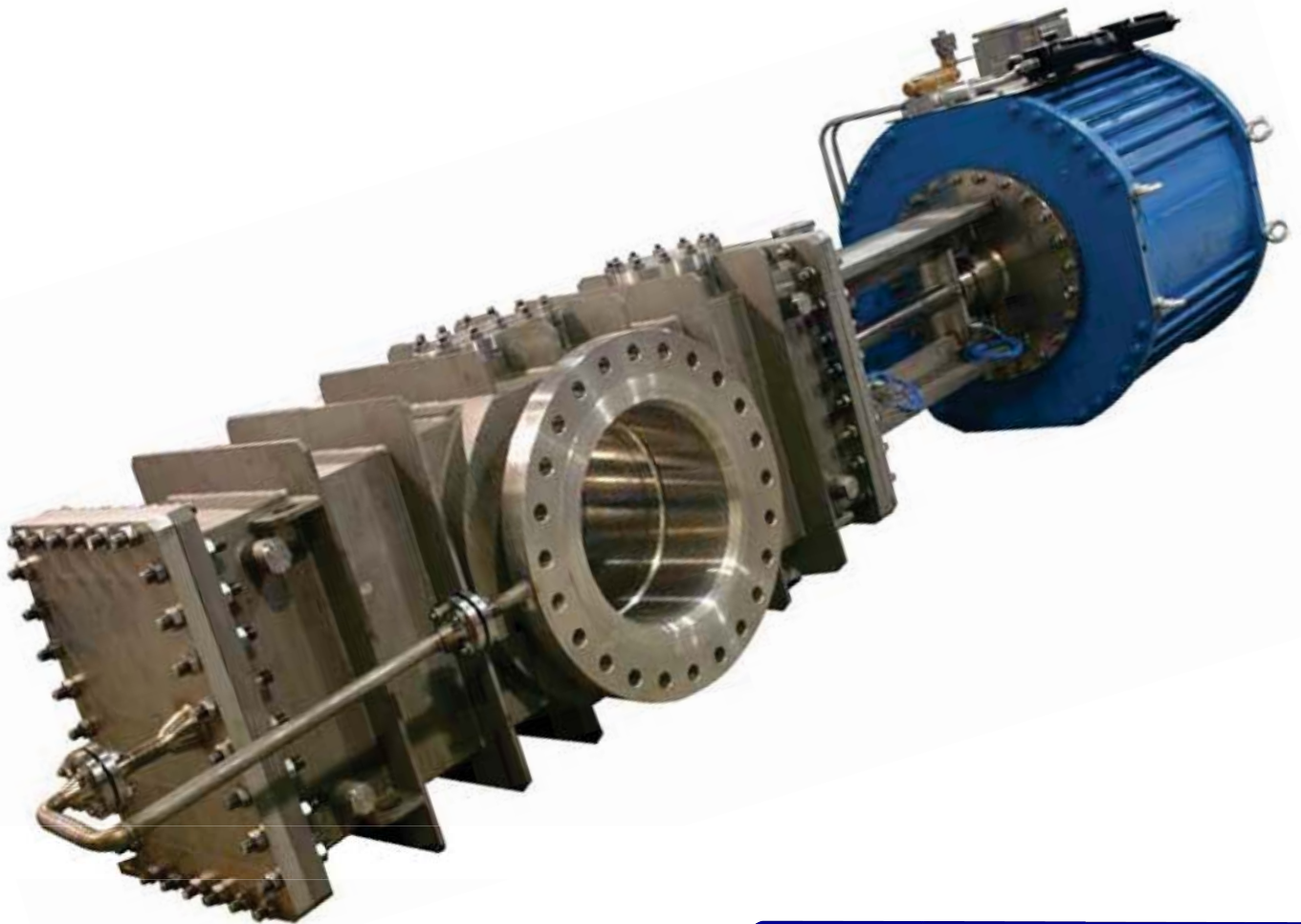


# VALVES FOR DELAYED COKING, ETHYLENE AND FCC CRACKING SERVICE

## SINGLE AND DOUBLE DISC GATE VALVES



*Strahman*  
**United Process Valves**  
Tradition Innovation Commitment

## COMPANY HISTORY

- The company was founded in 1986 under the name MG Industries.
- In 1992 the company became part of Fetterolf from the USA.  
The name changed to MG-Fetterolf
- In 2000 the two original French founders purchased the company back.  
The name changed to MG Process Valves.
- In 2004 the company became part of the Strahman group from the USA.  
The French company continued to operate under the name Strahman Valves France.
- In February 2019 Strahman Valves France acquired MGS,  
a former sub-contractor of Strahman Valves France  
MGS continued to operate under the name Strahman MGS.
- June 2023, GBS a French Holding owned by long time Strahman Valves  
France company directors Mr. Jean Francois Gallice, and Mr. Jan Willem Savelkoel  
together with business partner Mr. Xavier Bordier acquire  
100% of the shares of Strahman Valves France and Strahman MGS.  
Strahman Valves France was re-named Strahman United Process Valves.



