

ZEROCON®

TIGHT AS A WELD SEAM



The unique detachable connection with the tightness of a weld seam

ZeroCon® is the new, patented, 100% stainless steel connection system for safe and rapid connection of tube systems. With ZeroCon® you make zero compromises!



The screwed ZeroCon® system comprises four components:

- 1 Screw joint
- 2 Force joint
- 3 Seal
- 4 Nut
- 4.1 Leak test port

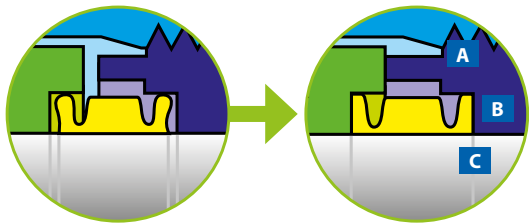
ZeroCon® as screwed and flanged version:
Two designs following the same principle



	ZeroCon® screwed version:	ZeroCon® flanged version:
Imperial:	1/4" to 1" (6.35 mm up to 25.40 mm)	1" to 4" (25.40 mm up to 101.60 mm)
ISO:	DN 8, DN10 and DN15 (13.50 mm up to 21.30 mm)	DN 20 up to DN 80 (26.90 mm up to 88.90 mm)
Metric:	DN 4 up to DN 20 (6.00 mm up to 23.00 mm)	DN 20 up to DN 80 (23.00 mm up to 104.00 mm)

The advantages at a glance:

- Completely leakproof (A)**
Because the same material is used throughout, the connection is as tight as a weld seam (helium leak rate $\leq 10^{-13}$ mbar l/s)
- No dead space (B) and perfect pharmaceutical barrier (C)**



The seal ring adapts to fit perfectly when pressed in, ensuring complete sealing and no dead space

- Robust connection**
Suitable for applications involving high-pressure, critical vacuum and extreme temperature conditions

- Dynamic stress resistance**
Anti-twist locking and outward precision fit prevent negative impact of external forces and torques
- Temperature stable**
From - 196 °C (-320.8 °F) to +350 °C (+662°F)
- Pressure stable**
Screwed version up to 440 bar (6381.66 psi)
Flanged version up to 150 bar (2175.57 psi)
- No flow disturbances**
- Highest surface quality**
Ra $\leq 0.4 \mu\text{m}$ (15 μinch), electropolished $\leq 0.25 \mu\text{m}$ (10 μinch)
- No outgassing of material**
1.4435 / UNS S31603 (316L)
- Easy installation**
Self-centering, end stop and integrated leak test port
- Maintenance-free**
No seal replacement required unlike with soft seals

Efficient, long-lasting and reliable: ZeroCon® Connection

ZeroCon® is the simple and efficient solution if you want a new, built-to-last connection. It combines all the advantages of a detachable connection with those of a welded connection. For this reason, ZeroCon® can also be used in all areas of application and industries and is suitable for all applications. Try it for yourself and see.

The modular design of the ZeroCon® connection means that there is nothing to stop you adding to or adapting the system at a later point. System maintenance and connection with further systems can be carried out rapidly, easily and cost efficient.



The flexible solution for everyone who refuses to compromise on safety: ZeroCon®

Advantages of the ZeroCon® connection

	Micro Electronics	Life Science	New Energy
Unique product design			
- Self-centering due to interlocking design	■	■	■
- No risk of damage from excessive tightening torques	■	■	■
- Easy, unproblematic connection with further pipelines	■	■	■
- Easy to switch to other sizes	■	■	■
- External forces and/or torques do not affect the connection	■		■
- Turbulence-free		■	
- Quick and easy to install and remove	■	■	■
- Clearly arranged, simplified product range (seal)	■	■	■
- No impairment of flow		■	
Sustainability and efficiency			
- Easy, rapid leak testing via test port	■		
- Frequent reusability of flange and nut	■	■	■
- Maintenance-free	■	■	■
- Briefer flushing times	■	■	■
Extreme and high purity applications			
- Much more resistant to aggressive media than soft seals	■	■	■
- Also suitable for high pressure systems up to 440 bar / screwed version (6381.66 psi)	■		
- Temperature-stable from -196 °C (-320.8 °F) up to +350 °C (+662°F)	■	■	■
- Also sterilizable with superheated steam	■	■	■
- Use in ultra-high vacuum applications	■		
- 100% sterilizable, no deposits, films of bacteria or cultures		■	■
- Meets the highest purity standards	■	■	■
Safety			
- As tight as a weld seam	■		
- No contamination of the medium from the outside	■		■
- No loss of media/leakage of toxic media to the environment	■		■
- No outgassing of material that can contaminate the process medium	■	■	■
- No cavities for medium to collect in	■	■	■
- No detachment of coatings possible (no possibility of contamination of medium)	■		■

