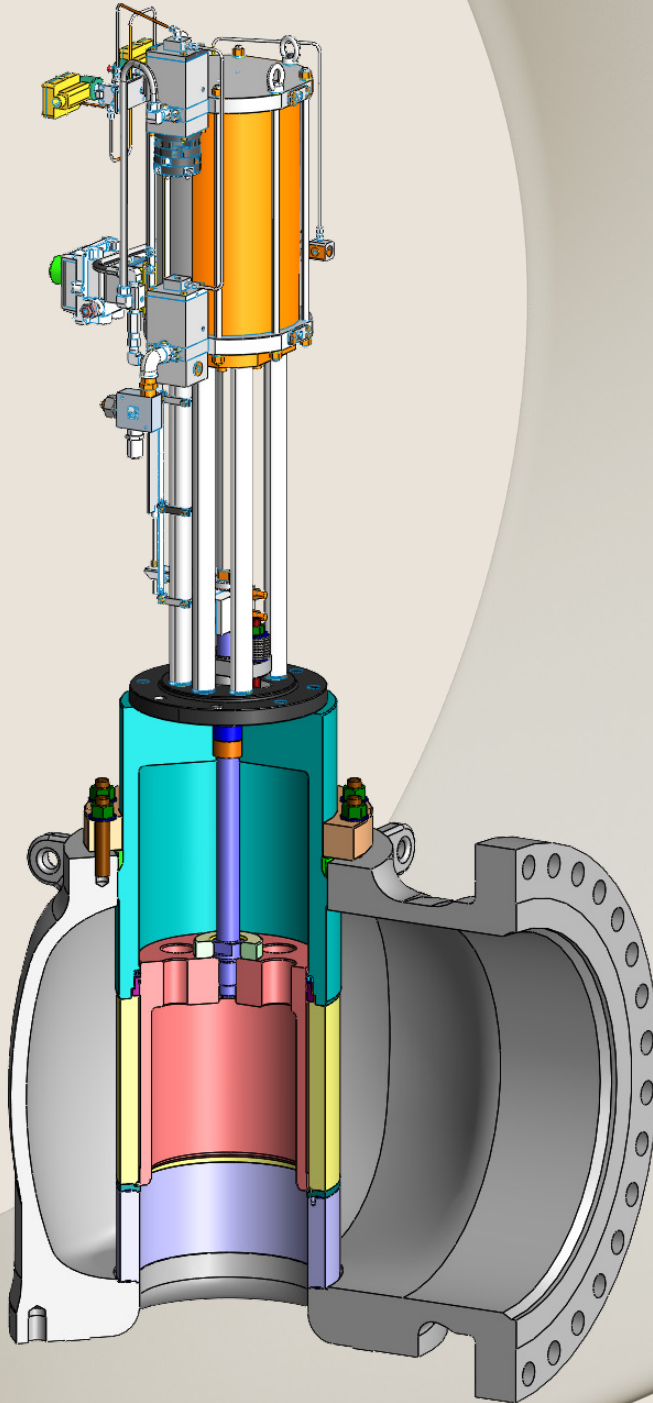


# Process Automation

DRAG<sup>®</sup> Compressor  
Recycle Anti-surge  
Valve





# DRAG<sup>®</sup> Compressor Recycle Anti-surge Valve

## Severe Service Anti-surge and Compressor Recycle Solution

The optimum solution for safety and reliability, IMI's compressor recycle and anti-surge valve combines premium DRAG<sup>®</sup> flow control technology with reliable fast stroking actuation. The result is a complete severe service valve solution designed to maximise the reliability, efficiency, and control of your compressor recycle system. With this solution, the DRAG<sup>®</sup> disk stack controls flow velocity to provide low noise and exceptional reliability. It also controls flow energy and velocity to minimise wear and ensure reliable performance and longevity. IMI's fast-acting pneumatic actuator offers one-second stroking times, fast and accurate control, and simple and reliable operation.