Strahman United Process Valves designs and manufactures a wide range of custom designed valves for special applications. These applications demand reliable performance where high temperature, large diameters, jacketing, and/or special materials are required. Our solutions include metal-seated single gate slab gate valves, as well as double disc slab gate valves. These valves are primarily used for process isolation in the chemical and petro-chemical industries.

Typical applications include transfer line and decoking valves for ethylene cracking units and isolation applications in FCCU (fluid catalytic cracking unit) and DCU (delayed coker unit) plants. The safety and continuous production of process plants often depend on the reliability of these “key-equipment” valves.

## OUR MANUFACTURING CAPABILITIES

United Process Valves has been in the valve manufacturing business since 1986, and we have been designing and manufacturing special application gate valves for the last 30 years. Our two full service facilities located in Mery and Vaux sous Aubigny, France, are fully capable of performing every part of the manufacturing process in house. This gives us the flexibility to meet customers' demands and schedules. It allows us to closely monitor the quality of our products every step of the way.

United Process Valves Slab Gate Valves are designed by our experienced engineering staff using rigid flow analysis calculations. Every valve meets the customer's specific needs, with each design being the optimum solution for the application. United Process Valves achieves the highest product quality following our ISO 9001-2015 manufacturing processes.



United Process Valves Workshop Mery, France



TOS 7 Axes CNC horizontal boring Machine  
at our STRAHMAN MGS plant in Vaux Sous Aubigny,  
France.

# TECHNICAL & GENERAL INFORMATION

## DESIGN CODE & CONSTRUCTION

- Design flexibility due to fabricated construction
- Design according to ASME B16.34 as a standard
- United Process Valves designs to international standards like: ANSI, DIN, JIS, API etc.
- For product development, United Process Valves uses finite element calculations, in-house design and testing facilities and mechanical research laboratories for product development.

## CERTIFICATIONS

- ISO 9001 Compliant
- PED/ATEX/CE
- GOST R Certificate
- ISO 15848 1 & 2, low emission testing and certification available

## STANDARDS

- ASME B16.34 for design, manufacturing, control of raw materials and final testing of the valves
- ANSI/FCI 70-2 for leakage rates Class IV & V are available
- API 6 FA for fire tests
- ASTM for materials
- API and ANSI face to face are available

## CUSTOMER SUPPORT

United Process Valves provides customer support in the following areas

- **Design:** specific recommendation can be made for valve selection, sizing in polymer control, reactor cleaning and high viscosity flow capacity.
- **On site service:** Plant start up support by trained engineers
- **After sales service:** United Process Valves after sales department and worldwide agent network are committed to our 1 day reaction time policy.

## MATERIALS

**Wide range of material selections like:** Carbon Steel / Chromium Steel / Stainless Steel / Hastelloy® / Duplex.

## PRODUCTION METHOD

- Fully fabricated design
- \*cast design is also available

## TYPICAL APPLICATIONS FOR UNITED PROCESS VALVES SLAB GATE VALVES

- Main transfer and decoking lines of ethylene units
- Coal gasification units
- Regenerated Catalyst Service
- Recirculation Catalyst Service
- Flue Gas Lines
- Over head vapor lines

