

## Bio-Gard (BG)



Bio-Gard is a low pressure, compression-loaded, scored reverse bursting disc, designed specifically for protection of aseptic and hygienic plant. Bio-Gard has a smooth uninterrupted surface finish to reduce microbial load and maximise steam sterilisation (SIP) and clean in place (CIP) procedures.

Bio-Gard is available with Elfab's Bio-Tel hygienic sensor, designed for use with this product and supplied with its own detector lead enabling easy installation and maintenance.

- Smooth process face with score on vent side
- FDA compatible materials
- Low pressure capability
- Non fragmenting design
- No vacuum support required
- No dedicated holder required
- Compliant with 3-A standard
- Hygienic burst detection available
- Ideal for CIP and SIP applications

Specifications	
Size Range	25mm to 50mm(1" to 2")
Burst Pressure Range	2.0 bar g to 10 bar g(29 psig to 145 psig)
Temperature Range	-40 to 200C(-40 to 400F)
Maximum Operating Ratio	90% of minimum burst pressure(81% of nominal burst pressure)
Fragmentation on Burst	Non-fragmenting design
Relief Valve Isolation	Excellent
Vacuum Service	Suitable for full vacuum
Fluid Compatibility	Gas, vapour or call for liquid compatibility
K <sub>R</sub> Values	Not available
Disc Surface Finish	Typical 0.4m Ra or better
Cycle Life	Excellent
Material Range	Stainless Steel as standard, others available.
Reversal Ratio	<1.5
Damage Ratio	<1.5
Leak Tightness	Excellent(typically <10 <sup>-6</sup> std cc sec <sup>1</sup> )
Performance Tolerance	+/- 10%(zero manufacturing design range)

### Specifications and Performance

Burst Pressure Range in barg(psig) at 20 °C (68 °F)							
Nominal Bore		Stainless Steel		Hastelloy		Nickel	
(mm)	(inch)	Min	Max	Min	Max	Min	Max
25	1	2.5(36)	10(145)	3.0(44)	10(145)	2.0(29)	8.0(116)
40	1 ½	2.0(29)	10(145)	2.5(36)	10(145)	2.0(29)	6.0(87)
50	2	2.0(29)	10(145)	2.5(36)	10(145)	2.0(29)	6.0(87)

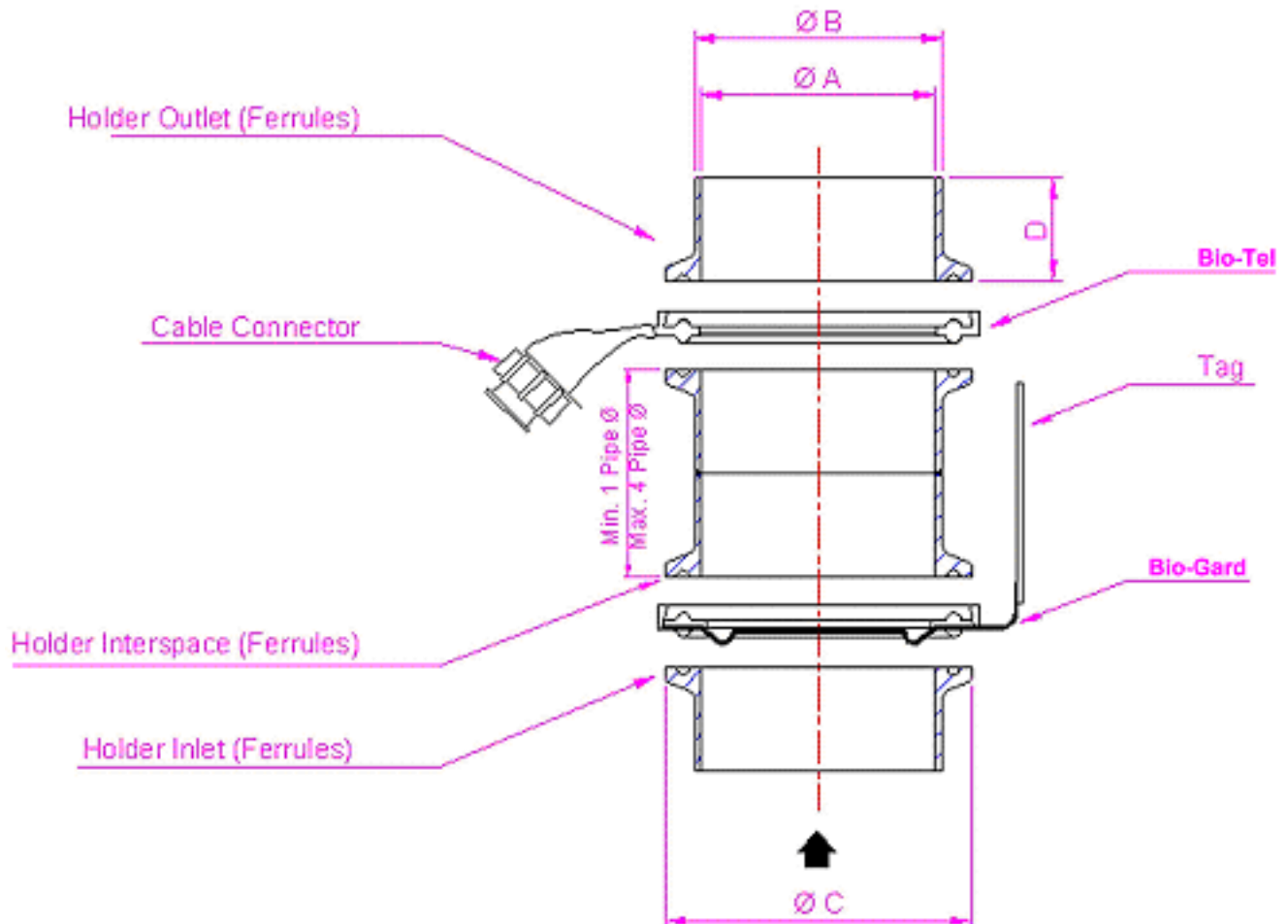
Performance Tolerance(Zero Manufacturing Design Range)	
<i>Burst Pressure</i>	<i>Tolerance</i>
Entire Range	+/- 10%

