

Slit Valve

XGT Series



For 200 mm wafer

For 300 mm wafer

Low particle generation

L motion

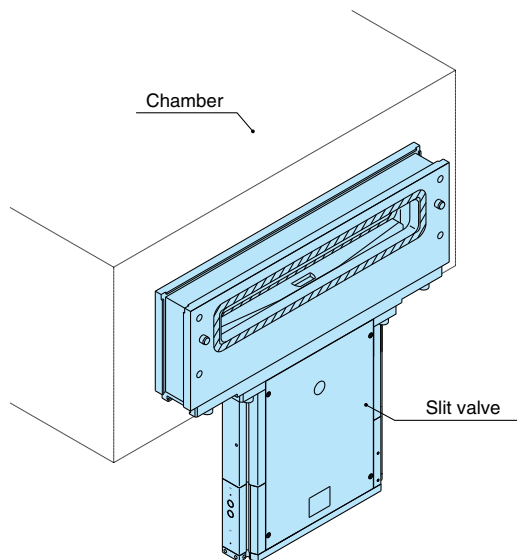
With end lock mechanism

The gate can be hold opened/closed during on emergency stop.

Service life of two million cycles.

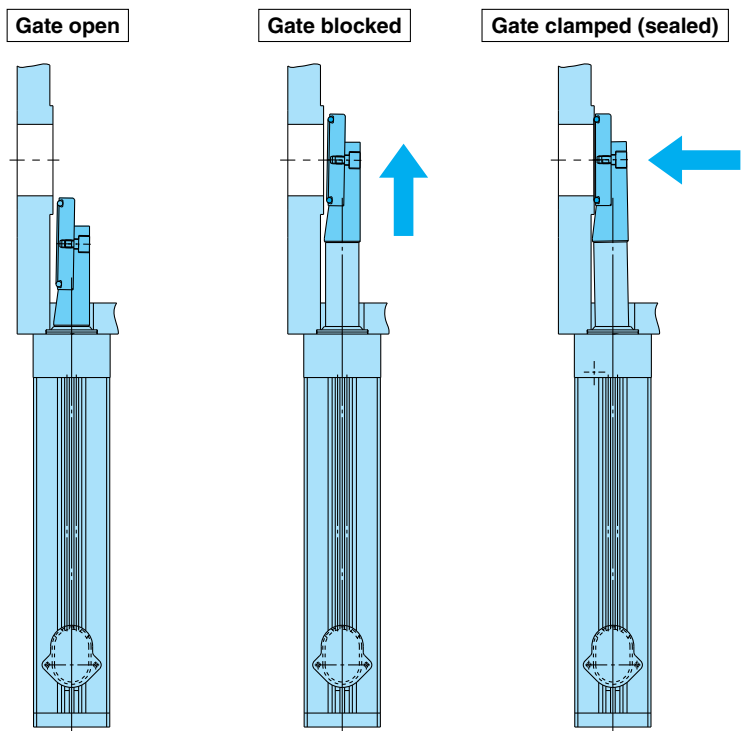
* With SMC's life conditions.

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.

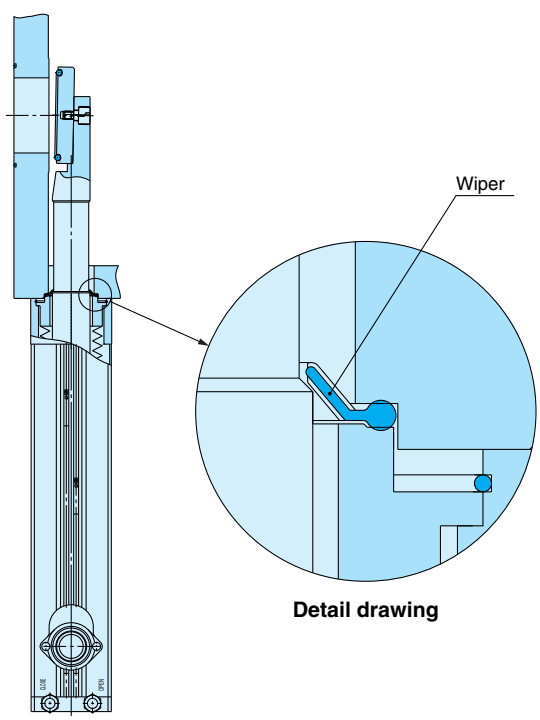


Series XGT

L motion structure A gate construction with a two-stage operation which consists 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 wafer damage and or other sources.