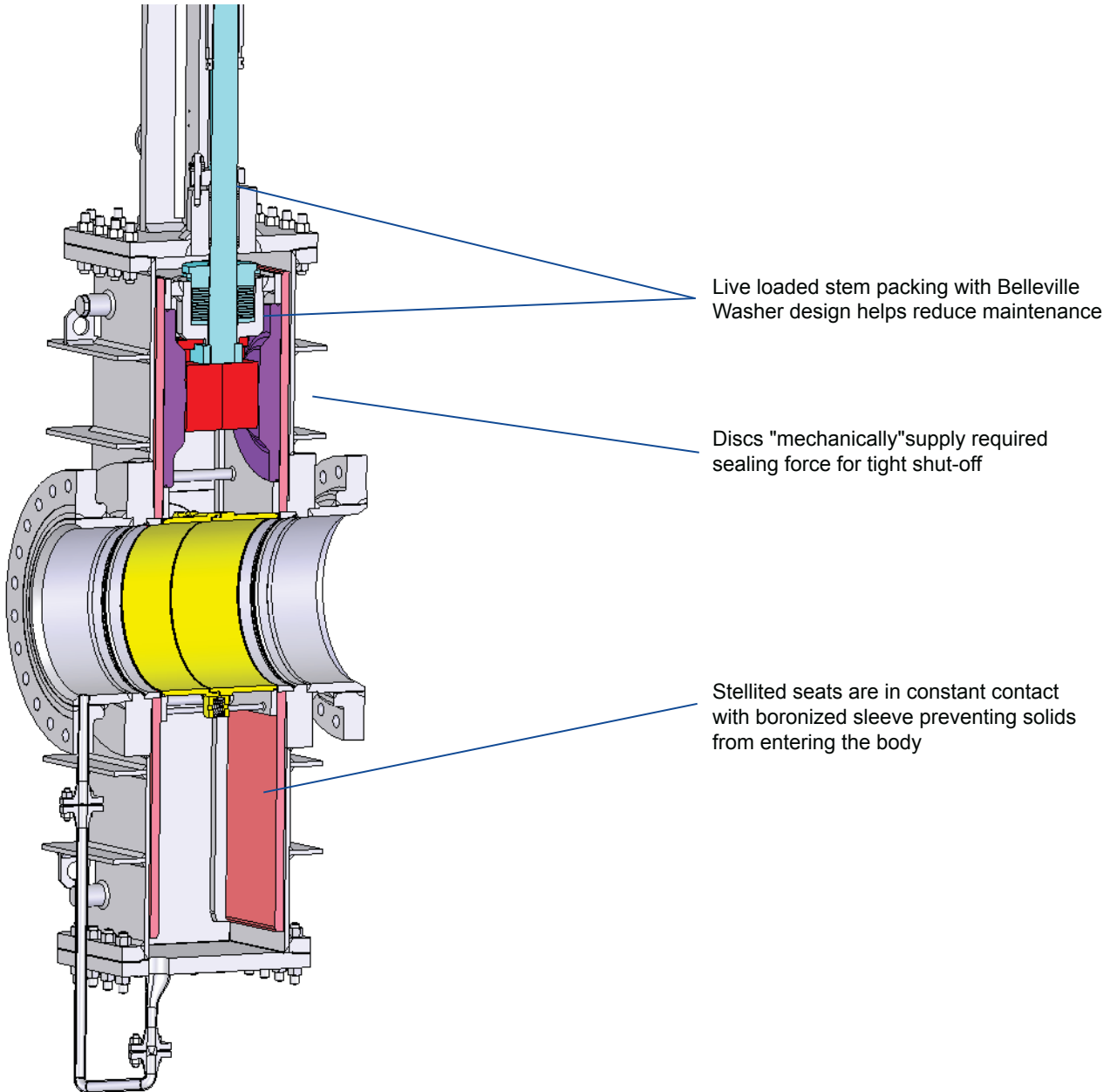
## TYPICAL APPLICATIONS FOR DOUBLE DISC THROUGH CONDUIT VALVES

- Coal gasification units
- Reactor Overhead Line (Fractionator Inlet)
- Fractionator Bottom Line (Fractionator Outlet)
- Regenerator Pressure Control
- FCCU-Overhead Line Isolation (Fractionators inlet)
- Bottom Line Isolation (Fractionators Bottom)
- Any Hot Gas or Catalyst Service

# UNITED PROCESS VALVES DOUBLE DISC DESIGN

## DESIGN FEATURES OF THE UNITED PROCESS VALVES DOUBLE DISC DESIGN

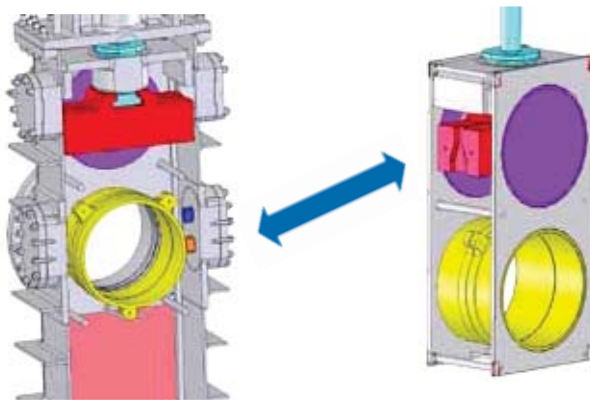
- Two independent sealing discs for true "Block and Bleed" functionality
- Steam Purged for 100% positive shut-off and inability for particles to enter the valve body or atmosphere
- Capable of remote operation for complete personnel safety
- Low maintenance design for uninterrupted operations between turnarounds
- Mechanical spreading mechanism that requires no additional force for long-term sealing capability
- Capable of manual operation for immediate operation



# UNITED PROCESS VALVES DOUBLE DISC DESIGN

## GENERAL DESCRIPTION FOR THROUGH CONDUIT VALVE DOUBLE DISC TYPE

- Designed for on/off service
- Fabricated body with full bore design
- Through conduit type in the open position: the body bore forms a straight tube eliminating dead space while creating a barrier keeping solids from entering the body cavity during operation of the valve
- Parallel metal stellite seats guarantees the tightness at high temperature along with weld resistant overlay on body seats provide the necessary corrosion protection. The discs are also hard surface treated to prolong service life
- Sealing surfaces on the seats and discs are protected from flow in the open position limiting erosion and deposits on the body seats
- Positive tight shut off in closed position
- Yoke type with out side screw and bolted bonnet