Fast and accurate control



### Key features

- **Customised DRAG<sup>®</sup> Trim to Maximise Performance**

IMI's custom-designed DRAG<sup>®</sup> trim is ideally suited to minimise noise while providing the capacity and control necessary in anti-surge and compressor recycle applications.

- **Accurate Control and Reliable Operation**

For anti-surge and recycle applications, IMI'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 anti-surge DRAG<sup>®</sup> 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

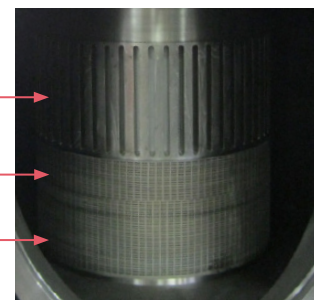
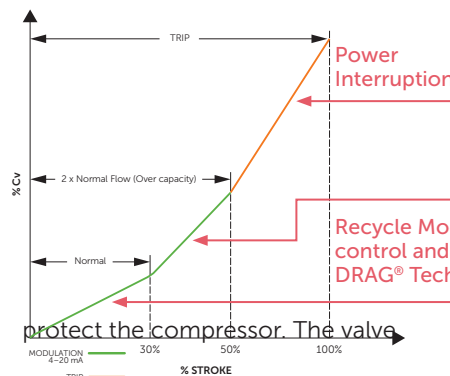
for long periods of time over very high pressure differentials. The IMI anti-surge valve minimises lost energy through leakage and lost production which results in significant cost savings.

- **Capacity and Control for Anti-surge Applications**

Properly sized and engineered anti-surge recycle valves and their reliable operation are critical to

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 anti-surge valve design maximises control while providing reliable and safe protection from compressor surge.

