



## **SMC solutions for Sterilizer**

Sterilizer Applications

## SMC – Your automation partner for the sterilizer

SMC is a world leader in innovative design of automation components specifically suited to the Medical Device, Life Science, and sterilizer Industry. Our global network of sales and services, covering over 83 countries, is supported by an expansive manufacturing capacity in order to meet our customers' needs. We offer over 700,000 products that include technologies for pneumatic and robotic automation, microfluidics, thermo control, high purity liquid and gas, among many others.

Custom design, total solution and component quality are part of our DNA.

Our components...for the life of your device.

## Sterilizer Applications





# Sterilizer Applications

## Small Autoclave (Steam)



## Large Autoclave (Steam)



## Ethylene Oxide (Low Temp)



## H<sub>2</sub>O<sub>2</sub>, NO<sub>2</sub>, and Others



# Small Autoclave (Steam)



Steam sterilizers, also referred to as autoclaves, are an essential part of the decontamination and sterilization process performed by sterile processing departments (SPD) in hospital, clinic and dental facilities.

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2-way valve for water

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2-way valve for steam

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Vapor pressure confirmation sensor

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Quick coupler for water

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One-touch fitting

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## JSX 2-Port Valve for air, water

- 1/8" to 3/8" NPT, G, and Rc port
- UL, CE and NSF compliant
- 360-degree coil rotation



## VX2 / VX3 2/3 Port Valve

- Fluid: air, water, hot water
- Body material: Al, resin, C37, SUS
- UL, CE compatible

VX2



VX3



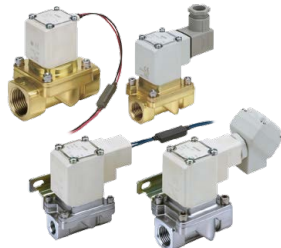
## KQG2 One-touch Fitting

- Grease free
- Simple push-to-connect
- High temperature to 150°C (300°F)



## VXS2 Zero Differential Pressure Type Pilot Operated 2-Port Solenoid Valve

- For steam
- Long life: 3 million cycles
- Reduced temp and low coil temp rise



## VXK 2 Way Valve with Y-strainer

- For air, water, or steam
- Space saving combination unit
- Built-in strainer



## KKA S-Coupler for water

- Body material: Stainless steel 304
- Seal material: Fluoropolymer (Special FKM)
- Built-in check valve(s)



## VCW-X51 2-Port Valve for steam

- Fluid: steam
- Coil insulation type H type
- Reverse pressure (Max 0.1 MPa) countermeasure specifications



## Large Autoclave (steam)



Fluoropolymer for high temp and purity

2-way valve for steam

2-way valve for water

Vapor pressure confirmation sensor

Solenoid directional valves

Filter/Regulator for system air

### Fluoropolymer Tubing and Fittings

- 1/8" to 1" OD
- Max. fluid temp. 200°C
- Translucent colors available



### VXB / JSB Air-operated Angle Seat Valve

- For steam (10 A - 50 A)
- Low pressure loss due to angle seat structure
- Long life 3 million cycles (steam)



### VXS 2-Port Valve for steam

- Solenoid valve for steam
- Caliber: 1/4 to 1 inch
- Long life 3 million times (steam)



### SY Directional Control Valve

- Space saving and improved operability
- Power consumption 0.1 W
- Supports dual 3-port valves



### WF Water Strainer

- Simple maintenance, replaceable mesh



### AC-D Air Combination Units for air supply

- Clean looking, urban white, modular design
- Element and bowl are in one-piece



### AXT1274AX8 Non-return Valve

- Fluid: steam
- Caliber: 1/2



### JSXD Pilot Operated 2-Port Solenoid Valve, large flow for water

- 1/4" port to 2" 50 A
- Up to 2,200 l/min flow
- 1 to 60°C water temp





# Ethylene Oxide (EtO) Cartridge or Cylinder



Ethylene oxide sterilizers are used to sterilize heat and moisture sensitive devices that would be damaged by pure steam or liquid chemical sterilization, including most plastic or rubber products (e.g., catheters, resuscitation bags, anesthesia masks, most fiberoptic instruments), as well as non-heat-sensitive devices.

