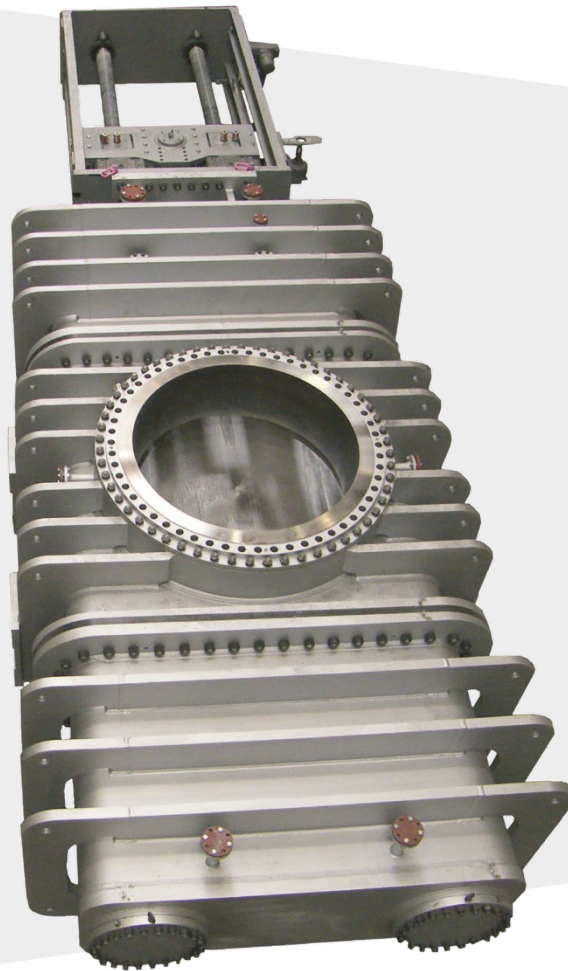


Delayed Coking Bottom Unheading



Engineering
GREAT Solutions

True Double Block and Purge

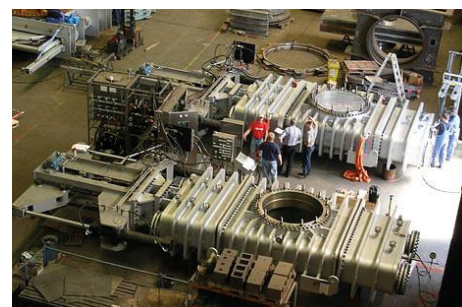
Delayed Coking Bottom Unheading Device (BUD)

IMI Z&J have been a manufacturer of large diameter valves for more than 135 years, with thousands of double disc installations worldwide in severe refining and petrochemical applications such as Fluidised Catalytic Cracking, Ethylene and since 2004 Delayed Coking.

Our deep expertise and experience of the Delayed Coking process has ensured that we have designed the most robust, safe and cost-effective solution for this complex and challenging application. The double discs provide the highest safety level of any design. Compared to a single gate valve a double disc valve offers the advantage of ultra-low steam consumption and longer lifetime. This makes the double disc design not only the safest but also the most cost-effective plant life solution for automatic coke drum unheading.



No maintenance required for over ten years

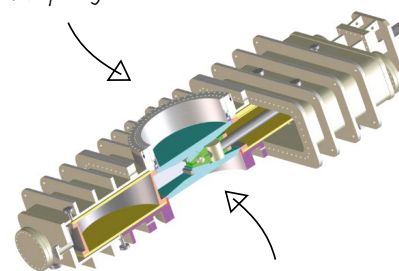


Expertise in manufacturing large valves

Key features

- > Two independent discs - limited thermal distortion, less steam and less erosion
- > Two independent discs - true double block and Purge performance
- > Active mechanical seating force for high tightness
- > Corrosion and wear resistant hard-faced seats
- > Guided carrier between two plates preventing coke fines in valve body
- > No cooling water required
- > Easy inspection of upper seat & disc
- > Minimal spare parts
- > 100% actuator redundancy
- > Actuator options: Electric or Hydraulic
- > Low potential for hydrocarbons escaping to the atmosphere

