



Zimmermann & Jansen



**Innovative Coker Unit
De-heading / Un-heading
and
Isolation Valves**

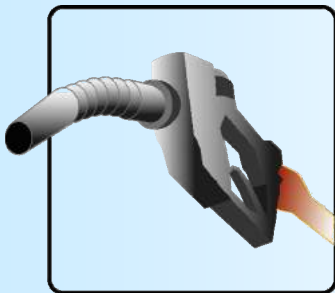


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What sets Z&J apart from others?

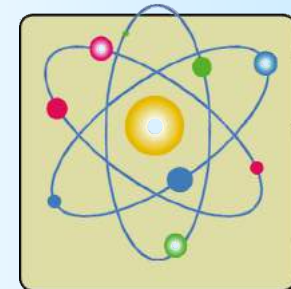
Experience with specialty valves and equipment for different industries



Refining



Petrochemical



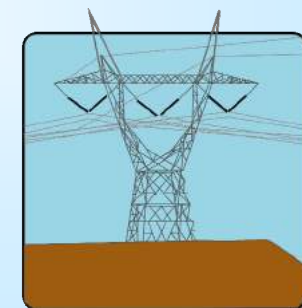
Chemical



Glass



Steel



Power



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Company Profile

- 125 years of experience in specific valve applications
- In house design & engineering facilities
- Certified fabrication facilities – fully integrated
- Certified quality management system
- Field and shop service capabilities
- Extensive testing facilities



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Company Profile

World wide design, manufacturing and service
in our Group of Companies



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Leader in Valve Technology

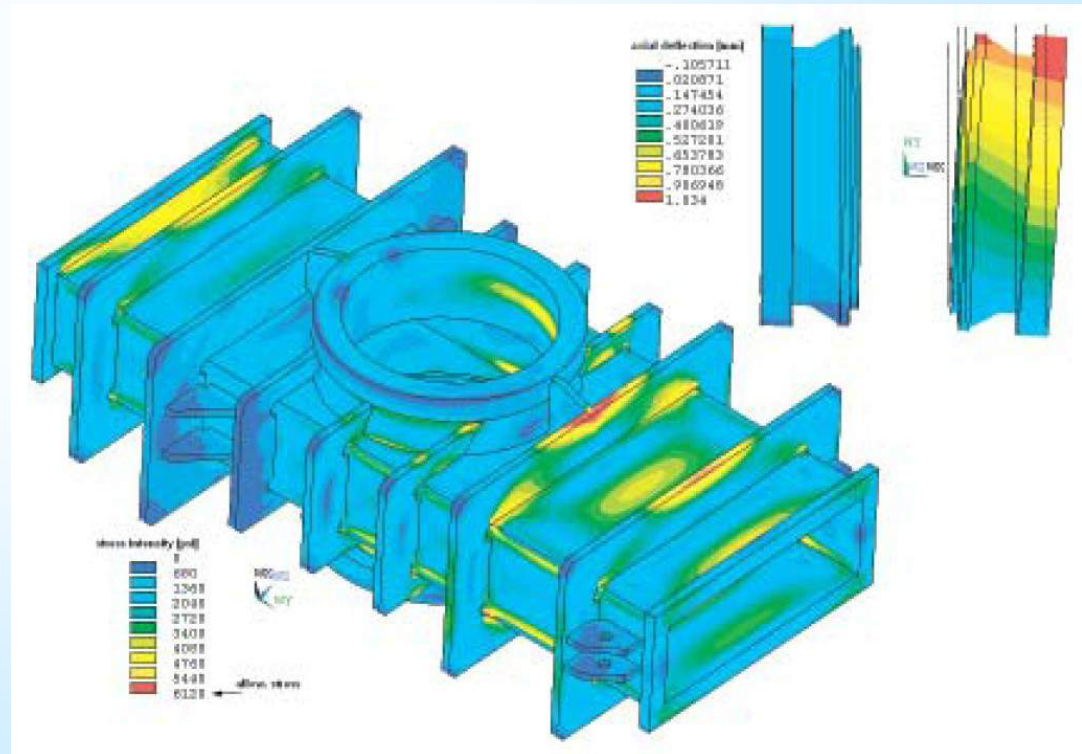
- **Speciality Engineering and Manufacturing**
- **Critical/Severe Service Conditions**
- **Large Diameter Designs**
- **High Temperature Service Conditions**



Design Philosophy

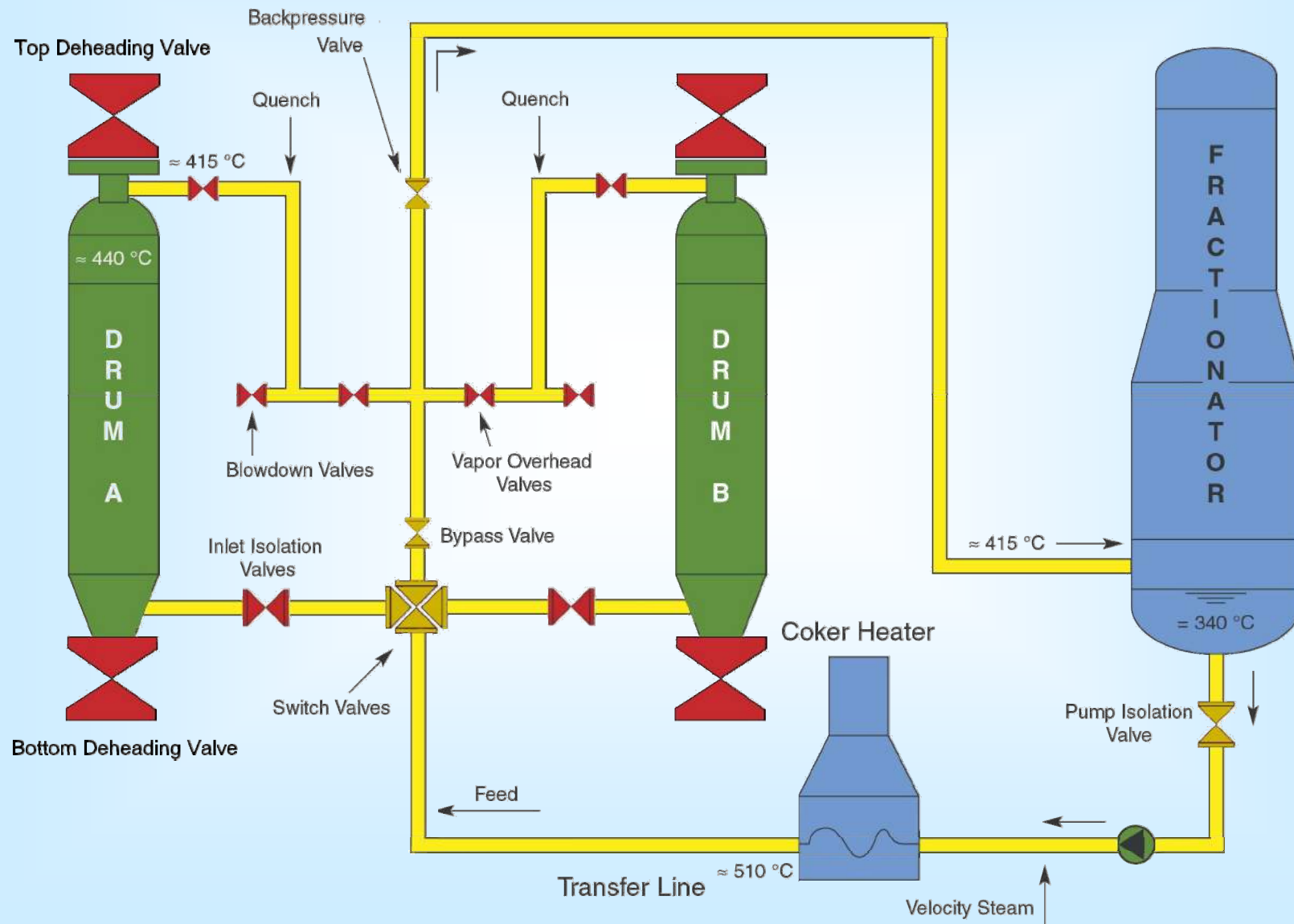
Z&J utilizes the latest and most advanced design and engineering methodologies available on the market today.

- **FEA / FEM**
 - stress
 - deflection
 - temperature
- Flow analysis
- Fatigue analysis
- Various types of conventional calculations





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Automatic Coke Drum De-heading

Bottom Valve



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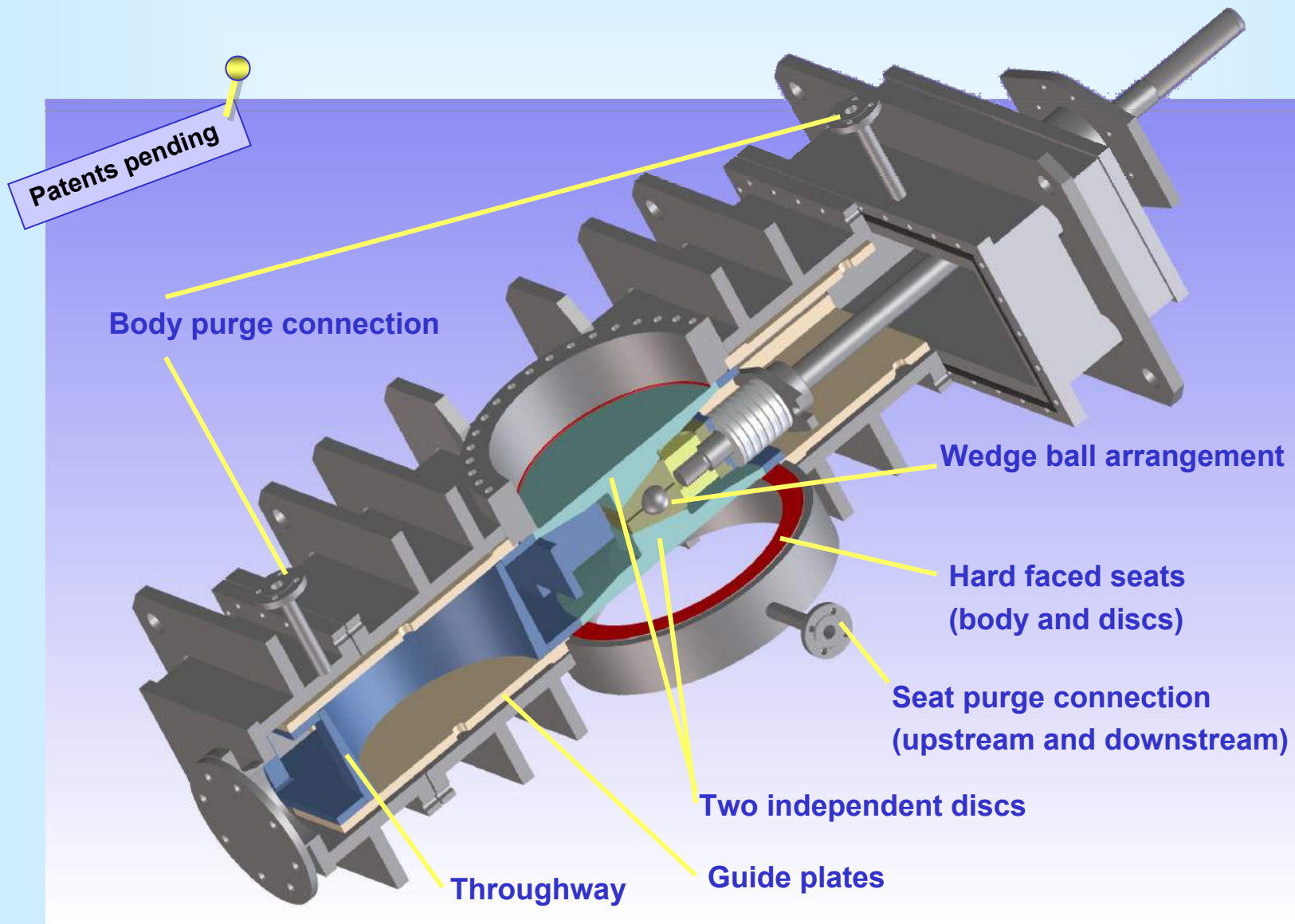