## Pressure Regulator for gasses

- Up to 10,000 PSIG (690 bar) inlet
- Delivery pressure from absolute
- 1/8 through 1" connection



## Valves for gasses

- 1/4 inch through 1" line size
- Operating pressures from low vacuum to 4,500 PSIG (310 Bar)
- Manual and pneumatic actuation



## Flow Devices

- Check Valves
- Vacuum Generators
- Flow Switches



## KQ2 Fitting and TIUB Tubing

- Fluid: air
- Applicable tubing O.D.: 1/8" to 1/2"
- Operating pressure range: -100 kPa to 1 MPa

### KQ2



### TIUB



## ISE7□G High-precision Digital Pressure Switch

- Pressure ranges: 1, 2, 5 and 10 MPa
- 3-screen, 3-color display
- UL/CE/RoHS standards



## PSE Pressure Sensor for pressure monitoring

- Remote high pressure sensor
- Enhanced durability
- Vacuum to 10 MPa (1,450 PSIG)



## JSY Compact Solenoid Valve

- Size reduction for flow
- Dual 3-port slices
- Low power consumption



## PF2M7(-L) Digital Flow Switch

- 2 to 200 L/min range
- Dry air, N<sub>2</sub>, Ar, CO<sub>2</sub>
- Grease Free



## ZH Vacuum Ejector

- Compact and lightweight
- Nozzle diameter: 0.5-2.0



## H<sub>2</sub>O<sub>2</sub>, NO<sub>2</sub>, and Others



Hydrogen peroxide sterilization, is a low temperature sterilization process commonly used to sterilize heat-sensitive devices. The process involves H<sub>2</sub>O<sub>2</sub> vapor filling the sterilizer chamber, contacting and sterilizing exposed device surfaces.

### LVM Compact 2/3-Port Valve

- Low particle generation
- Isolated structure (diaphragm)
- Poppet or rocker type
- Available with power saving circuit



### AK Diaphragm Valve

- Compact and lightweight
- Cleaned for oxygen service
- Manual or pneumatic actuation



### LPV Pinch Valve

- Highly resistant to contamination
- Power consumption: 2.0 W or 2.9 W
- Easy tubing replacement



### PVQ Proportional Valve for gasses

- Air or inert gasses
- Flow control proportional to current or voltage signal
- Repeatability 3% or less



### LVC/LVA/LVH High Purity Chemical Liquid Valve

- Low particle generation
- High chemical resistance
- Air and manual operation
- Fluid temperature 0 to 100°C (212°F)



