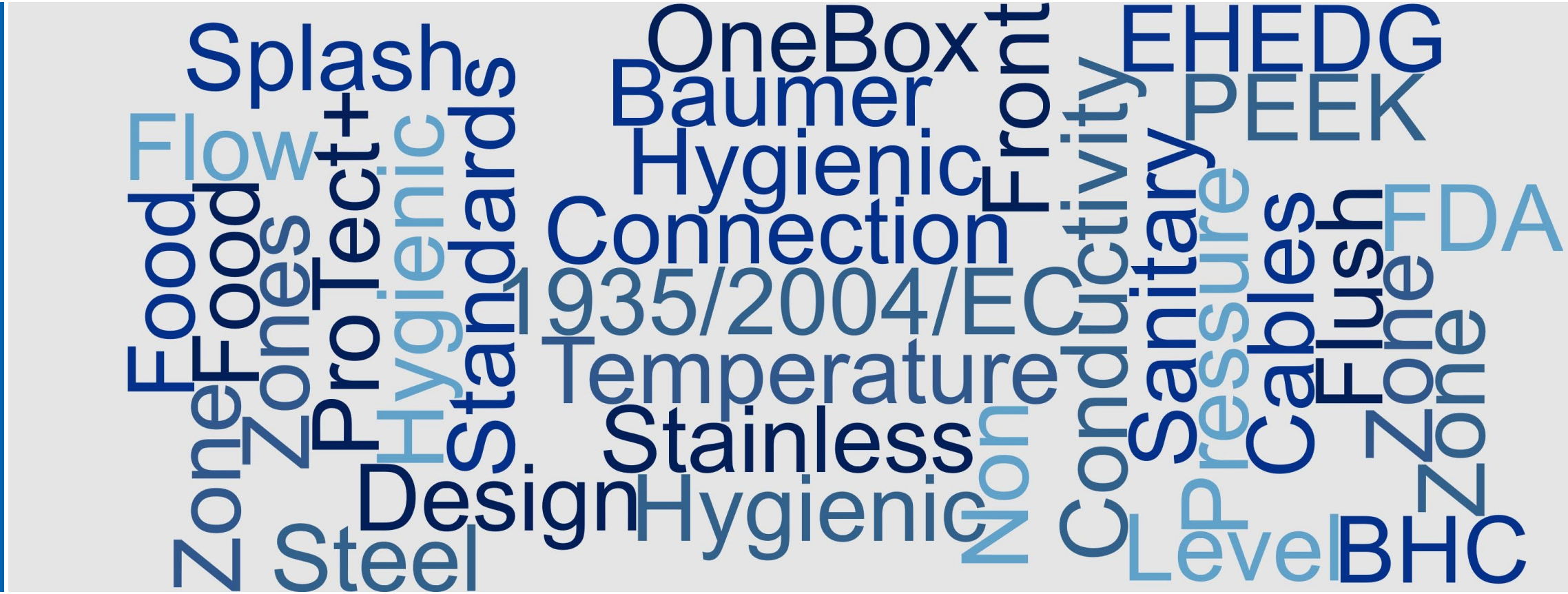
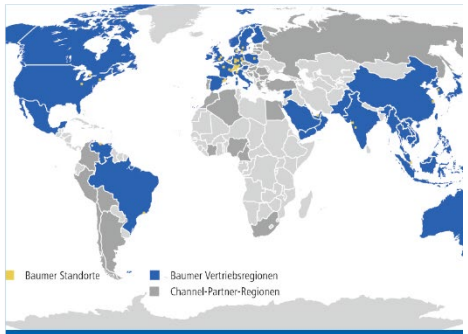
Dead ends… can and should they be avoided in hygienic processing plants?

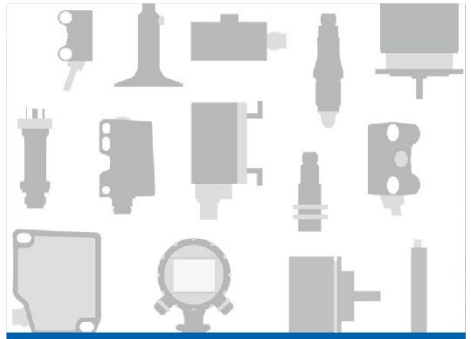


Baumer sets standards!

