

DRAG[®] Compressor Recycle Anti-surge Valve



Engineering
GREAT Solutions

**Severe Service Anti-surge and
Compressor Recycle Solution**

DRAG® Compressor Recycle Anti-surge Valve

The optimum solution for safety and reliability, IMI CCI's compressor recycle and anti-surge valve combines premium DRAG® flow control technology with reliable fast stroking actuation. The result is a complete severe service valve solution designed to maximize the reliability, efficiency, and control of your compressor recycle system. With this solution, the DRAG® disk stack controls flow velocity to provide low noise and exceptional reliability. Flow energy and velocity is controlled to minimize wear and ensure reliable performance and longevity. Control is provided by IMI CCI's fast acting pneumatic actuator which provides one second stroking times, fast and accurate control, and simple and reliable operation.

Fast and accurate control



Key features

> Customized DRAG® Trim to Maximize Performance

IMI CCI custom-designed DRAG® trim is ideally suited to minimize noise while providing the capacity and control that is necessary in anti-surge and compressor recycle applications.

> Accurate Control and Reliable Operation

For anti-surge and recycle applications, IMI CCI's pneumatic actuation system can deliver stroke speeds of less than one second while maintaining precise resolution and control.

> Improve Plant Efficiency – Eliminate Energy Waste

IMI CCI anti-surge DRAG® valves are designed with either a soft or hard seat to ensure either an ANSI/FCI 70-2 Class VI or ANSI/FCI 70-2 Class V shutoff. This design provides dependable and

repeatable shutoff for long periods of time over very high pressure differentials. The IMI CCI anti-surge valve minimizes lost energy through leakage and lost production which results in significant cost savings.

> Capacity and Control for Anti-surge Applications

Properly sized and engineered anti-surge recycle valves and their reliable operation are critical to protect the compressor. The valve capacity must be large enough to prevent surge under all possible operating conditions, including start-up and shut down, without being oversized. An excessively large valve will provide poor control precision and will drive the compressor into choked flow when fully open. The IMI CCI anti-surge valve design maximizes control while providing reliable and safe protection from compressor surge.

Custom designed DRAG® technology



Benefits

- > Less than one second stroke time to optimize performance and safety
- > Precise control throughout the operating range of the valve
- > Repeatable Class V or VI shutoff to minimize leakage
- > IMI CCI DRAG® trim to control fluid velocity and minimize noise and vibration
- > Control and capacity necessary to protect equipment during surge and bypass conditions
- > Bilinear flow characterization available to eliminate the need for additional bypass valves
- > Extended trim life through the reduction of flow velocity through DRAG® trim
- > Quick change trim to minimize maintenance costs
- > Reliable design with proven IMI CCI technology

Product Specification

Shutoff class

ANSI/FCI Class VI (Linear)
ANSI/FCI Class V (Bilinear)

Actuator type

Double acting pneumatic piston

Stroking speed

< 1 second

Fail mode

Open

Resolution

< 1%

Pneumatic actuator performance

Stroke speed	1-2 seconds
Emergency trip	< 1 second
Resolution	< 1%
Thrust	3 to 5 x industry standard
Reliability	High
Maintenance	Easy, medium skill
Components	Low pressure, reliable accessories

*Full valve selection
available on our website*

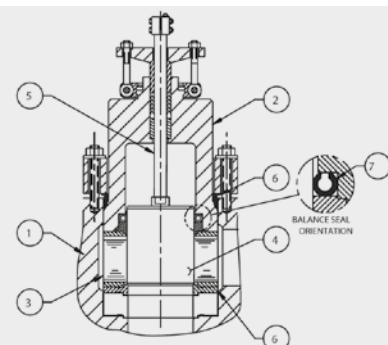
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Applications

Application	Differential Pressure	Temperature	Inlet/Outlet
Gas production			
Seperation	300-3000 psi 2.1-21 MPa	100-200°F 37-93°C	4-12"/6-16" 100-300mm/150-400mm
Reinjection	3000 psi 21 MPa	100-150°F 37-65°C	4-8"/6-8" 100-200mm/150-200mm
Gas			
Hydrogen	70-300 psi 0.48-2.1 MPa	100-130°F 37-54°C	6-12"/8-14" 150-300mm/200-355mm
Natural gas	100-150 psi 0.69-1 MPa	100-120°F 37-49°C	8-24"/10-30" 200-600mm/255-760mm
Ammonia	50-100 psi 0.34-0.69 MPa	100-200°F 37-93°C	4-8"/6-12" 100-200mm/150-300mm
Air	50-700 psi 0.34-4.8 MPa	100-200°F 37-93°C	4-16"/6-24" 100-400mm/150-600mm
LNG			
Propane	80-400 psi 0.55-2.7 MPa	-94-248°F -70-120°C	8-24"/10-24" 200-600mm/25-600mm
Material Refrigerant	150-700 psi 1-4.8 MPa	-49-212°F -45-100°C	12-24"/18-32" 300-600mm/450-800mm
Olefins			
Syngas	300-500 psi 2.1-3.4 MPa	100-120°F 37-49°C	4-8"/6-10" 100-200mm/150-250mm
Propane	50-150 psi 0.34-1 MPa	50-150°F 10-65°C	6-16"/8-16" 150-400mm/200-400mm
Ethylene	100-500 psi 0.69-3.4 MPa	20-50°F -6-10°C	4-6"/6-10" 100-150mm/150-250mm
Multicomponent	50-300 psi 0.34-2.1 MPa	100-150°F 37-65°C	6-8"/8-12" 150-200mm/200-300mm

Materials

Component	Item No.	Materials of Construction	
		Standard	Optional
Body	1	A105/WCB	A182-F316
Bonnet	2	A105	A182-F316
Disk stack (Cage)	3	316 SS	316 SS
Plug	4	316 SS	316 SS
Stem	5	17-4 PH	17-4 PH
Seat ring	6	316 SS	316 SS/Stellite
Balance seal	7	Teflon	Teflon



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