

Vacuum Valve

Product Families

Transfer Door Valves

Transfer Slit Valve Families										
Lock system	ARM lock system									
Vacuum level	HV grade								UHV grade	
Valve body materials	Aluminum Alloy				Stainless steel 304				Stainless steel 304	
Opening sizes	32x222mm	46x236mm	50x336mm	70x500mm	32x222mm	46x236mm	50x336mm	70x500mm	32x222mm	46x236mm



Isolation valves

SMART Gate valve Families									
Lock system	SMART lock system						In- Axis with SMART lock system		
Actuator Orientation	Side of valve's body						On valve's bonnet		
Actuator type	Manual lever			Pneumatic			Pneumatic		
Vacuum level	UHV grade	HV grade		UHV grade	HV grade		UHV grade	HV grade	
Flange Types	CF Flanges	CF Flanges	ISO-F Flanges	CF Flanges	CF Flanges	ISO-F Flanges	CF Flanges	CF Flanges	ISO-F Flanges

Isolation Poppet Valve Families												
Actuator type	Manual wheel						Pneumatic					
Valve body Types	Angle			Y shape			Angle			Y shape		
Vacuum level	UHV grade	HV grade		UHV grade	HV grade		UHV grade	HV grade		UHV grade	HV grade	
Flange Types	CF Flanges	CF Flanges	KF/ISO-K Flanges	CF Flanges	CF Flanges	KF/ISO-K Flanges	CF Flanges	CF Flanges	KF/ISO-K Flanges	CF Flanges	CF Flanges	KF/ISO-K Flanges

Isolation Ball Valve Families				
Actuator type	Manual lever		Pneumatic	
Valve body Types	Casting	CNC machined	Casting	CNC machined
Flange Types	KF Flanges	KF Flanges	KF Flanges	KF Flanges



Transfer Slit Valves

Product Introduction

Transfer Slit Valve (TSV) is connecting two sealed chambers as gate. The object transfer to another chamber.

Transfer Slit Valve is designed for single axis motion, no vibration and particle free.

Special design ARM LOCK motion, make sure the gate absolutely seal in closing position when the power and air are failure during the processing.

The valve designed for long endurance up to 1 million cycle.

Valve is simple design for easy maintenance, no extra gear, no need to relocation position of mechanism.

Product Features

ARM LOCK

Auto-Relocation Mechanism

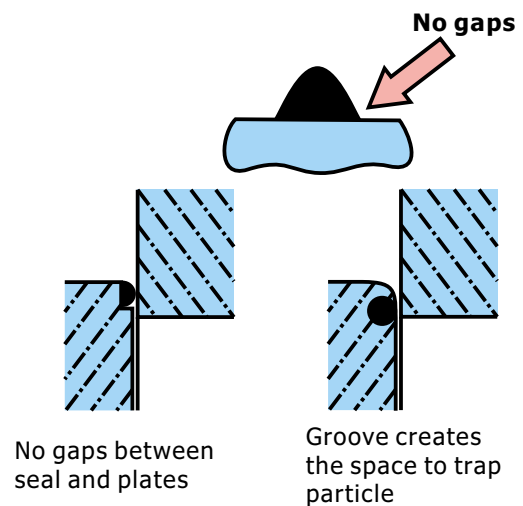
- Stay in closed position against larger pressure difference.
- Keep closed position losing the air power.

Feature

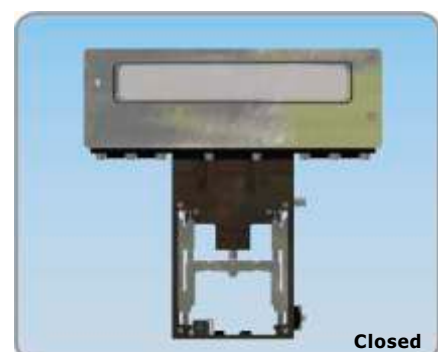
- Patented mechanism
- Low maintenance cost
- No gears, no need relocation
- More reliable
- Particle free seal

