

Labom Diaphragm seals

Hygienic and aseptic Applications

Pressure gauges and diaphragm seals for hygienic applications must comply with the rules of hygienic design. The design and surface quality of the materials must exclude contamination-vulnerable arrangements and ensure proper cleanability in the scope of CIP / SIP processes. Hygienic diaphragm seals from Labom are typically constructed and produced according to the relevant hygiene standards of the EHEDG (European Hygienic Engineering & Design Group).

In addition to off-the-shelf solutions according to relevant standards, Labom also realises manufacturer specifications for individual customer solutions. According to the principles of hygienic design, the company guarantees good cleanability, a high level of reliability and no impact on the product.

Labom achieves this high level of hygienic quality by consequently applying hygienic design principles. Important aspects include avoiding design dead space, gaps and edges,

using suitable materials as well as the creation of surfaces with low roughness. With respect to the structural design, flush coupling of components and self-draining design are necessary or helpful. If requested by the customer, electropolishing can achieve even higher surface quality.

Other sectors can also profit from these special designs. Having no gaps or dead space are also a prerequisite in the paint industry in order to minimise the cleaning cycles between colour changes.

Hygienic design requires:

- Good cleanability of the components
- Exclusion of contamination of the product
- Prevention of sensory changes to the product
- The right material for every process

Hygienic and aseptic applications

Hygienic connections

A series of Labom diaphragm seals was also certified by the European Hygienic Engineering & Design Group (EHEDG) as suitable for SIP and CIP applications.

The certification includes the models according to DIN 11864 as flange, clamp or screw connection, Varivent®, NEUMO BioConnect diaphragm seal. In addition, for applications with less stringent requirements, a number of additional clamp connections or solutions with union nuts are available.

Transmission fluids

As specialised producer of diaphragm seals for hygienic and aseptic processes, Labom uses a standard pressure transmission fluid that complies with the internationally recognised hygiene standards of the FDA (Food and Drug Administration). For special applications, additional hygiene-compliant pressure fill fluids are available, including medical white oil, deionised water and a water-glycerol mixture.

EHEDG certification classes

TYP EL - Equipment cleaned with Liquids

EL Class I	Closed equipment, wet cleaned-in-place (CIP) without dismantling
EL Class I AUX	Open equipment, wet cleaned without dismantling
EL Class II	Closed or open equipment dismantled for wet cleaning
EL Aseptic Class I	Closed equipment, wet cleaned-in-place (CIP) without dismantling, steam sterilisable, and bacteria tight
EL Aseptic Class II	Closed equipment, dismantled for wet cleaning, steam sterilisable, and bacteria tight after reassembly

TYP ED - Equipment Dry cleaned only

ED Class I	Closed equipment dry cleaned only without dismantling
ED Class II	Closed or open equipment dismantled for dry cleaning only