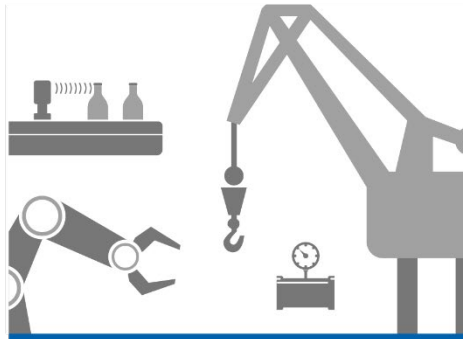
Headquarter in Switzerland



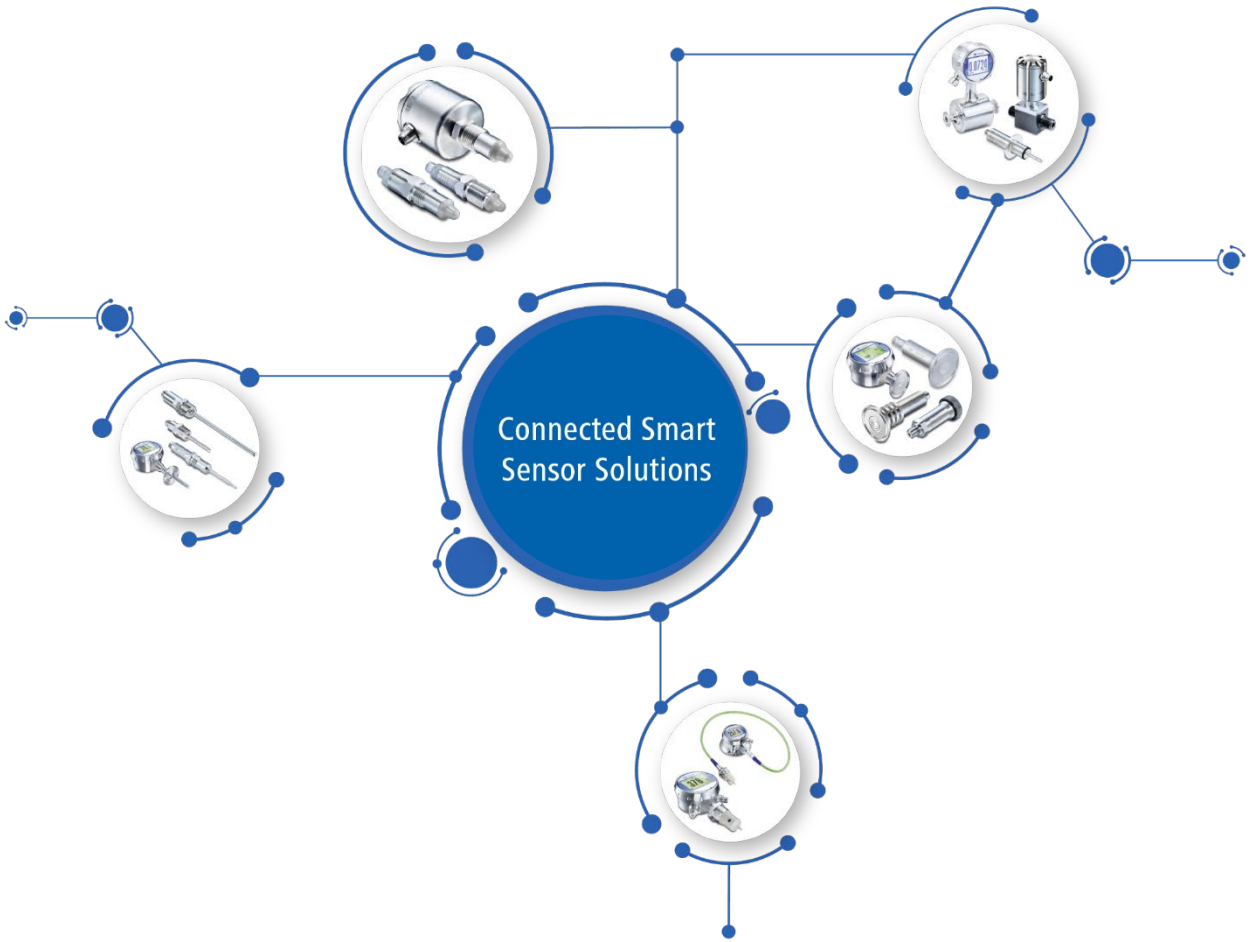
International family owned company



Broad technology and solution portfolio



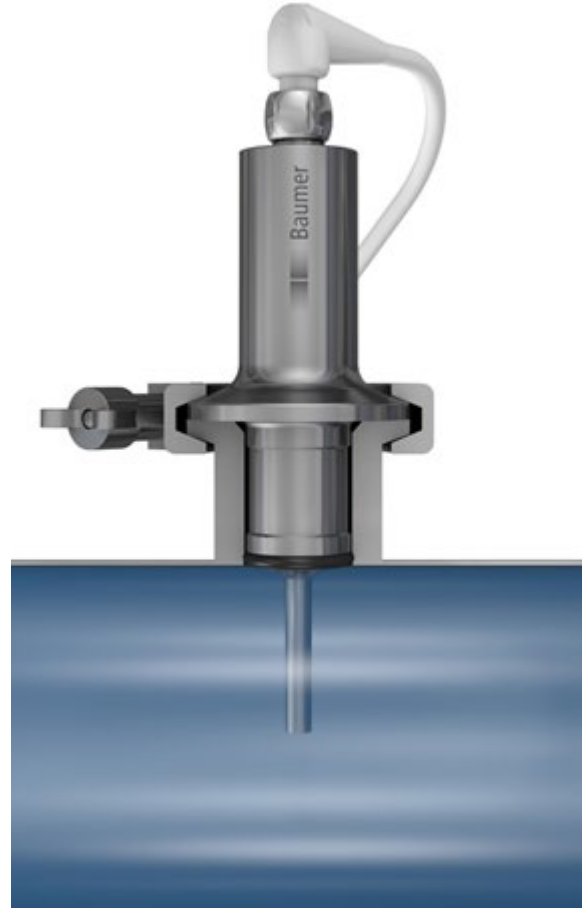
Many years of industry and application know how



General about hygienic process connections