Z&J Double Disc Through Conduit Gate Valve



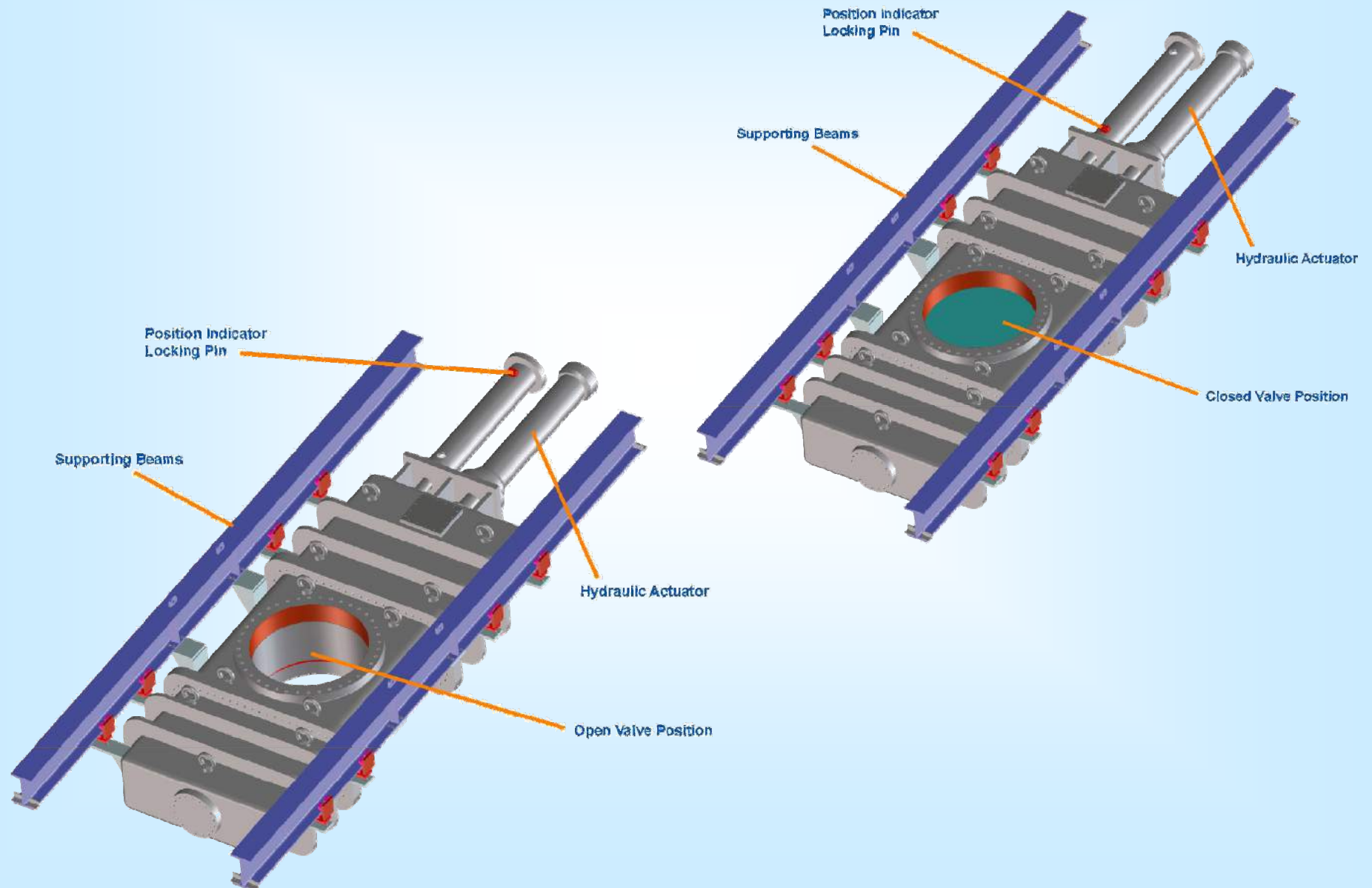


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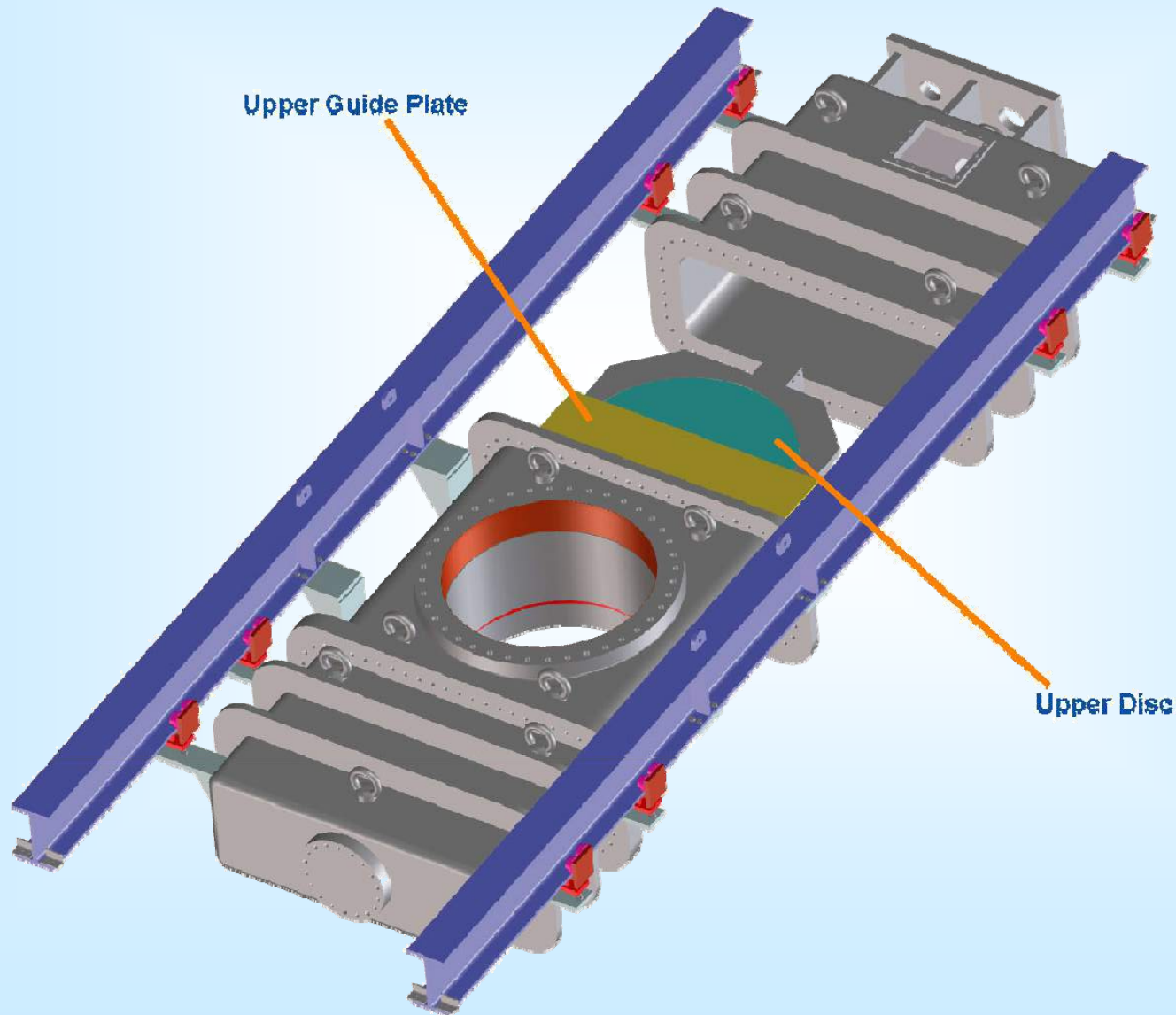