### JSXP Proportional Valve for liquids

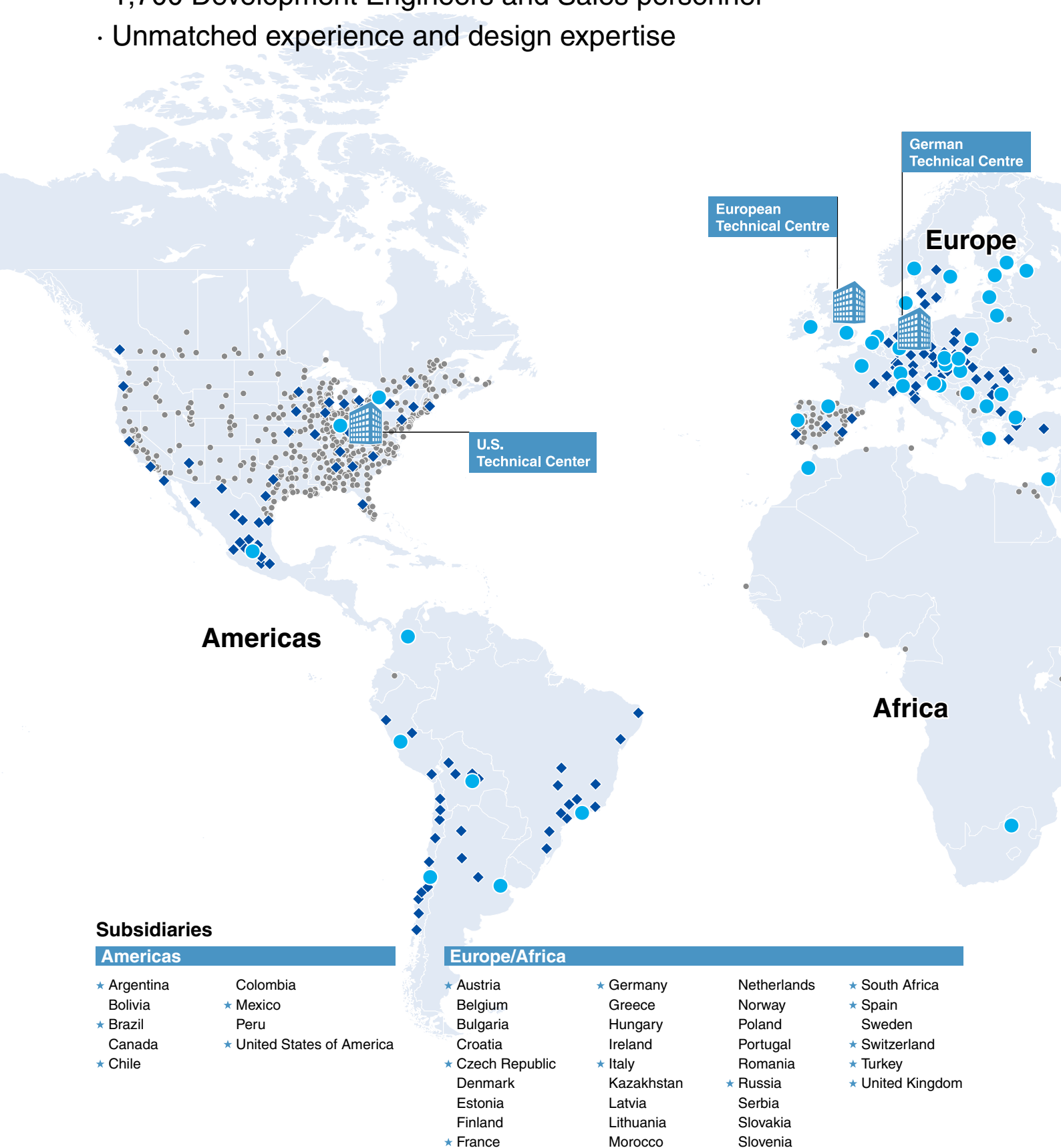
- 1.6 mm or 2.4 mm orifice
- Flow proportional to input signal
- Stainless Steel body



NO<sub>2</sub> sterilization is a truly room temperature process, which provides designers and developers a good choice for the sterilization of temperature-sensitive materials such as bioresorbable polymers.

Looking for a custom sterilizer solution? Then look to SMC

- 5 technical centers around the globe dedicated to your local and unique challenges.
- 1,700 Development Engineers and Sales personnel
- Unmatched experience and design expertise