Basic requirements

1. The connection should not effect the product
2. The connection should not effect the cleaning
3. Product and cleaning should not effect the connection
4. The connection is designed in a way that it can be easily cleaned



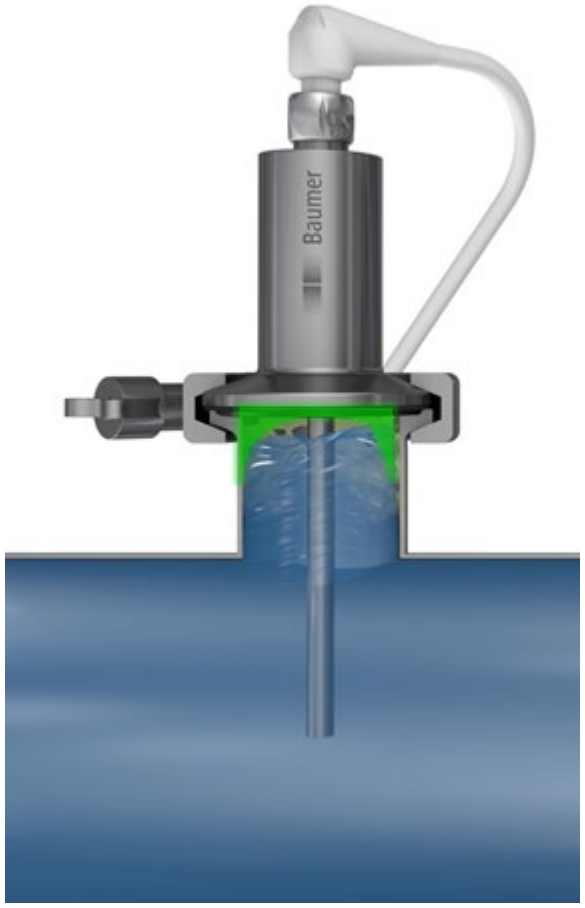
General about hygienic process connections

