BLOG_261022_TMP_ TECHNOLOGY versus FOOD – Standards Ensure Quality

https://www.linkedin.com/feed/update/urn:li:activity:7517983531109720065

TECHNOLOGY versus FOOD – Standards Ensure Quality

In our posts on process technology and homogenizers—in conjunction with hygiene guidelines—we have already learned about the importance of standards and guidelines from various markets regarding different materials and designs. These are confirmed through various certifications (cGMP, FDA, ATEX, MOCA, 3-A, ASME BPE and EHEDG-compliant …) are confirmed.

A special feature of homogenizers is what are known as colloid mills. These process technology machines are also successfully used in typical applications in the food & beverage, cosmetics & pharmaceutical, and chemical industries.

The key difference between high-pressure homogenizers (e.g., at Bertoli – Interpump Process Technology, the operating pressure ranges are from 600 bar to 1,500 bar) and colloid mills is, that the operating pressure of a colloid mill is typically only 6 bar. Here, the difference between the actual operating pressure (6 bar) and the so-called hydrodynamic pressure (in the grinding gap) is utilized. Due to the design, there is no static high pressure inside the machine housing—rather, there is hydrodynamic shear pressure. In this process, high forces are generated by cavitation and hydrodynamic pressure.

This fundamentally changes the design of the machines.

The housings no longer need to be quite as robust, and standard clamps can now be used as connections for the inlet and outlet. Fun fact: The inlet has a nominal diameter one size larger than the outlet. The clamps—or rather, the connecting elements to the process piping—can now be selected from a “hygienic standard.”

In the American-influenced market, flange-type „Tri-Clamps“ (e.g., BS 4825) are most commonly used. One drawback is that a so-called dynamic gap cannot always be completely prevented.

In other markets, the so-called dairy pipe fitting according to DIN 11851 is frequently used. The names say it all. In one case, a clamp is used; in the other, it is more of a screw connection.

The screw connection uses a union nut. It is particularly important here that the thread has no sharp edges. Rounded edges must, of course, also be ensured throughout the entire machine design!

Rounded edges, including in the threads, are a fundamental requirement of “hygienic design,” which improves cleaning processes (according to ASME BPE or EHEDG) for the machines.

This makes CIP or SIP processes safer. If the stainless steel base material is additionally refined to an improved surface roughness (Ra 0.6 µm or 0.8 µm) and then electropolished, maximum quality is ensured for the machine, the process, and ultimately the food product.

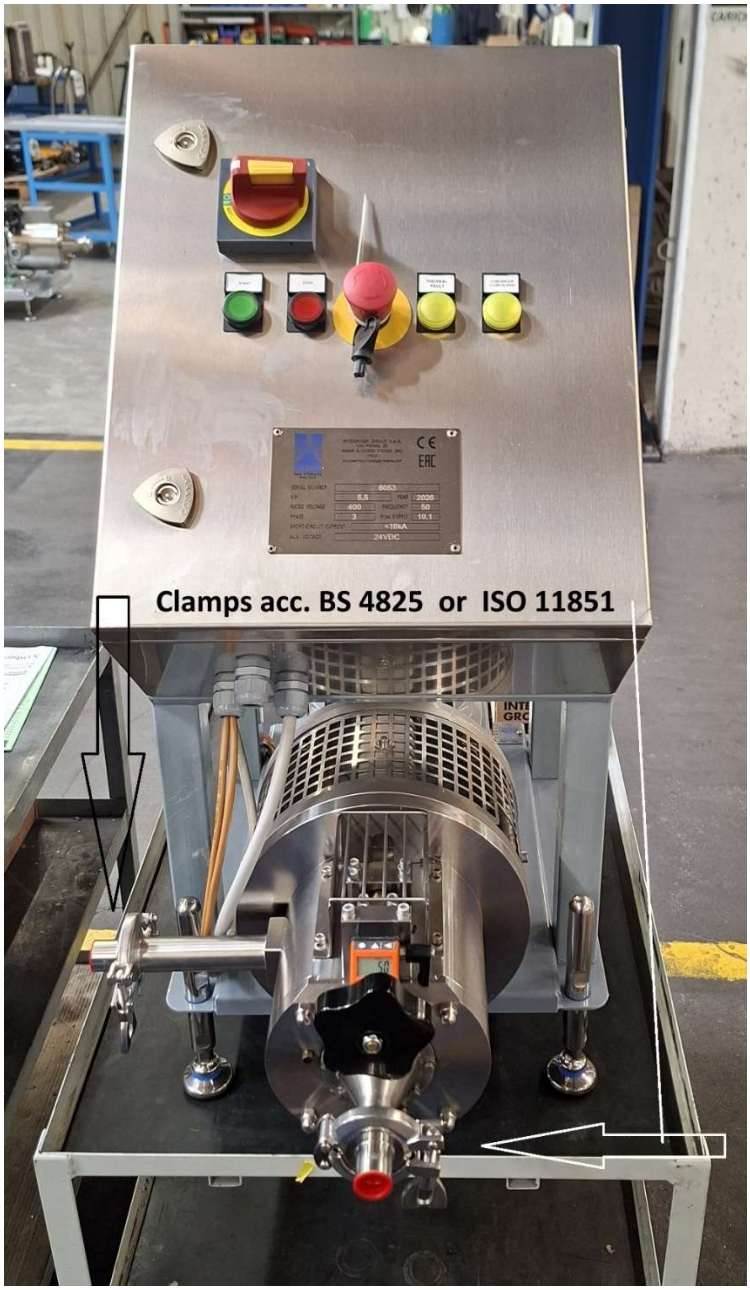
TM Prozesstechnik GmbH/ Distributor for Bertoli / INTERPUMP PROCESS TECHNOLOGY

Morier Str. 6a

23617 Stockelsdorf / Germany

www.tm-prozesstechnik.com

sales@tm-prozesstechnik.com



See pic: Bertoli – Interpump Process Technology Colloidal Mill DMC006

#homogenizer #colloidmill #EHEDG #BS4825 #Iso11851

TM Prozesstechnik GmbH/ Distributor for Bertoli / INTERPUMP PROCESS TECHNOLOGY

Morier Str. 6a

23617 Stockelsdorf / Germany

www.tm-prozesstechnik.com

sales@tm-prozesstechnik.com