Slit valve Series XGT

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)

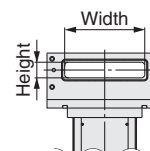
Gate O-ring material

Symbol	Material
1	FKM
2	FFKM

Opening window size

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

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



Valve type

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

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
-	None	—
A		Lead wire: 0.5 m (without connector)
C	D-A93 (With 2 pcs. for opening and closing)	With multiple connector <small>Note 1)</small> (T3106 000: Made by AMP)
F		With D-sub connector <small>Note 2)</small> (CDE-9PF05: Made by HIROSE ELECTRIC CO., LTD.)

Note 1) T3105000 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).

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 ^{Note 1)} Pa (abs)		Atmospheric pressure to 10 ⁻⁶		
Operating pressure differential kPa		4 or less		
Operating pressure range MPa (G)		0.45 to 0.6		
Internal leak ^{Note 2)} Pa·m ³ /s	O-ring: FKM	6.5 x 10 ⁻¹⁰		
	O-ring: Kalrez [®]	6.5 x 10 ⁻⁹		
Internal leak ^{Note 2)} Pa·m ³ /s at reversed pressure [Reversed pressure: 0.1 MPa (abs) or less]	O-ring: FKM	6.5 x 10 ⁻⁸		
	O-ring: Kalrez [®]	6.5 x 10 ⁻⁷		
External leak ^{Note 2)} Pa·m ³ /s		6.5 x 10 ⁻¹¹		
Operation temperature ^{Note 3)} °C	Gate part	5 to 150		
	Actuator part	5 to 60		
Fluid		Inert gas		
Operating time ^{Note 4)} s		0.6 to 1		
Main material of vacuum part	Seal material	FKM, FFKM (Option)		
	Bellows	AM350		
	Gate	A6063		
	Body	A5052		
	Bonnet	A5052		
	Others	Stainless steel 304		
Exhaust direction		Free		
Mounting direction		Vertical		
Port size		M5	Rc 1/8	
End-lock mechanism		With lock mechanism at opening/closing position ^{Note 5)}		
Cylinder volume ℓ		0.12	0.2	
Weight kg	Non-Cassette type	8	14	
	Cassette type: Standard	12	20	
	Cassette type: Half MESK	—	12	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.

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
D-sub connector	Contacting division	Pin (male type)	Socket (female type)
	Shell size	E	
	Poles	9	

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

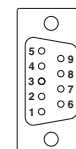
Connector wiring diagram

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 (-)

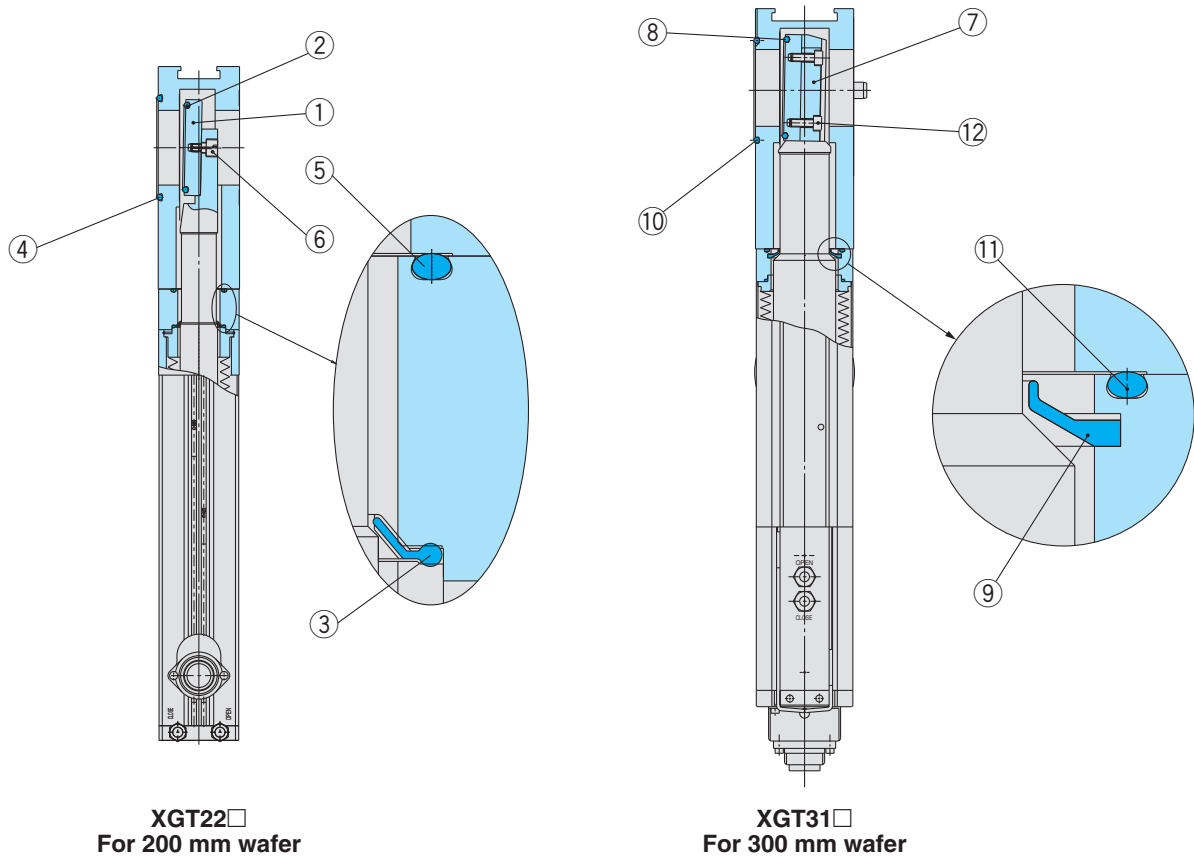
F: D-sub connector (9P)



