RUPTURE DISC

BURST RATING TYPES

RATED, SPECIFIED AND MIN/MAX

Continental Disc Corporation

Three rating types are available to specify the burst pressure requirements of a Continental Disc Corporation rupture disc: RATED, SPECIFIED and MIN/MAX.

The need to choose a specific rating type can be narrowed down to two main reasons:

1 Code Compliance

- For compliance with ASME Section VIII Division 1, the RATED rating type must be used.
- For compliance with the Pressure Equipment Directive 97/23/EC (to carry the CE Mark) and the ISO 4126-2 standard, either the SPECIFIED or MIN/MAX rating type must be used.

2 Customer Preference

- To specify the rupture disc bursting requirement and how that information is marked on the rupture disc tag.

RATED

RATED RATING TYPE: DEFINITIONS

RATED Burst Pressure // The customer-indicated burst pressure value at a coincident temperature that indicates the amount of differential pressure necessary to cause the rupture disc to burst. A Manufacturing Range is applied to this value.

Manufacturing Range // The pressure range agreed upon by the customer and Continental Disc Corporation in which the RATED (Marked) Burst Pressure must fall. This range of pressure is based on a plus and/or minus percentage or a plus and/or minus pressure value applied around the indicated RATED Burst Pressure.

RATED (Marked) Burst Pressure // The burst pressure at coincident temperature that the rupture disc tag is marked with after manufacturing. A Burst Tolerance is applied to this value.

Burst Tolerance // The pressure variation around the RATED (Marked) Burst Pressure that the rupture disc will burst, at the coincident temperature.

Maximum Recommended Operating Pressure // Continental Disc's recommendation of the maximum pressure to operate the rupture disc in order to maximize the life of the rupture disc. This is used as one of the indicators in determining an appropriate type of rupture disc for an application.

RATED RATING TYPE: INSTRUCTIONS FOR USE

The customer should indicate the RATED Burst Pressure, along with a Manufacturing Range. Standard Manufacturing Ranges are based on the product and the RATED Burst Pressure. The Burst Tolerance and the Maximum Recommended Operating Pressure are based on the product and the RATED (Marked) Burst Pressure. This information can be found in the ***RATED Rupture Disc Rating Type*** table, located in the appropriate product literature.

Because the RATED (Marked) Burst Pressure of the rupture disc can be marked anywhere within the Manufacturing Range, initial pressure rating evaluations should consider the possibilities of the rupture disc being marked at the top and bottom of the Manufacturing Range. Please refer to the ***Pressure Range Evaluation, Based on Order Write Up*** in the example below.

EXAMPLE

ORDER WRITE-UP

ONCE PRODUCED

6" (150mm) STD (LL) Continental Rupture Disc
316 SS Disc
RATED: 100 psig @ 72˚F
MGF. RNG.: 96 to 110 psig @ 72˚F

Possible RATED (Marked) Burst Pressure for Order Write-Up

PRESSURE RANGE EVALUATION
Based on Order Write-Up

Lowest possible RATED (Marked) Burst Pressure:
96 psig @ 72˚ F

Burst Tolerance based on lowest possible RATED (Marked) Burst Pressure:
-5% / +5%

Lowest possible burst:
91.2 psig @ 72˚ F (96 psig - 5%)

Highest possible RATED (Marked) Burst Pressure:
110 psig @ 72˚ F

Burst Tolerance based on highest possible RATED (Marked) Burst Pressure:
-5% / +5%

Highest possible burst:
116 psig @ 72˚ F (110 psig + 5%)

Maximum Recommended Operating Pressure:
67.2 psig @ 72˚ F (96 psig x 70%)

RUPTURE DISC TAG

PRESSURE RANGE EVALUATION
Based on Rupture Disc Tag

Burst Tolerance based on RATED (Marked) Burst Pressure:
-5% / +5%

Lowest possible burst:
99.8 psig @ 72˚ F (105 psig - 5%)

Highest possible burst:
110 psig @ 72˚ F (105 psig + 5%)

Maximum Recommended Operating Pressure:
73.5 psig @ 72˚ F (105 psig x 70%)

SPECIFIED

SPECIFIED RATING TYPE: DEFINITIONS

SPECIFIED Burst Pressure // The customer-indicated burst pressure value at a coincident temperature that indicates the amount of differential pressure necessary to cause the rupture disc to burst. This value will be marked on the rupture disc tag. A Performance Tolerance is applied to this value.

