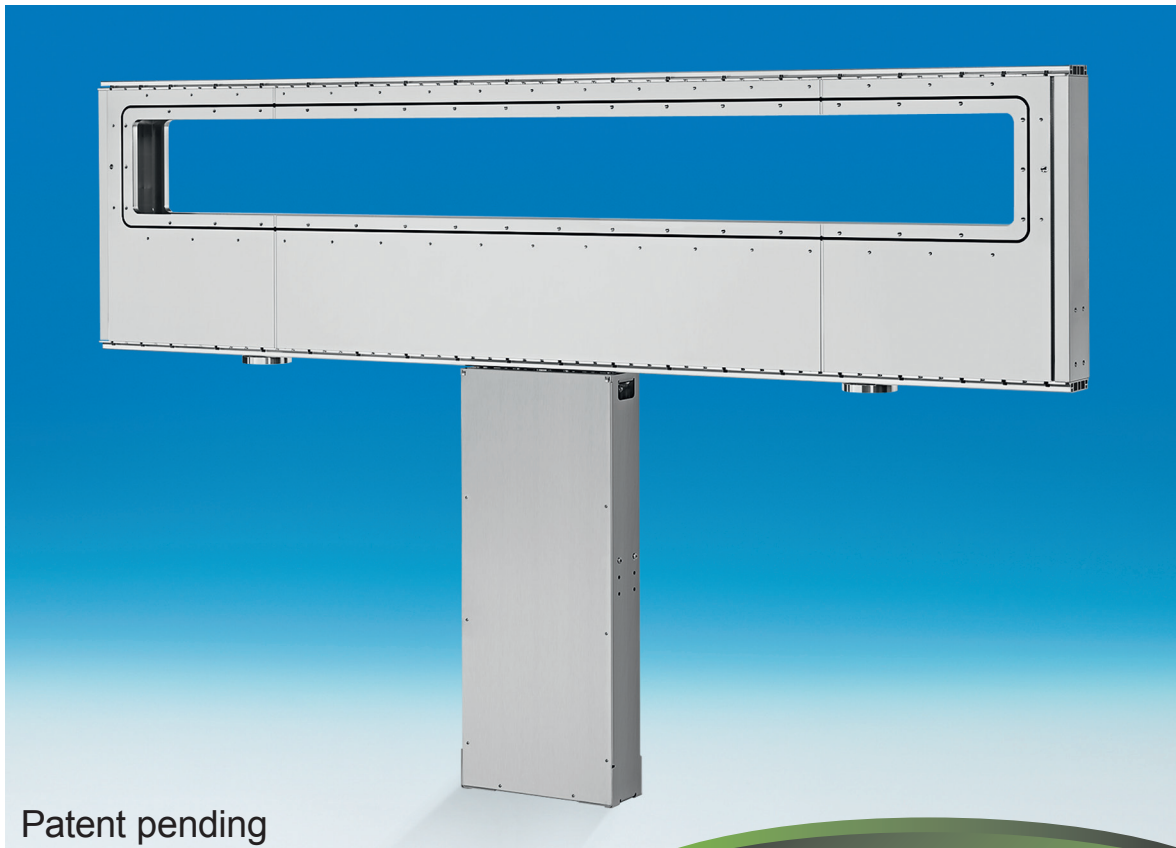




Large transfer valve TwinVAT

Service-friendly and lightweight valve for FPD production systems,
Series 06.1

Opening sizes: 100 × 1000 mm (3.94" × 39.37") to
300 × 3800 mm (11.81" × 149.60")



Vacuum is maintained in one chamber during maintenance

- Fast opening and closing
- Low particle generation
(low shock during operation)
- Easy maintenance
- Reduced Cost of Ownership

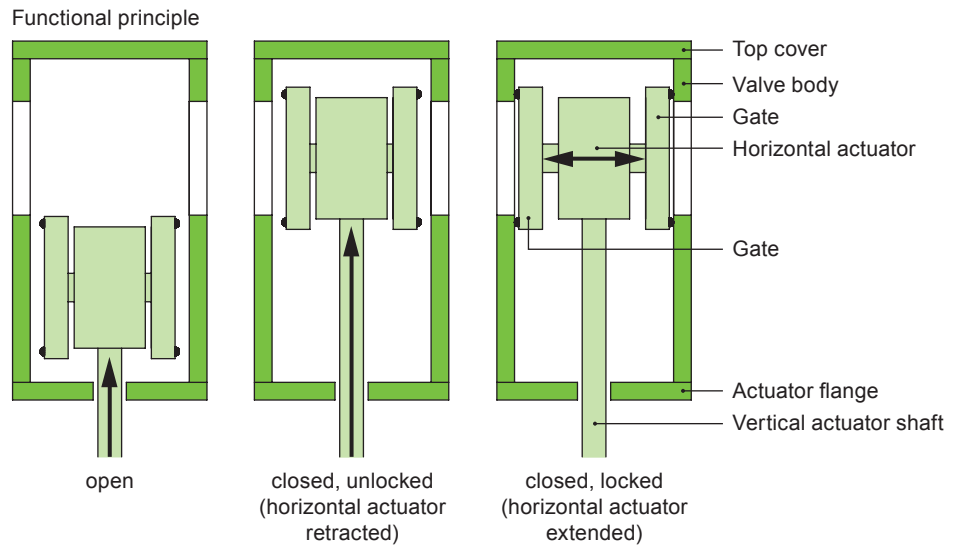
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Features