True double block and purge



Steam pressure between the two discs provides additional seating force

Benefits

- > **Safety**
 - Fully remote operation, no operator on deck during unheading
 - True double block & purge - with two independent discs providing individual sealing
- > **Reliability**
 - Well proven design
 - No maintenance for over 10 years
- > **Efficiency**
 - Cycle time reduction giving optimised production output
- > **Environment**
 - Low to no emission of hydrocarbons to the atmosphere
- > **Cost Savings**
 - Low maintenance with minimal downtime
 - Low steam consumption
 - On deck maintenance
 - Easy access to all internal parts
 - Easy maintenance

Product Specification - Electric actuated BUD

Dimensions

L 9700 mm x W 2920 mm x H 1308 mm
(face to face)

L 382" x W 115" x H 51.5" (face to face)

Weight

61500 kg / 135600 lbs

Electric Motor

Multi turn valve actuator 30 kW / 40 HP
off the shelf, maintenance-free including
motor control

Power supply

400 VAC / 50 Hz / 3 Ph

Ambient temperature

-40 °C to + 60 °C / -40 °F to 140 °F

Area classification

According to project/customer requirements

Back-up

Pneumatic driven operation

Output thrust

2800 kN / 400000 lbf

Product Specification - Hydraulic actuated BUD

Compact Dual Cylinder

Dimensions

L 10980 mm x W 2920 mm x H 1308 mm
(face to face)

L 432" x W 115" x H 52" (face to face)

Weight

66600 kg | 147000 lbs

Hydraulic actuator

2 Heavy duty hydraulic cylinders
Ø 260 mm / 10.25"

Wide Dual Cylinder

Dimensions

L 10215 mm x W 4166 mm x H 1308 mm
(face to face)

L 402" x W 164" x H 52" (face to face)

Weight

68100 kg | 150000 lbs

Hydraulic actuator

2 Heavy duty hydraulic cylinders
Ø 260 mm / 10.25"

Valid for all hydraulic actuators

Ambient temperature

-40 °C to + 60 °C / -40 °F to 140 °F

Operating pressure

200 bar | 2900 psi

Protection

According to customer specifications e.g.
Explosive Protection, ATEX, GOST

Back-up

Pneumatic driven operation

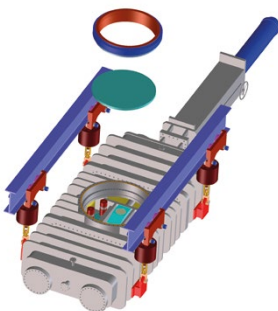
Output thrust

2800 kN | 450000 lbf

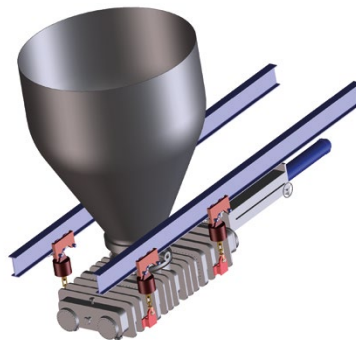
HPU Power Supply

400 VAC / 50 Hz / 3 Ph, 30 kW / 40 HP

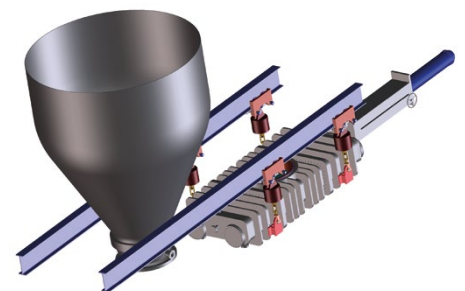
Further technical details - Inspection / maintenance



Only 2 parts to remove



*On deck maintenance system
Operating position*



*On deck maintenance system
Inspection position*

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