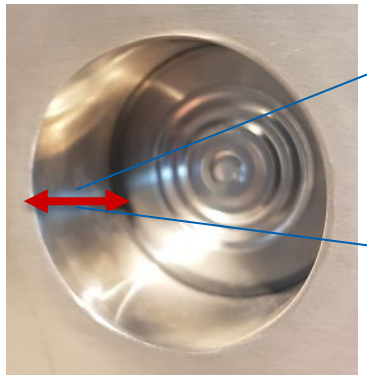
Basic requirements to support good cleaning?

- Appropriate food contact materials FDA
- Surface roughness (Ra < 0.8 µm)
- Min. inner radius (no dirt-edges)
- No gaps or dead spaces
- Self drain ability
- Exchangeable gaskets
- EHEDG certified connections

Clamp connection

Most common hygienic process connection





Tank installation:
Typical “dead leg” of around 21.5 mm

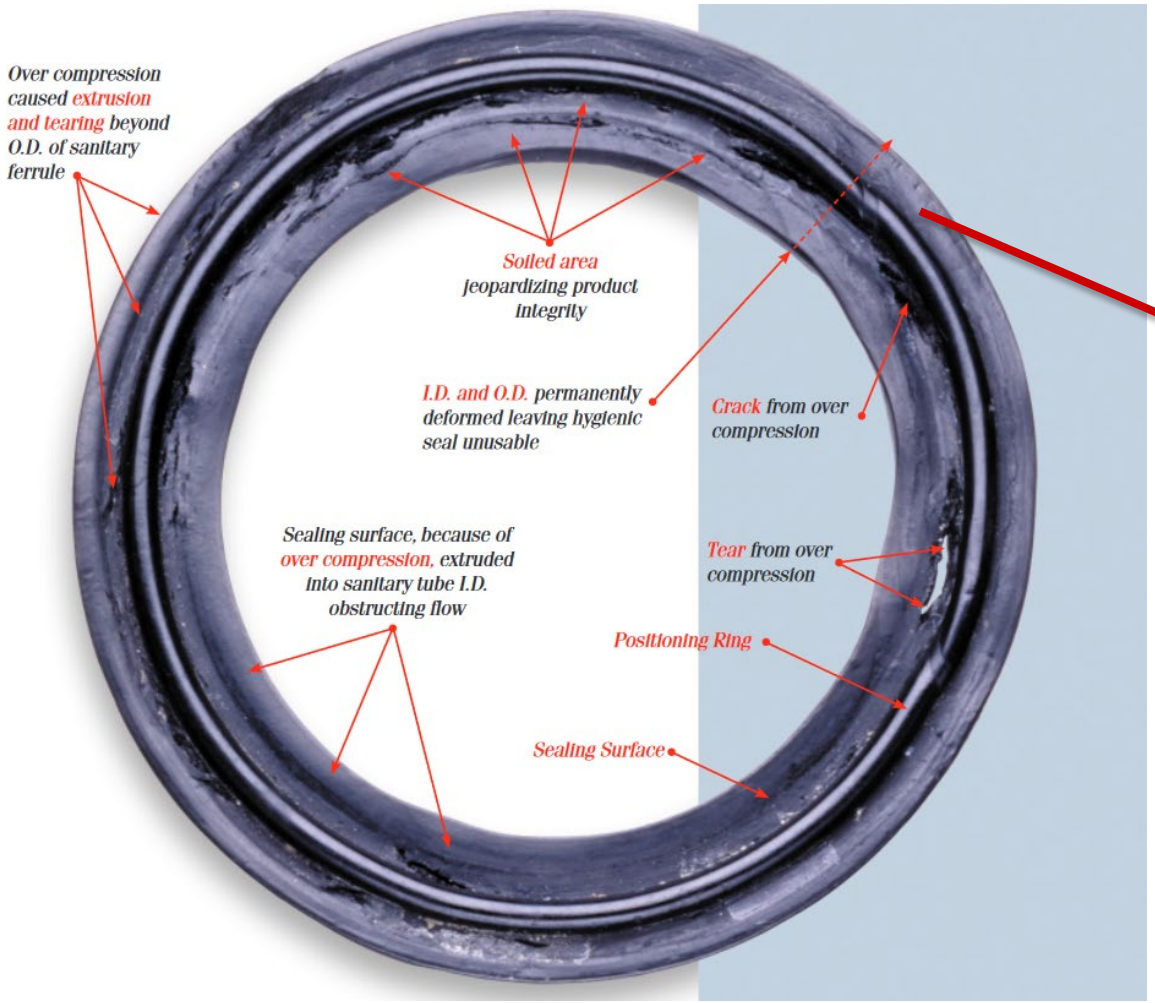
Pipe installation:
Typical “dead leg” of around 28.2 mm

