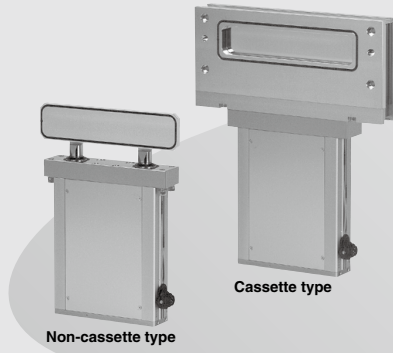
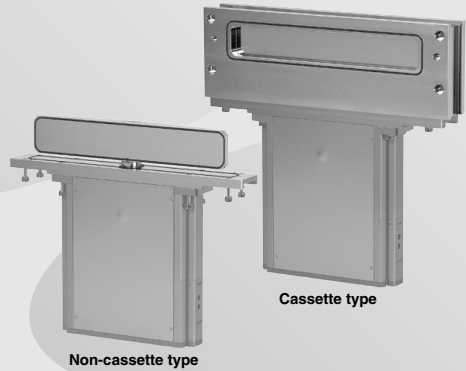


# Slit Valve

## XGT Series



For 200 mm wafer



For 300 mm wafer

### Low particle generation

L motion

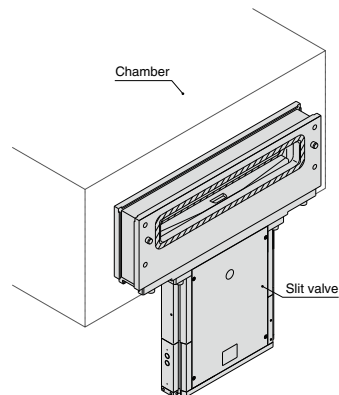
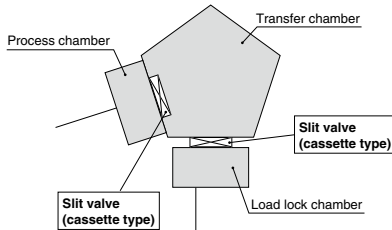
### With end lock mechanism

Can be held open/close of the gate when emergency stop.

### Service life of two million cycles.

\* With SMC's life conditions.

This product is suitable for the partition valve between the load lock chamber and the transfer chamber or between the transfer chamber and the process chamber in semiconductor equipment or other equipment.



XLA

XL□

XL□Q

XM□

XY□

D-□

XSA

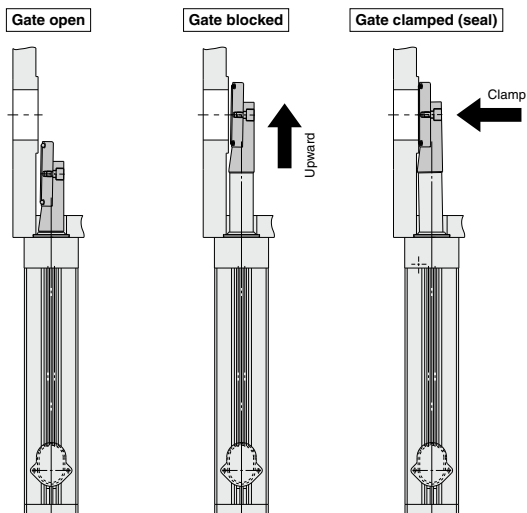
XVD

XGT

CYV

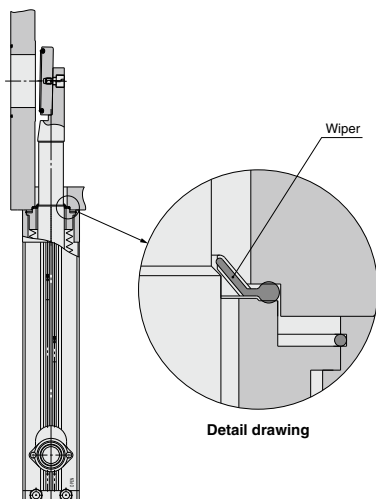
## L motion structure

Gate construction for two-stage operation consisting of a direct up and down movement and a clamp operation to seal the gate.



## Bellows protection structure

The adoption of a wiper decreases the intrusion of foreign objects, resulting from water damage and or other sources.



