



Safety is for life.™

PRODUCT INFORMATION



KUB®

Reverse acting
rupture disc

ENGINEERED TO LAST: ROBUST, HIGH PERFORMANCE, RUPTURE DISC SOLUTION

The KUB® is the only rupture disc to be manufactured using Euler's critical load formula to determine the burst pressure, creating the most robust, high-performance rupture disc available. Unlike other rupture disc solutions where a weak point is created in the metal, the KUB® is a unique, highly engineered solution, benefiting from a series of buckling pins which accurately collapse for reliable, full bore, opening. As there is no specific weak point on the rupture disc, the KUB® is an extremely robust solution, almost immune to damage by incorrect handling, improper installation or even being dropped! This maximizes the lifespan of the disc and minimizes long-term investment by lowering ongoing replacement costs. The KUB® features a two-layer design, with the smooth, unblemished surface of the sealing membrane facing the process minimizing the possibility of damage due to corrosion.

Boasting a 98% operating ratio, the KUB® is not subject to fatigue even at higher operating pressures* and in the most demanding of process conditions in vapor, gas, liquid or two-phase applications. Unlike many other reverse acting discs, the unique construction of the KUB® makes it fully compatible with liquid-only applications, maximizing installation points which can benefit from this rupture disc, simplifying customers' installation, maintenance and purchasing routines.

REMBE® Innovation – unique in the market:

The KUB® rupture disc has a robust design and can be removed, inspected, cleaned and reinstalled. Any damage is easy to detect with the naked eye.

Your advantages

- Unique buckling pin element – creates **the most robust rupture disc design** available.
- **Reinstall and reuse with ease after inspection** – guarantees maximum lifespan of one rupture disc, reducing spares costs.
- **Virtually immune to damage** during installation, transport or storage – maximizes process uptime and unnecessary replacement costs.
- **Extend safety valve lifespan** – robust design protects valves from process media, reducing corrosion risk and maximizing overall investment.
- Widest size and burst pressure range in a single reverse acting disc – one-disc type suitable for a wide range of process conditions, improving purchasing, inspection and maintenance routines.
- **Compatible with liquid-only applications** – maximizes installation points where the benefits of this technology can be achieved.

*Depending on the specific application.



You can find detailed information and contact details for enquiries relating to KUB® at www.rembe.us. Give us a call on: T +1 704 716 7022 or contact us via email: info@rembe.us.





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Inspect and reinstall with ease

Simple to install, the KUB® is also extremely easy to remove and reinstall during routine cleaning or maintenance checks without concerns of damaging the disc. Installed into an IG-KUB® Holder, the KUB® is a torque-independent design which uses a leak-tight, metal-on-metal seal, which allows the rupture disc to be reinstalled and used safely after inspection. REMBE®'s torque independent designs are resistant to damage caused during installation which increases the ability to get the process back up and running as quickly as possible without concerns that the burst pressure may have been affected. With no special installation tools required, the KUB® provides fast, simple installation with accurate pressure relief for minimal downtime.

With one of the widest burst pressure and size ranges for a reverse acting rupture disc (20 mm to 800 mm) the KUB® is the ideal solution for a wide range of challenging industrial processes. The broad pressure range allows many different processes to be equipped with just this one type of rupture disc. Only one holder system is required

for all REMBE® reverse acting rupture discs. If the process conditions change in future, e.g. the burst pressure, only the rupture disc needs to be replaced.

Use together with REMBE®'s reusable NIMU detection system for a full rupture disc assembly, ensuring reliable notification in the event of disc burst.

Extend safety valve lifespan with the KUB®

Suitable for full vacuum and back pressure resistant, the non-fragmenting KUB® can be installed upstream of a safety valve to isolate the valve from the process. When used in combination, the KUB® will ensure the best possible condition of the safety valve, significantly extending service intervals and overall life of the valve while maximizing return on investment. The leak-tight design prevents emissions and the associated costs, while protecting the safety valve from corrosive, aggressive or adhesive media, allowing for the use of safety valves in more cost-effective materials. The special KUB®-V series rupture disc allows for in-situ testing of the safety valve. See KUB®-V for more information.