- Twin-gate design: double safety against leakage of the valve
- Easy and fast maintenance by quick-release fastener
- No system downtime during maintenance: one gate maintains the vacuum in one chamber (see «service position 3» in the illustration below)
- Identical flange-to-flange dimension of 150 mm for all valves with openings up to 300 × 3800 mm
- Three different service positions to meet customer maintenance demands
- Increased safety: safety mode during maintenance to prevent movement of the gate assembly

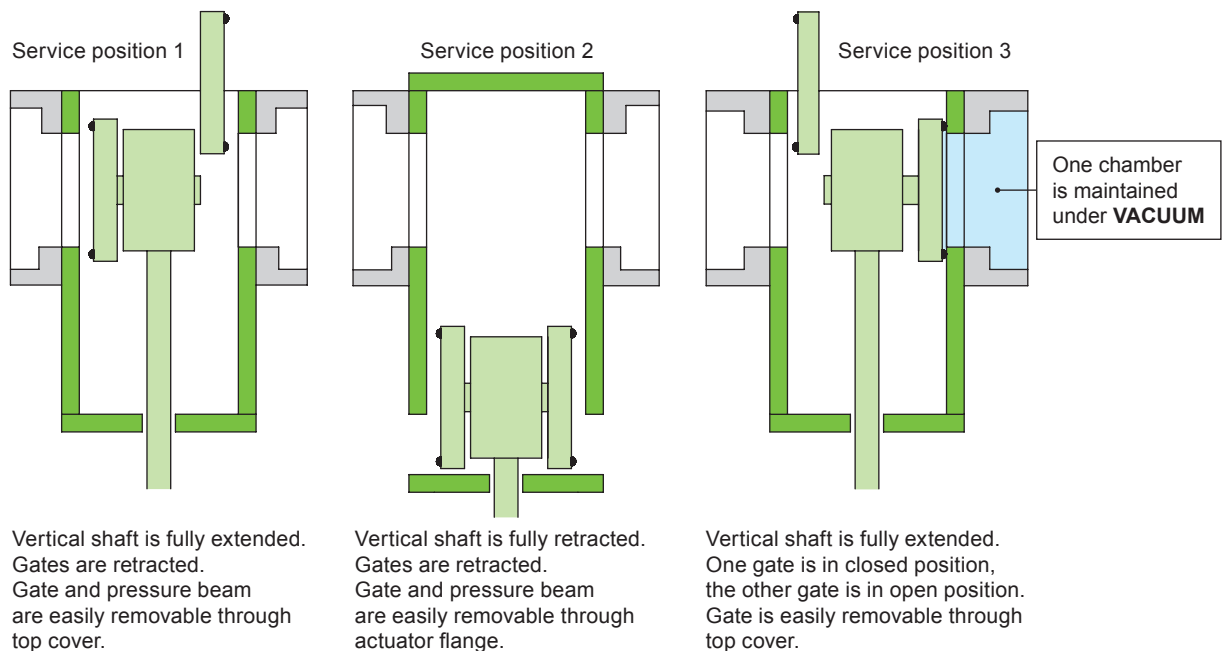
Function

- Pneumatic actuator: **double acting** with position indicators for the open and closed positions at vertical and horizontal actuation
- **T-motion** of gate (vertical and horizontal movement): parallel contact of both gate seals on the seats



Easy maintenance

The TwinVAT offers three different service positions.



Technical data

Leak rate ³⁾ : valve body, valve seat	$< 1 \cdot 10^{-7} \text{ mbar ls}^{-1}$ [$< 1 \cdot 10^{-8} \text{ Pa m}^3 \text{ s}^{-1}$]
Differential pressure on valve body and gates, in closing direction ¹⁾	$\leq 1 \text{ bar}$ [$\leq 1 \cdot 10^5 \text{ Pa}$]
Differential pressure at opening	$\leq 5 \text{ mbar}$ [$\leq 500 \text{ Pa}$]
Cycles until first service ²⁾	1 million
Closing or opening time	$\leq 2 \text{ s}$ (with 150 mm opening height)
Temperature ³⁾	
– Valve body, gate	$\leq 120 \text{ }^\circ\text{C}$
– Actuator	$\leq 60 \text{ }^\circ\text{C}$
– Solenoid valve	$\leq 50 \text{ }^\circ\text{C}$
Heating and cooling rate	$\leq 40 \text{ }^\circ\text{C h}^{-1}$
Temperature difference between seat and gate	$\leq 40 \text{ }^\circ\text{C}$
Material	
– Valve body, gate	EN AW-6082 (3.2315) or EN AW-5083 (3.3547)
– Actuator shafts	AISI 316 (1.4401)
– Bellows on pressure element	AISI 633 (AM 350)
Seal	
– Gate, flanges, feedthrough, actuator	FKM (Viton [®])
Feedthrough	shaft feedthrough
Mounting position	actuator up or down
Position indicator: voltage	24 VDC PNP (NPN optional)
Weight	
(valve opening 150 × 1600 mm)	
– Valve	160 kg (353 lbs)
– Gate	14 kg (31 lbs)
– Pressure beam assembly	37 kg (82 lbs)
– Actuator with pressure beam assembly	73 kg (161 lbs)

