

# BlueLine™

*Flexible Couplings, Expansion Joints and Bellows Made From PTFE*



**ETHYLENE**  
[www.ethylene.com](http://www.ethylene.com)

# BlueLine™ Flexible Couplings, Expansion Joints and Bellows

## Description

**BlueLine** flexible couplings, expansion joints and bellows are specifically designed to compensate for pipe expansion, vibration and misalignment in process piping and vessels. All **BlueLine** flexible couplings, expansion joints and bellows are constructed from uniform-walled isostatically molded PTFE and demonstrate a high level of design consistency throughout the product line. This consistency—not apparent in competitive products—is a result of an optimally designed convolution and a proprietary manufacturing process.

**BlueLine** flexible couplings, expansion joints and bellows offer a wide variety of benefits for maintenance and repair personnel including:

- Reliable protection for fragile FRP, carbon or glass equipment and nozzles
- Superior corrosion resistance in acidic and caustic environments
- Heavy walls made from isostatically molded virgin PTFE
- Low spring rates with short face-to-face dimensions.

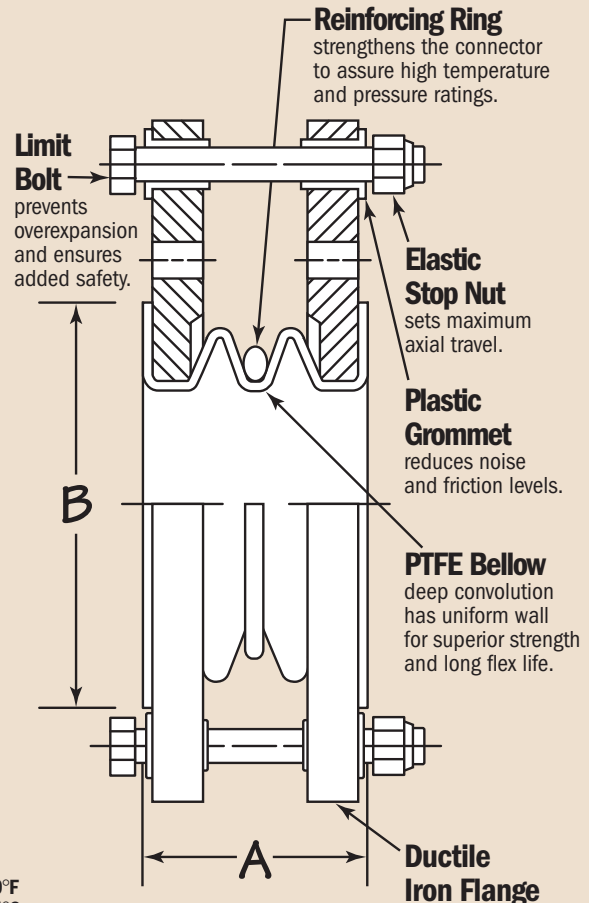


## Flexible Couplings

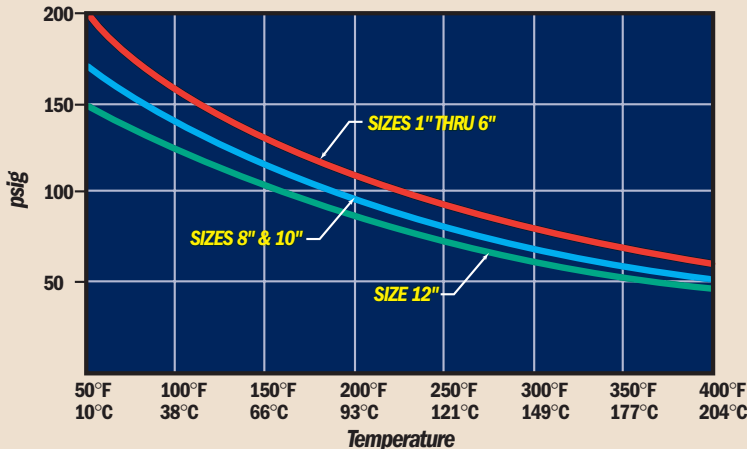
**BlueLine** flexible couplings are two convolution connectors, available from 1" to 12" in diameter, that compensate for minor movement and are ideal for use in piping systems as vibration and sound insulators.

### Flexible Couplings (2 Convolutions)

Nom. Size	Neutral Length A	Maximum Travel + or -	Flare Diameter B	Maximum Misalignment	Weight Lbs.
1"	1-5/16"	1/4"	2"	1/8"	2.6
1-1/2"	1-1/2"	1/4"	2-7/8"	1/8"	3.9
2"	1-7/8"	1/4"	3 5/8"	1/8"	7.8
2-1/2"	1-15/16"	5/16"	4-1/8"	1/8"	10.8
3"	2-7/16"	3/8"	5"	3/16"	13.1
4"	2-5/8"	1/2"	6-3/16"	1/4"	18.2
5"	3-1/16"	11/16"	7-5/16"	1/4"	22.4
6"	2-13/16"	1/2"	8-1/2"	1/4"	27.7
8"	3-11/16"	13/16"	10-5/8"	1/4"	41.0
10"	4"	1"	12-3/4"	1/4"	60.1
12"	4-1/8"	1"	15"	1/4"	89.7