# Slit Valve XGT Series



## How to Order

**XGT 22 2 - 46236 - 1 C**

High vacuum slit valve

Valve size

Symbol	Number of axis	Applicable wafer size
22	Two axes bellows	200 mm
31	One axis bellows	300 mm

Auto switch and the connector  
(Refer to the table below)

Gate O-ring material

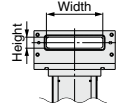
Symbol	Material
1	FKM
2	Kalrez® 4079*1
F1	FKM*2
F2	Kalrez® 4079*1, 3, 4

- \*1 Kalrez® 4079 is a registered trademark of E. I. du Pont de Nemours and Company or its affiliates.
- \*2 Specifications equivalent to the standard FKM O-ring (From another manufacturer)
- The O-rings of vacuum parts which come in contact with gas have the same specifications.
- \*3 Aside from the gate O-ring, the O-rings of vacuum parts which come in contact with gas have the same specifications as the standard FKM O-ring.
- \*4 There is no "XGT221□-F2□".

Opening window size

Symbol	Height x width (mm)	Applicable wafer size
32222 <sup>Note)</sup>	32 x 222	200 mm
46236	46 x 236	300 mm
50336	50 x 336	300 mm

Note) Neither cassette type Half MESK nor cassette type Full MESK are set.



Valve type

Symbol	Valve type			
	1 Non-cassette type	2 Cassette type Standard	3 Cassette type Half MESK	4 Cassette type Full MESK
Valve type				
Applicable wafer size	200 mm 300 mm	● ●	● ●	● —

Symbol



Made to Order specifications  
(For details, refer to page 534.)

Non-cassette type



For 200 mm wafer



For 300 mm wafer

Cassette type



For 200 mm wafer



For 300 mm wafer

Auto switch and connector

Symbol	Auto switch	Connector
Nil	None	—
A	D-A93 (With 2 pcs. for opening and closing)	Lead wire: 0.5 m (without connector)
C		With multiple connector <sup>Note 1)</sup> (C016 30C006 10012: Made by AMP)
F		With D-sub connector <sup>Note 2)</sup> (CDE-9PF05: Made by HIROSE ELECTRIC CO., LTD.)

Note 1) C016 30D006 10012 made by AMP is recommended for the connector (female type).  
Note 2) CDE-9SF05 made by HIROSE ELECTRIC CO., LTD. is recommended for the connector (female type).

XLA

XL□

XL□Q

XM□

XY□

D-□

XSA

XVD

XGT

CYV

## Specifications

Model	XGT22□-32222	XGT22□-46236	XGT31□-50336
Wafer size (mm)	200		300
Opening window size (Height x Width) (mm)	32 x 222	46 x 236	50 x 336
Number of axes	2		1
Operating environmental pressure <sup>Note 1)</sup> (Pa) (abs)	Atmospheric pressure to 10 <sup>-5</sup>		
Operating pressure differential (kPa)	4 or less		
Operating pressure range (MPa) (G)	0.45 to 0.6		
Internal leak <sup>Note 2)</sup> (Pa·m <sup>3</sup> /s)	O-ring: FKM	6.5 x 10 <sup>-10</sup>	
	O-ring: Kalrez <sup>®</sup>	6.5 x 10 <sup>-9</sup>	
Internal leak <sup>Note 2)</sup> (Pa·m <sup>3</sup> /s) at reversed pressure [Reversed pressure: 0.1 MPa (abs) or less]	O-ring: FKM	6.5 x 10 <sup>-8</sup>	
	O-ring: Kalrez <sup>®</sup>	6.5 x 10 <sup>-7</sup>	
External leak <sup>Note 2)</sup> (Pa·m <sup>3</sup> /s)	6.5 x 10 <sup>-11</sup>		
Operation temperature <sup>Note 3)</sup> (°C)	Gate part	5 to 150	
	Actuator part	5 to 60	
Fluid	Inert gas		
Operating time <sup>Note 4)</sup> (s)	0.6 to 1		
Main material of vacuum part	Seal material	FKM, Kalrez <sup>®</sup> 4079 (Option) <sup>Note 6)</sup>	
	Bellows	AM350	
	Gate	A6063	
	Body	A5052	
	Bonnet	A5052	
	Others	Stainless steel 304	
Exhaust direction	Free		
Mounting direction	Vertical		
Port size	M5 x 0.8		Rc 1/8
End-lock mechanism	With lock mechanism at opening/closing position <sup>Note 5)</sup>		
Cylinder volume (L)	0.12		0.2
Weight (kg)	Non-cassette type	14	
	Cassette type: Standard	20	
	Cassette type: Half MESK	—	20
	Cassette type: Full MESK	—	11

Note 1) Absolute pressure

Note 2) Value at normal temperature: Not including gas permeation.

