Delayed Coking Isolation Valves

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Global BUD/TUD Sales and Installations

• 242 in operation
• 124 installed
• 90 more in production

Global Isolation Valve Sales and Installations

• 89 installed or in operation
**Delayed Coking Isolation Valves**

- Clean & Anti-fouling applications
- Live loaded, self cleaning seats
- Double block & purge
- Low steam consumption
- Valve condition diagnostics
- In-line serviceable
- Three different actuator options available
- Sizes range: 3" – 48"

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**Isolation Valve Models**

- **GV851 (Clean Service)**
  - For use in:
    - Steam, water
    - Clean hydrocarbon liquids below coking temperature
    - Clean hydrocarbon vapor streams

- **GV852 (Anti-Fouling Design)**
  - For use in:
    - Hydrocarbon liquids near coking temperature
    - Solids laden hydrocarbon liquids
    - Dirty hydrocarbon vapor streams

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**Isolation Valve Models By Delayed Coker Service**

- **GV851**
  - Coke drum vapor discharge
  - Utility team
  - Quench water
  - Atmospheric vent valve
  - Quench oil

- **GV852**
  - OH Vapor to blow down
  - OH Vapor to fractionators
  - Coke condensate
  - Drain to coke pad
  - Manifold isolation valve
  - Wax tailings / steam
  - HC liquids / vapor bypass to fractionator
Live Loaded, Self Cleaning Metal Seats

- Double live loaded, 9 Cr Nitrided seats
- Seal tightness not sensitive to body deflection
- Valve torque / thrust / operation not sensitive to body deflection
- No change in seal performance from turnaround to turnaround

Double-Block and Purge

- "API 6D defines a double-block and bleed valve (DBB) as a single valve with two seating surfaces that, in the closed position, provides a seal against pressure from both ends of the valve with a means of venting/bleeding the cavity between the seating surfaces." — Valve Magazine, Summer 2010, Vol. 22.
### Purge Steam Consumption Rates

<table>
<thead>
<tr>
<th>Size</th>
<th>Factory Test Results</th>
<th>Steam Header Sizing Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>10&quot;</td>
<td>.3 lb/hr</td>
<td>150 lb/hr</td>
</tr>
<tr>
<td>12&quot;</td>
<td>.36 lb/hr</td>
<td>180 lb/hr</td>
</tr>
<tr>
<td>18&quot;</td>
<td>.54 lb/hr</td>
<td>270 lb/hr</td>
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<tr>
<td>24&quot;</td>
<td>.72 lb/hr</td>
<td>360 lb/hr</td>
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<tr>
<td>30&quot;</td>
<td>.9 lb/hr</td>
<td>450 lb/hr</td>
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<tr>
<td>36&quot;</td>
<td>1.1 lb/hr</td>
<td>540 lb/hr</td>
</tr>
</tbody>
</table>

### Valve Condition Diagnostics

- **Static Steam Pressurized Body and Bonnets**
  - GV851, low purge steam in open or closed positions
  - GV852, low purge steam at all times
  - Header sizing guideline (10 lbs/hr/inch of port diameter/valve)

- **Steam Pressure and Flow Sensors**
  - Real time verification of positive isolation
  - Positive confirmation of seat /gate condition

### Top Entry / In-Line Serviceable

- All internal parts accessible while installed
- Simple disassembly and re-assembly
- No special tools or equipment
- Optional maintenance jib available
Top Entry / In-Line Serviceable

Actuation Options

- Electric actuation
- Electro hydraulic (continuous position indication)
- Hydraulic actuation
- Manual actuation (optional)

Sizes/End Connections

- Sizes: 3” to 48”
- ANSI Class 150, 300, 600
- FF, RF, RTJ, Weld Ends
Questions