Food safety risks associated with clamp connections

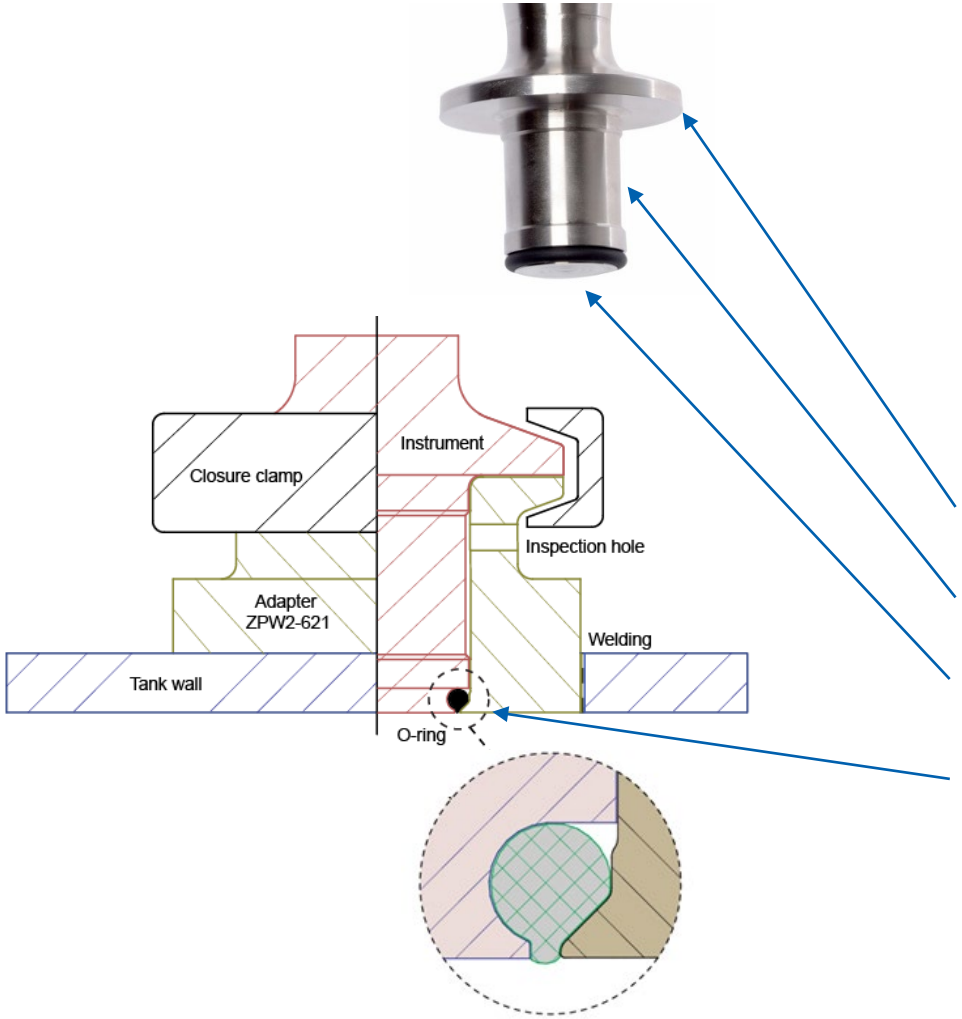
- Gaskets are subject to over/under compression
- Deep dead legs decreases clean-ability factor
- Incorrect alignment of ferrules
- Space for expansion a contraction of gasket

