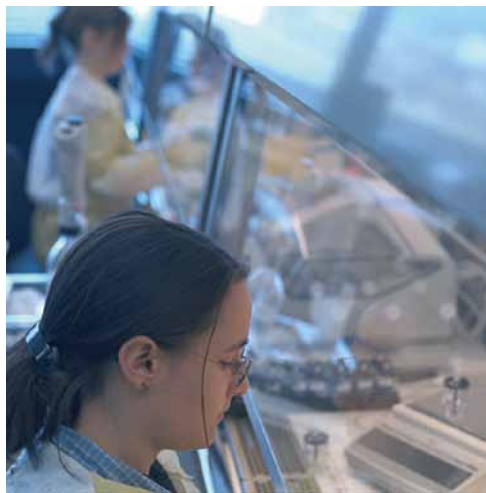
Zühlke was commissioned to develop the new PrioCLIP™ to the mass-production stage and to design and commission a manual assembly device. The goal was to improve the functionality and handling of the mixer and improve its reliability. A further objective was to reduce production costs substantially.

Implementation

The Zühlke engineers worked together with the customer to draw up the requirements for the sample container and the product specifications. They methodically evaluated the draft designs and tested them with prototypes.

The design of the mixing rod utilised a speed of 20,000 rpm and made for a more dynamic ascent of the rod. Thanks to this change, lateral guidance was sufficient and lowered the frictional wear substantially. At the critical opening in the container cover, the rod had a turbine effect, drawing the outside air into the container and sealing it in the process.

Despite the improved functionality, the number of components was reduced from eight to three. This allowed simplified assembly with a manual assembly device, which was constructed and put into operation. Zühlke assisted with the production of the injection mould, the mould sampling and the production of the pilot lot parts.



Technical Data

CAD: Pro/E

Customer benefits

- The customer had just one contact partner for the entire chain of development, from initial idea to production.
- The ideas were methodically developed, thus allowing an optimum design to be selected.
- The product got by with three instead of eight parts, which cut production costs by 80 percent. A patent was applied for.
- Zühlke completed the manual assembly device in a short time in its own workshops.

Zühlke Engineering AG
Wiesenstrasse 10a
8952 Schlieren (Zurich)
Switzerland
Phone +41 44 733 6611
Fax +41 44 733 6612
info@zuehlke.com
www.zuehlke.com