¹⁾ Pressure inside the valve body needs to be monitored

²⁾ Unheated and under clean conditions

³⁾ Maximum values: depending on operating conditions and sealing materials

Options

- Process control unit (PCU) and solenoid valves
- Other sealing materials
- Bellows
- Grounding of gate
- Surface treatment, e. g. aluminum hard anodized
- Vertical mounting position: actuator lateral (available from end of 2014)
- Vacuum gauge to detect the pressure inside the valve body

Requirements list for valve specification

Application				
Application	<input type="checkbox"/> Display	<input type="checkbox"/> Solar	<input type="checkbox"/> Glass coat	<input type="checkbox"/>
Technology	<input type="checkbox"/> CIGS	<input type="checkbox"/> OLED	<input type="checkbox"/>	
System layout	<input type="checkbox"/> Inline	<input type="checkbox"/> Cluster	<input type="checkbox"/>	
Process	<input type="checkbox"/> Etch	<input type="checkbox"/> PVD	<input type="checkbox"/> CVD	
	<input type="checkbox"/> Evaporation	<input type="checkbox"/> Implanting/doping	<input type="checkbox"/>	
Pressure range in process [mbar]:				
Required leak rate: [mbar ls ⁻¹]:				
Duration of process [s]	Process time:		Transfer time:	
Closing/opening time [s]	Closing:		Opening:	
Temperature [°C]	Chamber wall:	Gate:	Process:	
Number of valve cycles per day:				
Valve specification				
Opening dimensions [mm]: ×				
Differential pressure at opening:	<input type="checkbox"/> No		<input type="checkbox"/> 1 bar	
Mounting position (view on seat side = A-side)	<input type="checkbox"/> 	<input type="checkbox"/> 	<input type="checkbox"/> available from end of 2014	<input type="checkbox"/> available from end of 2014
Valve connection to chamber	A-side flange (seat side)		B-side flange (rear side)	
- Flange seal	<input type="checkbox"/> Sealing surface	<input type="checkbox"/> Groove with O-ring	<input type="checkbox"/> Sealing surface	<input type="checkbox"/> Groove with O-ring
- Location of bolt pattern	<input type="checkbox"/> Inside of sealing line	<input type="checkbox"/> Outside of sealing line	<input type="checkbox"/> Inside of sealing line	<input type="checkbox"/> Outside of sealing line
- Valve fixation	<input type="checkbox"/> Tapped hole (standard)	<input type="checkbox"/> Through hole	<input type="checkbox"/> Tapped hole (standard)	<input type="checkbox"/> Through hole
Anodized surface of valve body	<input type="checkbox"/> A-side	<input type="checkbox"/> B-side	<input type="checkbox"/> A-side partially	<input type="checkbox"/> B-side partially
Anodized surface of parts	<input type="checkbox"/> Gate on A-side	<input type="checkbox"/> Gate on B-side	<input type="checkbox"/> Actuator flange	<input type="checkbox"/> Top cover
RF shielding	<input type="checkbox"/> Gate on A-side	<input type="checkbox"/> Gate on B-side	<input type="checkbox"/> Groove on A-side	<input type="checkbox"/> Groove on B-side
Sealing material	Valve body	Gate	Actuator flange	Top cover
- Standard	<input type="checkbox"/> FKM (Viton®)	<input type="checkbox"/> FKM (Viton®)	<input type="checkbox"/> FKM (Viton®)	<input type="checkbox"/> FKM (Viton®)
- Specific [e.g. Kalrez 8085, Perfluor (FFKM)]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feedthrough	<input type="checkbox"/> Shaft (standard)	<input type="checkbox"/> Bellows		
Position indicator	<input type="checkbox"/> PNP (standard)	<input type="checkbox"/> NPN		
Solenoid valve	<input type="checkbox"/> No		<input type="checkbox"/> Yes Specify: V <input type="checkbox"/> AC (..... Hz) / <input type="checkbox"/> DC	
Service through	<input type="checkbox"/> Top cover	<input type="checkbox"/> Actuator flange		
Process control unit (PCU)	<input type="checkbox"/> No (standard)	<input type="checkbox"/> Basic (solenoid valves only)	<input type="checkbox"/> Advanced (movement control)	
Further requirements (e. g. helicoils, ...):				

Please contact us for more detailed information on these or other products.

Contact addresses on

www.vatvalve.com