Dome Valve II

inflatable seat valve

principle of operation
The dome component closes beneath the seat (seal) when the seal is relaxed (not inflated), allowing a controlled gap between the seal (seat) and the closing member (dome). Material is allowed to pass through this controlled gap, due to its characteristics, it is pulled into the gap by the action of the dome component moving to its closed position. In the closed position, high pressure air or other gas expels the space between the back of the seal face and the insert ring to cause the seal face to expand onto and around the periphery of the dome component. Material particles are entrapped by the seal against the dome surface, irrespective of particle size or shape. Before opening the valve, the seal is relaxed, and the controlled gap is reestablished before the dome component moves to its open position. The seal is a loose component clamped into place by a spigot piece and external fasteners holding the top plate assembly to the body. The seal is easily removed for inspection.

inflatable seats
Inflatable flexible seats entrap particles that are normally the cause of seat erosion. Particles are induced to move across valve seats under the influence of pressure differentials on either side of the closing member. Entrapment particles within a flexible face during the period of valve closure prevents particle movement and considerably reduces valve seat wear. Inflatable flexible seats allow uniform wear compensation.

hard seats
Hard seats that do not inflate require the force of engagement or closing to entrap particles. However, the inflatable valve seat has limited life because the worn surface of the flexible seat cannot compensate for wear.

flexible seats
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standard configurations

bulkhead

standard options
- size (in): 2, 4, 6, 8, 10, 12, 14
- design temp: 200°F/100°C, 370°F/190°C, 600°F/315°C
- design pressure: 100 psig / 7 barg
- flanges: ANSI 150 / PN 10 / PN 16
- construction: Cast Iron A278 C40 / Stainless 304/316

non-standard options
- size options (in): up to 30
- design temp: up to 1000°F/540°C *
- design pressure: up to 650 psig / 45 barg

* Requires high temp batching valve

Dome Valve II.

inflatable seat valves

the process engineering valve solution