

# Welded Cassettes

**Rupture disk and safety head integrated into a one-piece design**

This customized ready-to-install design simplifies installation and assures leak tightness with its welded construction.

- LPS-W
- S90-W
- XT-W

## WELDED CASSETTE PRODUCT FEATURES:

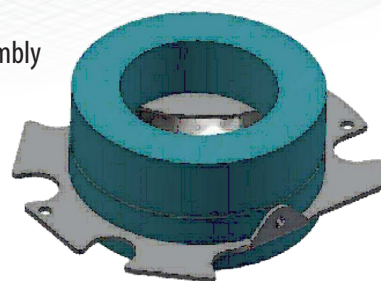
- Certified device – ready to use
- Intrinsically leak tight
- Designed for non-fragmentation
- Flange compatibility
  - Multi-rating (use of 'Flange Adapter Ring' patented design)
  - Self centering
- Torque insensitive
- Ease of Installation – no rupture disk handling
- Product Certification
  - CE/PED [2014/68/EU]
  - ASME
- Product Options:
  - NPT tapping available in outlet
  - Tell-tale assembly compatible
  - Burst alert sensor
- Product Marking Engraved On Assembly Sidewall
  - Lot Number for identification and traceability
  - Burst Pressure and Material Information
  - ASME and / or CE stamp (if required)
- Standard Materials of Construction
  - Inlet/outlet/ hinge flange adapter ring 300 Series SS
  - Disk Options: 316SS, Nickel, Inconel
  - Other materials available upon request
- Manufacturing Design Ranges: 0%, -5%, -10%

*Above features apply to LPS-W, S90-W, and XT-W*

## LPS-W™ Low Pressure Reverse Buckling

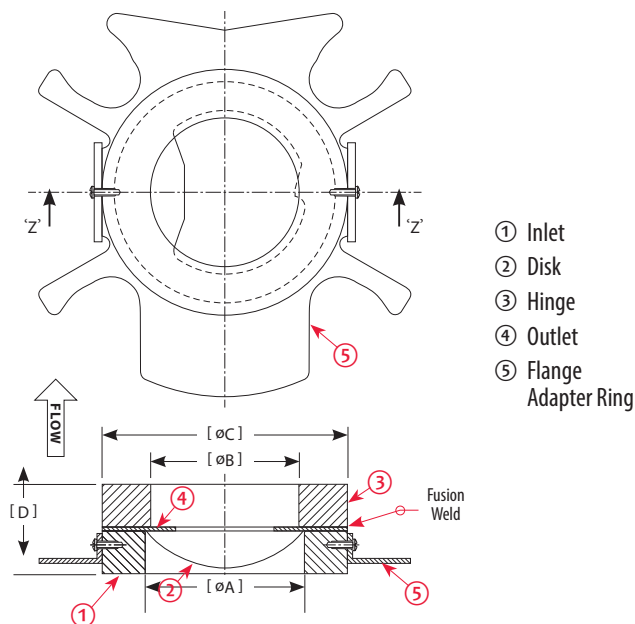
### Disk Welded Cassette

The LPS-W rupture disk assembly provides low burst pressures from 5 psig (**0.35 barg**) using reverse buckling rupture disk technology.



### FEATURES

- Solid metal design
- Low burst pressure from 5 psig (**0.35 barg**)
- Designed for gas, liquid or two phase service
- Fail safe: damage safety ratio < 1
- Designed for non-fragmentation
- Vacuum and back pressure resistant
- High operating ratio: 90% of minimum burst pressure
- Reverse buckling disk in sizes: 1-6 inches (**25-150 mm**)
- Manufacturing Design Ranges Available: 0%, -5%, -10%
- Ideal for safety relief valve isolation



The proprietary shape of the Flange Adapter Ring ensures a well centered fit between typical companion flanges.