Vulcanised seal

Particle free sealing technology



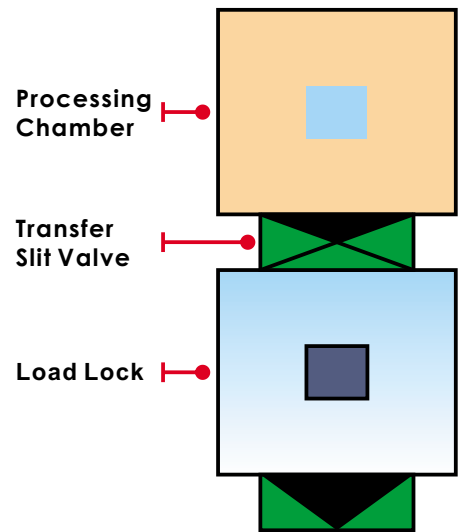
ARM Lock System



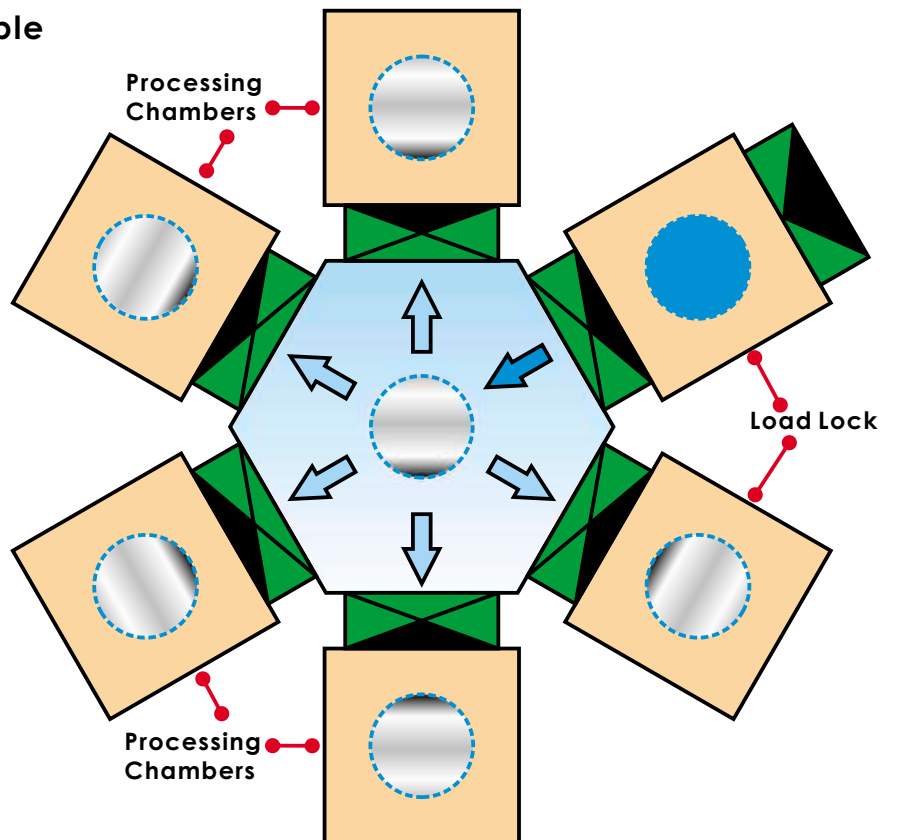
Product's Application

Layout for Inline process system
Object transfer from load lock to processing chamber.

