

**DOUBLE BLOCK AND BLEED
DUAL EXPANDING
PLUG VALVE**



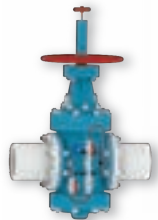
On/Off non-lubricated plug valve
Provable zero leakage

| | |
|-------------|----------------------------|
| Size | 1" ~ 42" (up to unlimited) |
| Bore | Reduced or full (piggable) |
| Pressure | 150# ~ 2500# |
| Temperature | -196°C ~ 250°C |
| Connections | Wide choice on request |
| Materials | Wide choice on request |



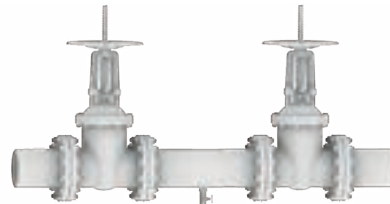
GENERAL INFORMATION

Single valve solution



Bleed system

Block valve



Bleed valve

- **Less space required**
- **Less weight**
- **Shorter drain times**
- **One actuator instead of two**

Characteristics:

- 100% tight shut off
- Friction-free opening and closing
- Pressure relief function
- Soft sealing
- In-line service
- Vertical or horizontal installation
- Wide choice of bleed systems

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
Thapline, Srirarcha Sanaburi pipeline

Hydrocarbon services

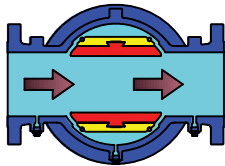
For safe and reliable shutoff
Shell Pernis

And many more...

HOW DBBV WORKS

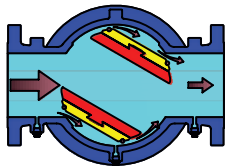
Open

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



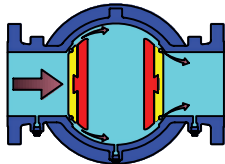
Start to close

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.



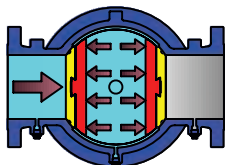
Expanding

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.

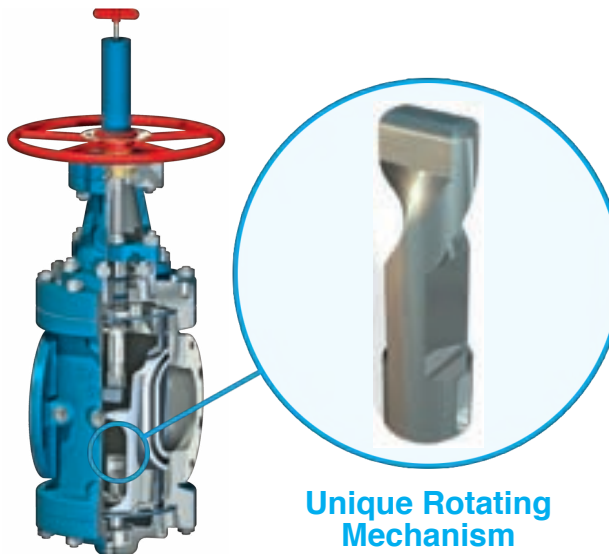


Double Block and Bleed

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



Unique Rotating Mechanism

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

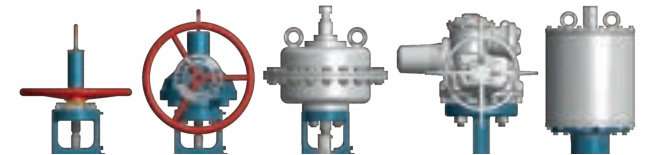
Stemguides and gland packings can be adjusted while the valve is in service.

Top and bottom service entry for slips exchange

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...



DESIGN STANDARDS

| | |
|-------------------------|--|
| Design | API 6D, ASME B16.34 |
| Face to Face dimensions | API 6D, ASME B16.10, B16.47 |
| Flanges | ASME B16.5, B16.25 |
| Fire Safe | ISO 10497, API 6FA, BS 6755 |
| Fugitive Emission | ISO 15848, TÜV, Shell MESG SPE 77-312 |
| Testing | API 598 |
| Marking | CE, MSS-SP-25 |
| Topworks | ISO 5210 |



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