### LPS-W Burst Tolerance

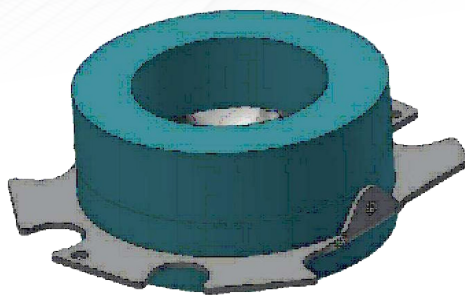
Specified Burst Pressure		Burst Tolerance
psig	barg	
28 and higher	<b>1.9 and higher</b>	±5%
20 to <28	<b>1.4 to &lt;1.9</b>	±7%
10 to <20	<b>0.7 to &lt;1.4</b>	±10%
<10	<b>&lt;0.7</b>	±15%
Alternate: <40	<b>&lt;2.76</b>	± 2psig ( <b>0.138barg</b> )

### LPS-W Flow Performance

Size		MNFA	NRA
in	mm	(in2)	(cm2)
1	<b>25</b>	0.86	<b>4.9</b>
1.5	<b>40</b>	1.93	<b>11.3</b>
2	<b>50</b>	3.36	<b>19.7</b>
3	<b>80</b>	7.39	<b>40.8</b>
4	<b>100</b>	12.74	<b>69.7</b>
6	<b>150</b>	28.89	<b>158.6</b>

### LPS-W™ Disk Specifications Minimum / Maximum Pressure Rating at 72°F (22°C) & Assembly Dimensions

Size		Burst Pressures				[ØA]	[ØB]	[ØC]	[D]	ASME	EN	JIS	BS
in	mm	psig		barg									
		min	max	min	max								
1	25	15	70	1.03	4.82	[35]	[31]	[56.9]	[42]	150/300/600	10/16/25/40	10/16/20/30/40	10
1.5	40	6	55	0.41	3.79	[48]	[43.5]	[76]	[46]	150/300/600	10/16/25/40	10/16/20/30/40	10
2	50	5	40	0.34	2.76	[35]	[59]	[95]	[50]	150/300/600	10/16/25/40	10/16/20/30/40	-
3	80	5	35	0.34	2.41	[89]	[84.6]	[126.75]	[58]	150/300/600	10/16/25/40	16/20/30/40	-
4	100	5	30	0.34	2.07	[114.5]	[110]	[156]	[74]	150	10/16/25/40	10	-
6	150	5	25	0.34	1.72	[165.3]	[161]	[215.5]	[96]	150	10/16/25/40	10	-



## S90-W™ Precision Cross-Scored Reverse Buckling Rupture Disk Welded Cassette

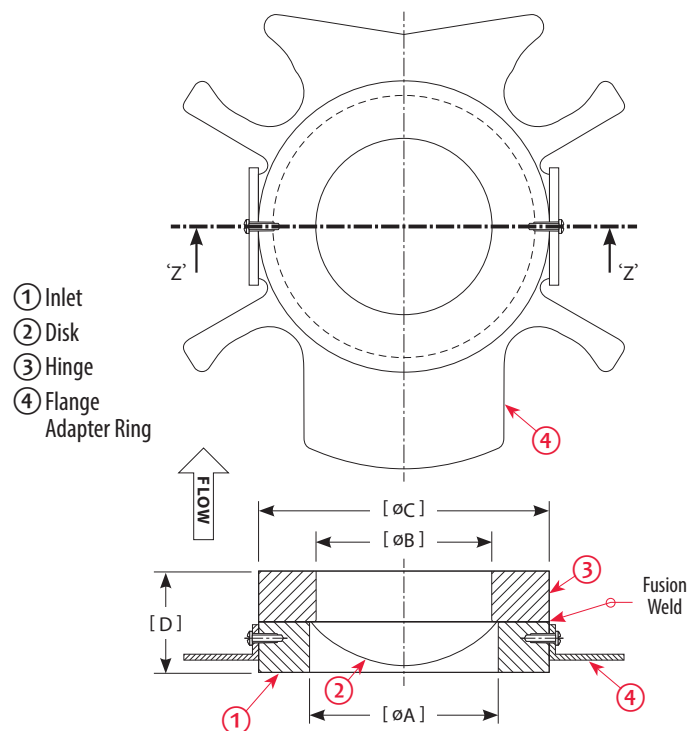
The S90-W is a domed, solid metal, precision scored reverse buckling disk assembly, which, upon over-pressure, reverses and opens along pre-weakened cross-score lines to provide a full relief opening. The compression loaded S90-W disk offers an extended service life under pressure cycling conditions. The S90-W disk exhibits excellent fatigue resistance in cyclic pressure service.