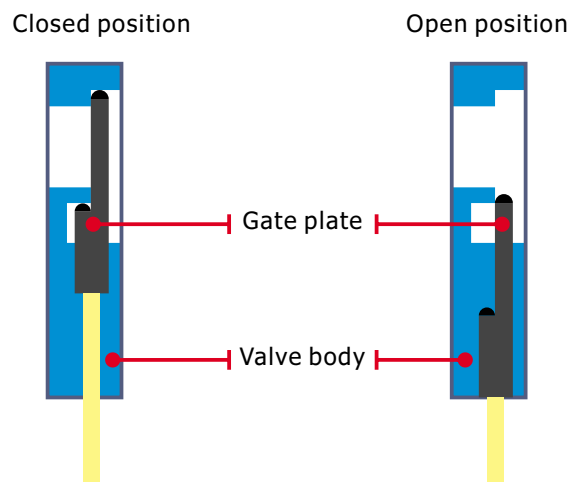
The Transfer Slit Valve is better performance than Circle Gate valve.
Transfer Slit Valve has no vibration for object transaction.



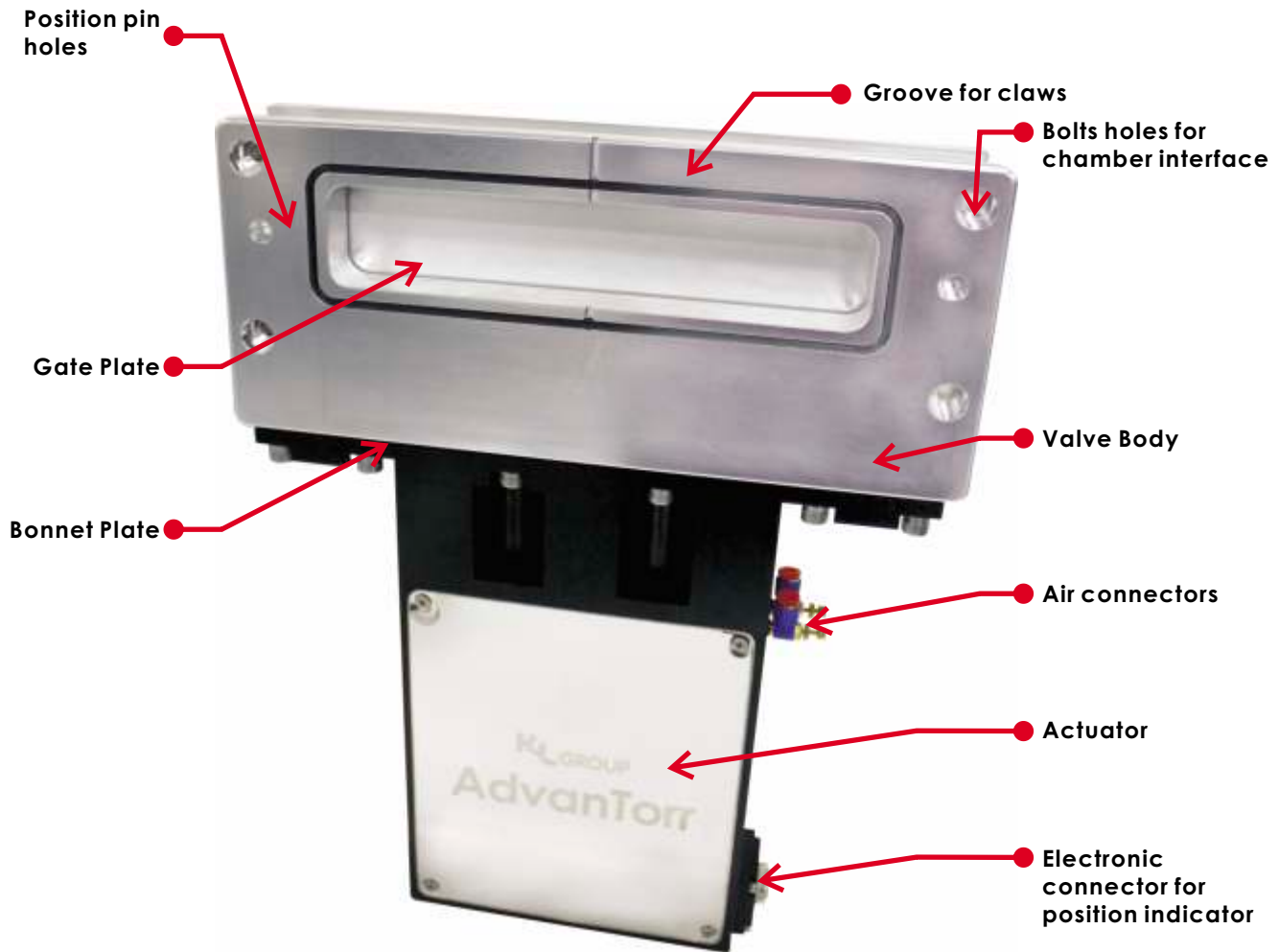
Transfer Slit Valve for multiple processing system.



