**Design**

The GCR family of reverse buckling disks is designed with a circular score line located at the edge of the domed area. At the marked burst pressure, the disk’s dome reverses and opens by shearing around the circular score line. The GCR series uses SAF™ technology enabling very low burst pressures to be achieved with excellent opening characteristics.

**Sensors**

The GCR-S™ and GCR-SM™ disks are also available with integral sensors to provide warning of a burst rupture disk, specify types GCR-SS™ and GCR-SMS™.

Optional SAS™ for use between standard sanitary fittings to provide warning of a burst rupture disk. Leaking disk detection is also available; consult BS&B for details.

**Materials**

The GCR series disks and GR-C outlet fitting are available in 316L stainless steel as standard. Alternative materials are available on request.

**SAF™ Technology: Damage-Safety Ratio < 1**

Structural Apex Forming (SAF) technology, the central “dimple,” present in all GCR series rupture disks, combined with the unique energy absorbing hinge design ensures a damaged disk will rupture at or below the marked burst pressure.

### Disk Specification Min / Max Burst Pressure at 72°F (22°C)

<table>
<thead>
<tr>
<th>Sanitary Fitting</th>
<th>Burst Pressure</th>
<th>Overall Height</th>
<th>OD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Disk Size</td>
<td>Min</td>
<td>Max</td>
<td>in mm</td>
</tr>
<tr>
<td>in</td>
<td>mm</td>
<td>psi</td>
<td>bar</td>
</tr>
<tr>
<td>1.5</td>
<td>40</td>
<td>10</td>
<td>0.69</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>10</td>
<td>0.69</td>
</tr>
<tr>
<td>3</td>
<td>80</td>
<td>10</td>
<td>0.69</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>10</td>
<td>0.69</td>
</tr>
</tbody>
</table>

Other burst pressures may be available - consult BS&B

*MDR is a range of pressures within, which the marked burst pressure must fall to be acceptable for a particular requirement as agreed upon between the rupture disk manufacturer and the user or his agent.

**Example:**

- Requested burst pressure 100 psig (6.89 barg)
- Agreed MDR - 10%
- Therefore the marked burst pressure shall be between 90 psig (6.21 barg) and 100 psig (6.89 barg)

Viton is a trademark of DuPont Dow Elastomers LLC. Tri-Clamp is a registered trademark of Tri Clover Inc. NA Connect is a registered trademark of NovAseptic Equipment AB
The GCR series disks 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.

### Flow Performance

The GCR series reverse buckling disk has been specifically developed to produce superior flow performance at all burst pressures in gas or liquid service. The circular score on the disk’s dome, coupled with the non-restrictive hinge on the outlet side of the disk, ensures an excellent pressure relief opening in all service phases.

Flow resistance factor, $K_R$, may be used to determine the relieving capacity of a system according to the ASME and CE codes and standards. Individual $K_R$ values have been established for both gas and liquid service for the disk. MNFA (minimum net flow area) for each disk size is provided to assist with ASME sizing calculations. For simple systems, NRA (net relief area) has been provided for sizing according to European and International standards.

### Gaskets

The GCR series may be supplied with FDA approved silicone, Viton® (white or black), and EPDM (white or black) gaskets ensuring correct and leak-tight installations in type GR-C™ or FM-C™ disk holders.

### Liners

Liners are available in all sizes as optional on the process side of the disk. FEP or PFA are generally used.

### GCR Disk Types

GCR-S™ and GCR-SS™ with uniquely designed FDA approved gaskets are installed between a standard inlet ferrule and the GR-C™ outlet ensuring correct direction of disk and leak tight installation.

The GCR-S™ and GCR-SS™ have a symmetric gasket configuration on both sides of the disk, and the GR-C™ outlet and leak tight installation.

The GCR-SE™ and GCR-SES™ are installed in an FM-C™ safety head. The FM-C provides for flush mounting of the disk with the interior wall of the vessel while the FT-C accomplishes the same flush mounting in an “in-line” pipe configuration, both achieving minimal dead leg between the disk and process fluid. Similar flush installation is achieved with GCR-N™ and GCR-NS™ type disks when installed in NA-Connect™ holders. An integral burst alert sensor is provided on the outlet side of the disk with disk types GCR-SS, GCR-SMS, and GCR-NS. The GCR-SW™ is a welded ferrule assembly with the disk is welded between standard fittings.

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