Standard Temperature Range °C (°F)		
Material	Minimum	Maximum
Stainless Steel	-40(-40)	200(400)
Nickel	-40(-40)	200(400)
Hastelloy	-40(-40)	200(400)

Free Flow Area / Minimum Flow Area(MNFA)			
Nominal Bore		Value	
mm	inch	mm <sup>2</sup>	in <sup>2</sup>
25	1	327	0.51
40	1 ½	825	1.28
50	2	1555	2.41

### ISO 2852 Welded Clamp Liners Dimensions

Nominal Bore(B)		A		B		C		D	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
25	1	22.60	0.89	25.60	1.01	50.50	1.99	21.50	0.85
40	1 ½	35.60	1.40	38.60	1.52	50.50	1.99	21.50	0.85
50	2	48.60	1.91	51.60	2.03	64.00	2.52	21.50	0.85



	VITON	EPDM	Silicone
Temperature	-20 to 200 C (-4 to 392 F)	-40 to 150 C (-40 to 302 F)	-40 to 200 C (-40 to 392 F)
Compression Set	Good to Excellent	Fair to Good	Excellent
Ozone & sunlight	Outstanding	Excellent	Outstanding
Abrasion Resistance	Good	Good/Excellent	Poor
Taste	Good	Good	Good
Odour	Good	Poor to Good	Good

**VITON®:** Resistant to acids, solvents and most commonly used chemicals in the food industry. Not suitable for use with ketones, esters or hot concentrated caustics.


**EPDM:** Good for ketones, alcohols, strong mineral acids and alkalis, outstanding resistance to hot water and steam. Not suitable for use with mineral oils and hydrocarbons (terpolymer).

**Silicone:** Good resistance to alkali, acid solutions and animal/vegetable fats. Also good for use with strong oxidising agents. Physiologically non interactive.

**PTFE:** We do not recommend this material due to its incompressible nature.

**Other:** Elfab can supply welded hygienic units where this gasket range is not suitable.

## ELECTRICAL PARAMETERS

- Instant pressure relief detection
- Suitable for many installations
- Easy installation
- ATEX approved  II 1GD EEx ia IIB.T3T6
- EC-Type Examination Certificate ITS04 ATEX 21886

Bio-Tel has been designed specifically for use with the Bio-Gard disc range and is ideally suited to hygienic applications. It is supplied with a 2 metre cable with IP67 vibration proof connection as standard. When used with the appropriate barrier / isolator the Bio-Tel is deemed a simple apparatus in accordance with EN 50014 & EN50020 and can be used in Zone 1 potentially explosive atmospheres. As the Bio-Tel is located in a non-wetted area the standard gasket material is VITON®

MINIMUM OPERATING PRESSURE in barg(psig) AT 20 °C (68 °F)					
Nominal Bore mm /(inch)	25(1)	40(1½)	50(2)	80(3)	100(4)
Thick- ness mm /(inch)	3( )	3( )	3( )	3( )	3( )
Min. Pressure	0.70(10)	0.48(7)	0.28(4)	0.21(3)	0.14(2)

ELECTRICAL INFORMATION	TEMPERATURE LIMITS
Maximum resistance before bursting: 30 Ohms Maximum circuit voltage: 25V Maximum current: 125mA Optional 2 meter cable available with Bio-Tel.	-20°C (-4°F) to +175°C (347°F)

### Pressure Intelligence

The data shown on these sheets represents the standard offering from Elfab. Depending upon the requirements of your application, Elfab maybe able to provide a solution based on this product but outside the standard operating parameters. In addition, Elfab produces an extensive range of alternative products which maybe more suitable for your requirements.

As a result of extensive testing, Elfab can advise on these choices, or on other technical matters, such as discharge requirements, temperature testing, material selection and corrosion resistance, customised designs and burst detection.

**To discuss your specific product or service requirements please contact your Elfab representative.**