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

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

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	XGT22-32222-□□
		FFKM	XGT200-9-14S	
		FKM	XGT200-9-7S	XGT22-46236-□□
		FFKM	XGT200-9-9S	
3	Wiper	FKM	XGT0402-4-9S	XGT22-□□-□□
4	O-ring (Body opening side)	FKM	XGT200-9-12S	XGT22-□□-□□
5	O-ring (Bonnet assembly)		XGT300-9-11S	
6	Holding bolt	Stainless steel 304	XGT200-2-5S	XGT22-□□-□□

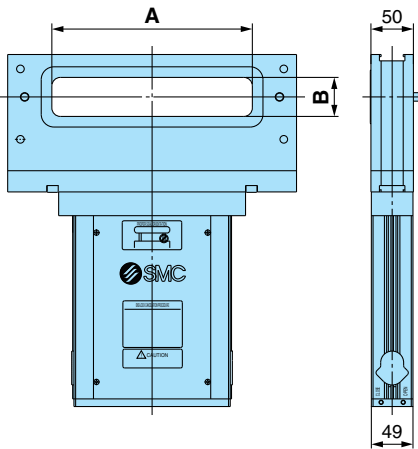
XGT31 (300 mm wafer type)

No.	Description	Material	Part number	Corresponding model
7	Gate	A6063	XGT300-2-1S	XGT31-50336-□□
8	O-ring (Gate)	FKM	XGT300-9-9S	
		FFKM	XGT300-9-11S	
9	Wiper	FKM	XGT300-4-9S	
10	O-ring (body opening side)	FKM	XGT300-9-10S	XGT31-50336-□□
11	O-ring (Bonnet assembly)		XGT300-9-7S	XGT31-50336-□□
12	Holding bolt	Stainless steel 316	XGT300-2-5S	