#### Cv vs Stroke example



protect the compressor. The valve

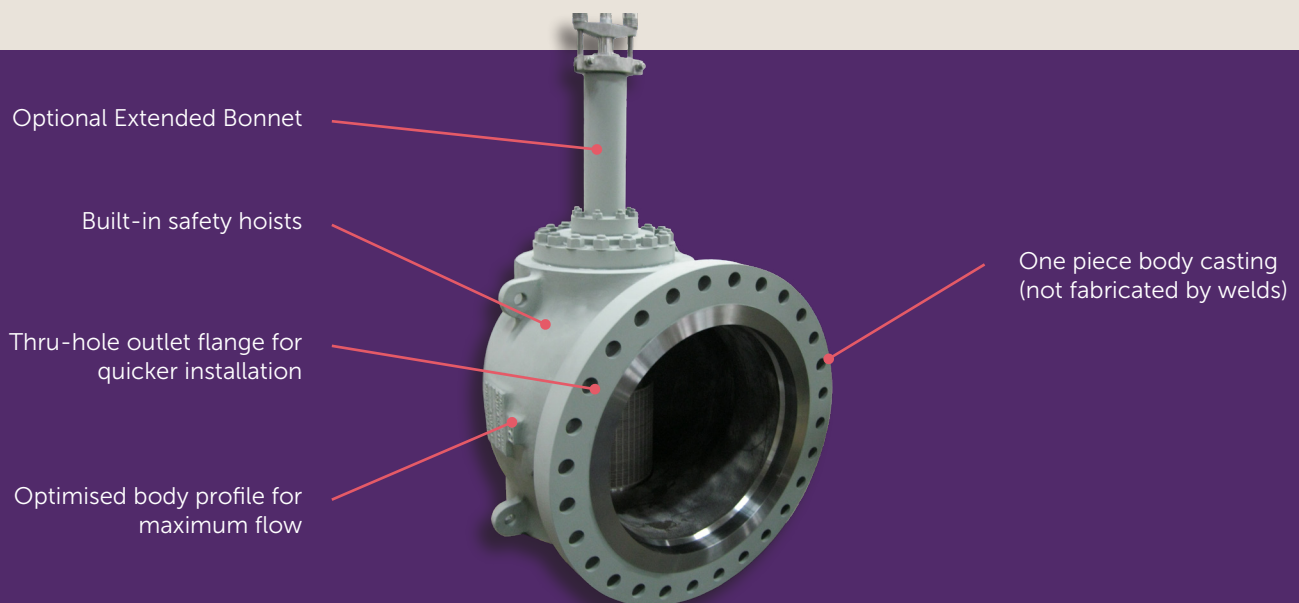
## Benefits

- Fugitive emissions packing system
- Optional actuation dynamic response tests
- SIL rating options
- Less than one second stroke time to optimise performance and safety
- Precise control throughout the operating range of the valve
- Repeatable Class V or VI shutoff to minimise leakage
- IMI DRAG® trim to control fluid velocity and minimise noise and vibration
- Control and capacity necessary to protect equipment during surge and bypass conditions
- Bilinear flow characterisation 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 minimise maintenance costs
- Reliable design with proven IMI technology

## Product Specification

<b>Shutoff class</b>	ANSI/FCI Class VI ANSI/FCI Class V
<b>Actuator type</b>	Double acting pneumatic piston
<b>Stroking speed</b>	< 1 second
<b>Fail mode</b>	Open
<b>Resolution</b>	< 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



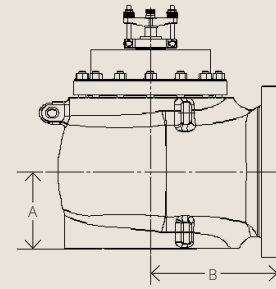
## Industries Served

- Pipeline
- LNG, FPSO
- Refineries, Hydrogen Plants
- Ammonia, Ethylene, Fertiliser Plants
- Transportation, Loading, Storage

## Materials

	Standard Material	Option
Body	A216-WCB	A352-LCB/LCC A351-CF8M
Bonnet	A105	A350-LF2 A182-F316
Disk Stack/Cage	316 SS	
Plug	316 SS	
Stem	316 SS	17-4 PH
Seat Ring	316 SS	
Yoke	Carbon Steel	Stainless Steel
Actuator	Aluminum/Composite/Steel	Stainless Steel





## Standard valve's trim sizes (A and B)

INLET \ OUTLET		16"	18"	20"		24"		30"	36"	42"	48"
		ASME 600	ASME 900	ASME 300	ASME 600	ASME 300	ASME 600	ASME 300	ASME 300	ASME 300	ASME 300
8"	ASME 900		12.50 (318) 18.50 (470)								
10"	ASME 600				22.00 (559) 18.38 (467)						
12"	ASME 300			13.94 (354) 21.75 (553)							
14"	ASME 300			13.94 (354) 21.75 (553)		15.50 (394) 21.50 (546)					
	ASME 600				13.82 (351) 21.00 (533)						
16"	ASME 300			13.94 (354) 21.75 (553)		15.50 (394) 21.50 (546)					
	ASME 600	14.00 (356) 20.50 (521)			13.82 (351) 21.00 (533)						
20"	ASME 300			13.94 (354) 21.75 (553)		16.31 (415) 22.50 (572)		18.69 (475) 25.00 (635)	21.63 (549) 24.50 (622)		27.75 (705) 28.50 (724)
	ASME 600				15.06 (383) 24.00 (610)		17.06 (433) 25.50 (648)				
24"	ASME 300					17.00 (432) 26.50 (673)		19.88 (505) 29.00 (737)	22.25 (565) 29.00 (737)	26.25 (667) 30.00 (762)	27.94 (710) 28.50 (724)
	ASME 600						16.88 (429) 28.38 (721)				
30"	ASME 300						20.32 (516) 31.13 (791)	24.00 (610) 33.63 (854)	26.75 (679) 32.00 (813)		
36"	ASME 300							24.81 (630) 37.50 (953)	28.25 (718) 41.13 (1045)	31.00 (787) 42.00 (1067)	

Dimensions may vary due to trim sizes. Globe configurations, other sizes, and other ratings are available. Consult factory for final dimensions.



# Process Automation

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## IMI CCI

19712 Pauling  
Lake Forest  
California, 92610  
USA  
Tel: +1 949 858 1877  
Fax: +1 949 858 1878

[www.imiplc.com/process-automation](http://www.imiplc.com/process-automation)

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