


# Ethylene Transfer Line and Decoking Valves



  
Engineering  
**GREAT** Solutions

**Double Disc Technology –  
Double Block and Purge**

# Ethylene Transfer Line and Decoking Valves

We are a world leader in Transfer Line Valves (TLV) & Decoking Valves (DV). IMI Z&J supplies high-quality Double Disc Through Conduit Gate valves which have higher safety levels than any other design. One double disc valve replaces two single gate valves - one plus one as backup installed in the same line to achieve the same safety level.

Within the ethylene process heaters provide the cracking of hydro-carbons by means of hot steam. These heaters (steam crackers) suffer from a phenomenon where deposits of 'coke' accrue on the pipework and valves. From time to time these deposits must be removed ('decoking'), ideally without shutting down the process completely. This is where our valves excel.



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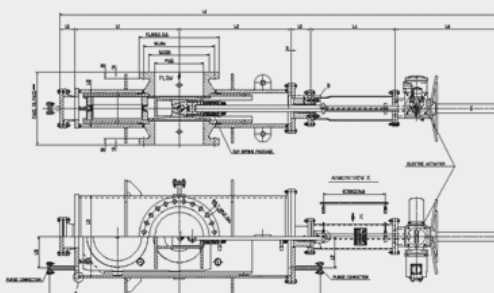
## Key features

- > True double block & purge performance within one valve body by means of two independent, separate shut-off discs (independent closure elements). Proven under critical/severe service conditions
- > Active, controlled and constant mechanical seating force when closed due to the central split-wedge-ball device - safe and reliable tight shut-off
- > Flat or round body valve design
- > Mounting options: flanges or welding ends
- > With reduced or full-bore passage
- > Long-lasting metal-to-metal seats, corrosion and wear resistant
- > Smooth tubular passage In the open position (valve body free of solid particles)
- > Can be installed in any orientation
- > Designed to customer specifications and German or International standards
- > Accommodates any desired type of actuator
- > Materials selected to suit operating conditions
- > Specially developed technique for crackfree hard-surfacing of the seats of ensures long-term maintenance-free service

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## Benefits

- > Positive tight shut-off due to active & controlled mechanical sealing force when shut
- > Excellent performance, no risk of jamming due to internal split-wedge-ball arrangement
- > True Double Block & Purge within one valve body
- > Low wearing due to hardsurfaced seats
- > No build up of coke particles in the body due to guide plates and continuous steam purge
- > Suitable for media with extremely high solid-particle content
- > No jamming due to forces and moments resulting from the piping system
- > Force release of the discs prior to opening the valve (minimized wear)
- > Central sealing force due to ball-wedge mechanism
- > Seats continuously covered in the end position, thus preventing deposit build-up on the seat surfaces
- > 3 years maintenance free

Valve type															Evaluation			
Double disc through conduit gate valve (metal seats)	+	-	+	3	-	+	+	+	+	+	+	+	+	+		+	+	+
Single disc through conduit gate valve (metal seats)	0	0	+	2	-	+	0	0	+	+	+	+	0	-		0	-	+
Single disc through conduit gate valve (soft seats)	-	0	-	1	-	-	-	-	0	0	0	0	-	-		-	+	+
Parallel seated double disc gate valve (metal seats)	+	0	0	1	0	+	+	+	0	+	-	-	+	N		-	-	-
Wedge-within-wedge gate valve (metal seats)	+	0	0	1	0	+	+	0	0	+	-	-	+	N		-	-	-
Flexible wedge gate valve (metals seats)	0	+	0	1	0	+	0	0	0	+	-	-	-	N		-	-	-
Shut-off Butterfly valve (metal seats)	0	+	-	1	+	+	-	-	-	N	N	N	-	N		-	-	0
Tilting disc valve (actuated butterfly valve with check valve function)	0	0	-	1	+	+	-	-	-	N	N	N	-	N		-	-	0
	Low purge steam consumption	Low price, capital cost	Operating / maintenance cost - maintenance period	Standard guarantee period after plant start-up: 10 years	Compact design	One piece body (extra heavy duty design)	True double block and purge performance within one valve body (two single valves have the function of one double disc valve)	Active mechanical sealing force when shut: tight shut-off capability	Full bore design: low pressure loss	Solids cannot enter the valve body in closed valve position	Solids cannot enter the valve body in open valve position	Solids cannot enter the valve body during stroking from open to closed or vice versa	Corrosion and wear resistant hardfaced seats (maintenance free)	Operable under severe temperature conditions	The sealing surfaces are completely covered in each gate end position	Through conduit type - no pockets where solids can deposit		

## Typical product specification - Double Disc Through Conduit

### Temperatures

up to 525 °C

### Sizes

Up to 1400 mm

### Materials

ASTM A 515 Grade 60/1.0425 acc.to EN  
(valve body)

ASTMA387 Gr.12/1.7335 acc.to EN  
(throughway + discs)

1.4021/ similar to AISITP 420 (stem)

### Features

Full bore (reduced bore on request)  
corrosion and wear-resistant hardfacing on seats, discs and throughway (stellite #6)  
outside screw-and-yoke type bolted cover valve with goggle plate

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