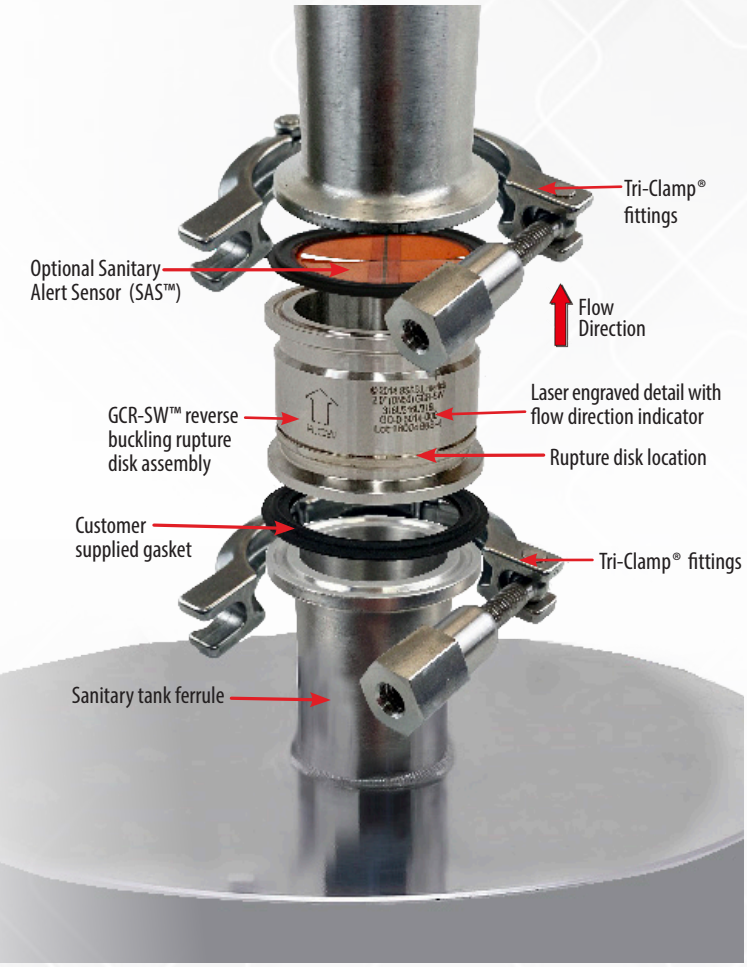
Catalog #77-4013

The GCR-SW™
Reverse Buckling Rupture Disk Assembly

The GCR-SW™ is a single piece rupture disk assembly for installation between sanitary clamp connections. The GCR-SW assembly is installed using standard sanitary clamps (Tri-Clamp® or equivalent). Available SAS™ (Sanitary Alert Sensor) or KBA-S for burst indication.



The GCR-SW installs between standard (ASME BPE) sanitary fittings. An optional Sanitary Alert Sensor (SAS) may be installed downstream to indicate an overpressure event. For installation between non ASME BPE fittings consult factory.

Process View

Side View

Rupture disk location

SAF™ Technology

The GCR-SW incorporates proprietary SAF™ (Structural Apex Forming) technology, enabling very low burst pressures to be achieved with excellent opening characteristics.

GCR-SW Advantages

- **Simple**: Leak tight, welded, single piece assembly.
- **Protective Design**: Disk fully contained inside the assembly, protecting it from damage during installation and handling.
- **Versatile**: Ideal for horizontal, vertical, and oblique installation where standard sanitary disks with separate fittings are difficult to remove and install.
- **Long shelf life**: No elastomer gaskets present in the assembly.
- **Robust**: Single piece assembly design significantly isolates the rupture disk from misaligned or unsupported piping.
- **Torque Resistant:** Single piece assembly design significantly isolates the rupture disk from the effects of excessive torque.
- **Reusable**: Typically, GCR-SW assemblies can be removed from service, carefully cleaned, and reinstalled.
- **CIP/SIP Advantage:** Benefiting from the single piece assembly design, there are no elastomer components to degrade in the assembly.
- **Less Inventory:** Common burst pressure requirements can be supported with one inventory item [no integral gasket].