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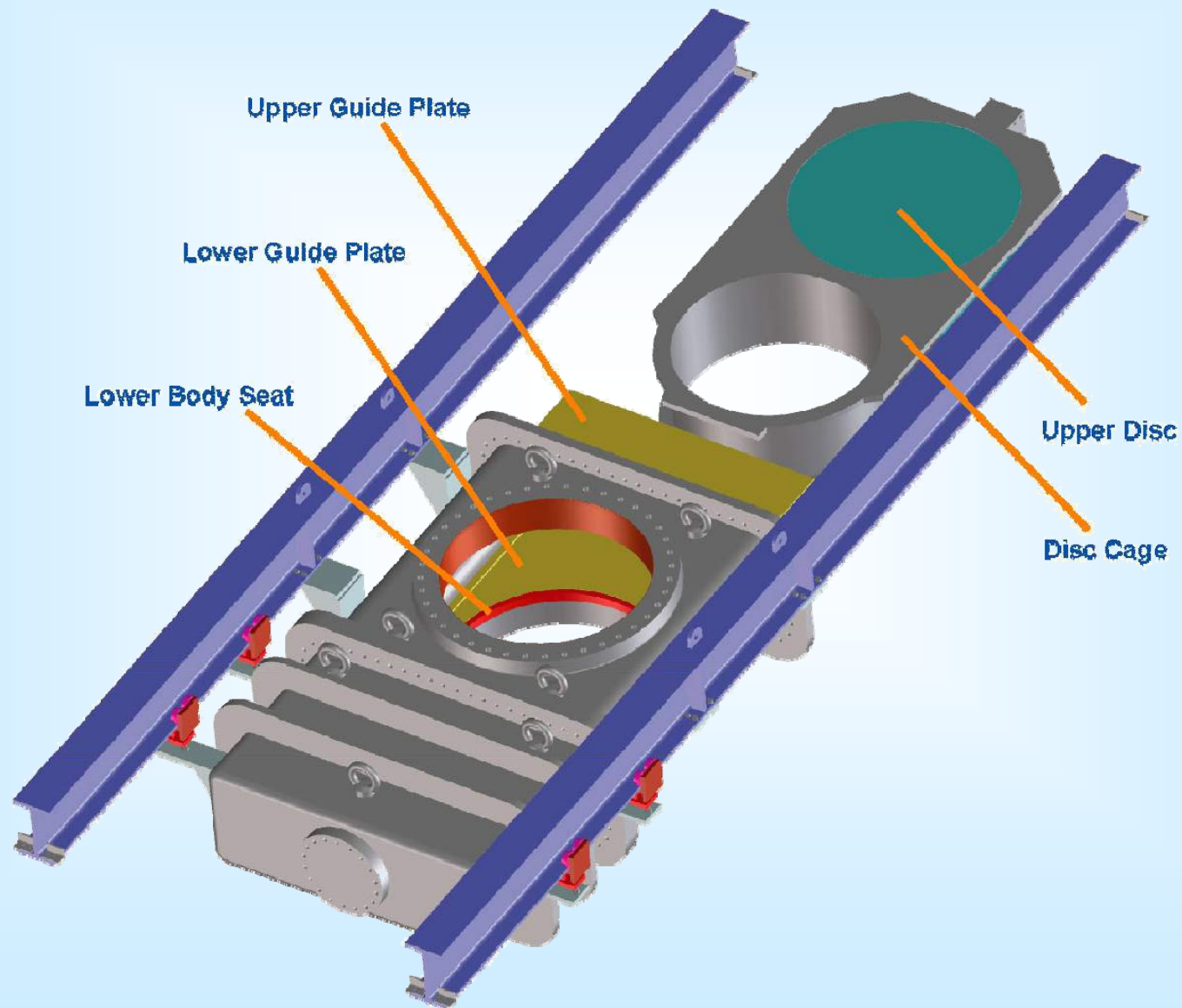


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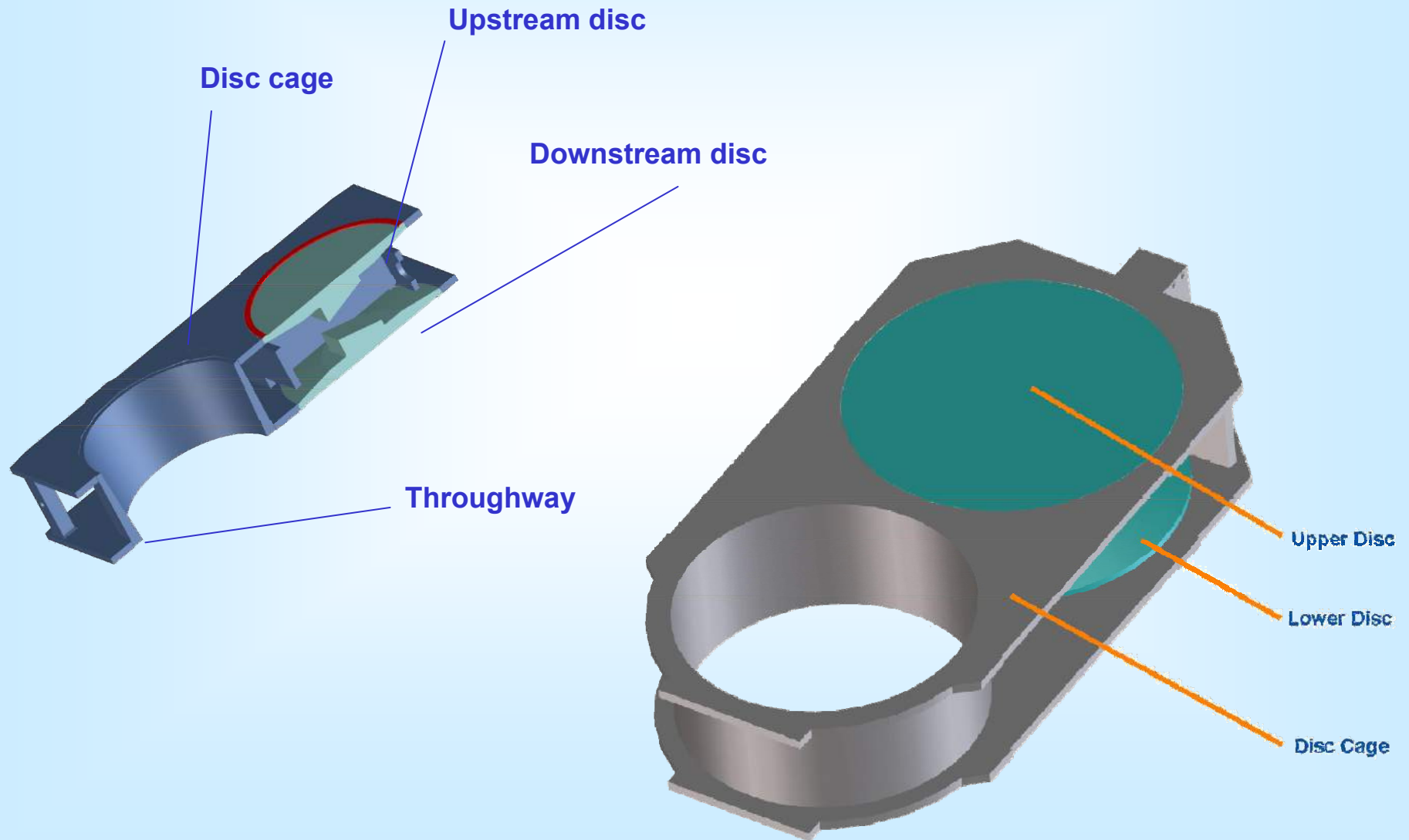


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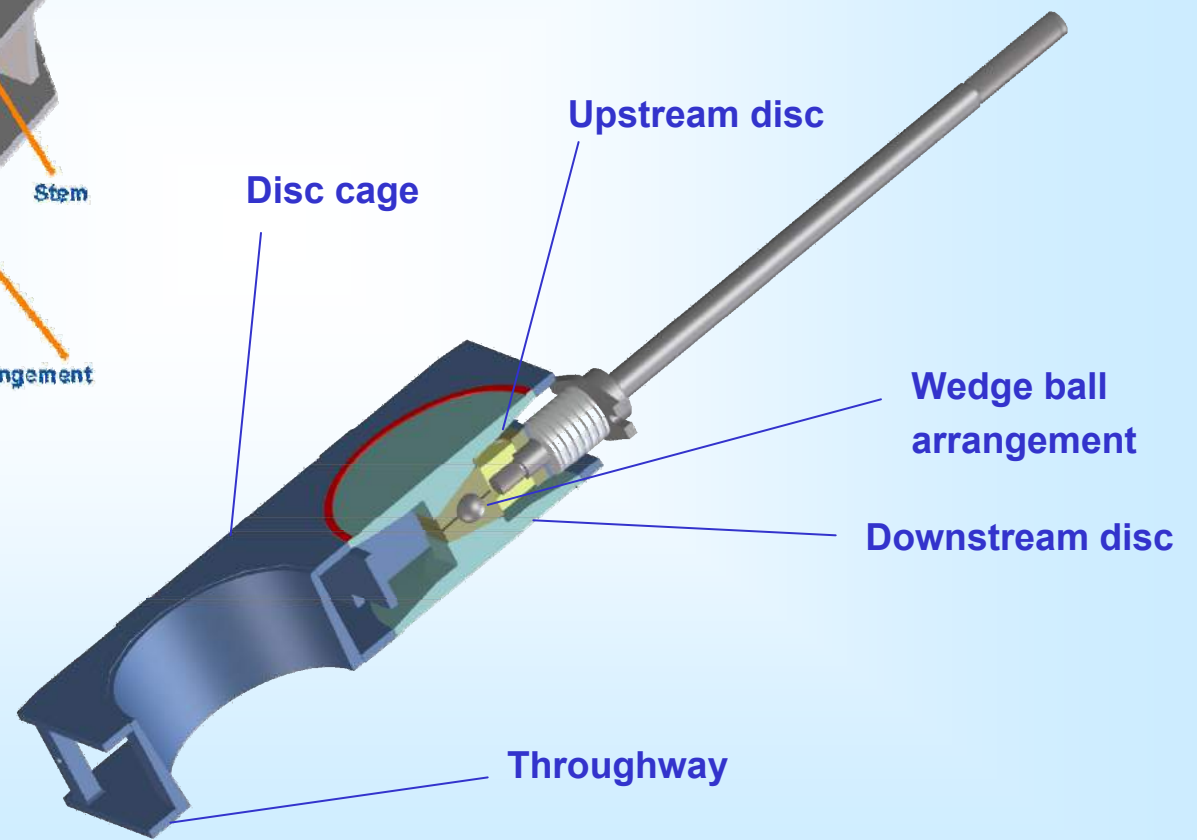
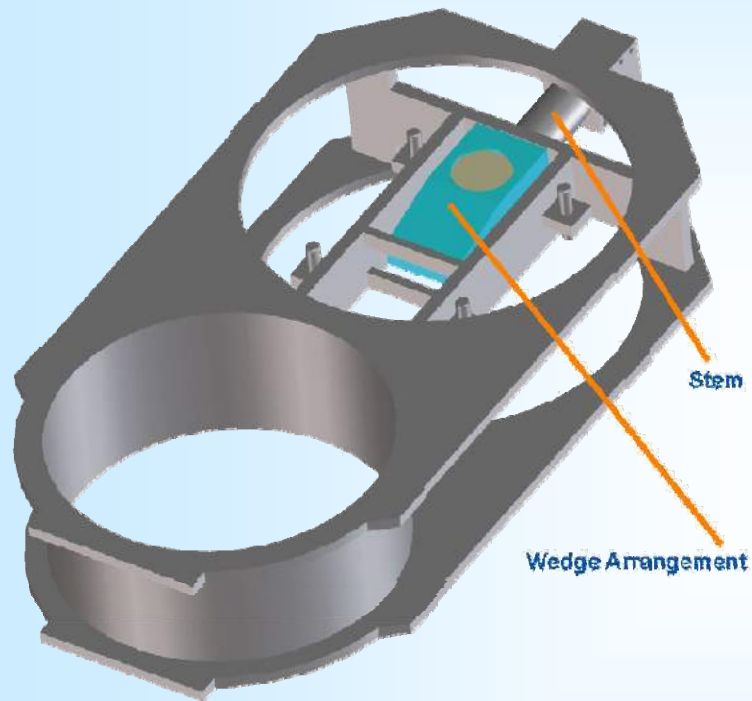