Double Disk Spreading Mechanism

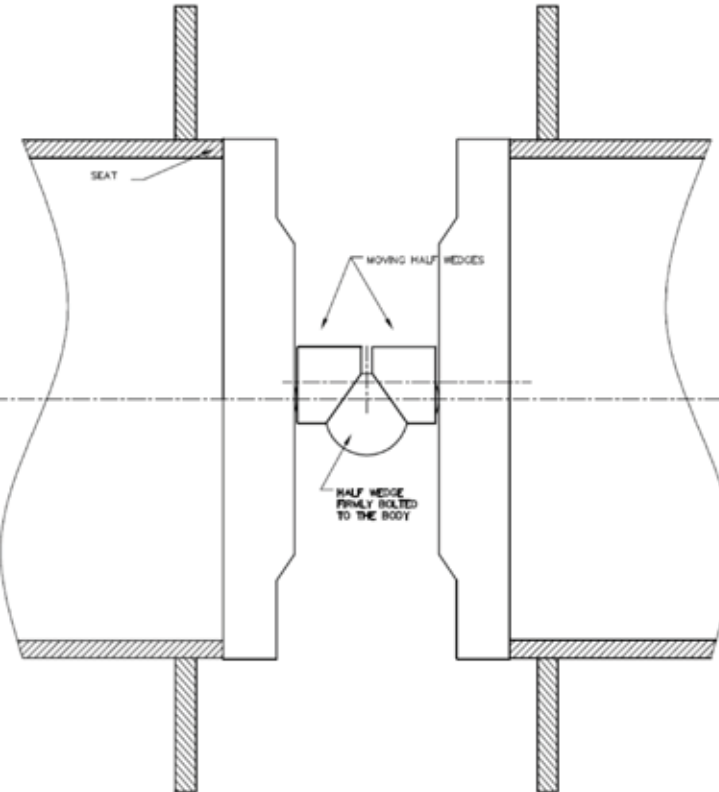
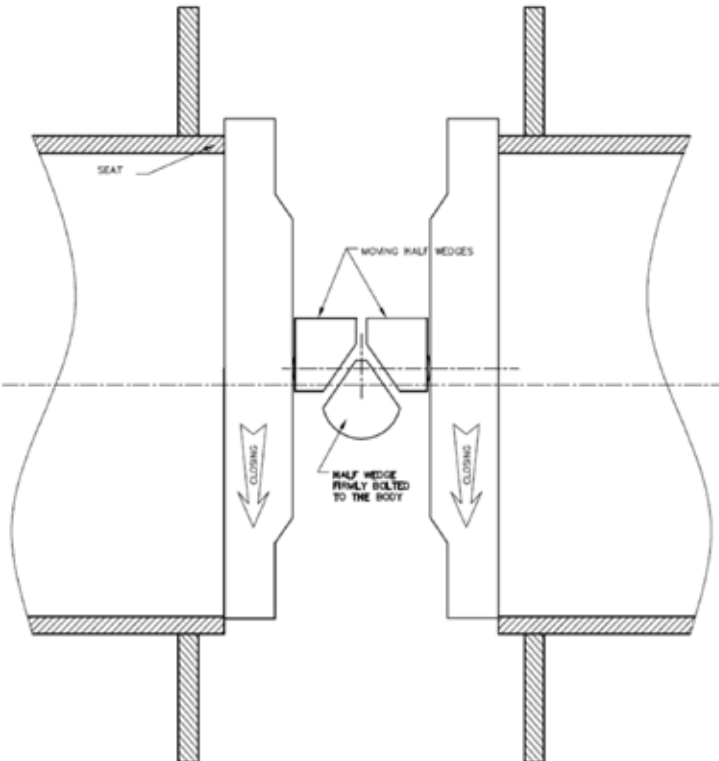
## THE UNITED PROCESS VALVES COMPETITIVE ADVANTAGE

The double disc gate valve has two separate stellite discs and two removable stellite seats rings; these discs are moving between two guides plates; when the two discs are in closed position, a flexible wedges system which is located and fixed on the side of the cavity body applies the necessary seating forces on the two discs to obtain the necessary tightness against the seats. This design feature offers the solution to other designs that are known to become jammed due to high temperatures and the “sticking” of the discs. These discs are then “dragged” along the seats without the proper release damaging the seats and making it very problematic to seat again without using excessive amounts of steam.

A superior purging system has also been implemented with additional steam paths around the wedges system to eliminate possible coke build-up. Additional purging ports can be designed as recommended during the design phase for maximum purging efficiency.

When the valve is in open position the flexible bellow located on the pipe is reinforced by 3 outside graphite rings which push the 2 parts of the pipe against the body seats creating a tight seal. This design improvement solves the common problem with other designs having the body cavity filled with coke blocking the discs in half position.

