

# Switching Valves

The Next Generation of Switch Valves  
for Delayed Coking Service

**VALV**TECHNOLOGIES®

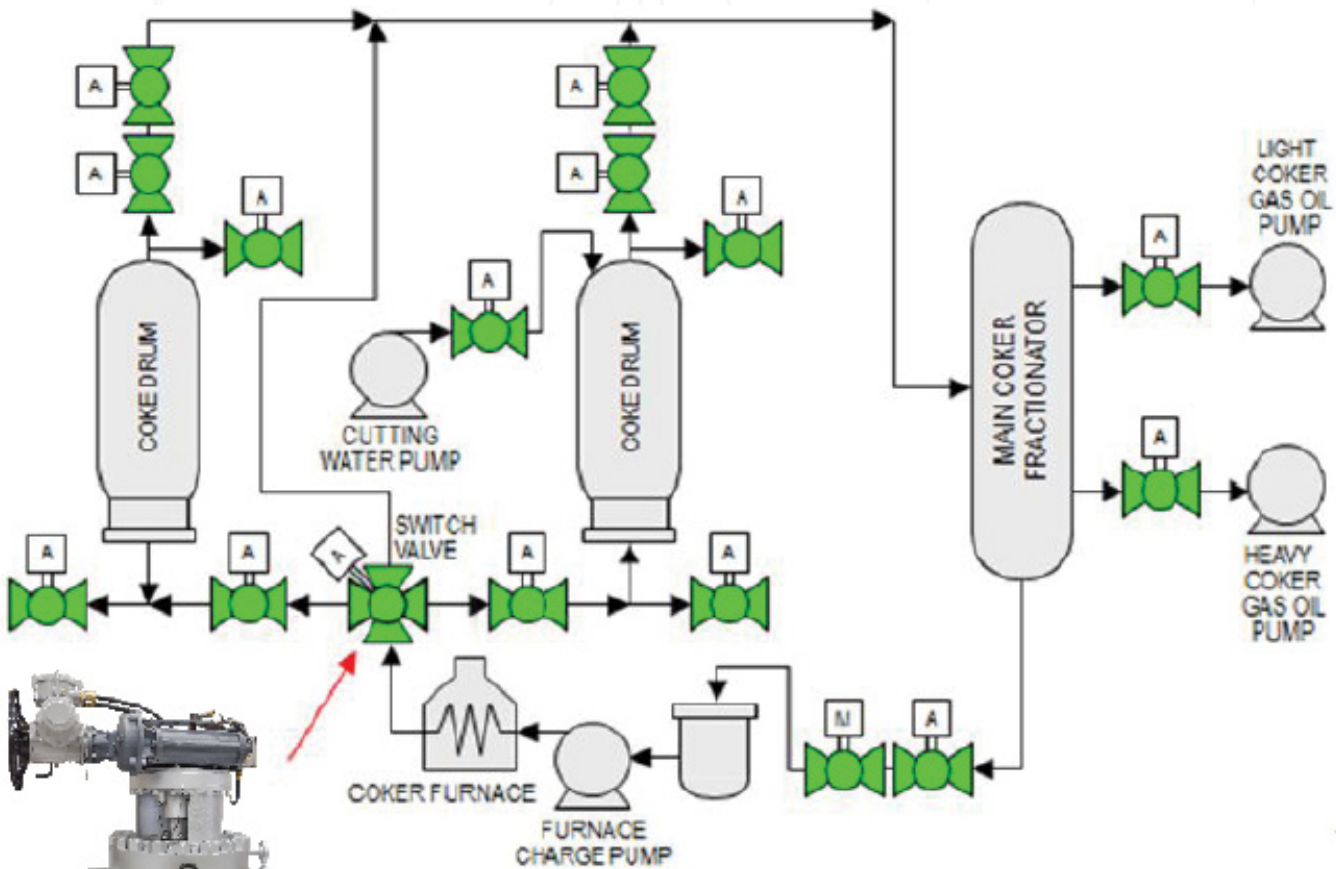
# Refinery Coking

The ValvTechnologies' switch valves are designed for use in the delayed coker found in many integrated oil refineries. There are two drums in a delayed coker unit that work consecutively while in operation. When one drum is functioning, the other drum is being de-coked. The switching valve is required to direct hot feed to either drum A

or drum B. The valve also has the bypass position to divert flow back to the fractionator for or during emergencies. The bypass has the same port dimension as the main drum feed lines. The control package also has the capability of providing multiple intermediate positions to provide the capability to warm the new drum while slowly

reducing feed to the live drum. The switch valve is the most critical valve in the unit.

This valve is found in delayed coker units where multi-port valves are required in high-temperature coking applications. These systems contain sticky residue, solids, and other system contaminants.



