

# Pfenniger SA

Maquinaria, Insumos y Servicios Industriales desde 1928  
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## Ciencias de la vida

Plastic Piping systems for Life Science Applications

- Pharmaceuticals
- Cosmetics
- Biotechnology
- Medical technology
- Foodstuffs
- Dialysis
- Hospitals
- Universities

Innovative Piping Solutions for

### Water for Injection (WFI)



### Purified Water(PW)



### Deionized Water(DI)



## Soldadura invisible BCF

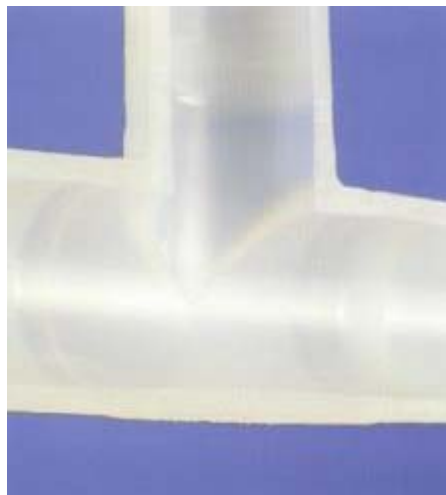
### **The Perfect Fusion Technology for the Life Science Industry**

The revolutionary BCF (Bead and Crevice Free) fusion technology developed by George Fischer uses an internal inflated bladder to create an exceptionally smooth welded surface. This technology has been improved and expanded to include the market requirements and the needs of the Life Science Industry.

### **The Microbiological Quality of Water is Related to the Piping System**

In the Life Sciences Industry, water is required in diverse qualities for a variety of processes. The water quality is defined according to the process requirements. In the pharmaceutical industry, for example, the chemical, physical, and microbiological quality for purified water and WFI are specified in detail within USP XXIV.

The microbiological quality is particularly important in the selection of the proper material and the joining technique for piping systems.



### **Features of BCF Fusion Technology**

- No bead or "dead legs" on which microorganisms could grow
- Outstanding surface finish in the weld area
- Low-stress fusion welds
- High mechanical stability
- Reproducible fusion quality
- Automatic, welding process with label and print-out documentation

## Polipropileno puro, sin aditivos ni cargas minerales

### Natural Polypropylene (PP-n) at a Glance

- Unpigmented material
- FDA approved
- Does not rouge or corrode
- Light weight
- High temperature resistance
- Good long-term behavior
- Excellent resistance to specific disinfectants such as hydrogen peroxide
- Outstanding surface quality
- Easy to weld (BCF and IR Plus fusion methods)
- Excellent price/ performance ratio
- Quality management system certified according to ISO 9001

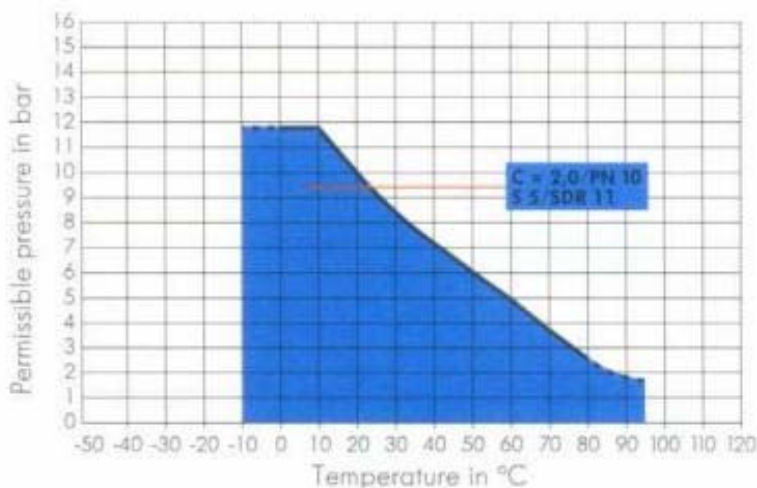
The Innovative Polypropylene (PP-n) BCF Piping System enable the installation of high-grade systems which meet industrial requirements and governmental regulations.




















### New Innovative Solution for Purified Water and DI Water

The new Natural Polypropylene (PP-n) BCF piping system provides the life science industry with an alternative and economical solution for DI water and purified water. The market now has access to a Natural Polypropylene (PP-n) piping system combined with BCF welding technology. can be operated at 150 psi at ambient temperature.

### Specific Application Areas for the Natural Polypropylene (PP-n) BCF Piping System

- DI water and purified water systems in hospitals and universities
- Dialysis systems
- Process lines in the Life Science Industry



Product	d mm	Product	d mm	Product	d mm
 Pipe	20 25 32 40 50 63	 Sanitary Adapter	20 25 32 40 50 63	 Flat Gasket EDPM	20 25 32 40 50 63
 Elbow 90°	20 25 32 40 50 63	 Sanitary Clamp	20 25 32 40 50 63	 Pipe Clips	20 25 32 40 50 63
 Elbow 45°	20 25 32 40 50 63	 Concentric Reducer	25-20 32-20 40-20	 Diaphragm Valve Type 315	20 25 32 40 50 63
 Tee	20 25 32 40 50 63	 Concentric Reducer	32-25 40-25 50-25	 DIASTAR Diaphragm Valve Pneumatic	20 25 32 40 50 63
 Flange Ring	20 25 32 40 50 63	 Concentric Reducer	40-32 50-32 63-32	 Flat Gasket FPM	20 25 32 40 50 63
 Flange Adapter	20 25 32 40 50 63	 Concentric Reducer	50-40 63-40		
 Union	20 25 32 40 50 63	 Concentric Reducer	63-50		

Note: Only pipe, fittings and valves of the same material can be joined together with the PP-n BCF system.