# UNITED PROCESS VALVES DOUBLE DISC DESIGN



# UNITED PROCESS VALVES DOUBLE DISC DESIGN TECHNICAL & GENERAL INFORMATION

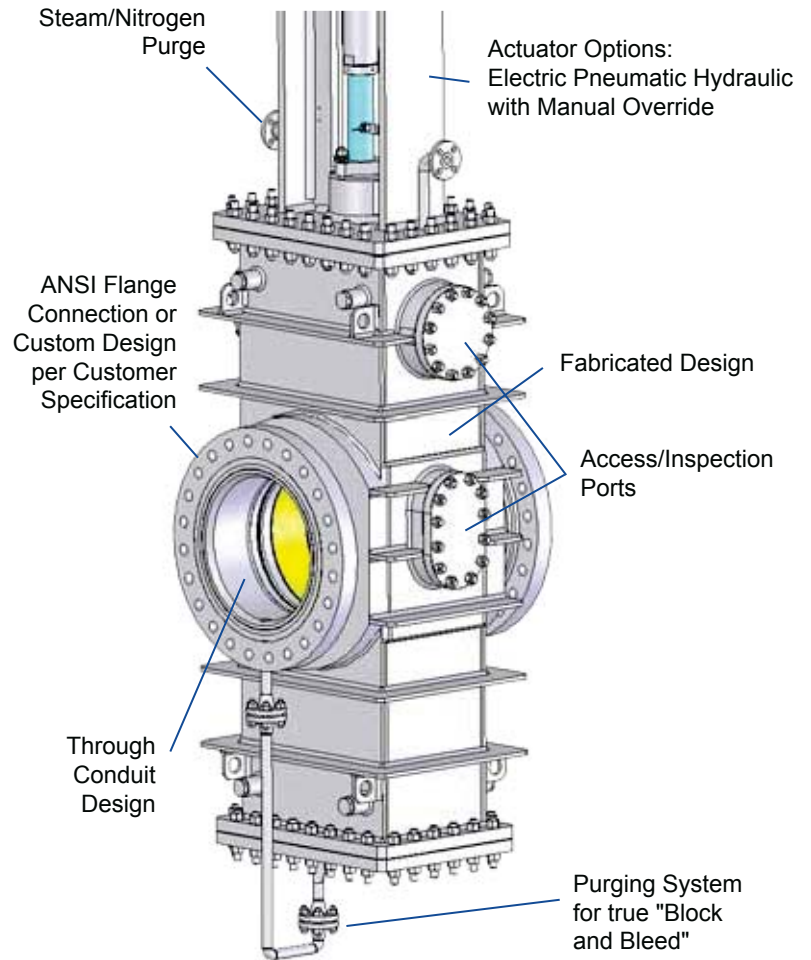
## PROCESS MEDIUM

Suitable for Gases and fluids with high solid particle content reaching temperatures of 815°C (1500°F)

### RANGE DEFINITION

MANUFACTURING RANGE	PN 10/20 - 150 lb	PN 40/50 - 300 lb	PN 100 - 600 lb	PN 150/160 - 900 lb	PN 250 - 1500 lb	PN 420 - 2500 lb	PN 630 - 4500 lb
3/8" - DIN10							
1/2" - DIN15							
3/4" - DIN20							
1" - DIN25							
1 1/4" - DIN32							
1 1/2" - DIN40							
2" - DIN50							
2 1/2" - DIN65							
3" - DIN80							
4" - DIN100							
5" - DIN125							
6" - DIN150							
8" - DIN200							
10" - DIN250							
12" - DIN300							
14" - DIN350							
16" - DIN400							
18" - DIN450							
20" - DIN500							
24" - DIN600							
28" - DIN700							
32" - DN800							
36" - DN900							
40" - DN1000							
44" - DN1100							
48" - DN1200							