### FEATURES

- Solid Metal Design
- Designed for non-fragmentation
- Withstands full vacuum and back pressure equal to or less than burst pressure (higher upon request)
- Suitable for operating pressure to 90% of the marked burst pressure and 95% of the minimum burst pressure
- Gas service (acceptable for liquid service with a compressible gas vapor pocket between the liquid and disk)
- Damage safety ratio 1.5. An S90-W disk assembly that is damaged or installed incorrectly will burst at or below 1.5 times its marked burst pressure
- Reversal safety ratio equal to or less than 1.5. An S90-W assembly installed upside down in the pressure system will burst at 1.5 times its marked burst pressure or less
- Optimum fatigue resistance in pressure pulsating or cycling conditions
- Ideal for safety relief valve isolation
- Flow resistance factor which is K<sub>g</sub> 1.13

### S90-W Burst Tolerance

Marked Burst Pressure	Burst Tolerance
< 40 psig (2.76 barg)	± 2 psig (0.138 barg)
> 40 psig (2.76 barg)	± 5%



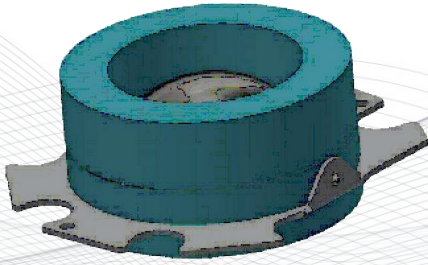
The proprietary shape of the Flange Adapter Ring ensures a well centered fit between typical companion flanges.

### S90-W Flow Performance

Size		MNFA	NRA
in	mm	(in <sup>2</sup> )	(cm <sup>2</sup> )
1	25	0.86	5.54
1.5	40	2.03	13.0
2	50	3.36	21.6
3	80	7.39	47.6
4	100	12.7	81.9
6	150	28.8	185

### S90-W™ Disk Specifications Minimum / Maximum Pressure Rating at 72°F (22°C) & Assembly Dimensions

Size		Burst Pressures				[ØA]	[ØB]	[ØC]	[D]	ASME	EN	JIS	BS
in	mm	psig		barg									
		min	max	Min	Max								
1	25	125	1000	8.62	68.9	[35]	[31]	[56.9]	[40]	150 / 300 / 600	10 / 16 / 25 / 40	10 / 16 / 20 / 30 / 40	10
1.5	40	90	1000	6.21	68.9	[48]	[43.5]	[76]	[44]	150 / 300 / 600	10 / 16 / 25 / 40	10 / 16 / 20 / 30 / 40	10
2	50	75	1000	5.17	68.9	[63.5]	[59]	[95]	[48]	150 / 300 / 600	10 / 16 / 25 / 40	10 / 16 / 20 / 30 / 40	-
3	80	65	1000	4.14	68.9	[89]	[84.6]	[126.75]	[56]	150 / 300 / 600	10 / 16 / 25 / 40	16 / 20 / 30 / 40	-
4	100	50	800	3.45	55.2	[114.5]	[110]	[162]	[72]	150	10 / 16 / 25 / 40	10	-
6	150	55	725	3.76	50	[165.3]	[161]	[215.5]	[94]	150	10 / 16 / 25 / 40	10	-