Valve's operation Concept



Parts of Valve



Technical Data

Technical Data for Transfer Slit Valve

	High Vacuum	Ultra High Vacuum
Feedthrough	Welded Bellows in AM350	Welded Bellows in AM350
Gate seal	FKM vulcanize ring with bonding on the metal (Optional for FFKM)	FKM vulcanize ring with bonding on the metal (Optional for FFKM)
Bonnet seal	FKM vulcanize ring	OFHC metal gasket
Operate pressure range	760 Torr ~ 1×10^{-8} Torr 1,000 mbar ~ 1.33×10^{-8} mbar 100 kPa ~ 1.13×10^{-7} kPa	760 Torr ~ 1×10^{-10} Torr 1,000 mbar ~ 1.33×10^{-10} mbar 100 kPa ~ 1.13×10^{-9} kPa
Leak rate	1×10^{-9} Torr l/s, He 1.33×10^{-9} mbar l/s, He 1.13×10^{-8} kPa	1×10^{-10} Torr l/s, He 1.33×10^{-10} mbar l/s, He 1.13×10^{-9} kPa
Cycle life	>5,000,000 Cycles	
Temperature for Valve body	Aluminum version: 150°C (302°F) open and close Stainless Steel version= 200°C (392°F) open and close	
Temperature for Actuator	100°C (212°F)	
Temperature for solenoid / position indicator	80°C 176°F	
Bake Temperature	100°C (212°F) for FKM gate seal	200°C (392°F) for FKM gate seal
Valve body material	Optional for Aluminum, SUS304/L and SUS316/L	Optional for SUS304/L and 316/L
Mechanism material	Steel and Aluminum	
Actuator material	Aluminum	
Mouting position	Any	

Valve operation data

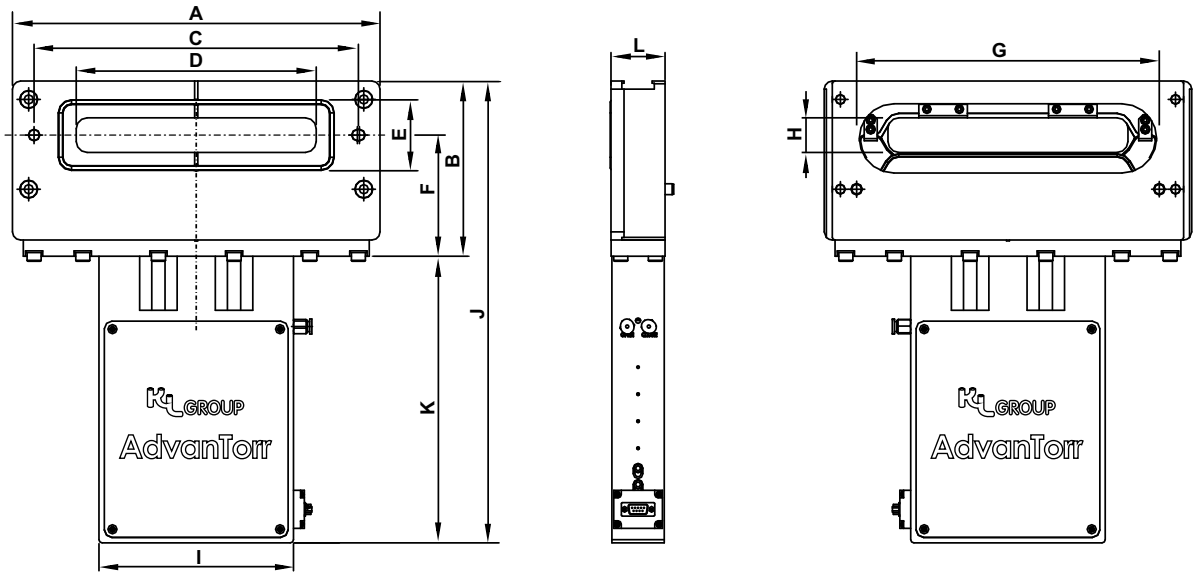
Pneumatic operating pressure	3 bar ~ 5 bar 300 kPa ~ 500 kPa 43 psi ~ 72 psi
Position indicator (Build in)	Build in micro switch with 9 pin connector
Cycles counter (Build in)	Build in micro switch with visual 7 digital numbers
Solenoid (optional)	Optional for 24V DC, standard
Failure protection (Build in)	Build in ARM lock system (valve closed position remain and locked)