Note 3) If the temperature at the gate exceeds 60°C, the operating temperature at actuator may go beyond the range. In this case, cool the actuator part.

Note 4) This shows the time after the switching valve activates and causes the gate to open and close.

Note 5) The holding function of the seal is not guaranteed when the gate is clamped.

Note 6) Kalrez<sup>®</sup> is a registered trademark of E. I. du Pont de Nemours and Company or its affiliates.


### Auto switch specifications

Auto switch type	D-A93	
Applicable load	Relay, PLC	
Load voltage	24 VDC	100 VAC
Load current range and maximum load current	5 to 40 mA	5 to 20 mA
Contact protection circuit	None	
Internal voltage drop	2.4 V or less (to 20 mA) / 3 V or less (40 mA)	
Indicator light	Red light emitting diode (LED) lights up when ON.	

### D-sub connector specifications

Description	Slit valve body side		Counter side
	Contacting division	Pin (male type)	
D-sub connector	Shell size		E
	Poles		9

Prepare the socket contacting (female type) because the slit valve body is a pin contacting (male type).

 The product should be operated after thoroughly reading the manual and understanding its contents.

### Connector wiring diagram

#### C: Multiple connector (6P)



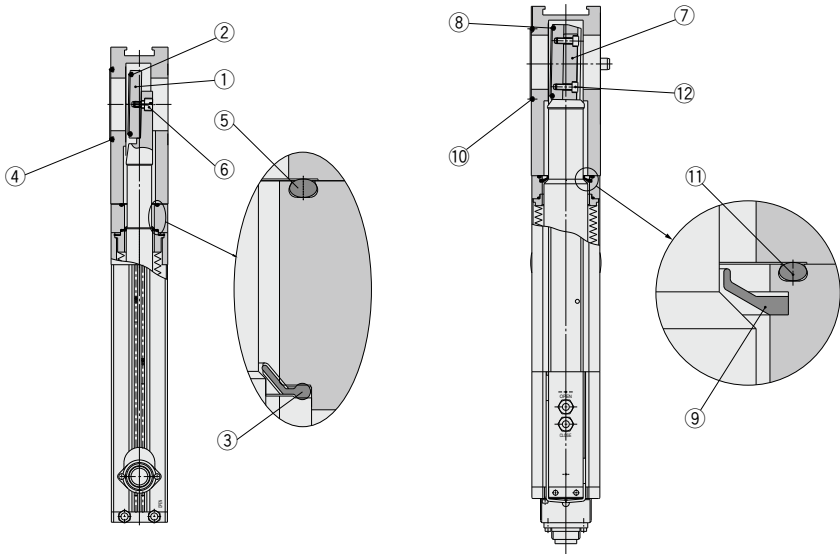
Terminal item no.	Lead wire color	Auto switch
1	Blue	OPEN (-)
2	Brown	OPEN (+)
3	—	—
4	—	—
5	Brown	CLOSE (+)
6	Blue	CLOSE (-)

#### F: D-sub connector (9P)



Terminal item no.	Lead wire color	Auto switch
1	Blue	OPEN (+)
2	Brown	CLOSE (+)
3	—	—
4	—	—
5	—	—
6	—	—
7	Blue	OPEN (-)
8	Blue	CLOSE (-)
9	—	—

