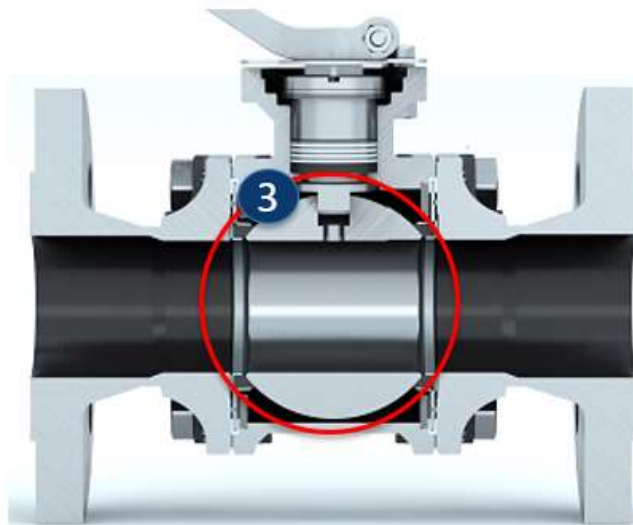


KHA DESIGN FOR “EXPANSIVE” MEDIA:

Description:

In many different industries and in a wide variety of processes, valves are used for highly expansive media. These types of media have the physical behaviour of expanding or contracting with changes in temperature. Particularly in the case of rapid expansion of the medium in a valve, this behaviour can cause damage to the parts in contact with the medium and leads to leakage. Especially if the medium remains in the cavity (dead space) of a valve, this expansion can lead to a rapid increase in pressure and therefore to considerable damage to valve parts, so that proper functioning is no longer guaranteed. Additional pressure relief of the cavity of a valve is therefore necessary. Such rapidly expanding media are, for example, “ammonia” and “hydrogen peroxide”.



- » (1) Rapid expansion of the media in the cavity
- » (2) If the valve is in closed position, also media will be present in the ball which could expand

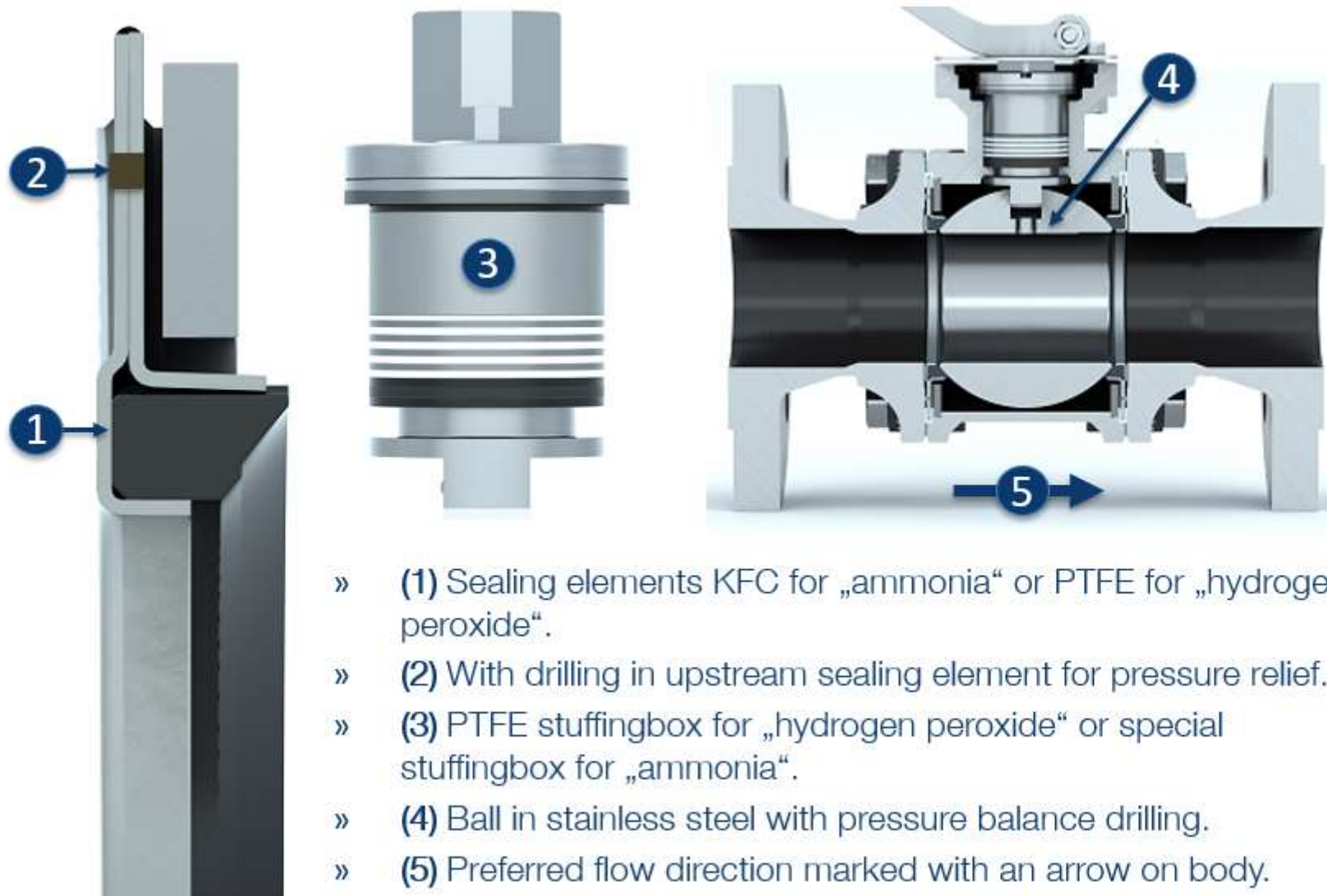
KHA DESIGN FOR “EXPANSIVE” MEDIA:

Solution KLINGER ball valve type KHA for „expansive“ media:

- » **Sealing elements:** Standard KFC sealing elements for „ammonia“ are used. The upstream sealing element has a drilling for quick pressure relief of the cavity. Important: The KHA ball valve therefore has a defined flow direction marked with an arrow on the housing to guarantee proper function. For „hydrogen peroxide“, PTFE sealing elements are mandatory.
- » **Stuffingbox:** For „hydrogen peroxide“, a pure PTFE stuffingbox is used. For „ammonia“, KLINGER is using special O-rings for ammonia.
- » **Ball:** Standard ball in stainless steel 1.4401 or 1.4408 with a small drilling on top also for pressure balance.
- » **Body:** Body material depends on material compatibility of the media. For ammonia carbon steel and stainless steel is valid, for hydrogen peroxide only stainless steel.

Conclusion:

- » The additional pressure relief drilling in the upstream sealing element ensure a constant pressure balance of the cavity. A damage of the wetted parts and therefore malfunction is avoided and safety is increased. This helped the customer to reduce maintenance works and unplanned shut downs.



- » (1) Sealing elements KFC for „ammonia“ or PTFE for „hydrogen peroxide“.
- » (2) With drilling in upstream sealing element for pressure relief.
- » (3) PTFE stuffingbox for „hydrogen peroxide“ or special stuffingbox for „ammonia“.
- » (4) Ball in stainless steel with pressure balance drilling.
- » (5) Preferred flow direction marked with an arrow on body.