Valve's Performance data

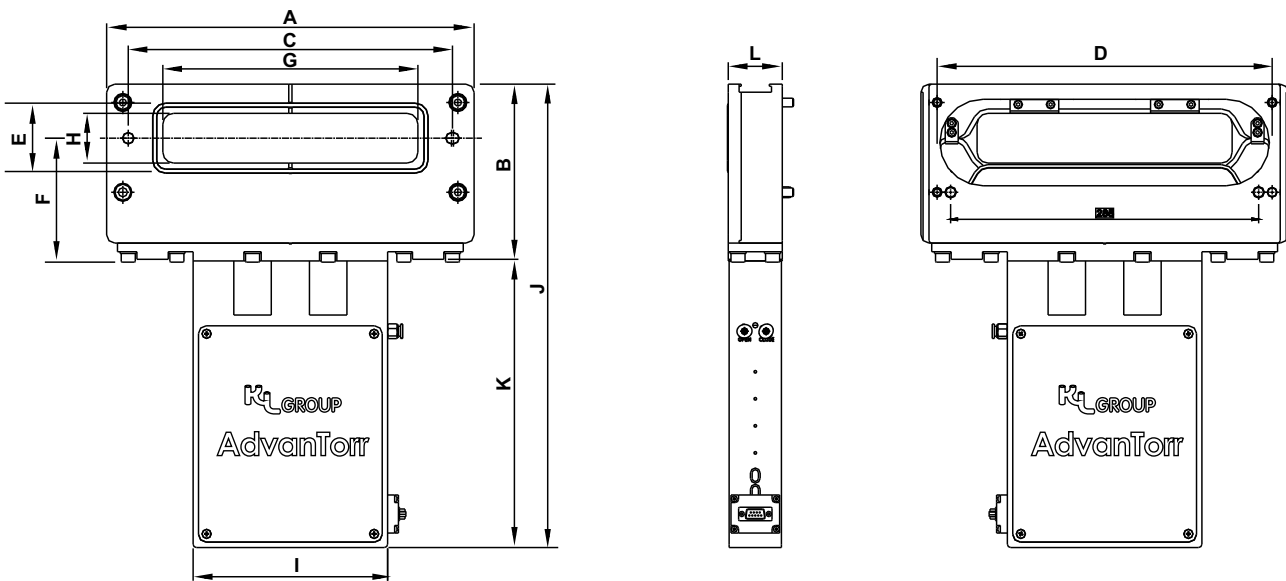
	32x222mm	46x236mm	50x336mm	70x500mm
Maximum differential pressure against gate	<900 Torr <1,200 mbar <120 kpa			
Maximum differential pressure at opening	<22.5 Torr <30 mbar <3kpa			
Pneumatic valve open / close time	0.5(s)	0.5(s)	0.7(s)	0.9(s)
Valve's Condantance (Molecular flow)	1,590(l/s)	3,340(l/s)	5,000(l/s)	10,400(l/s)