Maximum Operating Pressure vs. Temperature (2 Convolutions)



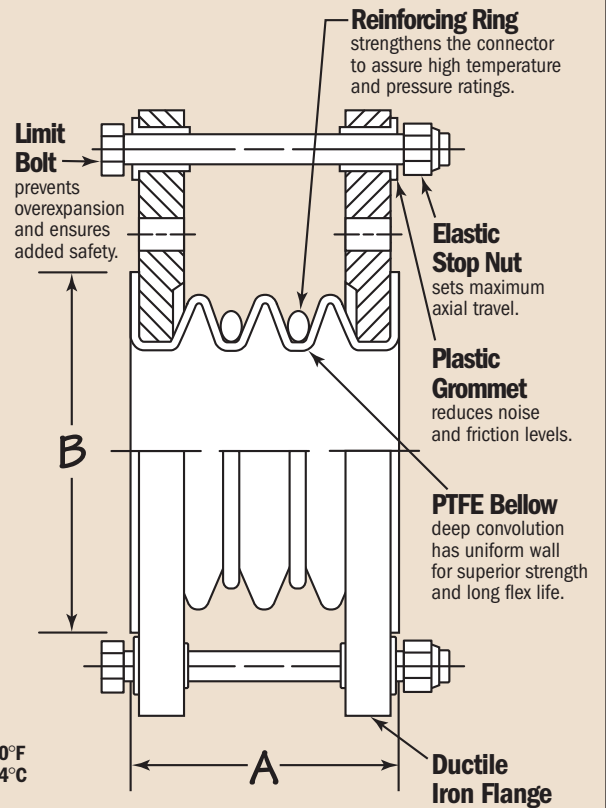
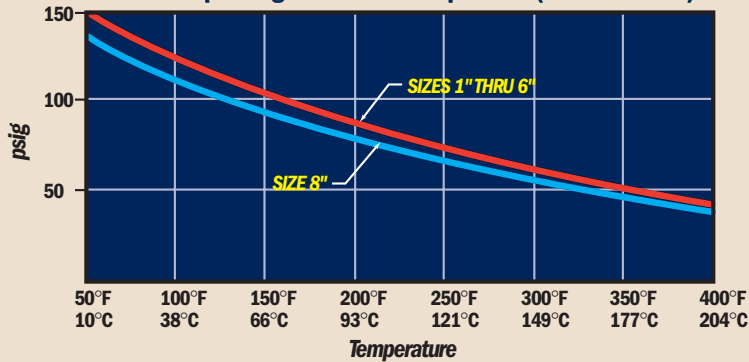
# Expansion Joints

BlueLine expansion joints are three convolution connectors, available from 1" to 8" in diameter, that compensate for moderate movement or misalignment, have increased flexibility and can easily be installed in piping systems.

## Expansion Joints (3 Convolutions)

Nom. Size	Neutral Length A	Maximum Travel + or -	Flare Diameter B	Maximum Misalignment	Weight Lbs.
1"	1-13/16"	1/2"	2"	1/4"	2.7
1-1/2"	2"	1/2"	2-7/8"	1/4"	4.1
2"	2-3/4"	3/4"	3-5/8"	3/8"	8.1
2-1/2"	3"	1"	4-1/8"	3/8"	11.2
3"	3-5/8"	1"	5"	1/2"	13.6
4"	3-3/4"	1-1/8"	6-3/16"	1/2"	18.9
5"	4"	1-1/8"	7-5/16"	1/2"	23.4
6"	4"	1-1/8"	8-1/2"	3/16"	29.1
8"	5-7/16"	1-11/16"	10-5/8"	3/16"	43.0

## Maximum Operating Pressure vs. Temperature (3 Convolutions)



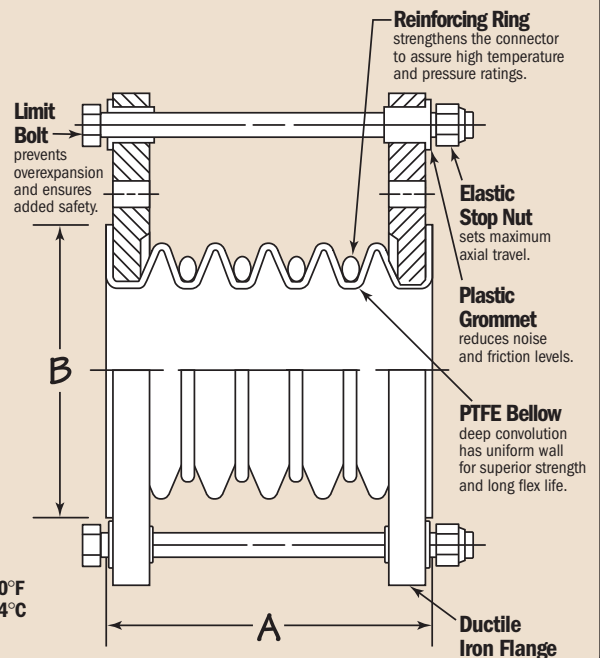
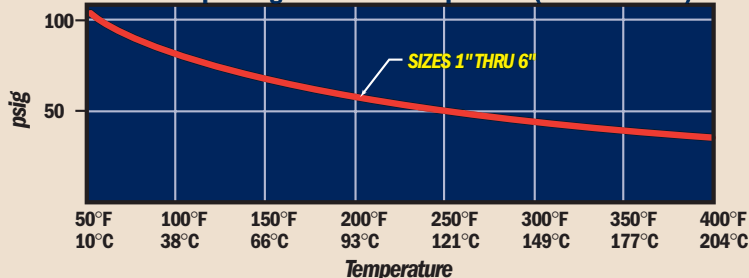
# Bellows