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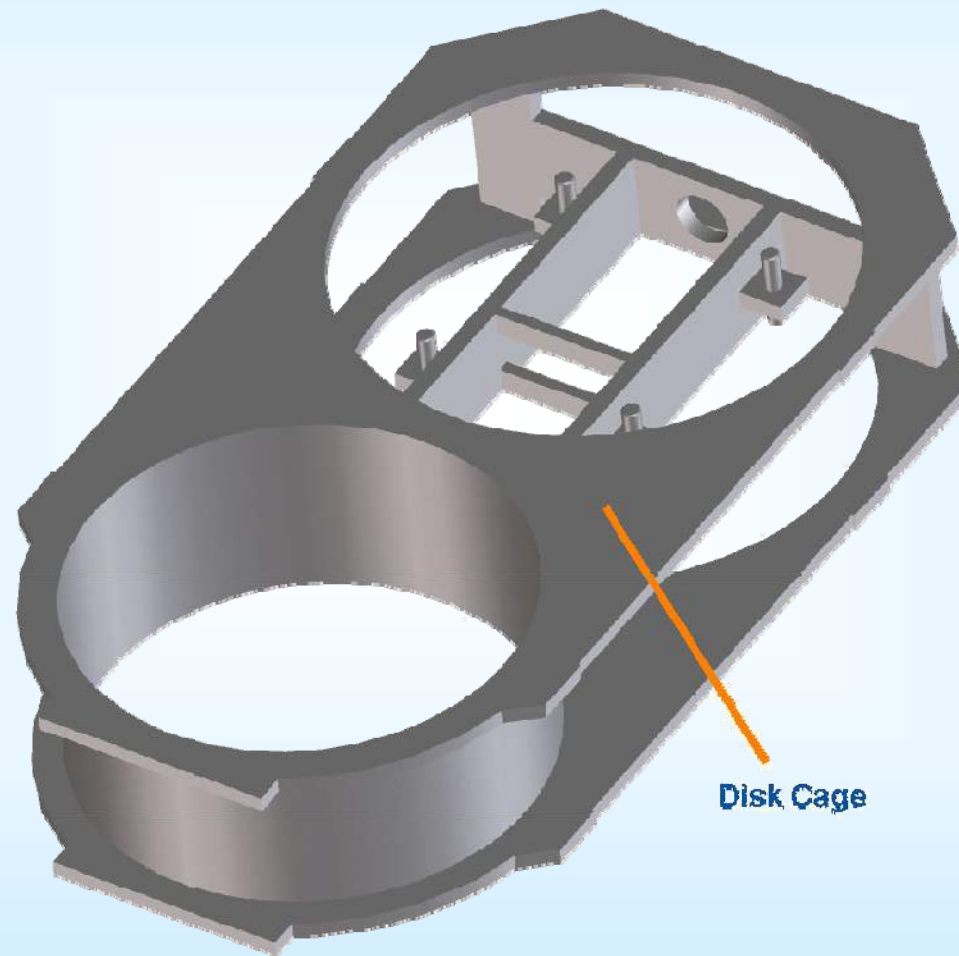


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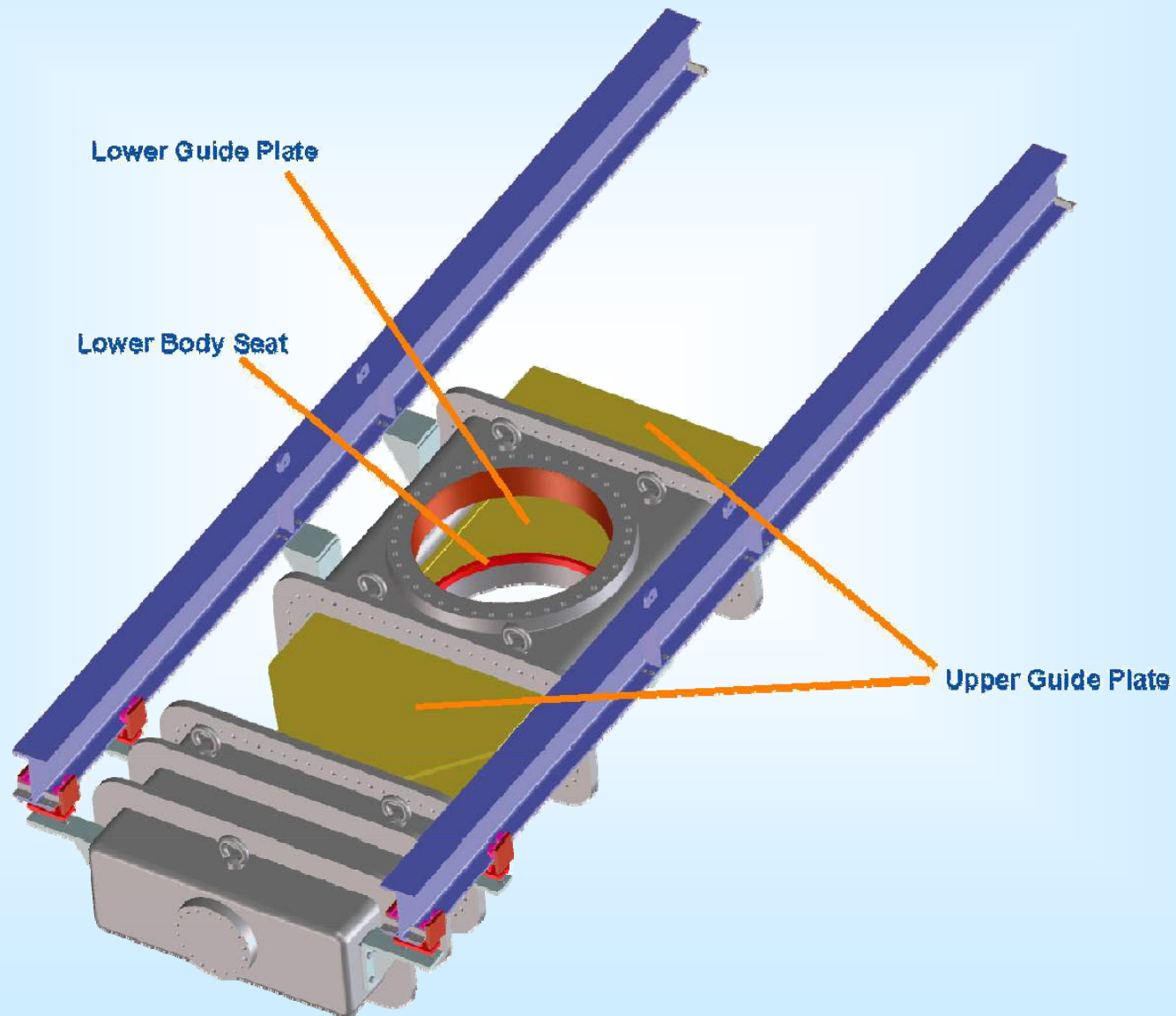