## Type XT-W™ Forward Acting, Tension Loaded Rupture Disk

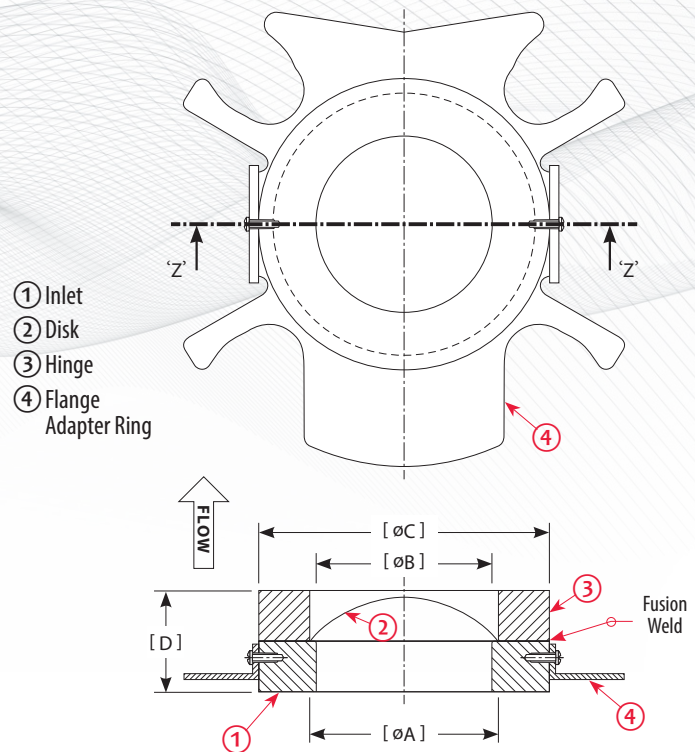
The XT-W provides advanced rupture disk performance from a forward acting, tension loaded design. This creates a minimally stressed score pattern offering optimum service life and an extended operating pressure limit of 80% of marked burst pressure or 85% of minimum burst pressure, even under cyclic conditions.

### FEATURES

- X' shaped score pattern – designed for non-fragmentation & excellent for relief valve isolation
- Smooth disk surface on process side – resistant to product accumulation
- Designed for gas service or liquid service
- High flow capacity/low flow resistance: Certified Krg and Krl of 0.5 and high flow area in all sizes
- Fail safe damage safety ratio < 1
- Solid metal construction
- Vacuum resistant; no additional support required

### XT-W Burst Tolerance

Marked Burst Pressure	Burst Tolerance
≤ 40 psig (2.76 barg)	± 2 psig (0.138 barg)
> 40 psig (2.76 barg)	± 5%



The proprietary shape of the Flange Adapter Ring ensures a well centered fit between typical companion flanges.

### XT-W Flow Performance

Size		MNFA	NRA
in	mm	(in2)	(cm2)
1	25	0.86	5.54
1.5	40	2.03	13.0
2	50	3.36	21.6
3	80	7.39	47.6
4	100	12.7	81.9
6	150	28.8	185

### XT-W Disk Specifications Minimum / Maximum Pressure Rating at 72°F (22°C) & Assembly Dimensions

Size		Burst Pressures				[ØA]	[ØB]	[ØC]	[D]	ASME	EN	JIS	BS
in	mm	psig		barg									
		min	max	min	max								
1	25	100	1450	6.89	100	[31]	[35]	[56.9]	[40]	150/300/600	10/16/25/40	10/16/20/30/40	10
1.5	40	75	1450	5.17	100	[43.5]	[43.5]	[76]	[44]	150/300/600	10/16/25/40	10/16/20/30/40	10
2	50	65	1450	4.48	100	[59]	[63.5]	[95]	[48]	150/300/600	10/16/25/40	10/16/20/30/40	-
3	60	65	1300	4.48	89.65	[84.6]	[89]	[126.75]	[56]	150/300/600	10/16/25/40	16 / 20 / 30 / 40	-
4	100	65	1150	4.48	79.31	[110]	[114.5]	[162]	[72]	150	10/16/25/40	10	-
6	150	60	725	4.13	50	[161]	[165.3]	[215.5]	[90]	150	10/16/25/40	10	-



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