**Construction**



**XGT22**  
For 200 mm wafer

**XGT31**  
For 300 mm wafer

**Component Parts**

**XGT22 (200 mm wafer type)**

No.	Description	Material	Part number	Corresponding model
1	Gate	A6063	XGT0101-2-1S	XGT22-32222-□□
			XGT0402-2-1S	XGT22-46236-□□
2	O-ring (Gate)	FKM	XGT200-9-13S	
		FKM (Equivalent to the standard FKM O-ring)	XGT200-9-13-F1S	XGT22-32222-□□
		Kalrez®4079	XGT200-9-14S	
		FKM	XGT200-9-7S	
		FKM (Equivalent to the standard FKM O-ring)	XGT200-9-7-F1S	XGT22-46236-□□
3	Gasket	FKM	XGT200-4-9S	XGT22-□-□□□□
		FKM	XGT200-9-12S	XGT222-32222-□□
4	O-ring (Body opening side)		XGT222-46236-□□	XGT222-46236-□□
		FKM (Equivalent to the standard FKM O-ring)	XGT200-9-12-F1S	XGT223-46236-□□
				XGT224-46236-□□
5	O-ring (Bonnet assembly)	FKM	XGT200-9-11S	XGT222-32222-□□
		FKM (Equivalent to the standard FKM O-ring)	XGT200-9-11-F1S	XGT222-46236-□□
6	Holding bolt		XGT223-46236-□□	
		Stainless steel 304	XGT200-2-5S	XGT22-□-□□□□

**XGT31 (300 mm wafer type)**

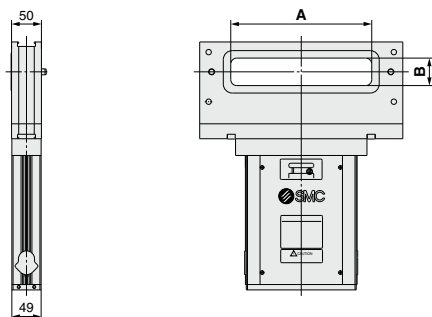
No.	Description	Material	Part number	Corresponding model
7	Gate	A6063	XGT300-2-1S	
		FKM	XGT300-9-9S	
8	O-ring (Gate)	FKM (Equivalent to the standard FKM O-ring)	XGT300-9-9-F1S	
		Kalrez®4079	XGT300-9-11S	
		FKM	XGT300-4-9S	
9	Wiper	FKM	XGT300-9-10S	
		FKM	XGT300-9-10-F1S	XGT31-50336-□□
10	O-ring (Body opening side)	FKM (Equivalent to the standard FKM O-ring)	XGT300-9-10-F1S	
		FKM	XGT300-9-7S	
11	O-ring (Bonnet assembly)	FKM (Equivalent to the standard FKM O-ring)	XGT300-9-7-F1S	
		Stainless steel 316	XGT300-2-5S	

\* Kalrez® is a registered trademark of E. I. du Pont de Nemours and Company or its affiliates.

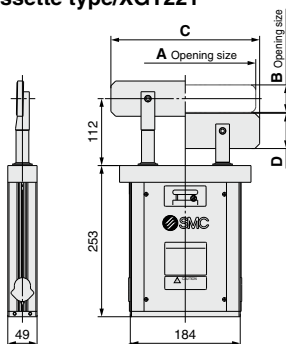
- XLA**
- XL** □
- XL** □ □
- XL** □ □
- XM** □
- XY** □
- D** - □
- XSA**
- XVD**
- XGT**
- CYV**

## Dimensions

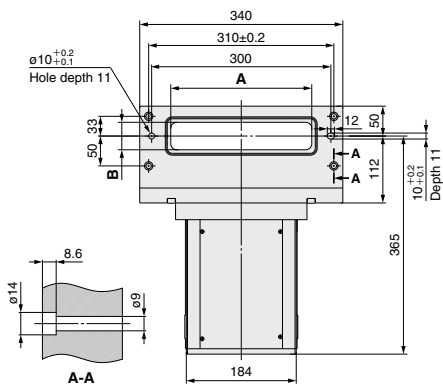
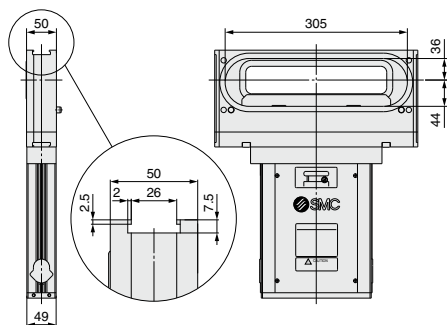
### Cassette type Standard/XGT222



### Non-cassette type/XGT221

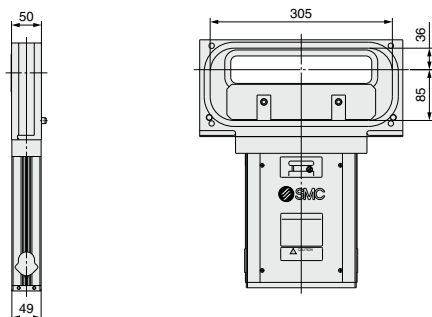


### Cassette type Half MESK/XGT223



Valve seat side (XGT222, 223, and 224 common)