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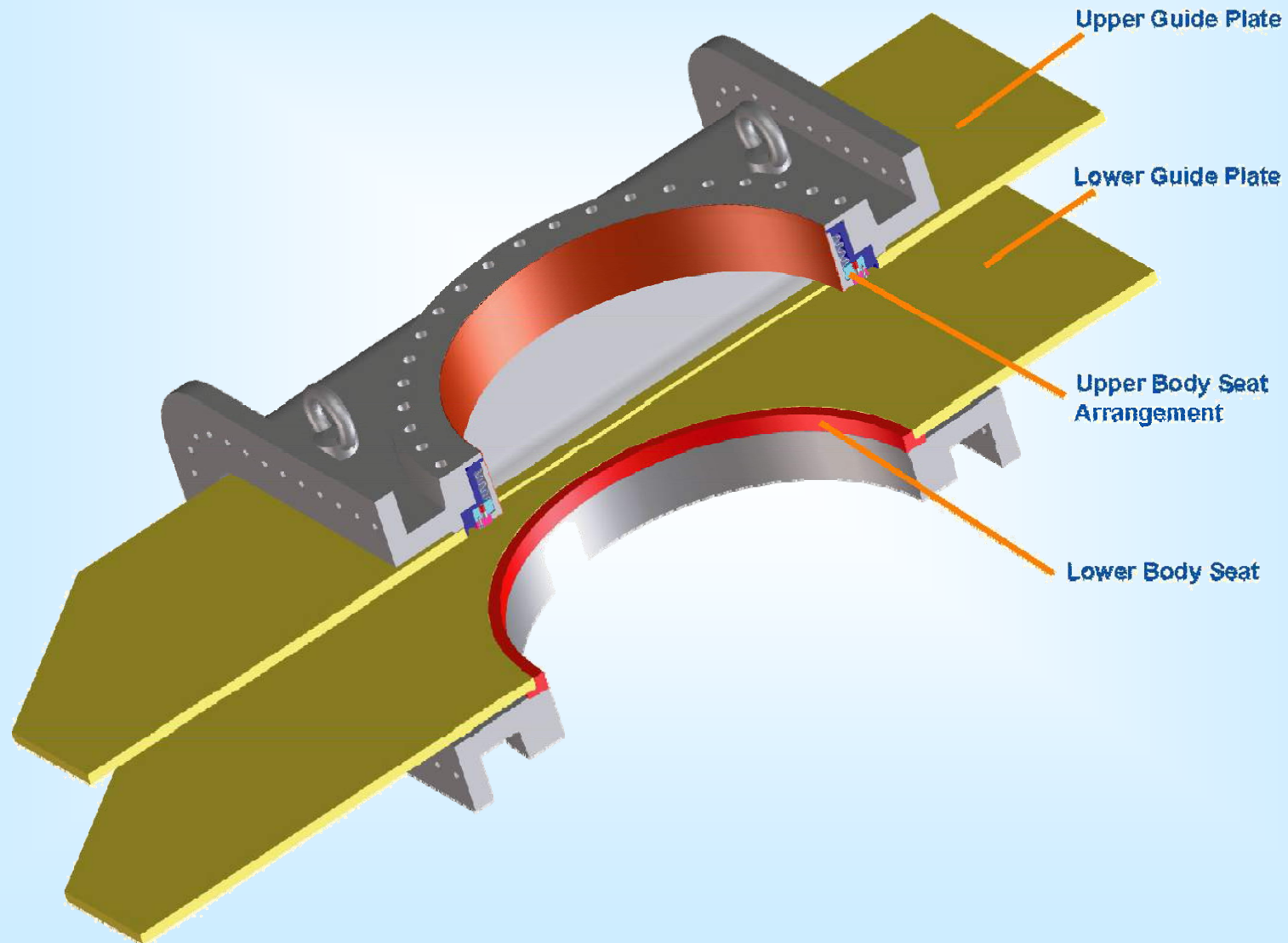


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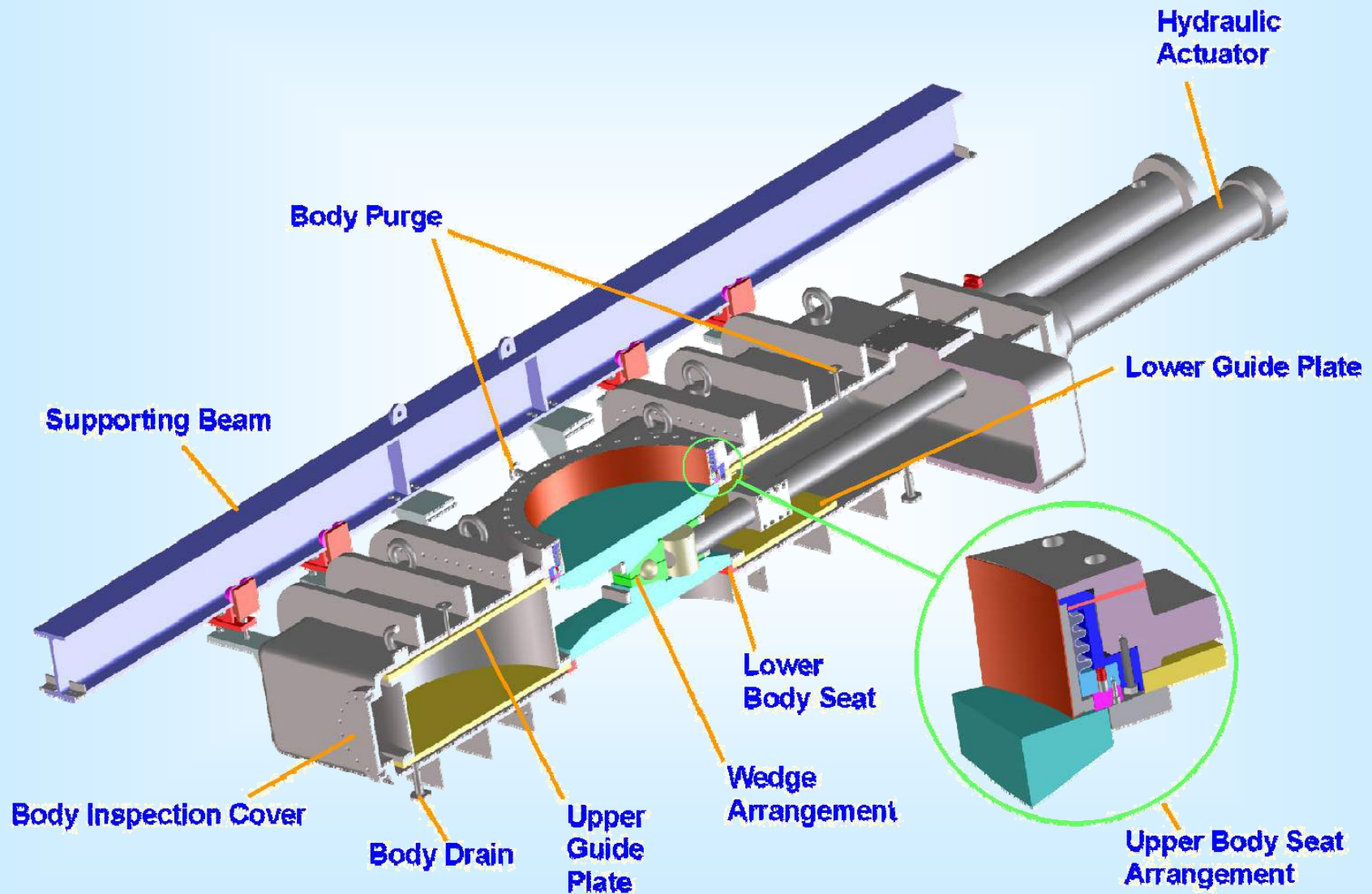


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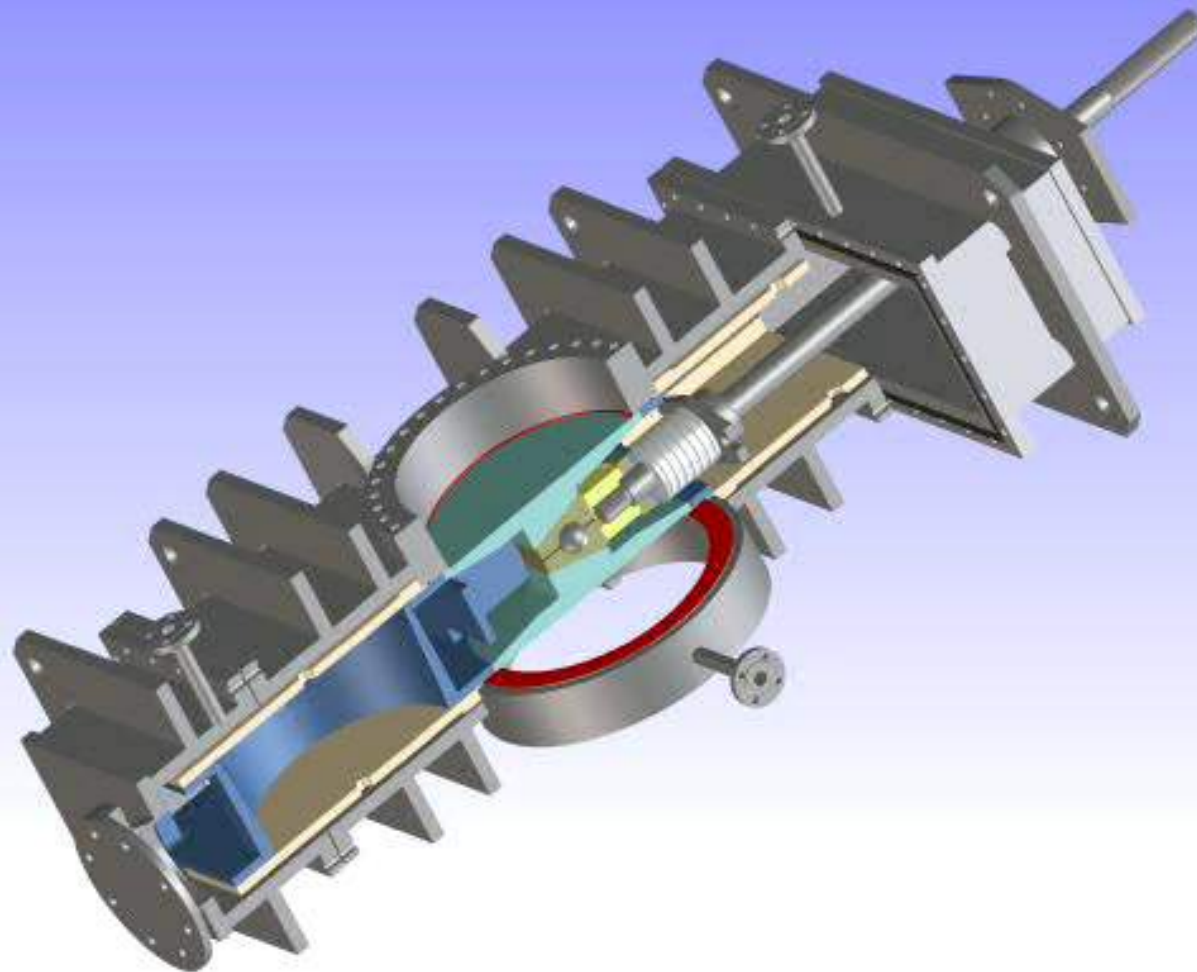