## PVDF de alta exigencia

### SYGEF HP BCF- A Real Alternative for Highest Demands

Compared to traditional materials, SYGEF HP BCF piping systems is made of high-performance PVDF

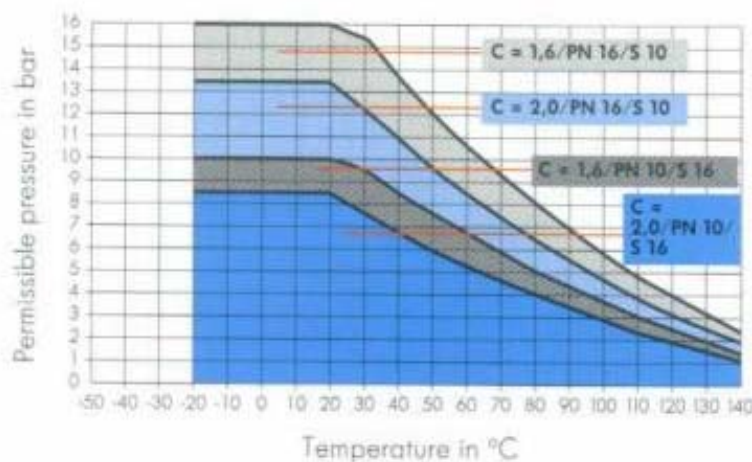
- Free of additives, stabilizing agents, pigments or other fillers
- Physiologically inert
- FDA approved material
- Exceptionally low leach out values for organic and inorganic substances
- No tendency for microorganisms to collect on the surface
- Does not rouge or corrode
- Can be steam-sterilized
- Excellent resistance to chemicals, disinfectants, e.g. ozone
- Low thermal conductivity
- Excellent pipe surface quality of  $Ra \leq 0.2\mu m$

### Time-tested, High-end Solution for WFI and Purified Water

The SYGEF HP BCF piping system made of high-performance PVDF has proven to be an ideal high-end solution for conveying purified water and WFI and has been successfully installed in life science applications for more than 10 years.

### The Special Application Areas of the SYGEF HP BCF Piping System

SYGEF HP BCF meets the highest demands, as specified by USP XXIV and WFI systems or product pipelines in the Life Science Industry.







For your purified water and WFI system, you need a piping material with high purity, possibility for validation, and temperature resistance up to 135°C (276 °F).

Product	d mm	Product	d mm	Product	d mm
 Pipe	20 25 32 40 50 63	 Flange Ring	20 25 32 40 50 63	 Flat Gasket FPM	20 25 32 40 50 63
 Elbow 90°	20 25 32 40 50 63	 Flange Adapter	20 25 32 40 50 63	 Flat Gasket EDPM	20 25 32 40 50 63
 Elbow 45°	20 25 32 40 50 63	 Union	20 25 32 40 50 63	 Diaphragm Valve Type 314	20 25 32 40 50 63
 Tee	20 25 32 40 50 63	 Sanitary Adapter AAA	20 25 32 40 50 63	 Diaphragm Valve Type 315	20 25 32 40 50 63
 Concentric Reducer	25-20; 32-20; 32-25; 40-20; 40-25; 40-32; 50-32; 50-40; 63-32; 63-40; 63-50	 Sanitary Clamp	20 25 32 40 50 63	 Zero Valve Type 319	20-20, 25-20, 25 32-20, 25, 32 40-20, 25, 32, 40 50-20, 25, 32, 40, 50v 63-20, 25, 32, 40, 50, 63 75-40, 50, 63 90-20, 25, 32, 50, 63 110-20, 25, 32, 50, 63

Range from  
d 20 mm (~1/2") to d 63 mm (~2 1/2")

Note: Only pipe, fittings and valves of the same material can be joined together with the PP-n BCF system.

Product	d mm	Product	d mm	Product	d mm
 <p>Eccentric Reducer 25-20; 32-20;</p>	<p>32-25 40-20; 40-25; 40-32 50-32; 50-40 63-32; 63-40; 63-50</p>	 <p>Transition Fitting</p>	<p>20-1/4"; 20-3/8"; 20-1/2" 25-1/4"; 25-3/8"; 25-1/2" 25-1/4"; 25-3/8"; 25-1/2"</p>	 <p>DIASTAR Diaphragm Valve Pneumatic</p>	<p>20 25 32 40 50 63</p>
				 <p>Vortex Flow Meter</p>	<p>20 25 32 40 50 63</p>

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d 20 mm (~1/2") to d 63 mm (~2 1/2")

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