Features

- Designed for gas, liquid, and multi-phase service.
- Ideal for CIP / SIP Service.
- Standard wetted surface finish is ≤ 15 micro inch [≤ 0.38 micro meter]. Optional electropolished finish.
- Suitable for operating pressure up to 95% of the minimum burst pressure.
- Designed for non-fragmentation, protective of downstream devices including safety relief valves.
- Damage safety ratio ≤ 1.
- Suitable for cycling service.
- Vacuum resistant.
- Available with ASME "UD" certification, and Pressure Equipment Directive "CE" marking and other international certifications.
- Available for use with downstream mounted type SAS or KBA-S Burst Alert® sensors.

ASME Flow Data

Sanitary Fitting/ Nominal Disk Size	Flow Area Sq in	K_R Factor
1.5	1.5	1.95 (Gas) 2.75 (Liquid)
2	2.7	1.25 (Gas), 1.42 (Liquid)
3	5.29	1.95 (Gas), 2.75 (Liquid)
4	9.78	1.95 (Gas), 2.75 (Liquid)

Standard Dimensions

Sanitary Fitting/ Nominal Disk Size		Overall Height		Distance to Disk Location	
in	mm	in	mm	in	mm
1.5	40	1.77	45	0.394	10
2	50	2.14	54.4	0.394	10
3	80	2.97	75.4	0.591	15
4	100	4.65	118.2	0.591	15

Burst Tolerance

Burst Tolerance

Marked burst pressure	Burst tolerance
≤40 psig (2.76bar)	±2 psig (0.14bar)
>40 psig (2.76bar)	±5%

The GCR-SW rupture disk assembly may also be marked with a minimum / maximum burst pressure or the specified burst pressure and +/- performance tolerance to meet the requirements of the CE standard.

Manufacturing Design Range

0% MDR (Manufacturing Design Range) is standard, with optional MDR of -5% and -10% selected as operating conditions permit. An ASME disk with a -5% or -10% MDR will be marked with the average of the burst test results. A CE disk will be marked with a minimum/maximum burst pressure or with an overall CE performance tolerance.

Installation

The GCR-SW installs directly between sanitary ferrule connections and is secured using standard sanitary clamps (Tri-Clamp® or equivalent).

Sanitary Fitting Specifications

ASME BPE and DIN 32676 Series C are the leading standards for sanitary fittings to which GCR-SW rupture disk assemblies are installed. Alternative GCR-SW options are available upon request to support installation to DIN 32676 Series A and Series B fittings. Please identify the required fitting standard at time of inquiry and order. See below tables for further information:

ASME BPE and DIN32676 Series C:
Min / Max Burst Pressure at 72°F (22°C)

Sanitary Fitting		Burst Pressure			
Nominal Disk Size		Min		Max	
in	mm	psi	bar	psi	bar
1.5	40	10	0.69	300	20.7
2	50	10	0.69	300	20.7
3	80	10	0.69	175	12.1
4	100	10	0.69	75	5.2

Other burst pressures may be available - consult BS&B.

ISO DIN 32676 Series B:
Min / Max Burst Pressure at 72°F (22°C)

Sanitary Fitting	Burst Pressure			
Disk Size	Min		Max	
mm	psi	bar	psi	bar
42.4	10	0.69	300	20.7
48.3	10	0.69	300	20.7
60.3	10	0.69	175	12.1
76.1	10	0.69	175	12.1
88.9	10	0.69	75	5.2

Other burst pressures may be available - consult BS&B.

DIN 32676 Series A:
Min / Max Burst Pressure at 72°F (22°C)

Sanitary Fitting	Burst Pressure			
Nominal Disk Size	Min		Max	
	psi	bar	psi	bar
DN 40	10	0.69	300	20.7
DN 50	10	0.69	300	20.7
DN 65	10	0.69	175	12.1
DN 80	10	0.69	175	12.1
DN 100	10	0.69	75	5.2

Other burst pressures may be available - consult BS&B.

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