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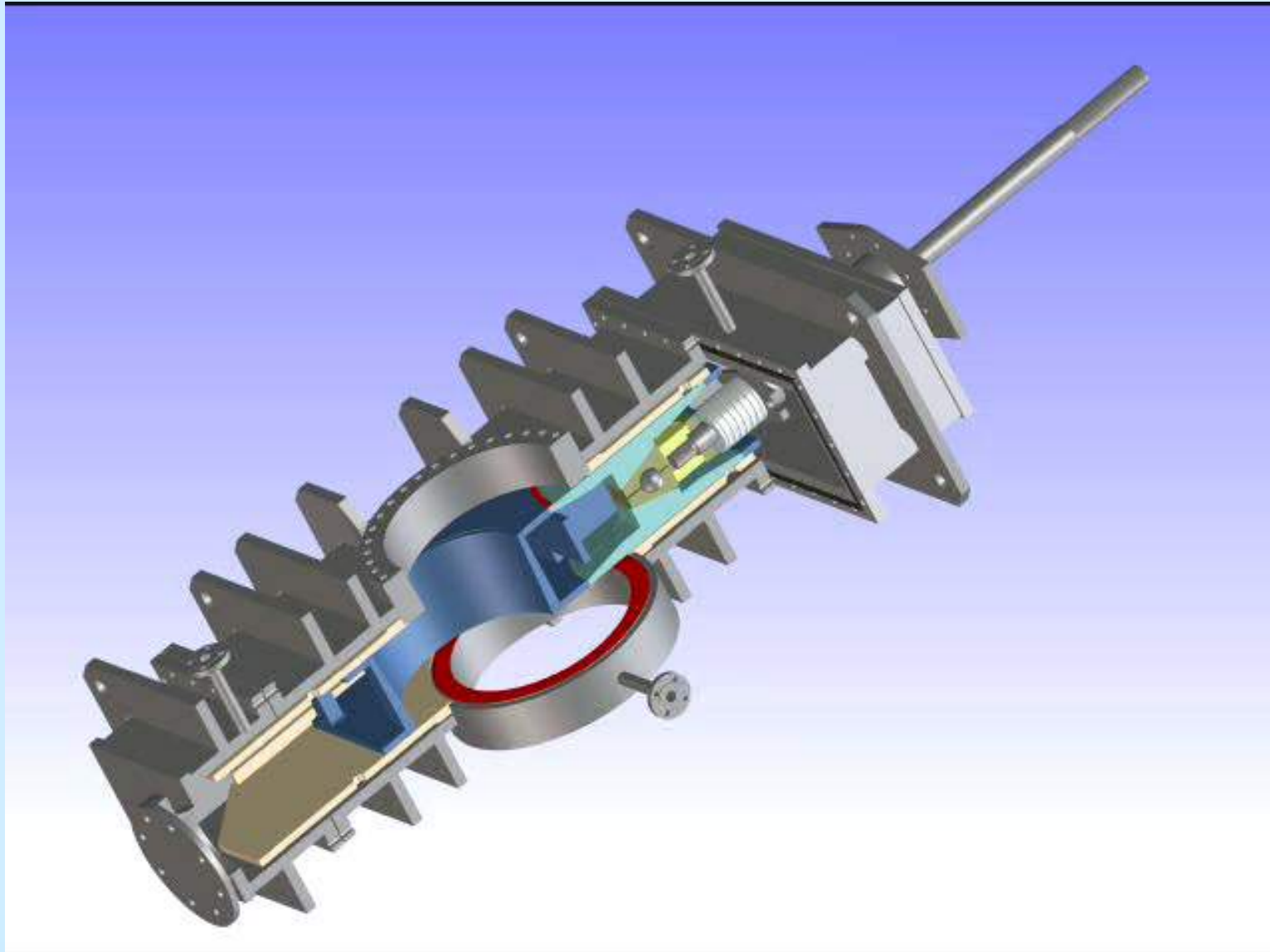


open

next



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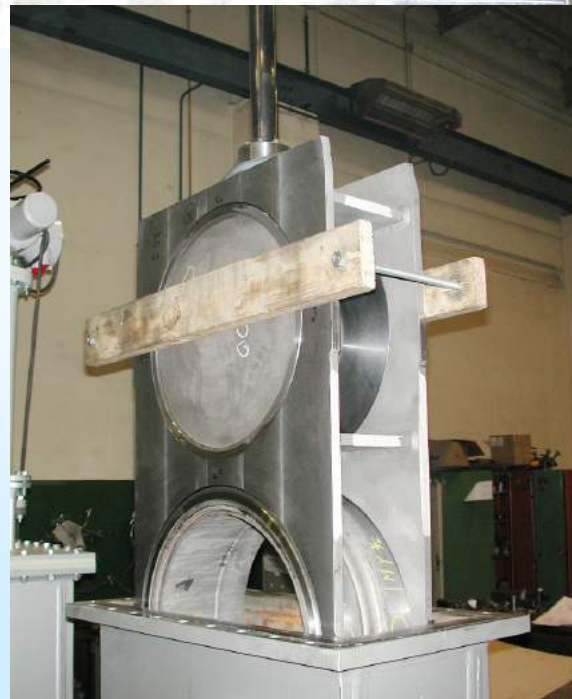
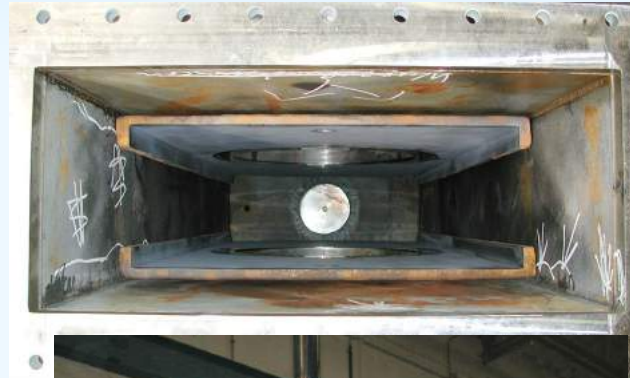




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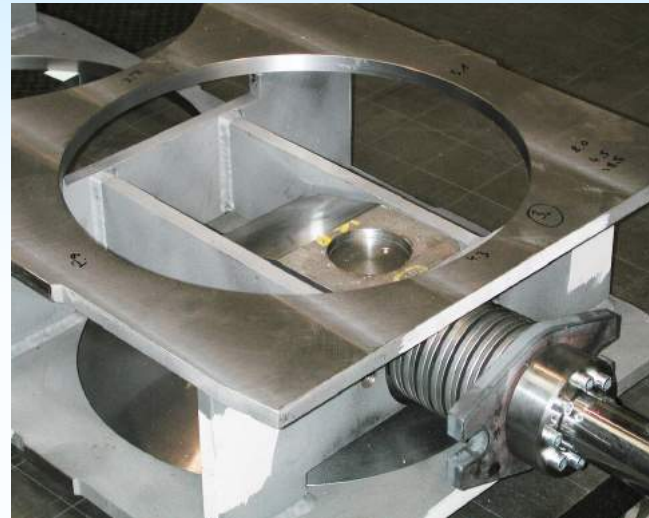


Valve internals ready for assembling





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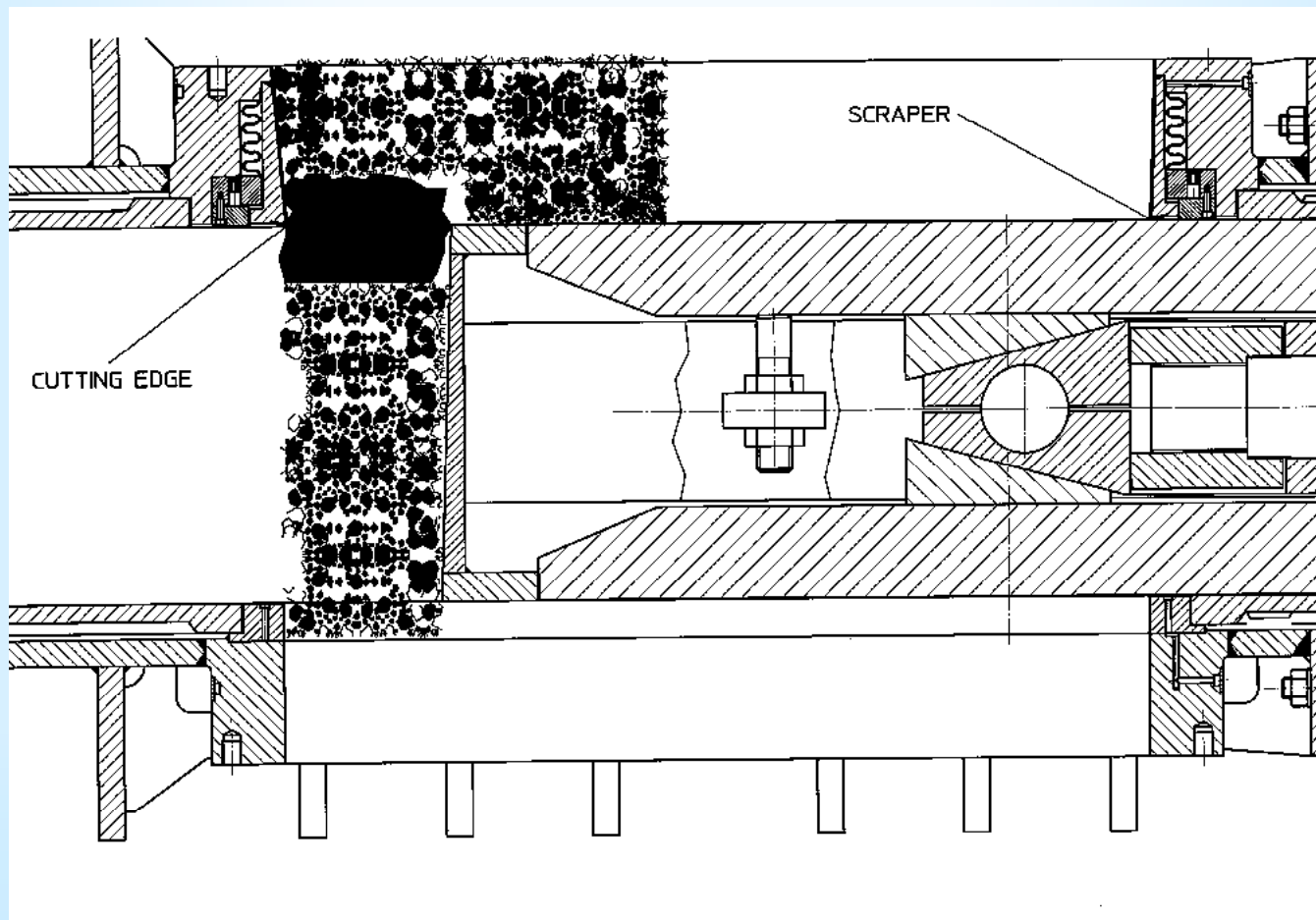


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Z&J Coker valve

Breaking through large coke particles





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Main Advantages of the Double Disc Through Conduit Gate Valve

- Real double block and purge performance within one valve body due to 2 independent discs.
- Active mechanical seating force due to central split-wedge-ball arrangement.
- Corrosion and wear resistant hard facing overlay on the seats; no adjustment and replacement of seats required.
- No deposits of solid particles in valve body due to goggle type valve gate guided between guide plates.
- All internals removable through bonnets.
- The sealing surfaces are completely covered in each gate end position. Depositing within the valve and on the seats is avoided.
- Open goggle plate part equipped with tube to provide throughway.
- Purge steam connections for continuous valve body and seat purge.