Certification

| | | | | | |
|-------------------|-----|------|---------------------|-------------|----------------|
| | | | | | |
| Works Certificate | PED | ASME | KOSHA (South Korea) | CML (China) | TR CU (Russia) |

Technical restrictions must be observed dependent on the certification.

| Applications | | | |
|------------------------|---|------------------------|---|
| Safety valve isolation | ✓ | Heat exchangers | ✓ |
| Refineries | ✓ | Separators | ✓ |
| Chemical | ✓ | Condensers | ✓ |
| Petrochemical | ✓ | Cryogenic applications | ✓ |
| Power plants | ✓ | LNG | ✓ |
| Chemical reactors | ✓ | Geothermal | ✓ |
| Process vessels | ✓ | Reverse osmosis | ✓ |
| Distillation columns | ✓ | Desalination | ✓ |

| Product Parameters | | |
|------------------------------------|--|---|
| Feature | Characteristics | Variations |
| Signaling available | ✓ | NIMU, SIGU, BT-S, FOS, SB(-S), SGK, SKB-S |
| Safety valve isolation | ✓ | - |
| Tolerance [%] | ± 10 (±5; -0/+10; +0/-10 upon request) | - |
| Manufacturing design range [%] | 0 | - |
| Operating ratio [%] | Up to 98* | - |
| Non-fragmenting design | ✓ | - |
| Temperature range [°F] | -112 to 1112 (-80 to 600 °C)** | - |
| Leakrate [mbar l s ⁻¹] | 10 ⁻⁴ to 10 ⁻⁶ | - |

*Depending on the specific application.
**Different temperatureranges on request.



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| Process medium | Suitability |
|-------------------------|-------------|
| Gas/Steam | ✓✓ |
| Liquid with gas cushion | ✓✓ |
| Liquid | ✓✓ |
| Two phase flow | ✓✓ |
| Hygienic applications | ✓✓ |

 Recommended
 Suitable



| Burst Pressure Range (PED) | | | |
|----------------------------|----------|--------------------|--------------------|
| DN | NPS [in] | Vent area | |
| | | [cm ²] | [in ²] |
| 20 | 0.75 | 3.4 | 0.53 |
| 25 | 1 | 5.5 | 0.85 |
| 32 | 1.25 | 9.5 | 1.47 |
| 40 | 1.5 | 13 | 2.02 |
| 50 | 2 | 22 | 3.41 |
| 65 | 2.5 | 35 | 5.43 |
| 80 | 3 | 50 | 7.75 |
| 100 | 4 | 80 | 12.4 |
| 125 | 5 | 120 | 18.6 |
| 150 | 6 | 180 | 27.9 |
| 200 | 8 | 280 | 43.4 |
| 250 | 10 | 440 | 68.2 |
| 300 | 12 | 650 | 101 |
| 350 | 14 | 860 | 133 |
| 400 | 16 | 1100 | 171 |
| 450 | 18 | 1485 | 230 |
| 500 | 20 | 1855 | 288 |
| 600 | 24 | 2515 | 390 |
| 650 | 26 | 3100 | 481 |
| 700 | 28 | 3680 | 570 |
| 750 | 30 | 4250 | 659 |
| 800 | 32 | 4470 | 693 |

Material Specific Parameters

| DN | NPS [in] | Burst pressure | | | | | |
|-----|----------|----------------|--------------|--------------|--------------|--------------|--------------|
| | | SS/SS | | SS/Has | | Has/Has | |
| | | min. [bar g] | max. [bar g] | min. [bar g] | max. [bar g] | min. [bar g] | max. [bar g] |
| 20 | 0.75 | 3.2 | 130 | 3.5 | 130 | 4 | 130 |
| 25 | 1 | 2.0 | 150 | 2.5 | 180 | 3 | 200 |
| 32 | 1.25 | 2 | 135 | 2 | 145 | 2.3 | 145 |
| 40 | 1.5 | 1.5 | 140 | 1.5 | 150 | 2 | 150 |
| 50 | 2 | 1.2 | 120 | 1.2 | 130 | 1.5 | 130 |
| 65 | 2.5 | 1 | 100 | 1 | 110 | 1.5 | 110 |
| 80 | 3 | 0.5 | 95 | 0.8 | 100 | 1.2 | 100 |
| 100 | 4 | 0.4 | 80 | 0.5 | 90 | 1 | 90 |
| 125 | 5 | 0.4 | 60 | 0.4 | 70 | 1 | 70 |
| 150 | 6 | 0.3 | 45 | 0.3 | 50 | 0.8 | 50 |
| 200 | 8 | 0.3 | 35 | 0.3 | 40 | 0.5 | 40 |
| 250 | 10 | 0.3 | 25 | 0.3 | 30 | 0.4 | 30 |
| 300 | 12 | 0.2 | 15 | 0.2 | 18 | 0.3 | 18 |
| 350 | 14 | 0.2 | 12 | 0.2 | 15 | 0.3 | 15 |
| 400 | 16 | 0.2 | 10 | 0.2 | 10 | 0.2 | 10 |
| 450 | 18 | 0.2 | 7.5 | 0.15 | 7.5 | 0.2 | 7.5 |
| 500 | 20 | 0.15 | 6 | 0.15 | 6 | 0.2 | 6 |
| 600 | 24 | 0.15 | 4 | - | - | - | - |
| 650 | 26 | 0.15 | 4 | - | - | - | - |
| 700 | 28 | 0.15 | 3.5 | - | - | - | - |
| 750 | 30 | 0.15 | 3 | - | - | - | - |
| 800 | 32 | 0.15 | 2 | - | - | - | - |



