

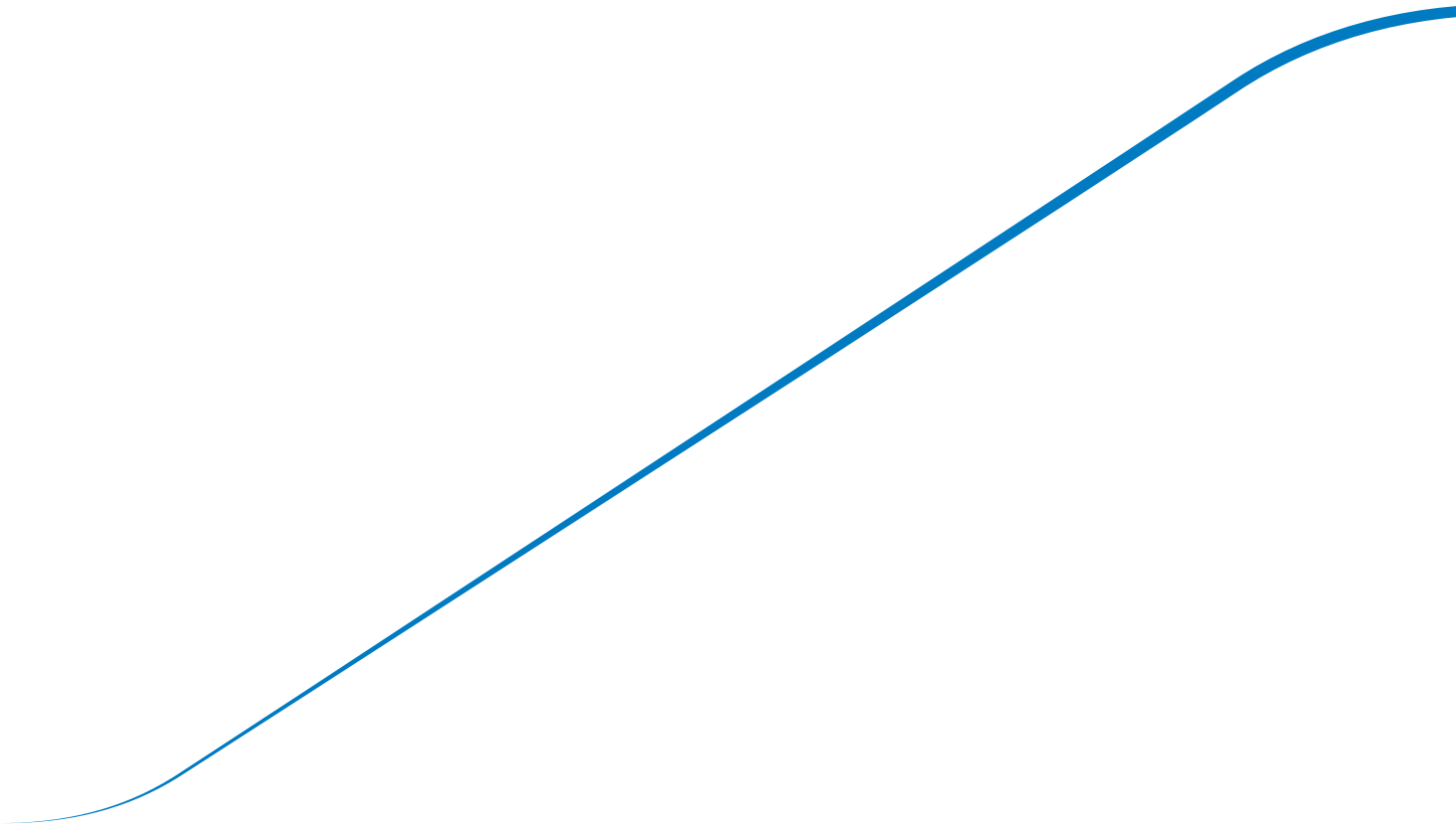


Expertise – Passion – Automation



New products 2020

Volume 1



New products 2020

Volume 1

The world never stops evolving, and the market evolves with it, becoming more and more competitive. At SMC, we know you work hard every day to maintain your competitive lead and we want to give you a boost.