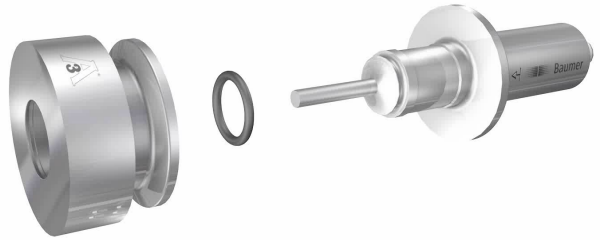
Clamp connection

Damaged gasket - food safety risk



Baumer hygienic connection (BHC)
Safe integration of sensors





Food

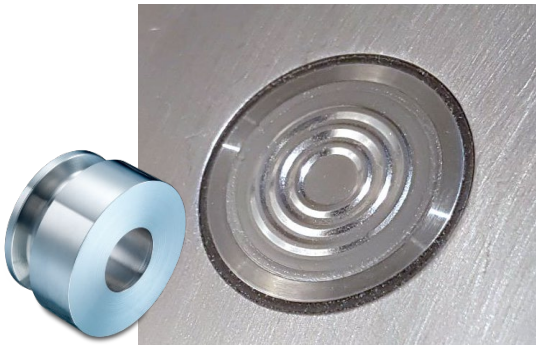
Mechanical stop to prevent over compression of O-ring

Small recess leading media leakages to inspection hole

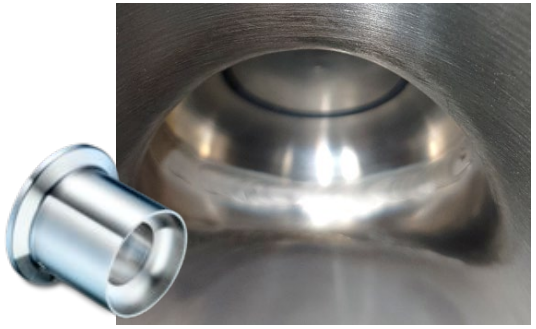
Flush mounted for improved clean-ability

The O-ring is in a flexible, safe position

BHC
Installation



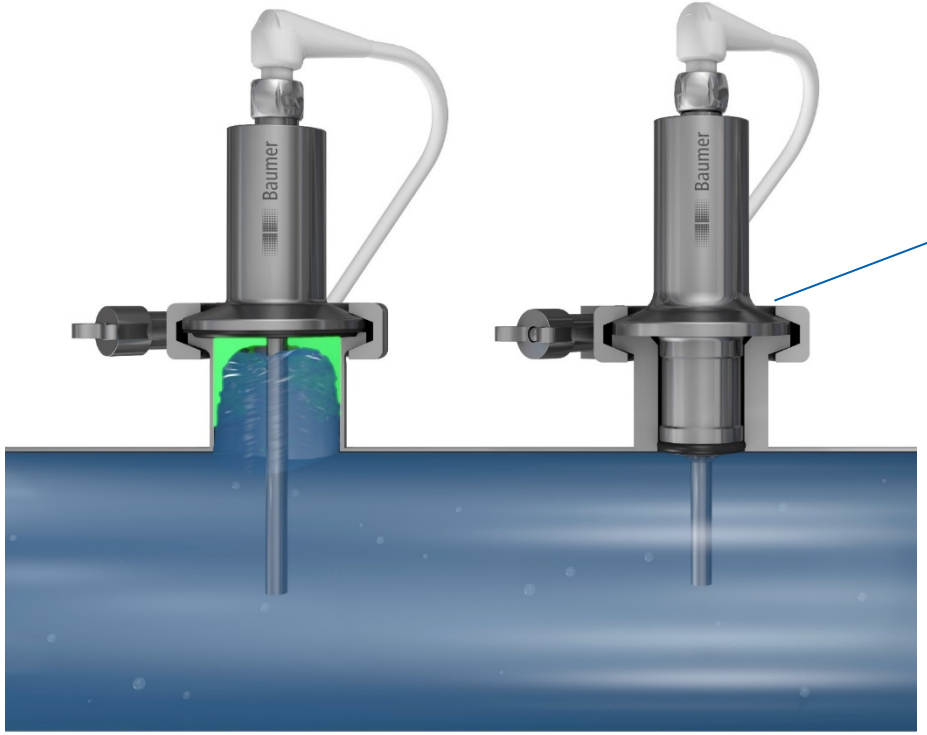
Tank Installation:
The connection gives a complete flush inside surface of the tank wall with good O-ring sealing

