



# RUPTURE DISCS AND SAFETY VALVES

Rupture discs and safety valves can be combined in two different configurations: The rupture disc can be installed below the safety valve or the two pressure relief systems installed next to each other. If the systems are installed next to each other, the response pressure of the rupture disc is higher than that of the safety valve. If the rise in pressure is so large and rapid that the safety valve cannot respond sufficiently quickly or if it fails to open, the rupture disc serves as a reliable backup system to relieve the pressure. If the rupture disc is installed below the safety valve it can perform a number of roles:

## Improved leak-tightness

Even if your process does not involve toxic or very expensive media – safety equipment should still ideally be able to operate leak-free over long periods. Safety valves tend to leak more after being triggered for the first time. However, a REMBE® rupture disc positioned upstream of the safety valve ensures a perfect, leak-tight seal and saves you money. After all, it is cheaper to replace a rupture disc than a safety valve.

## Protection against “challenging” media

Every operator who has ever been in this position knows the problem: The functionality and reliability of some safety equipment is affected to a greater or lesser degree by corrosive, adhesive, polymerising or viscous media.

This also applies to safety valves. If the valve seat is sticky, it is no longer possible to guarantee the defined response pressure. This poses a risk even before the first time the safety valve is triggered. Cleaning and inspections are therefore essential to

guarantee that – in the case of an emergency – the safety valve responds at the specified pressure. A REMBE® rupture disc installed upstream protects the safety valve against caking and adhesions. Reverse acting rupture discs like KUB® have a smooth metal surface on the side facing the process, which prevents the build of deposits. Breaking points are isolated from the process. This ensures that the specified response pressure is maintained at all times and eliminates the possibility of a late response.

**In liquids, gases and two-phase media, a REMBE® rupture disc upstream from your safety valve simply saves you money:**

- Improved leak-tightness for lower loss of media and long-term compliance with regulations and legal requirements.
- You can use safety valves made from lower cost materials even with corrosive, adhesive or polymerising media.
- Additional savings through in-situ tests.



A relief valve secures the space between the rupture disc and the safety valve.

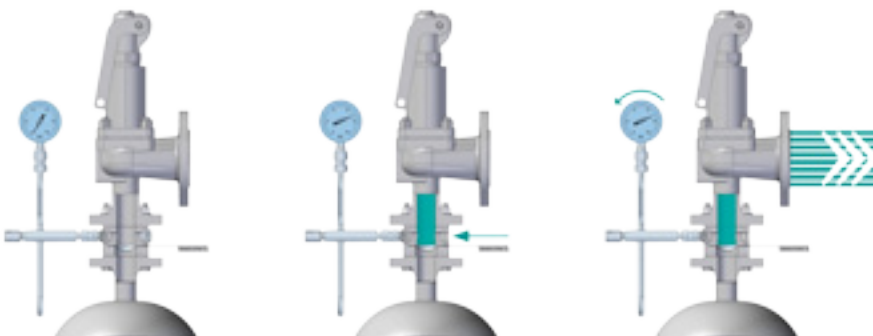


Special safety valves and KUB® Clean (p. 13) are used in hygienic applications.

## In-situ testing of safety valves

Normally, safety valves have to be removed in order to test whether they are functioning correctly. This is time-consuming and expensive. However, in combination with REMBE® rupture discs, you can test your safety valves without moving them anywhere. To do this, the space between the rupture disc and the valve stroke is pressurised.

As KUB® has a back pressure resistance of 135%, the rupture disc remains undamaged while the safety valve is being inspected. If in-house regulations nonetheless require the safety valve to be removed for inspection, the rupture disc can be left in position in a separate flange connection in order to close the opening while this work is being performed.



In-situ test: The space between the rupture disc and the safety valve is pressurised in order to test whether the safety valve is functioning correctly.



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