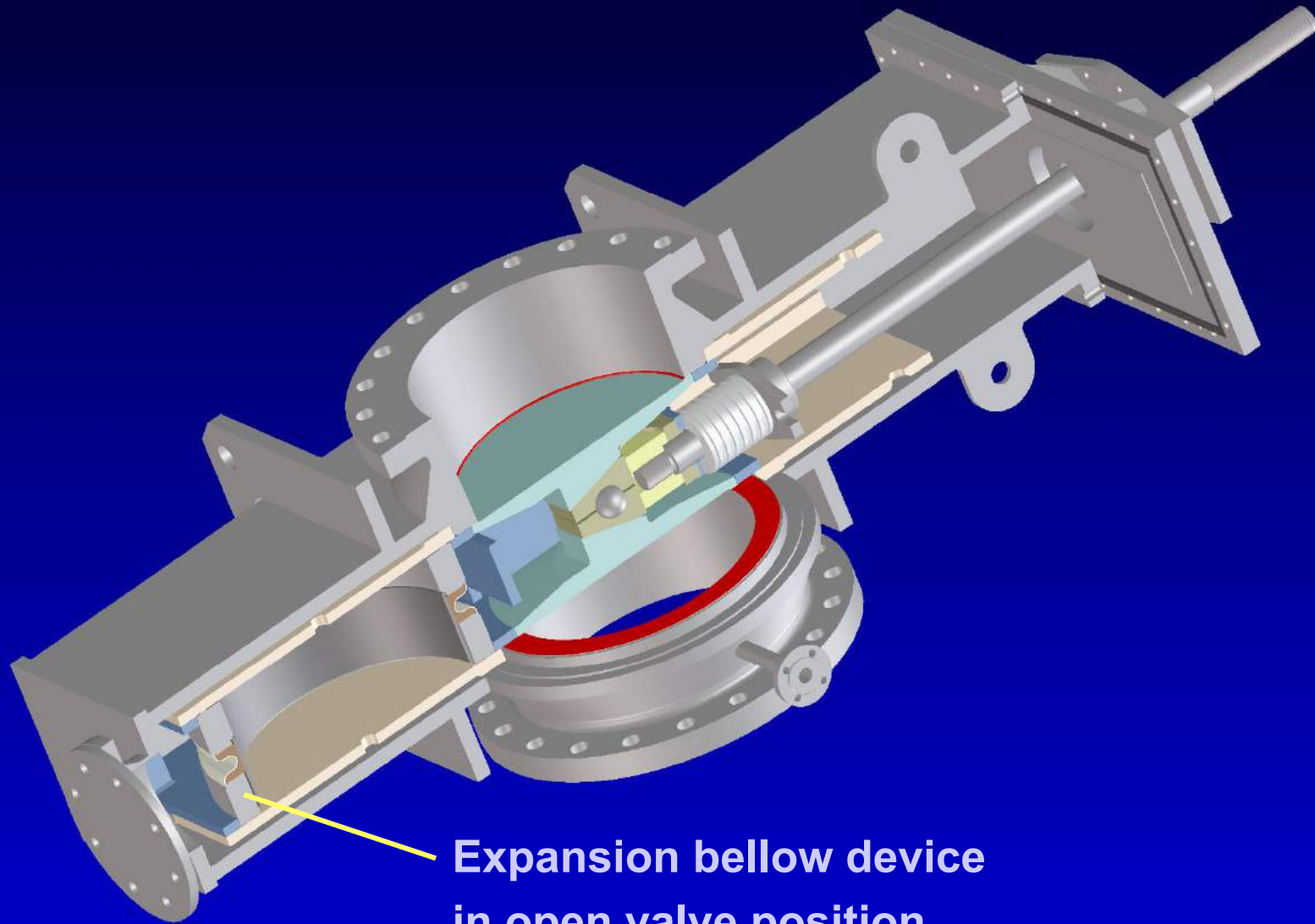
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Coke Drum Valves
for
Top Un-heading
Inlet Isolation
Overhead and Blowdown



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Expansion bellow device
in open valve position



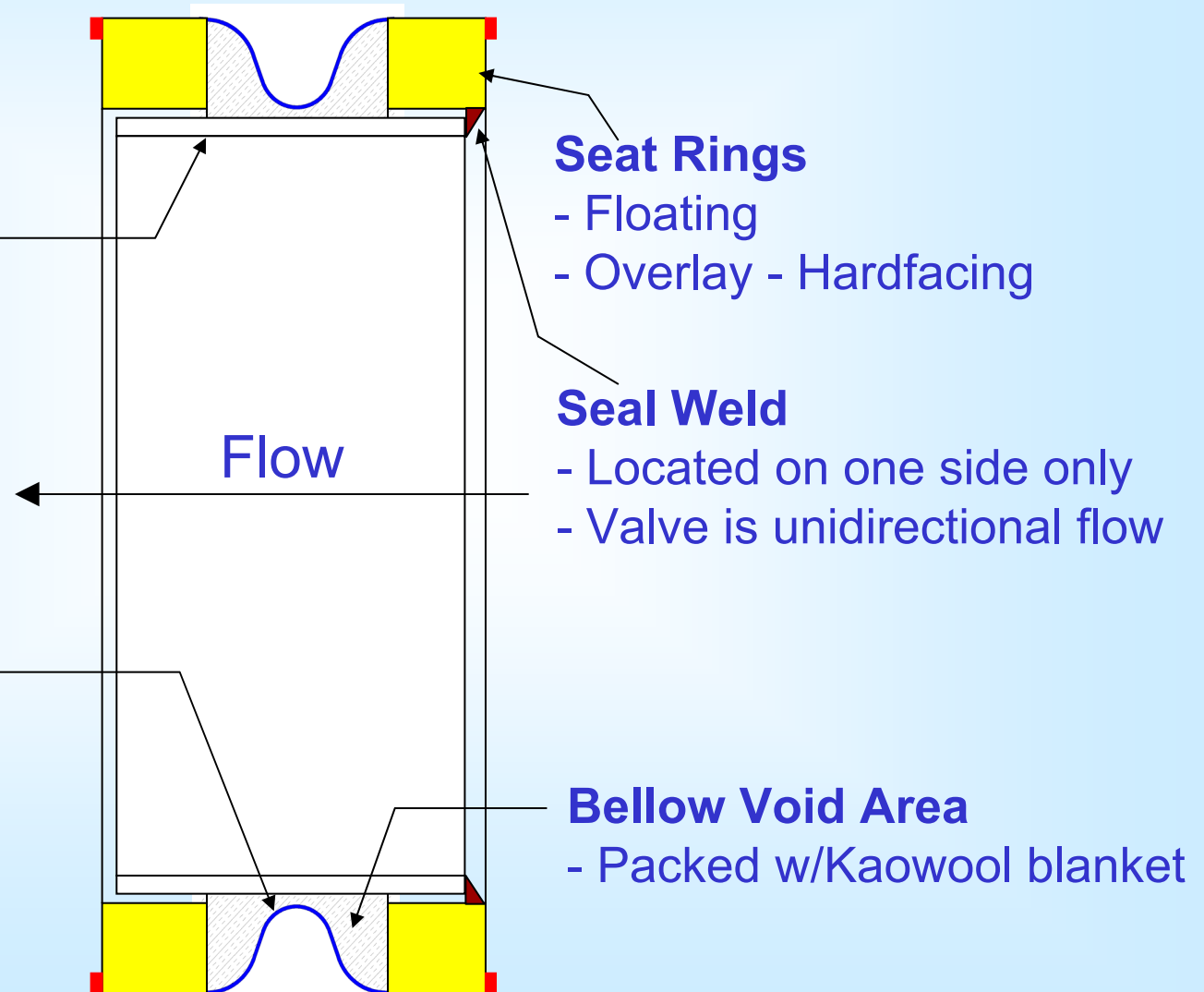
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Expansion Bellows