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Material Specific Parameters

| DN | NPS [in] | Burst pressure | | | | | |
|-----|----------|----------------|--------------|--------------|--------------|--------------|--------------|
| | | SS/Inc | | Inc/Inc | | SS/Ni | |
| | | min. [bar g] | max. [bar g] | min. [bar g] | max. [bar g] | min. [bar g] | max. [bar g] |
| 20 | 0.75 | 3.5 | 130 | 5 | 125 | 3.5 | 130 |
| 25 | 1 | 2.5 | 150 | 3 | 150 | 2.5 | 150 |
| 32 | 1.25 | 2 | 135 | 3 | 135 | 2 | 135 |
| 40 | 1.5 | 1.5 | 140 | 2.5 | 140 | 1.5 | 140 |
| 50 | 2 | 1.2 | 120 | 2 | 120 | 1.2 | 120 |
| 65 | 2.5 | 1 | 100 | 1.5 | 100 | 1 | 100 |
| 80 | 3 | 0.8 | 95 | 1 | 95 | 0.8 | 95 |
| 100 | 4 | 0.5 | 80 | 1 | 80 | 0.5 | 80 |
| 125 | 5 | 0.4 | 60 | 0.8 | 60 | 0.4 | 60 |
| 150 | 6 | 0.3 | 45 | 0.6 | 45 | 0.3 | 45 |
| 200 | 8 | 0.3 | 35 | 0.4 | 35 | 0.3 | 35 |
| 250 | 10 | 0.3 | 25 | 0.4 | 25 | 0.3 | 25 |
| 300 | 12 | 0.2 | 15 | 0.35 | 15 | 0.25 | 15 |
| 350 | 14 | 0.2 | 12 | 0.3 | 12 | 0.2 | 12 |
| 400 | 16 | 0.2 | 10 | 0.25 | 10 | 0.15 | 10 |
| 450 | 18 | 0.2 | 7.5 | 0.25 | 7.5 | 0.15 | 7.5 |
| 500 | 20 | 0.15 | 6 | 0.2 | 6 | 0.15 | 6 |
| 600 | 24 | 0.15 | 4 | 0.2 | 4 | - | - |

Material Specific Parameters

| DN | NPS [in] | Burst pressure | | | | | |
|-----|----------|----------------|--------------|--------------|--------------|--------------|--------------|
| | | SS/Mo | | SS/Ti | | SS/Ta | |
| | | min. [bar g] | max. [bar g] | min. [bar g] | max. [bar g] | min. [bar g] | max. [bar g] |
| 20 | 0.75 | 3 | 130 | 5 | 130 | 5 | 130 |
| 25 | 1 | 3 | 150 | 3 | 150 | 3 | 150 |
| 32 | 1.25 | 2.3 | 135 | 2.5 | 135 | 2.5 | 135 |
| 40 | 1.5 | 2 | 140 | 2 | 140 | 2 | 140 |
| 50 | 2 | 1.8 | 120 | 2 | 120 | 2 | 120 |
| 65 | 2.5 | 1.8 | 100 | 2 | 100 | 2 | 100 |
| 80 | 3 | 1 | 95 | 2 | 95 | 1.5 | 95 |
| 100 | 4 | 0.5 | 80 | 1.5 | 80 | 0.5 | 80 |
| 125 | 5 | 0.5 | 60 | 1 | 60 | 0.5 | 60 |
| 150 | 6 | 0.4 | 45 | 0.5 | 45 | 0.5 | 45 |
| 200 | 8 | 0.4 | 35 | 0.4 | 35 | 0.4 | 35 |
| 250 | 10 | 0.3 | 25 | 0.3 | 25 | 0.4 | 25 |
| 300 | 12 | 0.2 | 15 | 0.2 | 15 | 0.3 | 25 |
| 350 | 14 | 0.2 | 12 | 0.2 | 12 | - | - |
| 400 | 16 | 0.2 | 10 | 0.2 | 10 | - | - |
| 450 | 18 | 0.2 | 7.5 | 0.15 | 7.5 | - | - |
| 500 | 20 | 0.1 | 6 | 0.1 | 6 | - | - |
| 600 | 24 | - | - | - | - | - | - |

Material specific parameters should be considered in combination with the applicable certification. Due to different type testing requirements, deviations in technical parameters are possible. SS = Stainless Steel; Has = Hastelloy; Inc = Inconel; Ni = Nickel; Mo = Monel; Ti = Titanium; Ta = Tantalum

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Consulting. Engineering. Products. Service.

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