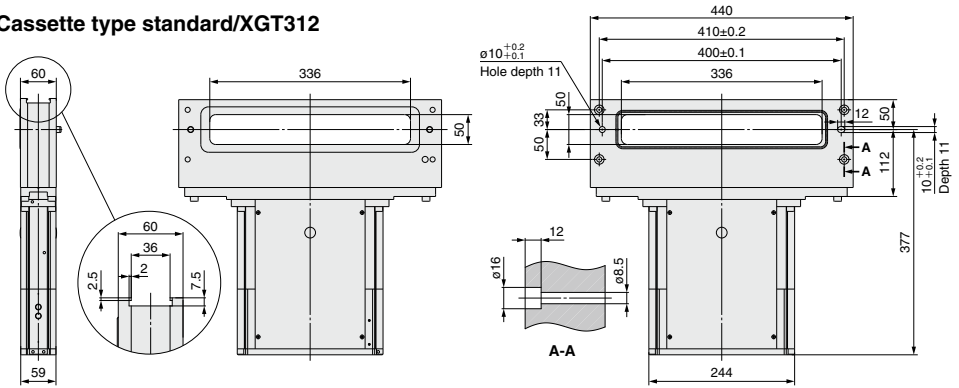
### Cassette type Full MESK/XGT224



Model	Valve type	A	B	C	D
XGT221-32222	Non-cassette type	222	32	235	45
XGT221-46236		236	46	249	59
XGT222-32222	Cassette type Standard	222	32	—	—
XGT222-46236		236	46	—	—
XGT223-46236	Cassette type Half MESK	236	46	—	—
XGT224-46236	Cassette type Full MESK	236	46	—	—

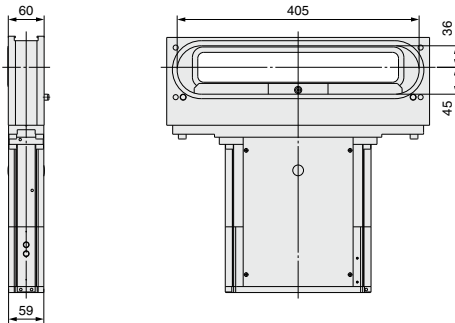
**Dimensions**

**Cassette type standard/XGT312**

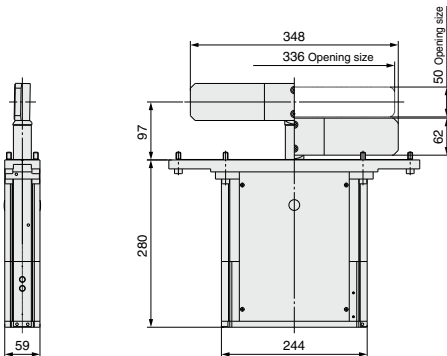


Valve seat side (XGT312, 313, and 311 common)

**Cassette type half MESK/XGT313**



**Non-cassette type/XGT311**



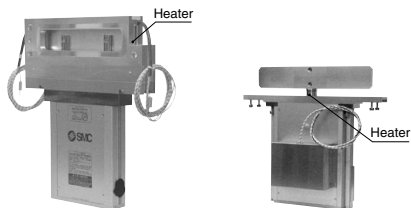
- XLA
- XL□
- XL□Q
- XM□
- XY□
- D-□
- XSA
- XVD
- XGT
- CYV

## Made to Order Specifications:

Please contact SMC for detailed dimensions, specifications and lead times.



### 1 With Built-in Heater (Up to 150°C) \* 120°C for the actuator portion



With heater on cassette

With heater on shaft

### 2 High Temperature Type (150°C) \* 120°C for the actuator portion

O-ring, guide etc. which is the part of actuator are changed to heat resistance.

### 3 Holding Function of the Seal (When Operating Pressure is Stopped)

Sealing is maintained when operating pressure is stopped.

### 4 Anodized Parts

The parts which come in contact with gas (oxalic acid aluminum alloy, stainless steel etc.) is changed.

### 5 Replaceable Bellows

Customer can replace bellows.