Performance Tolerance // The pressure variation around the SPECIFIED Burst Pressure that the rupture disc will burst, at the coincident temperature. This range of pressure is based on a plus and/or minus percentage or a plus and/or minus pressure value applied around the SPECIFIED Burst Pressure, as agreed upon by the customer and Continental Disc Corporation. This tolerance is marked on the rupture disc tag and all bursts will fall within this range.

Maximum Recommended Operating Pressure // Continental Disc's recommendation of the maximum pressure to operate the rupture disc in order to maximize the life of the rupture disc. This is used as one of the indicators in determining an appropriate type of rupture disc for an application.

SPECIFIED RATING TYPE: INSTRUCTIONS FOR USE

The customer should indicate the SPECIFIED Burst Pressure, along with a Performance Tolerance (a manufacturing range may be given instead of a Performance Tolerance, and Continental Disc will calculate an associated Performance Tolerance). Standard Performance Tolerances and the Maximum Recommended Operating Pressure are based on the product and SPECIFIED Burst Pressure. This information can be found in the ***SPECIFIED Rupture Disc Rating Type*** table, located in the appropriate product literature.

EXAMPLE

ORDER WRITE-UP

(2") 50mm MICRO X (FS) Continental Rupture Disc
316 SS Disc
SPECIFIED: 15 barg @ 20˚C
-10% MGF. RNG.: 13.5 to 15 barg @ 20˚C
PERF. TOL.: -14.5%/+5%

RUPTURE DISC TAG

PRESSURE RANGE EVALUATION

Lowest possible burst:
12.8 barg @ 20˚C (15 barg - 14.5%)

Highest possible burst:
15.8 barg @ 20˚C (15 barg + 5%)

Maximum Recommended Operating Pressure:
10.9 barg @ 20˚C (12.8 barg x 85%)

MIN / MAX

MIN/MAX RATING TYPE: DEFINITIONS

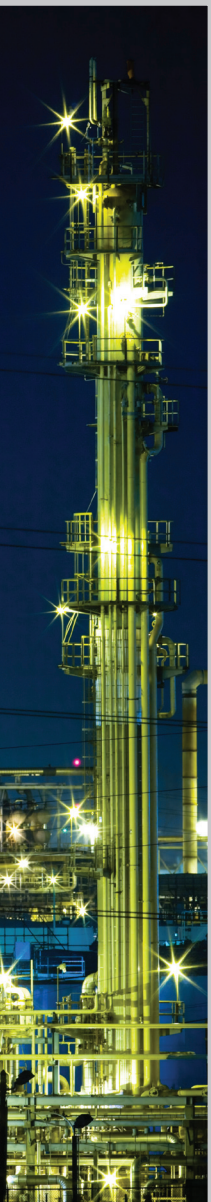
MAX Burst Pressure (MAX) // The customer-indicated burst pressure value at a coincident temperature that indicates the maximum amount of differential pressure necessary to cause the rupture disc to burst. This value will be marked on the rupture disc tag.

MIN Burst Pressure (MIN) // The customer-indicated burst pressure value at a coincident temperature that indicates the minimum amount of differential pressure necessary to cause the rupture disc to burst. This value will be marked on the rupture disc tag.

Maximum Recommended Operating Pressure // Continental Disc's recommendation of the maximum pressure to operate the rupture disc in order to maximize the life of the rupture disc. This is used as one of the indicators in determining an appropriate type of rupture disc for an application.

MIN/MAX RATING TYPE: INSTRUCTIONS FOR USE

The customer should indicate the MIN and MAX. The MIN/MAX Burst Pressure range as agreed upon by the customer and Continental Disc Corporation, includes all associated manufacturing range and tolerance, so all bursts will fall within the MIN and MAX Burst Pressure values. Our standard ranges of MIN/MAX and the Maximum Recommended Operating Pressure are based on the product and MAX Burst Pressure. This information can be found in the ***MIN/MAX Rupture Disc Rating Type*** table, located in the appropriate product literature.



EXAMPLE

ORDER WRITE-UP

(4") 100mm HPX-90 (FS) Gas Only Continental Rupture Disc
316 SS Outlet Ring
316 SS Disc
BURST PRESSURE:
1.72 MIN to 2 MAX kgf/cm2 @ 20˚C

RUPTURE DISC TAG

PRESSURE RANGE EVALUATION

Lowest possible burst:
1.72 kgf/cm² @ 20˚C
Highest possible burst:
2 kgf/cm² @ 20˚C
Maximum Recommended Operating Pressure:
1.55 kgf/cm² @ 20˚C (1.72 kgf/cm² x 90%)

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