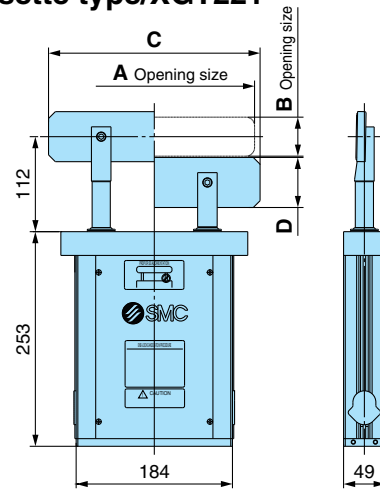
Series XGT

Dimensions

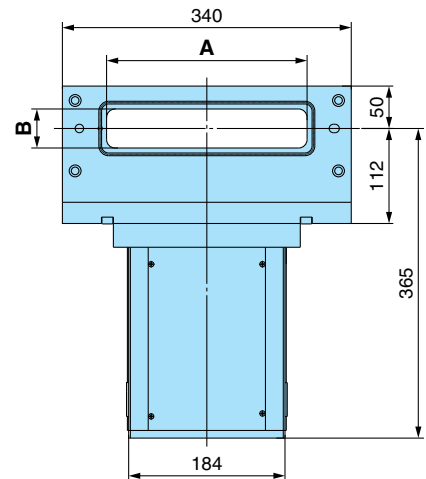
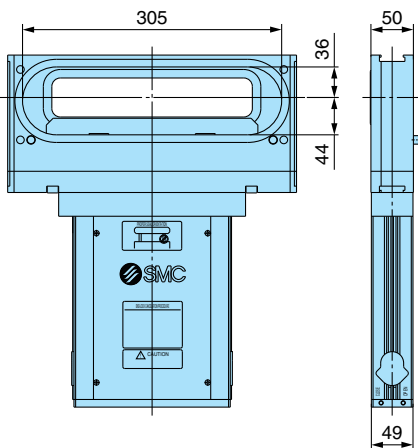
Cassette type Standard/XGT222