### STRAHMAN DOUBLE DISC DESIGN



# UNITED PROCESS VALVES SINGLE SLAB GATE DESIGN TECHNICAL INFORMATION

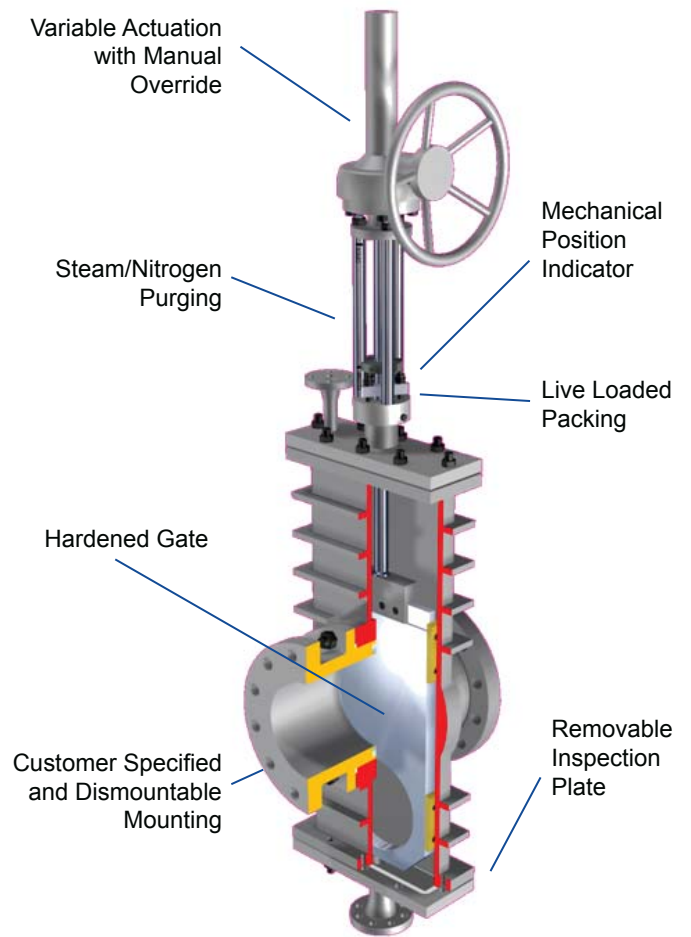
## DESIGN FEATURES OF THE STRAHMAN SINGLE DISC DESIGN

- The gate and seats are in constant contact to keep particles out of the valve body
- Steam purged for 100% positive shut off
- Capable of remote operation for complete personnel safety
- Low maintenance design for uninterrupted operations between turnarounds
- Can be electric, hydraulic, or even pneumatically operated with Manual override

## RANGE DEFINITION

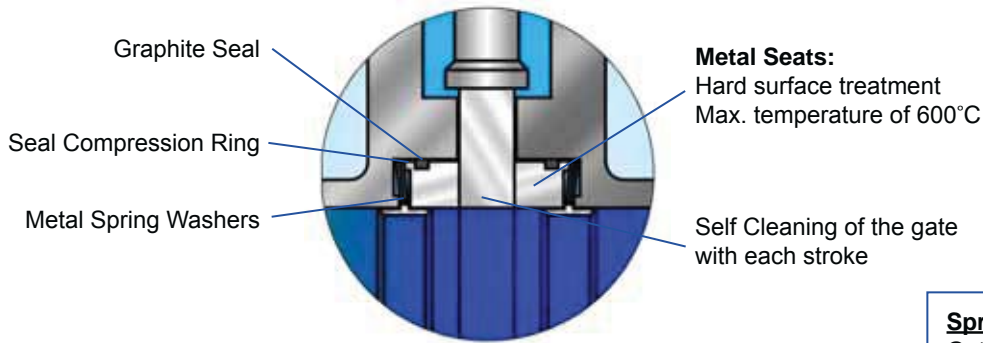
MANUFACTURING RANGE	PN 10/20 - 150 lb	PN 40/50 - 300 lb	PN 100 - 600 lb	PN 150/160 - 900 lb	PN 250 - 1500 lb	PN 420 - 2500 lb	PN 630 - 4500 lb
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44" - DN1100							
48" - DN1200							

## UNITED PROCESS VALVES SINGLE DISC DESIGN





## UNITED PROCESS VALVES SINGLE SLAB GATE DESIGN



### **Spring-loaded seats**

Gate to seat sealing: metal to metal  
Spring arrangement: Metal spring washers  
Bi-directional valve  
Replaceable seats