How can we do that? Through strong worldwide customer support, an experienced human team with eyes and ears wide open to understand your environment and the impact of any changes on your business; understanding your expectations, fears and concerns.

Forming a partnership with SMC can make a real difference, enhancing your ability to seize opportunities. Our passion for continuous improvement in performance, quality and cost results in an ever-expanding product line that is applicable to every type of equipment.

This catalogue incorporates our most recent innovative product solutions, with the aim of keeping you right up to date on the latest SMC solutions for your automation needs.

The new products you'll discover inside include our new air servo cylinder that allows multipoint positioning and control, a multistage ejector that can save 90 % of the total air consumption, an enhanced and more efficient vacuum unit, and many more!

Index

Vacuum unit ZK2□A Series	p.4
Liquid dispense pump LSP Series	p.6
2/3-Port solenoid valve for chemical liquids LVM Series	p.7
Air servo cylinder IN-777 Series	p.8
Multistage ejector ZL1/ZL3/ZL6 Series	p.10
Low profile 2/3-port solenoid valve SX90/090 Series	p.12
High rigidity slider type electric actuator, ball screw drive, high power (750 W) LEJS100-X400 Series	p.13
Regulator and filter regulator with built-in pressure gauge ACG/ARG/AWG Series	p.14
See more improved versions in our product portfolio:	
- Finger valve – VHK Series	p.15
- Speed controller with large flow rate – AS-X778 Series	p.15
- AC servo motor drivers – LECSB-T & LECSC-T Series	p.15
- Rod type electric actuator with IP67 enclosure – LEY-X7 Series	p.15
- Step motor controller with input signals to perform jog operation – LECP1-XB182 Series	p.15

Vacuum unit

ZK2□A Series



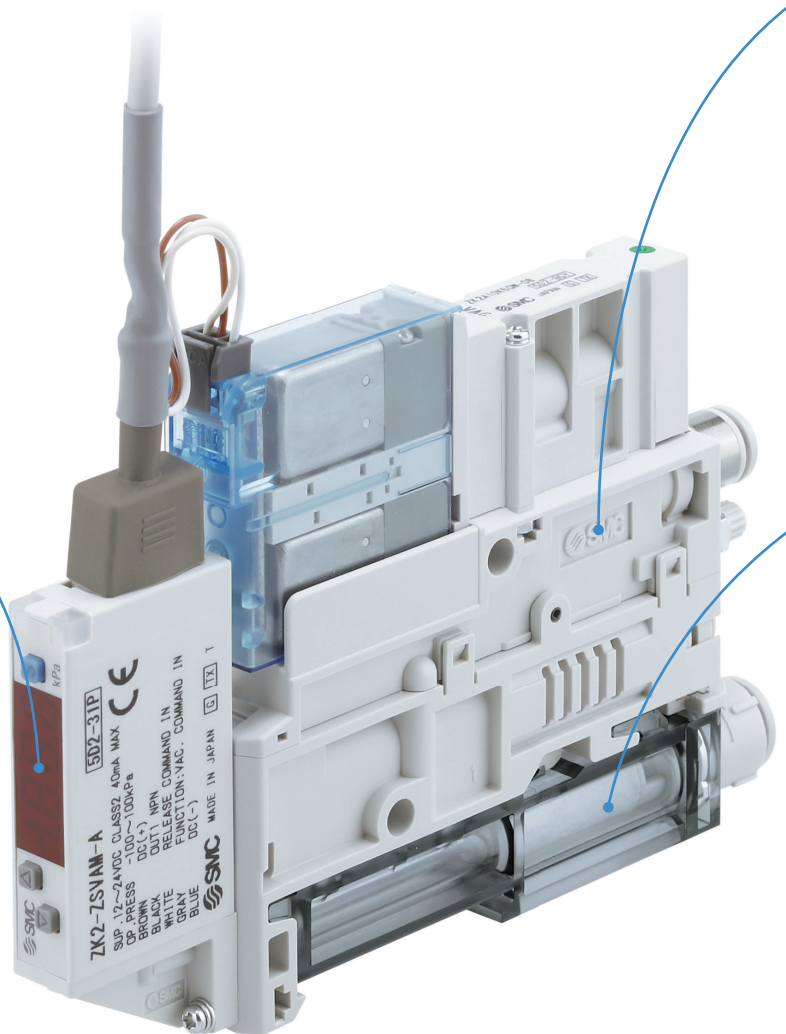
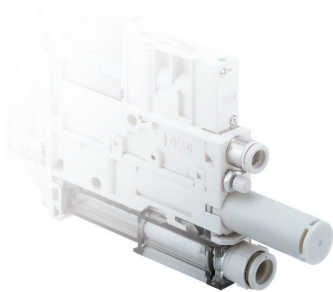
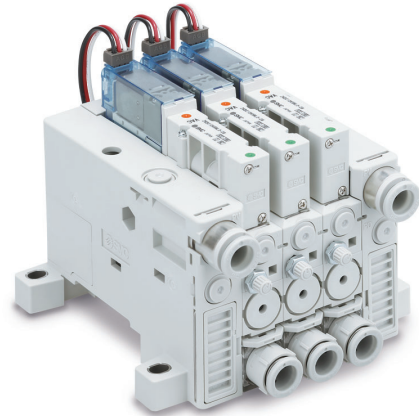
The all-in-one silent energy saving solution