Non-Cassette type/XGT221

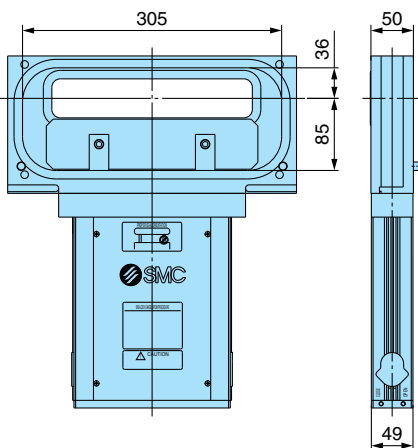


Cassette type Half MESK/XGT223



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

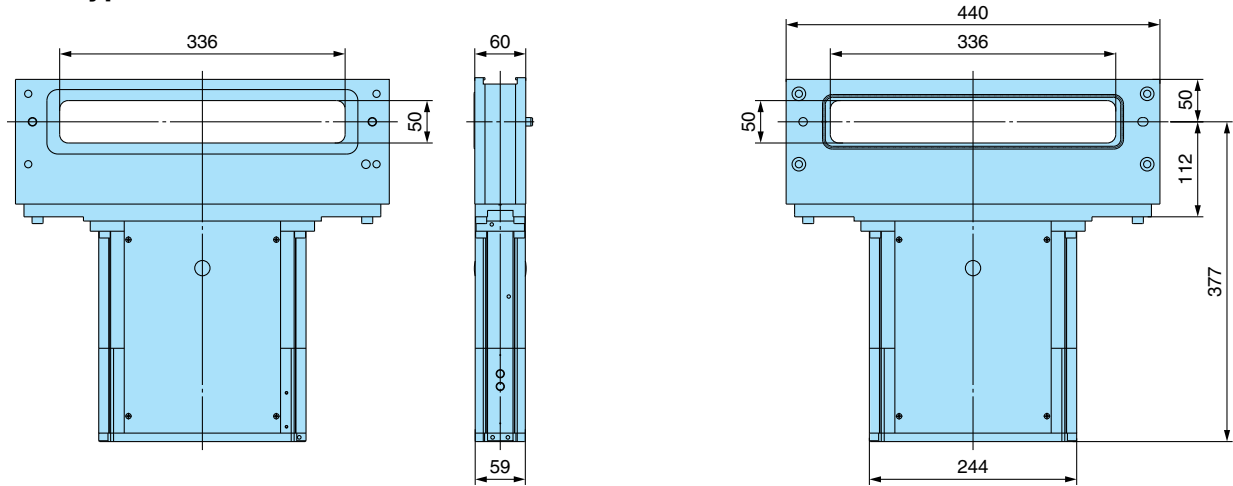
Cassette type Full MESK/XGT224



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	—	—

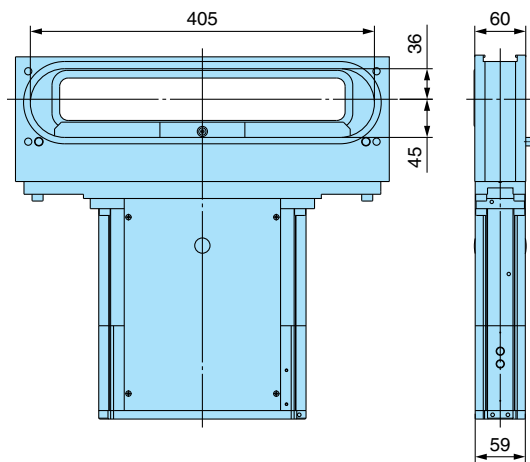
Dimensions

Cassette type Standard/XGT312

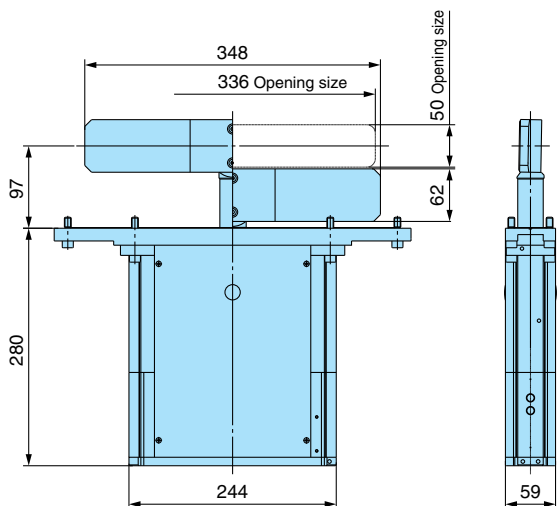


Valve seat side (XGT312, 313, and 311 commons)

Cassette type Half MESK/XGT313



Non-Cassette type/XGT311



Series XGT Made to Order

Contact SMC for further detail.



Anodized parts

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

Replaceable bellows

Customer can replace the bellows.

High temperature type (150°C)

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

Holding function of the seal (when operating pressure is stopped)

Sealing is maintained when operating pressure is stopped.

SMC CORPORATION (Europe)

Austria	☎ +43 226262280	www.smc.at	office@smc.at	Lithuania	☎ +370 5 264 81 26		
Belgium	☎ +32 (0)33551464	www.smc-pneumatics.be	post@smc-pneumatics.be	Netherlands	☎ +31 (0)205318888	www.smc-pneumatics.nl	info@smc-pneumatics.nl
Bulgaria	☎ +359 2 9744492	www.smc.bg	office@smc.bg	Norway	☎ +47 67129020	www.smc-norge.no	post@smc-norge.no
Croatia	☎ +385 1 377 66 74	www.smc.hr	office@smc.hr	Poland	☎ +48 225485085	www.smc.pl	office@smc.pl
Czech Republic	☎ +42 0541424611	www.smc.cz	office@smc.cz	Portugal	☎ +351 226108922	www.smces.es	postpt@smc.smces.es
Denmark	☎ +45 70252900	www.smc.dk	smc@smc-pneumatik.dk	Romania	☎ +40 213205111	www.smcromania.ro	smcromania@smcromania.ro
Estonia	☎ +372 (0)6593540	www.smc-pneumatics.ee	smc@smc-pneumatics.ee	Russia	☎ +812 1185445	www.smc-pneumatik.ru	marketing@smc-pneumatik.ru
Finland	☎ +358 207 513513	www.smc.fi	smcffi@smc.fi	Slovakia	☎ +421 244456725	www.smc.sk	office@smc.sk
France	☎ +33 (0)164761000	www.smc-france.fr	contact@smc-france.fr	Slovenia	☎ +386 73885249	www.smc.si	office@smc.si
Germany	☎ +49 (0)61034020	www.smc-pneumatik.de	info@smc-pneumatik.de	Spain	☎ +34 945184100	www.smces.es	post@smc.smces.es
Greece	☎ +30 (0)13426076	www.smceu.com	parianos@hol.gr	Sweden	☎ +46 (0)86031200	www.smc.nu	post@smc-pneumatics.se
Hungary	☎ +36 13711343	www.smc.hu	office@smc.hu	Switzerland	☎ +41 (0)523963131	www.smc.ch	info@smc.ch
Ireland	☎ +353 (0)14039000	www.smc-pneumatics.ie	sales@smc-pneumatics.ie	Turkey	☎ +90 (0)2122211512	www.entek.com.tr	smc-entek@entek.com.tr
Italy	☎ +39 (0)292711	www.smcitalia.it	mailbox@smcitalia.it	UK	☎ +44 (0)8001382930	www.smc-pneumatics.co.uk	sales@smc-pneumatics.co.uk
Latvia	☎ +371 (0)7779474	www.smc.lv	info@smclv.lv				

European Marketing Centre ☎ +34 945184100
SMC CORPORATION ☎ +81 0335022740

www.smceu.com
www.smcworld.com

SMC CORPORATION Akihabara UDX 15F, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, JAPAN Phone: 03-5207-8249 FAX: 03-5298-5362