Product Order Information

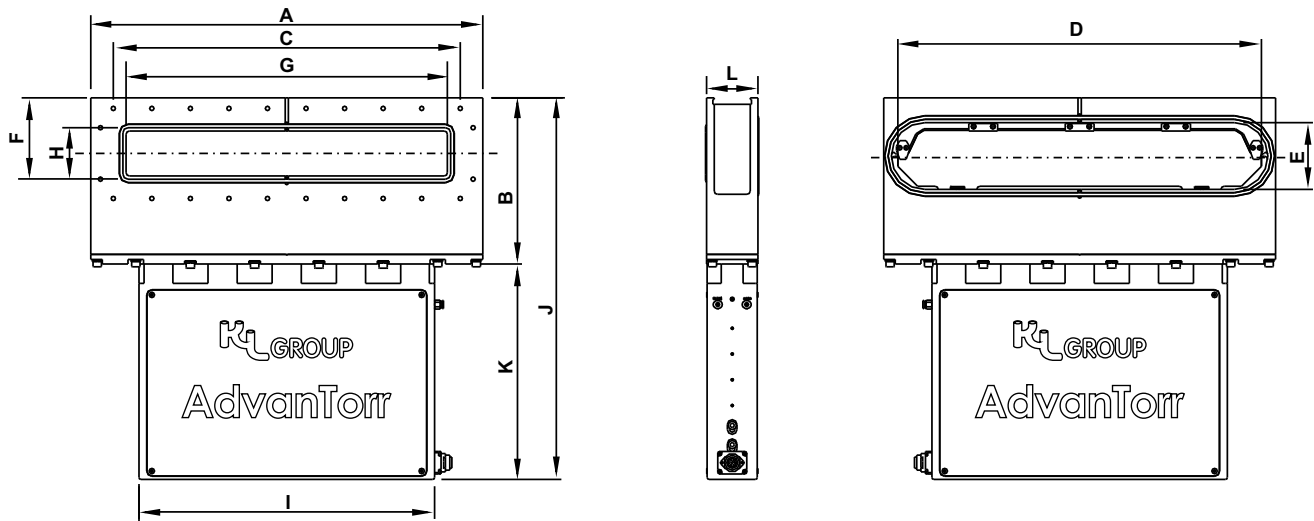
◆ **Figure 1**



◆ **Figure 2**



◆ **Figure 3**



◆ Transfer Slit Valves, Aluminum

Dimension in mm

Catalog PN	Size	Figure	A	B	C	D	E	F	G	H	I	J	K	L
TSV-32x222-AL	32 x 222	1	340	162	300	222	61	112	222	32	180	429	267	50
TSV-46x236-AL	46 x 236	2	340	162	300	305	80	112	236	46	180	429	267	50
TSV-50x336-AL	50 x 336	2	440	162	400	405	81	112	336	50	180	429	267	60
TSV-70x500-AL	70 x 500	3	610	259	540	586	104	127	500	70	460	594	335	80

◆ Transfer Slit Valves, SUS 304

Dimension in mm

Catalog PN	Size	Figure	A	B	C	D	E	F	G	H	I	J	K	L
TSV-32x222-04	32 x 222	1	340	162	300	222	61	112	222	32	180	429	267	50
TSV-46x236-04	46 x 236	2	340	162	300	305	80	112	236	46	180	429	267	50
TSV-50x336-04	50 x 336	2	440	162	400	405	81	112	336	50	180	429	267	60
TSV-70x500-04	70 x 500	3	610	259	540	586	104	127	500	70	460	594	335	80

◆ Transfer Slit Valves, UHV, SUS 304

Dimension in mm

Catalog PN	Size	Figure	A	B	C	D	E	F	G	H	I	J	K	L
TSV-UHV-32x222-04	32 x 222	1	340	162	300	222	61	112	222	32	180	429	267	50
TSV-UHV-46x236-04	46 x 236	2	340	162	300	305	80	112	236	46	180	429	267	50