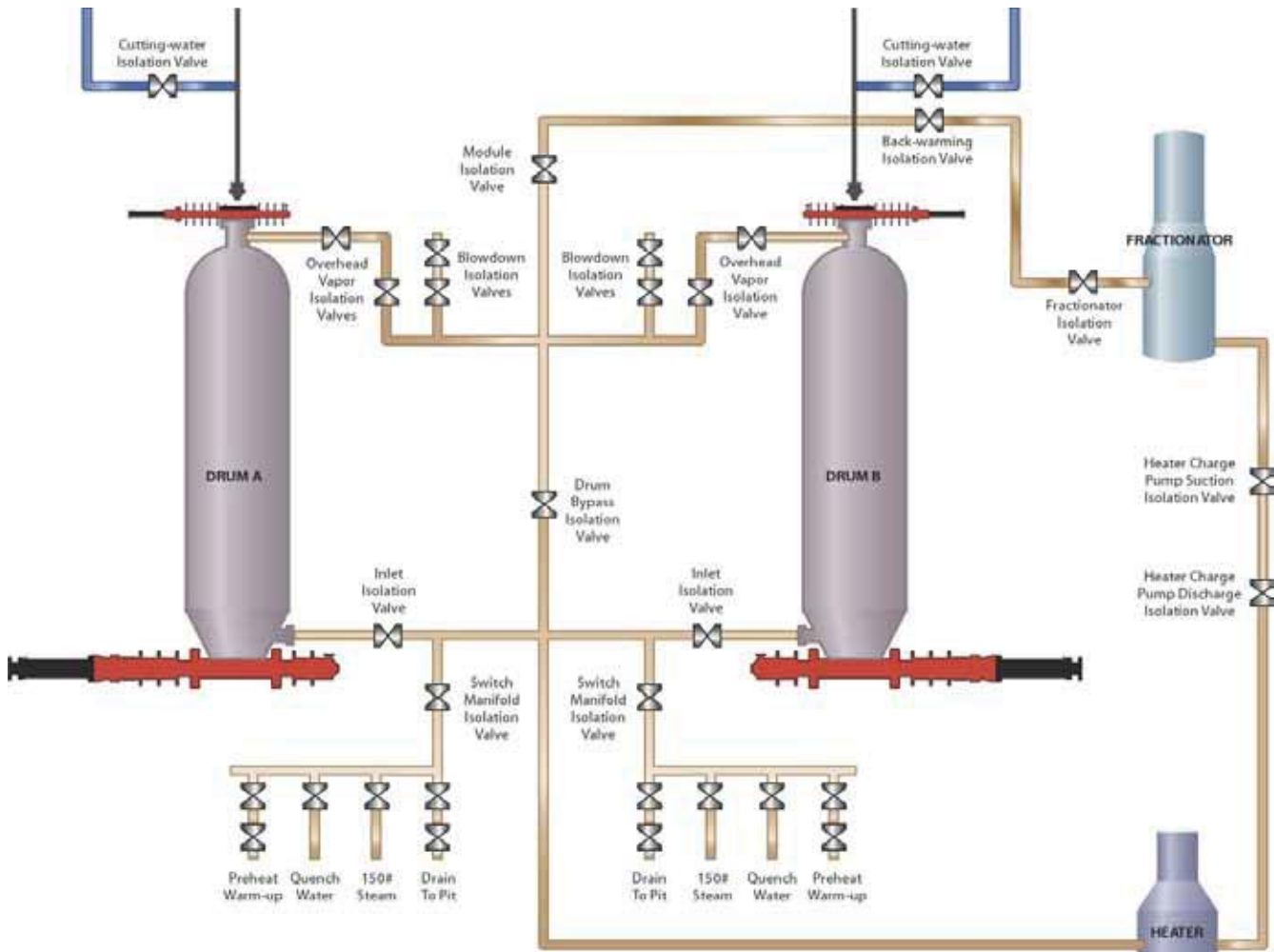
## THE UNITED PROCESS VALVES COMPETITIVE ADVANTAGE

Our Single or "Slab" gate design provides the end user with a long term reliable solution for line isolation. The flexibility of the slab gate design including flange connections, materials of construction, and the choice of actuation whether it is best suited for hydraulic, electric, pneumatic, or hand wheel gear operation will fit the needs of design engineers. The slab gate design also offers a much smaller footprint and can bring a substantial weight savings over the traditional ball valves and wedge style gate valves. These valves also eliminate the concerns of failure caused by a "sticky" ball or wedge gate and can be repaired at a much lower cost and much less frequently as traditional valves. The combination of the constant cleaning of the gate surface with every stroke along with the constant steam purge system plays a significant role in the low maintenance design and longevity of the valve.