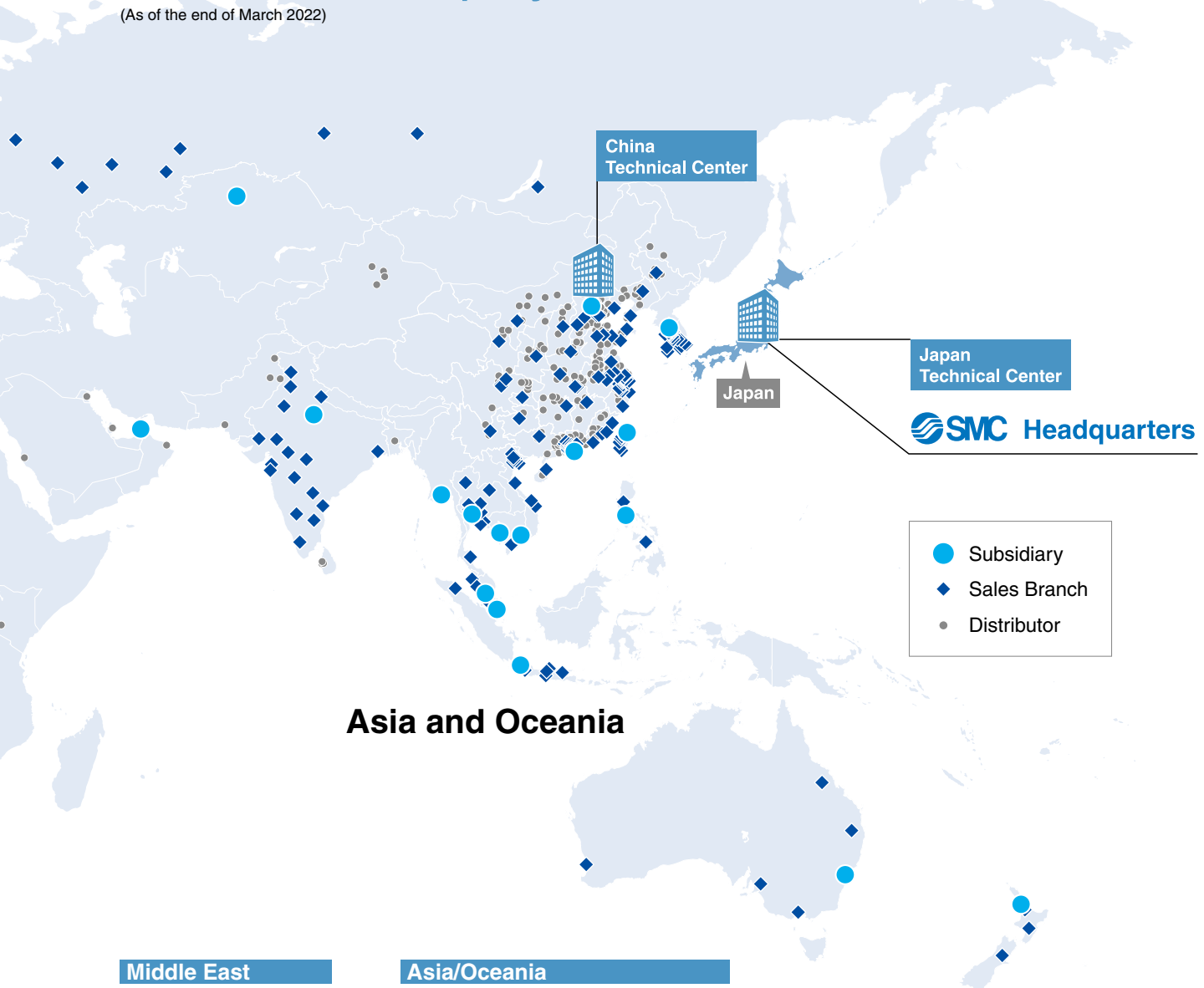


Local services in about 80 countries  
and regions worldwide

Production facilities in 30 countries  
and regions

Number of employees: 21,620

(As of the end of March 2022)



## Asia and Oceania

### Middle East

Israel  
United Arab Emirates

### Asia/Oceania

★ Australia  
★ Cambodia  
★ China  
★ Hong Kong  
★ India  
★ Indonesia  
★ Korea  
★ Malaysia  
★ Myanmar  
★ New Zealand  
★ Philippines  
★ Singapore  
★ Taiwan  
★ Thailand  
★ Vietnam

★ Production facility

\* The names of countries and regions listed in each area are alphabetically indexed.

\*\* This list only contains countries/regions with a wholly owned subsidiary.




## SMC solutions for Sterilizer

SMC – Your automation partner for the sterilizer

Please refer to individual product catalogs for detailed specifications on each item listed in this guide.  
Scan the QR code below for more information.

Find out what we can offer to meet your needs,  
at: [www.smcworld.com](http://www.smcworld.com) or [www.smcusa.com](http://www.smcusa.com)



 <b>Safety Instructions</b>	Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.
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