DOUBLE BLOCK AND BLEED
DUAL EXPANDING
PLUG VALVE

On/Off non-lubricated plug valve
Provable zero leakage

<table>
<thead>
<tr>
<th>Size</th>
<th>1” ~ 42” (up to unlimited)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore</td>
<td>Reduced or full (piggable)</td>
</tr>
<tr>
<td>Pressure</td>
<td>150# ~ 2500#</td>
</tr>
<tr>
<td>Temperature</td>
<td>-196°C ~ 250°C</td>
</tr>
<tr>
<td>Connections</td>
<td>Wide choice on request</td>
</tr>
<tr>
<td>Materials</td>
<td>Wide choice on request</td>
</tr>
</tbody>
</table>

Application:
- Passenger tanks
- Transport pipelines
- Hydrocarbon services
- And many more...

General Information:
- Single valve solution
- Block valve
- Block valve
- Bleed system
- Bleed valve

Characteristics:
- More space required
- Less weight
- Shorter drain times
- One actuator instead of two

APPLICATIONS

- Airport fueling systems
- For safe isolation of fuel hydrants
  - Salalah International Airport, Abu Dhabi International Airport, Schiphol Airport
- Metering systems for gas and oil
  - For precise calibration of the flow meters
  - FPSO OSX2 Petrobras, NMI Euroloops, Ras Tanura
  - Saudi Aramco
- Tank storage
  - For preventing loss and contamination
  - Odfjell Terminal, Rotterdam Shell, Jazan Bulk Plant
- Fuel loading services
  - For safe and reliable shutoff at rail, truck and ship loading manifolds
  - Port of Gothenburg
- Multi-product manifolds
  - For protection against contamination
  - Cheonan Depot, Kingsbury and Blisworth
- Transport pipelines
  - For elimination of frequent maintenance
  - Thappline, Sriracha Sanaburi pipeline
- Hydrocarbon services
  - For safe and reliable shutoff
  - Shell Pernis
  - And many more...

General Information:
- www.controlseal.nl
HOW DBBV WORKS

Open
Valve is in fully open position. The slips (yellow) and seals are completely out of the flow.

Start to close
Plug (red) is rotating 90° to block flow. There is no contact between body and seals attached to the slips. No abrasion of the seals can occur. Non-friction design requires less torque to cycle.

Expanding
Plug / slips have rotated 90°. Plug starts expanding slips against body seating area without any rotational movement. Plug / slip assembly is kept centred in body by top and bottom bushings.

Double Block and Bleed
Valve seated. Resilient seals have been compressed. Resilient seals cannot be damaged by operator over-torque. Zero leakage can be proved by bleed system.

CONTROL SEAL BENEFITS

Fast Opening and Closing
Due to strong metal rotating mechanism

Maintenance friendly
Due to self-lubricating rotating mechanism inside valve

Less spare parts needed
Due to less moving parts

Stemguides and gland packings can be adjusted while the valve is in service.

Top and bottom service entry for slips exchange

DESIGN STANDARDS

<table>
<thead>
<tr>
<th>Design</th>
<th>API 6D, ASME B16.34</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face to Face dimensions</td>
<td>API 6D, ASME B16.10, B16.47</td>
</tr>
<tr>
<td>Flanges</td>
<td>ASME B16.5, B16.25</td>
</tr>
<tr>
<td>Fire Safe</td>
<td>ISO 10497, API 6FA, BS 6755</td>
</tr>
<tr>
<td>Fugitive Emission</td>
<td>ISO 15848, TÜV, Shell MESC SPE 77-312</td>
</tr>
<tr>
<td>Testing</td>
<td>API 598</td>
</tr>
<tr>
<td>Marking</td>
<td>CE, MSS-SP-25</td>
</tr>
<tr>
<td>Topworks</td>
<td>ISO 5210</td>
</tr>
</tbody>
</table>

CUSTOMER REQUIREMENTS

Produced project by project based on customer requirements:
- Valves can be supplied in a variety of materials and are also available in accordance with DIN standards
- Valves can be supplied with a variety of sealing materials, including Viton A, FFKM or even PTFE
- Stem extensions and gas column for cryogenic service
- Valves can be adjusted for underground service
- Valves can be supplied with handwheel, gearbox, electric actuator, pneumatic actuator, hydraulic actuator or any other actuation requested

- Various bleed systems based on request
  Automatic body bleed, Manual bleed valve, Thermal relief upstream, Manual bleed and thermal relief, and more...

CONTACT US

info@controlseal.nl
sales@controlseal.nl
service@controlseal.nl
Farmsumerweg 43
P.O. box 330
9900AH Appingedam
the Netherlands
+31 596 652 222