ZeroCon® – the perfect addition: Dockweiler connections



CONNECTIONS IN ACCORDANCE WITH
DIN 11864

Safety for detachable connections
Aseptic couplings with threaded, clamp or flange connections that comply with DIN 11864 are now the standard connections in tube systems for liquid media in the pharmaceutical industry and biotechnology. Dockweiler offers the components in this range of connections in various surface finishes to fit the tube system in question.

Material	1.4404 / 1.4435 / UNS S31603 (316L)
Sizes	Imperial, ISO, metric
Surfaces	Compliance with safetron and weldtron tube systems or ASME BPE

Applications
Transport, production and transfer to containers of liquid media in the biotechnology, pharmaceutical, food and cosmetics industries

- Advantages of DIN 11864 connections**
- Safe cleaning and sterilization
 - Product safety due to tight tolerances
 - Near-zero dead space
 - Harmonized system



CLAMP CONNECTIONS

Dockweiler DIN 32676 clamp connections
Our clamp connections (connecting piece and cover) with standard clamp seal (flat seal with/without lip) are:

- Ready for orbital welding
- With stainless steel clamps in various designs, material 316L, ISO 9001 certified
- Quick and easy to fit

Material	1.4404 / 1.4435 / UNS S31603 (316L)
Sizes	Imperial, ISO, metric
Surfaces	Compliance with safetron and weldtron tube systems or ASME BPE

Applications
Transport, production and transfer to containers of liquid media in the biotechnology, pharmaceutical, food and cosmetics industries

- Advantages of clamp connections**
- Rapid opening and closing of connection
 - Safe cleaning and sterilization
 - Near-zero dead space



DOCKWEILER CAP

Dockweiler Cap
Today's end could be tomorrow's beginning.

The Dockweiler Cap is the smart, flexible way to seal off the ends of your tube installations. It is a new alternative to conventional weld caps.

Material	1.4404 / 1.4435 / UNS S31603 (316L)
Sizes	Imperial (1/4" to 6")
Surfaces	Inside: electropolished or bright finish

Applications
Semiconductor industry
Pharmaceutical industry (pressure testing of systems)
Tank and apparatus construction

- Advantages of Dockweiler Cap**
- Safety seal (helium leak rate 1 x 10⁻⁹ mbar l/s)
 - No contamination of system in event of interruption of assembly work (pressure testing)
 - No particle contamination from later removal
 - Can be extended subsequently, even in ultra-pure areas of production
 - Time savings due to quick and easy installation



ZEROCON®

ZeroCon®
The new, patented ZeroCon® connection from Dockweiler combines all the advantages of a detachable connection with that of a weld seam.

- Ready for orbital welding
- Available as a complete kit or as individual components

Material	1.4435 / UNS S31603 (316L)
Sizes	Imperial: 1/4" to 4" ISO: 13.50 mm to 21.30 mm Metric: 6.00 mm to 104.00 mm
Surfaces	Inside: electropolished or bright finish

Applications
Semiconductor industry
Pharmaceutical and biotechnology industries

- Advantages of ZeroCon®:**
- Tight as a weld seam
 - No dead space
 - Temperature-stable
 - 100% stainless steel
 - Maintenance-free

Dockweiler AG

An der Autobahn 10/20
19306 Neustadt-Glewe
Germany

☎ + 49 38757 58-0

✉ sales@dockweiler.com



www.dockweiler.com

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