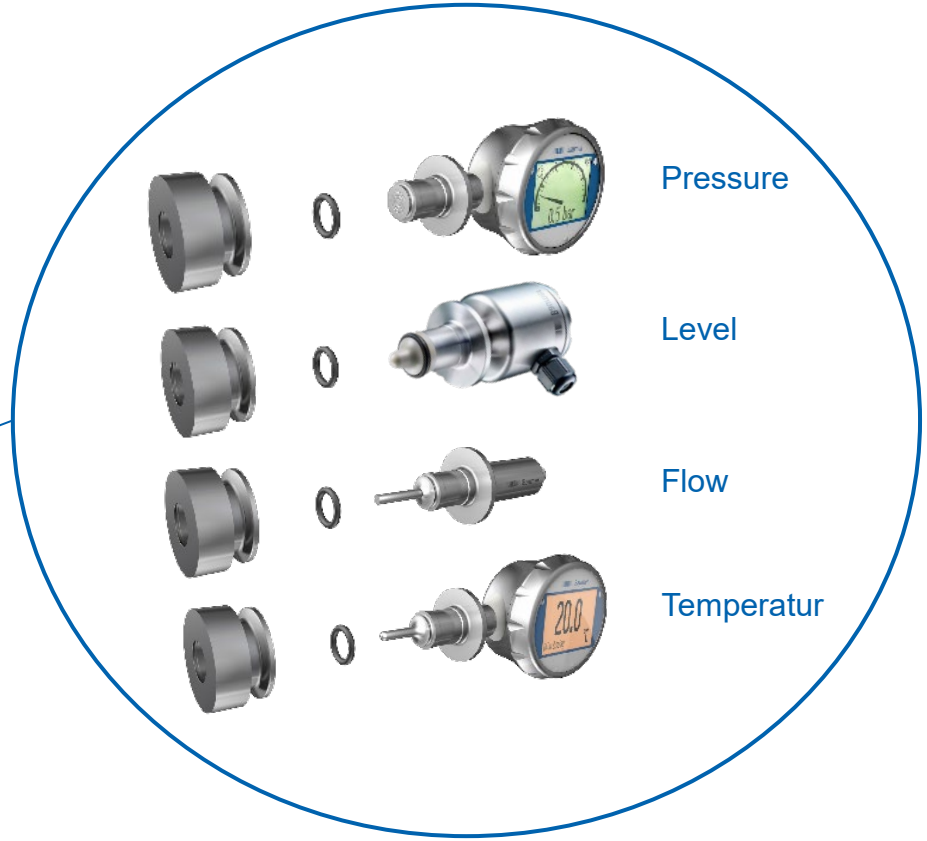


Tube installation:
There will be a minimal "dead leg" in the tube of approx. 12 mm with no sharp edges / corners.

