The Next Generation of Switch Valves for Delayed Coker Service

Improve Reliability with Mechanically-Loaded Design that Eliminates Steam Bellows

Steam Purged (SP) Valves • Severe Service • High Temperature • Multi-Shutdown Performance
Refinery Coking

The delayed coker process is a batch process, one of the most hostile environments in the refinery – due to the abrasive and erosive properties of the coke by-product – and crucial to a refinery’s profitability. Valves are cycled frequently and failure can lead to a complete shutdown of a unit, resulting in large process and financial costs. Optimizing valve life-cycle is critical to operational efficiency.

Improve Up-Time

Increase unscheduled downtime and possible production losses with ValvTechnologies coker isolation valves. Avoid unscheduled downtime and lost production.

- Longevity – 10-12 years between major maintenance requirements
- Reliability – tight shut-off with preventative maintenance continuous purge systems
- Simple design – positive isolation without build-up
- Long operating life
- Low cost of ownership

Coker Valve Applications:

- Switch valve isolation
- Four-way switch valve
- Drum overhead vapor line
- Feed & withdrawal lines
- Drum blowdown
- Heater isolation
- Cutting water isolation
- Safety relief valve isolation lines
- Drain & vent valves
Switch Valves for Coking Service

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<th>Design Features</th>
<th>Detail</th>
<th>Benefits</th>
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<tr>
<td>Belleville spring loading</td>
<td>15 years potential life in service</td>
<td>Increased reliability</td>
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<td>Excellent thermal compensation</td>
<td>Increased reliability</td>
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<td></td>
<td>Prevents coke migration into seat faces</td>
<td>Increased reliability</td>
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<td>No purge steam needed for seat loading</td>
<td>Lower emissions, enhanced process safety</td>
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<td>Eliminates pendulum motion of the ball</td>
<td>Inherent fire safety</td>
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<td>Chromium carbide coatings</td>
<td>Ball and seat are HVOF spray coated</td>
<td>Erosion resistant</td>
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<td>Extreme wear resistance for cycling and</td>
<td>Increased cost savings on repair</td>
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<td></td>
<td>consistent torques</td>
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<td>Strong bonding in thermal cycling applications</td>
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<tr>
<td>Two inlet purges</td>
<td>Low steam requirements</td>
<td>Reduced maintenance costs</td>
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<td>Less fabrication required</td>
<td>Ease of field installation</td>
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<td>Spring pocket coke fines protection</td>
<td>Graphite seals in spring pockets protects loading mechanisms in case of steam failure</td>
<td>Reliability in case of temporary steam loss</td>
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Switch Valves for Coking Service

- **Size**: 8” – 18”
- **Class**: ANSI 900 with 600 connections
- **Material**: A217 Gr. C12, F9, 347SS
- **Stem packing**: Belleville-Loaded Grafoil, ISO 15848 Rate “B” Purged lantern rings
- **Purge connections**: Two inlet connections
- **Option**: Flanged connections available
ValvTechnologies, Inc. is a global leader in the design and manufacturing of flow control devices. Founded in 1987 and headquartered in Houston, Texas, ValvTechnologies remains focused on helping customers meet their daily production and process challenges safely and efficiently.

Having built a global reputation for superior quality and dependability across every industry served with products designed to fulfill the requirements of standard applications to the most sophisticated, severe-service processes, ValvTechnologies meets the demands for total flow control solutions, whether one valve at a time, or system-wide.

Bringing together the best people and the latest in technological design and manufacturing processes, ValvTechnologies has created an atmosphere where quality and dependability are built into every product, start to finish.