# UNITED PROCESS VALVES DOUBLE DISC AND SLAB GATE DESIGNS

THE TYPICAL DESIGN OF THE MODERN DELAYED COKING UNIT

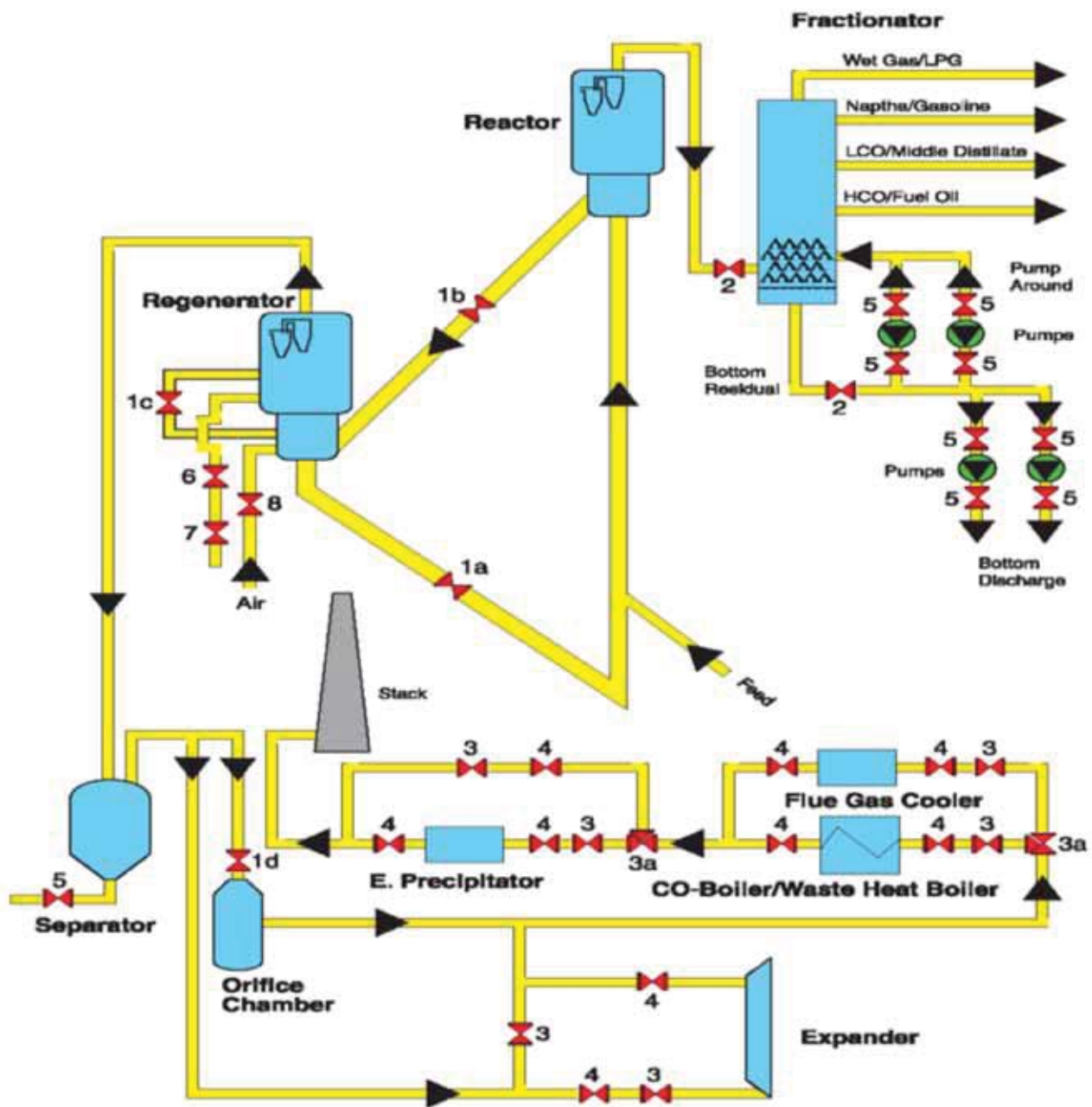


DOUBLE DISC AND SLAB GATE REFINERY APPLICATIONS INCLUDE:

- Transfer Lines
- Quench Oil Lines
- Blow Down Isolation
- Regenerator Flue Gas
- Furnace Isolation
- Flue Gas Pressure Control
- Inlet Feed Line Isolation
- Decoking Lines
- Over Head Vapor Lines
- Cutting Water Isolation
- Fractionator Isolation
- Catalyst Shutoff
- Cutting Water Isolation
- Ethylene Service

# UNITED PROCESS VALVES DOUBLE DISC AND SLAB GATE DESIGNS

THE TYPICAL DESIGN OF THE MODERN FLUID CATALYTIC CONVERTER UNIT



The Strahman United Process Valves products include:

#### **PISTON TYPE SAMPLING VALVES**

Strahman United Process Valves has a full line of sampling valves that produce live samples without exception. Our sampling valves unique design prevent failure caused by sediment or clogging.

#### **PISTON TYPE DRAIN VALVES**

Strahman United Process Valves Drain Valves are designed to prevent clogging. They are ideal for use in liquid and gas service or with slurries, polymers, and high viscosity fluids that tend to solidify at room temperature.

#### **PISTON & DISC TYPE IN-LINE VALVES**

Strahman United Process Valves Piston and Disc Type In-Line Valves alternative to a failing ball, plug or gate valve. With a wide range of positive sealing systems like M Seal, M Ring Seal and M Control, these valves provide superior in-line tightness. When opening the piston or disc it retracts completely into the valve body providing an unrestricted full flow

#### **PISTON & DISC TYPE DIVERTER VALVES**

Strahman United Process Valves Diverter Valves are designed to divert process flows with high and low viscosity. They are dead space free to prevent clogging. They are ideal for use in liquid and gas service or with slurries, polymers, and high viscosity fluids that tend to solidify at room temperature.

#### **SINGLE & DOUBLE DISC SLAB GATE VALVES**

Strahman United Process Valves Single & Double Disc Slab Gate Valves are specifically designed for use in transfer line and decoking valves for ethylene cracking units and isolation applications in FCCU (fluid catalytic cracking unit) and DCU (delayed coker unit) plants. The safety and continuous production of process plants often depend on the reliability of these "key-equipment" valves.

#### **LINE BLINDS**

Strahman United Process Valves Line Blinds provide zero leakage down stream and total isolation on process pipelines, vessels, and maritime applications. No pipeline movement is required when blind position is changed.

Please contact your local Strahman United Process Valves representative  
for further details or

visit our website : [www.strahman-unityprocessvalves.com](http://www.strahman-unityprocessvalves.com)



Established 1986

Strahman United Process Valves France  
136 rue Sommeiller, ZA Savoie Hexapole  
F-73420, Mery, France  
Tel: + 33 4 79 35 78 00  
E-Mail: [upvsales@upvalves.com](mailto:upvsales@upvalves.com)

Strahman United Process Valves German Office  
Allerheiligenstrasse 69  
D-77855 Achern, Germany  
Tel: +49 (0) 170 9766629

Strahman United Process Valves Shanghai, China Office  
Tel: +86 189 1751 7369

ISO 9001 Certified

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