## Improve Availability

- The quality of design reduces failure rates and increases reliability.
- High reliability run factors
- Most effective coker valve technology
- Continuous purging design prevents "coking up"
- Lowest life-cycle costs

## Coker Valve Applications:

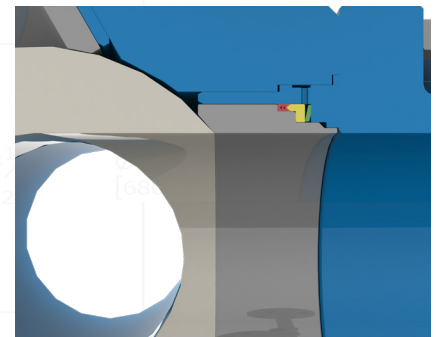
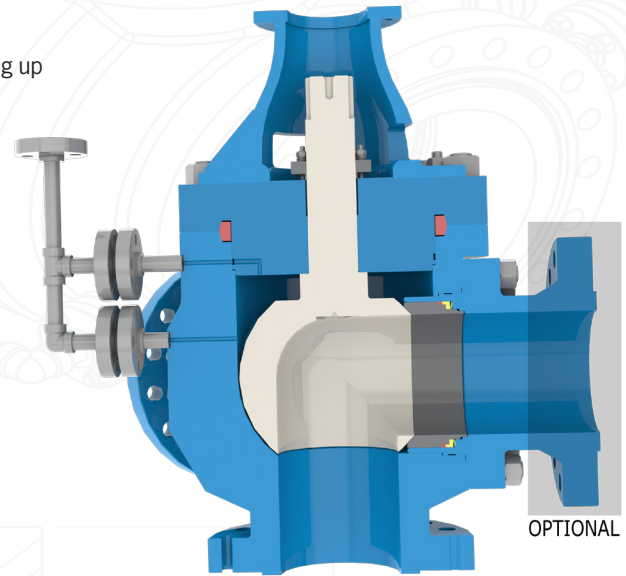
- Switch valve
- Four-way switch valve
- Drum overhead vapor line
- Feed and withdrawal lines
- Drum blowdown
- Heater isolation
- Cutting water isolation
- Safety relief valves isolation lines
- Drain and vent valves

# Switching Valves for Coking Service

Improve up-time, avoid unscheduled downtime and lost production with ValVTechnologies' coking solution.

- Reliability and longevity
- Operational and personal safety – reliability of tight isolation
- Most effective technological purging systems to prevent locking or coking up
- Low cost-of-ownership due to excellent run time and low-cost of repair

- Size: 8-18"
- Class: ANSI 9000 and ANSI 900 with 600 connections
- Material : A217 Gr. C12, F9, 347SS
- Sealing: ValVTechnologies tests coker valves to zero-leakage
- Stem packing:
  - Belleville®-loaded Grafoil®
  - ISO 15848 Rate "B"
  - Purged lantern ring
- Purge connections: Two inlet connections
- Option: Flanged connections available



***Decrease unscheduled downtime and production losses with ValVTechnologies' switching valves.***

## Coker Switch Valves Key Features and Benefits

ValVTechnologies' coker valves are the premier solution where isolation is required for critical and severe service applications, providing increased safety and reliability, while reducing emissions, contributing to a cleaner environment.

Design Features	Detail	Benefits
Belleville® spring loading	<ul style="list-style-type: none"> <li>• Excellent thermal compensation</li> <li>• Prevents coke migration into seat faces</li> <li>• No purge steam needed for seat loading</li> <li>• Eliminates pendulum motion of ball</li> </ul>	<ul style="list-style-type: none"> <li>• Increases reliability</li> <li>• Increases reliability</li> <li>• Lower emissions, enhancing process safety</li> <li>• Inherent fire safety</li> </ul>
Chromium carbide coatings	<ul style="list-style-type: none"> <li>• Ball and seat are HVOF RiTech® spray coated</li> <li>• Extreme wear resistance for cycling and consistent torques</li> <li>• Strong bonding in thermal cycling applications</li> </ul>	<ul style="list-style-type: none"> <li>• Erosion resistant</li> <li>• Increases cost-savings on repair</li> <li>• Longer service life</li> </ul>
Three inlet body purges	<ul style="list-style-type: none"> <li>• Proper internal cavity flushing</li> </ul>	<ul style="list-style-type: none"> <li>• Prevents coking up</li> <li>• Reduces maintenance costs</li> </ul>
Spring pocket coke fines protection	<ul style="list-style-type: none"> <li>• Graphite seals in spring pockets protects loading mechanisms in case of steam failure</li> </ul>	<ul style="list-style-type: none"> <li>• Reliability in case of temporary steam loss</li> </ul>

# Zero-leakage Valve Solutions



## Worldwide Office Locations

**Australia**

**Brazil**

**Canada**

**Chile**

**China**

**Colombia**

**India**

**Japan**

**Kazakhstan**

**Malaysia**

**Poland**

**Saudi Arabia**

**Singapore**

**South Korea**

**Spain**

**Thailand**

**Turkey**

**United Arab Emirates**

**United Kingdom**

**United States**

### **Headquarters & Manufacturing ValvTechnologies, Inc.**

5904 Bingle Road  
Houston, Texas 77092 U.S.A.  
Telephone +1 713 860 0400  
Fax +1 713 860 0499  
[info@valv.com](mailto:info@valv.com).

To locate a distributor or satellite  
office near you, visit us online at:  
[www.valv.com](http://www.valv.com).

To contact sales anywhere in the world,  
email [sales@valv.com](mailto:sales@valv.com).