BlueLine bellows are five convolution connectors, available from 1" to 6" in diameter, that compensate for extensive movement, misalignment and axial travel, have maximum flexibility and are ideal for use in weigh tank applications.

## Bellows (5 Convolutions)

Nom. Size	Neutral Length A	Maximum Travel + or -	Flare Diameter B	Maximum Misalignment	Weight Lbs.
1"	2-11/16"	13/16"	2"	1/2"	2.9
1-1/2"	3-3/16"	1-1/16"	2-7/8"	1/2"	4.3
2"	3-15/16"	1-1/16"	3-5/8"	1/2"	8.7
3"	4-15/16"	1-1/16"	5"	1/2"	14.8
4"	5-3/16"	1-5/16"	6-3/16"	5/8"	20.4
6"	5-11/16"	1-9/16"	8-1/2"	5/8"	31.8

## Maximum Operating Pressure vs. Temperature (5 Convolutions)

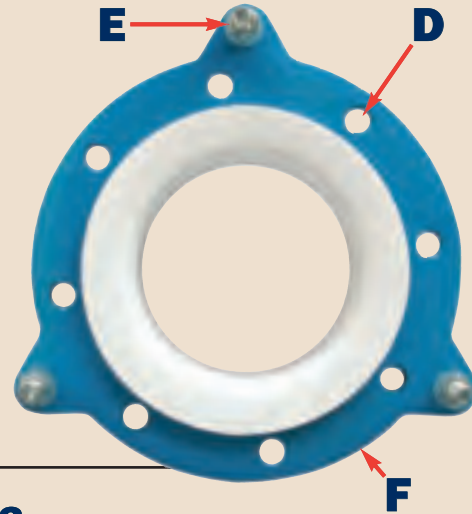


# Ductile Iron Flanges for BlueLine Flexible Couplings, Expansion Joints and Bellows

All **BlueLine** flexible couplings, expansion joints and bellows have ductile iron flanges drilled and tapped per ANSI B16.5 for Class 150 piping systems and three stainless steel limit bolt restraints mounted through plastic side grommets.

## Dimensional Data

Flange Nom. Size	D Class 150#			E Limit Bolt		F Flange	
	Holes	Thread	B.C.	DIA.	B.C.	DIA.	THK.
1"	4	1/2 - 13	3-1/8"	1/4"	5-1/16"	4-1/2"	5/16"
1-1/2"	4	1/2 - 13	3-7/8"	1/4"	5-13/16"	5"	3/8"
2"	4	5/8 - 11	4-3/4"	3/8"	7-1/16"	6"	1/2"
2-1/2"	4	5/8 - 11	5-1/2"	3/8"	8-1/16"	7"	1/2"
3"	4	5/8 - 11	6"	3/8"	8-9/16"	7-1/2"	3/16"
4"	8	5/8 - 11	7-1/2"	3/8"	10-1/16"	9"	5/8"
5"	8	3/4 - 10	8-1/2"	1/2"	11-5/16"	10"	11/16"
6"	8	3/4 - 10	9-1/2"	1/2"	12-5/16"	11"	11/16"
8"	8	3/4 - 10	11-3/4"	1/2"	14-13/16"	13-1/2"	3/4"
10"	12	7/8 - 9	14-1/4"	5/8"	17-1/2"	16"	13/16"
12"	12	7/8 - 9	17"	5/8"	20-1/2"	19"	7/8"



## Vacuum Data

**BlueLine** flexible couplings and expansion joints can be used in full vacuum environments to the following temperatures:

### Maximum Temperature For Full Vacuum

Nom. Size	Flexible Couplings (2 Convolutions)	Expansion Joints (3 Convolutions)
1"	400°F (204°C)	400°F (204°C)
1-1/2"	400°F (204°C)	400°F (204°C)
2"	400°F (204°C)	400°F (204°C)
2-1/2"	400°F (204°C)	400°F (204°C)
3"	400°F (204°C)	300°F (149°C)
4"	400°F (204°C)	300°F (149°C)
5"	320°F (160°C)	250°F (121°C)
6"	320°F (160°C)	250°F (121°C)
8"	250°F (121°C)	150°F (66°C)
10"	200°F (93°C)	120°F (49°C)
12"	120°F (49°C)	—



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