► **Different vacuum unit variations**

Ejector system and vacuum pump system as single unit and manifold mounting variations available

► **High noise reduction silencer:**

- Reduction of the ejector exhaust noise
- Reduction of high frequency noise
- Suction flow rate improved by up to 20 %.

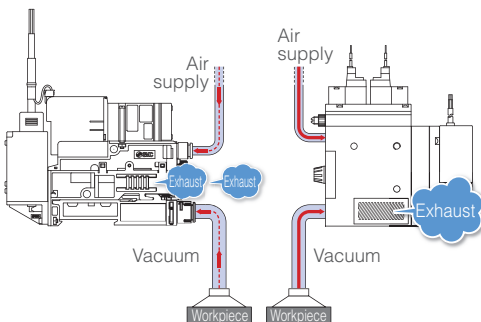


Energy saving digital pressure switch for a 90 % air consumption reduction

Intermittent energising (supply/exhaust) only when vacuum decreases (Not available for pumps).

Energy saving ejector

Existing product



- ▶ **Achieve efficiency** – Ejector, pump and manifold system in a single unit
- ▶ **Lower your air consumption** – Energy saving digital vacuum switch and a 2-stage ejector
- ▶ **Get compactness and lightness** – Ideal solution for moving tools
- ▶ **Make your work place quieter** – High-noise reduction silencer.

All-in-one design with integrated components to be compact and lightweight

As light as 95 g for ejector system and 97 g for vacuum pump system

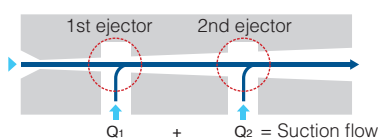
▶ **Dual 2 port valve (Supply valve/Release valve):**

- Supply valve with self-holding function (Except for energy-saving digital pressure switch)
- Use of V100 pilot valve (0.4 W).

- ▶ **Improved maintenance and replacement or addition of components** thanks to the possibility of retrofitting of vacuum pressure sensor/switch and manifold DIN rail mounting bracket