Inner Sleeve Pipe
- Guiding
- Bellow Protection

Expansion Bellow
- Single Wave
- Stainless Steel





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Expansion Bellows

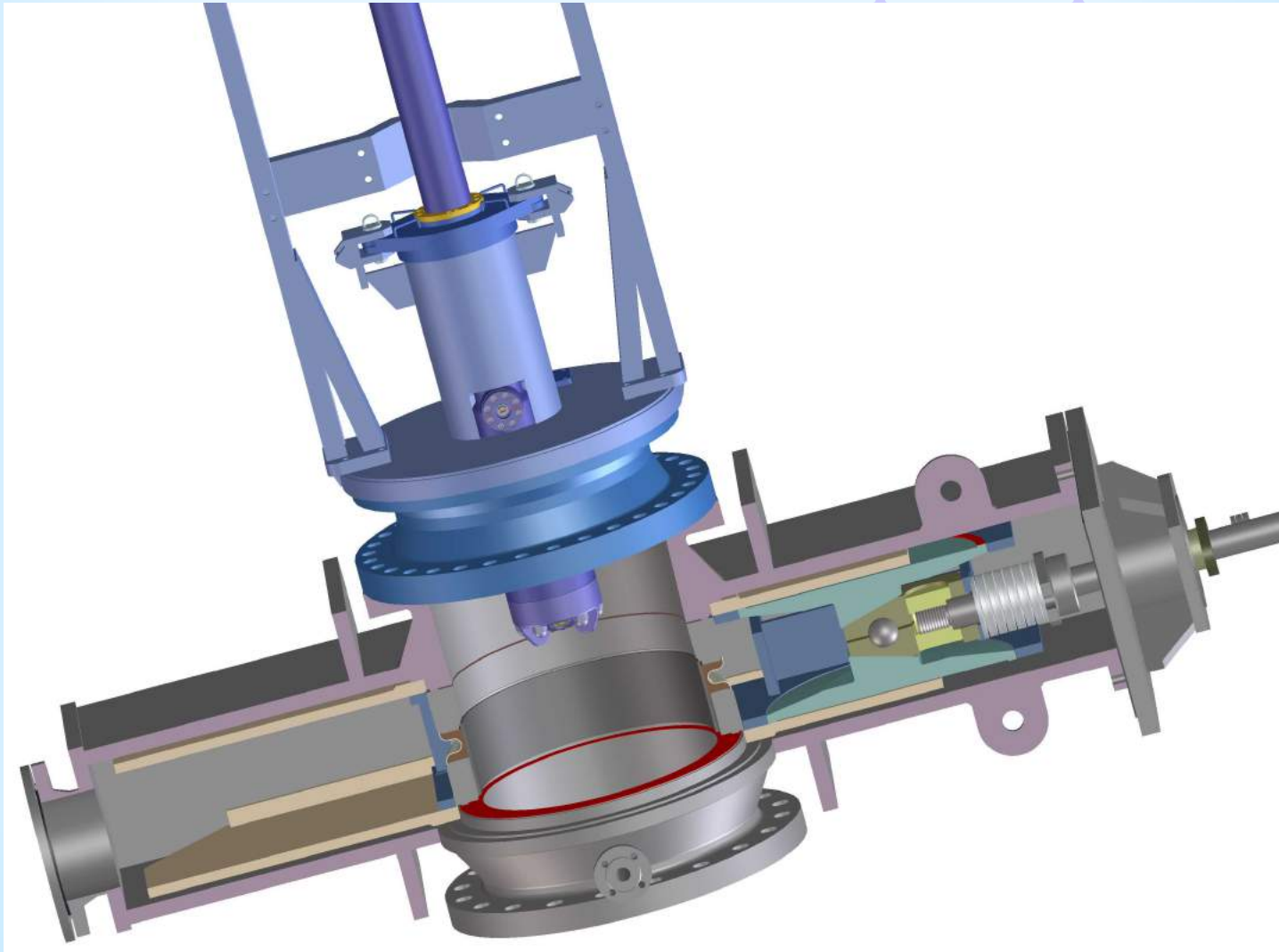




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Recent Valve Installation - RuhRPumpen Top Un-heading

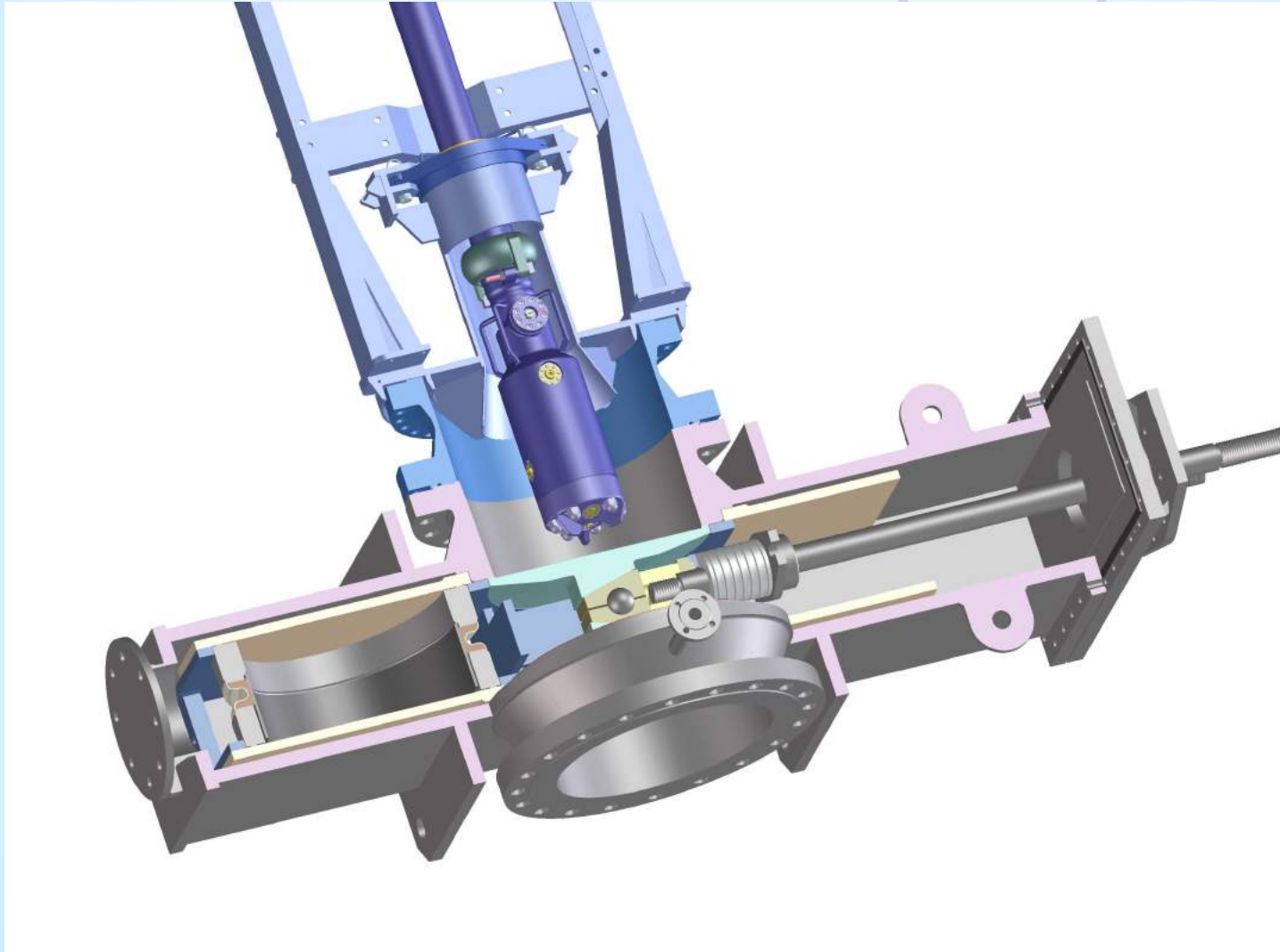




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Resent Valve Installation – RuhRPumpen Top Un-heading

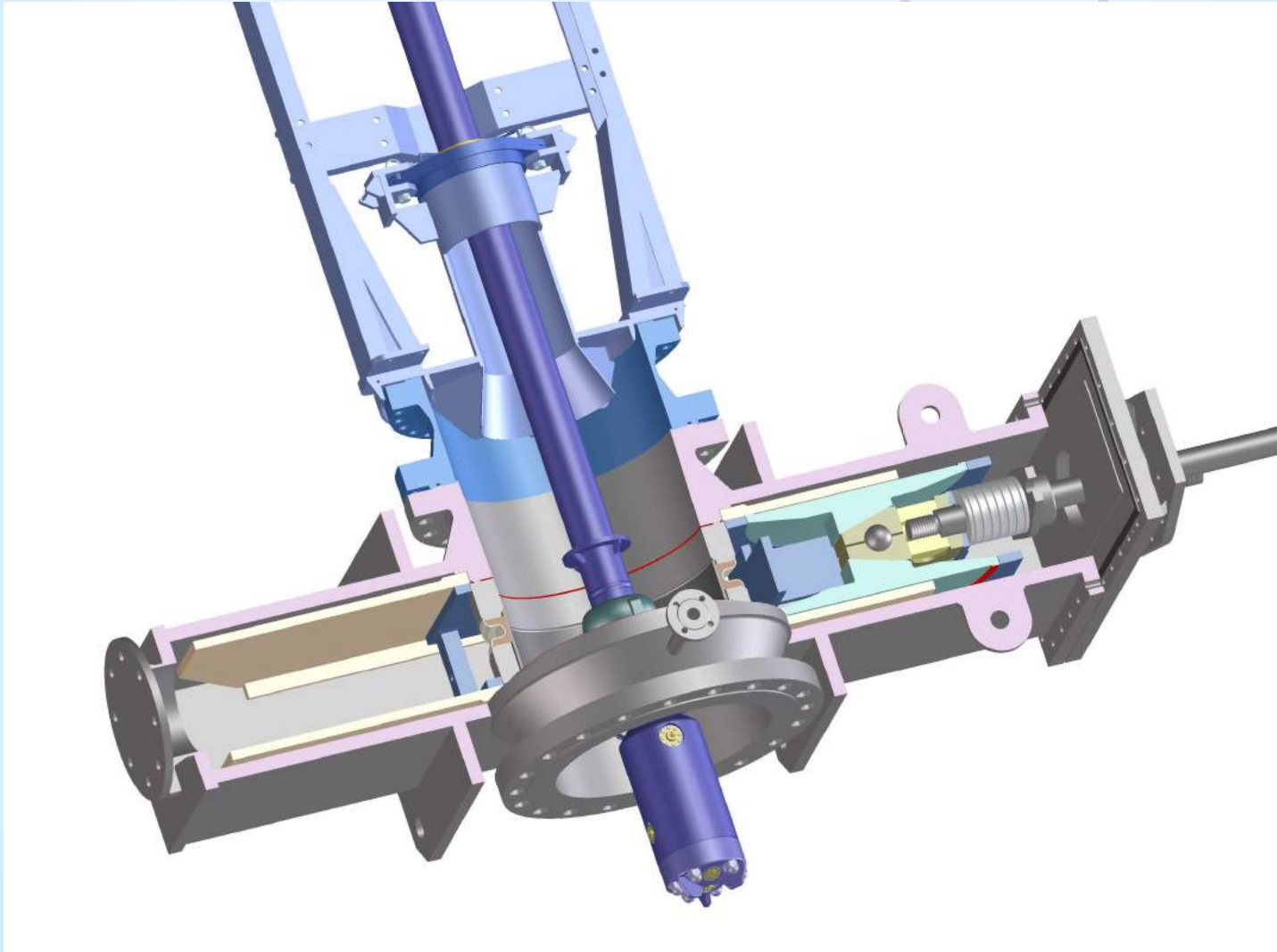




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Recent Valve Installation – RuhRPumpen Top Un-heading





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Recent Valve Installation – RuhRPumpen Top Un-heading





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Final Considerations – Advantages and Benefits

Safety

- during deheading and unheading no personnel are required on deck due to fully remote operation.
- Real double block and purge - two independent discs.

Reliability

- well proven valve design used in other severe services such as ethylene, FCCU, phosgene, etc.

Cost reduction

- low maintenance cost
- cycle time reduction



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