Solutions for optimal resource utilization

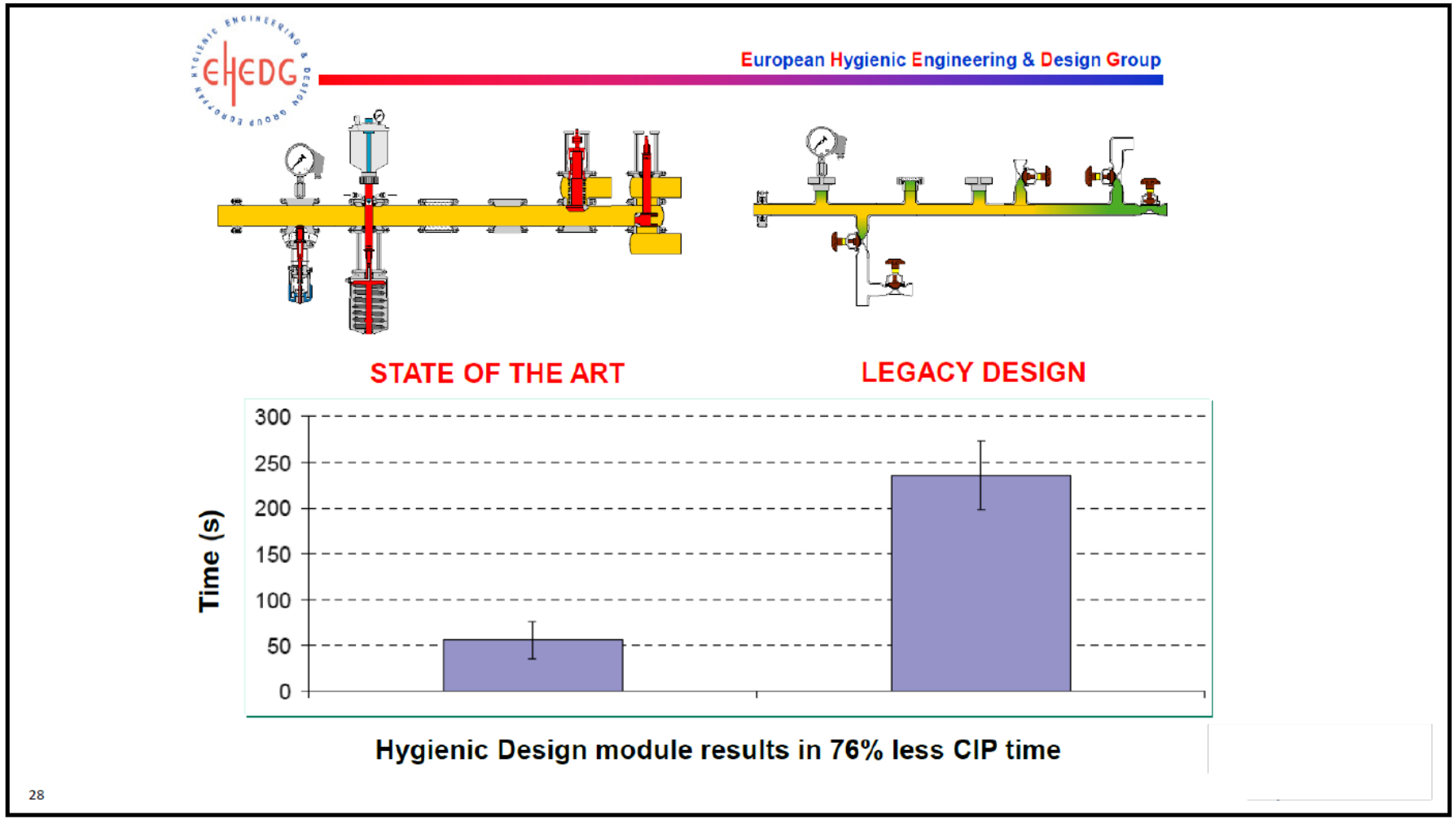
Save energy, water, time and cleaning agents





Flush integration vs. dead legs

Save energy, water, time and cleaning agents



Conclusion

Why invest in hygienic design?

- Hygienic design, your friendly technology to:

1. Improve food safety through improved clean-ability – less places for bacteria’s to hide
2. Reduce CIP efforts to increase uptime and overall plant productivity
3. Save resources (water, chemicals and energy) through reduced CIP efforts