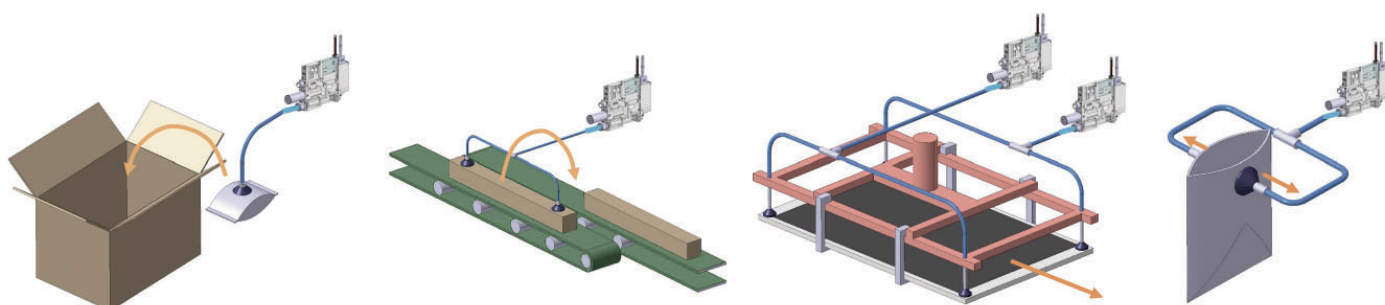
Efficient two-stage ejector

Air consumption 30 % reduced compared to SMC single stage ejectors.



Applications

- Packaging / unpacking
- Transfer
- Panel conveyors
- Quiet environments, such as laboratories
- Get the most efficient results of the energy saving function on work-pieces with reduced vacuum leakage (low porosity).



Liquid dispense pump

LSP Series



Adapts to your needs

- ▶ **Get great usage flexibility** – Adjustment of dispensing volume is possible
- ▶ **Ensure great accuracy** – Stable dispensing volume
- ▶ **Avoid leakage** – Shut-off function.



▶ **Stable dispensing volume:** Repeatability: $\pm 1\%$ ^{1) 2)}

1) $\pm 2\%$ at 5 to 15 μL

2) Under SMC's measurement conditions

▶ **Self-contained system**

Adjustment of the dispensed volume is possible

- ▶ **Fluid contact material:**
- Body: PEEK or PP
 - Diaphragm, Check valve: EPDM or FKM.

▶ **Compact**



Applications

LPS can be used in precise dosing applications in the microlitre range. It is used in applications such as medical analyser, ink jet printing or semiconductor/solar cell production.

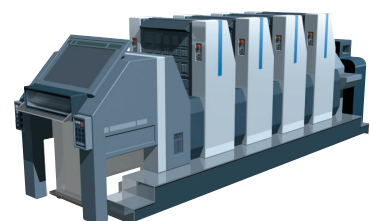
Analyser



Ink jet printing



Related to semiconductor/solar cell



2/3-Port solenoid valve for chemical liquids

LVM Series



Isolation means trust

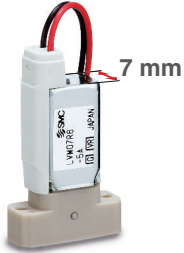


- ▶ **Superior chemical resistance**
 - Body / plate: PEEK (Polyether Etherketone)
 - Diaphragm / O-ring: EPDM, FKM, Kalrez®
- ▶ **Power saving circuit type can be selected**
- ▶ **Plug connector, with light/surge voltage suppressor**
- ▶ **With reverse mounting prevention pin**
- ▶ **Change in volume depending on open/closed status of valve: 0.01 µl or less (Rocker type)**

- ▶ **Rely on it** – The isolated structure prevents armature sticking and corrosion
- ▶ **Achieve minimum maintenance and long service life** due to the use of materials such as PEEK, Kalrez®, FKM or EPDM
- ▶ **Avoid contamination and high reagents consumption** – Change in volume 0.01 µl or less.

New variations have been added:

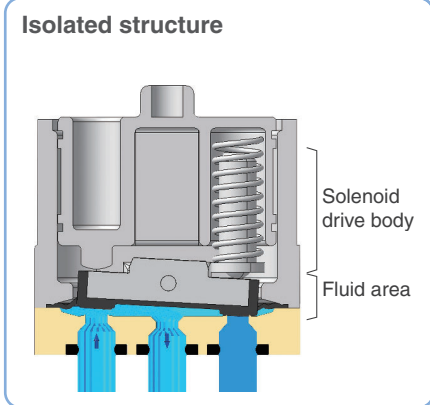
- LVM07 base mounted (7 mm width)



- LVM09 body ported



- LVM13 base mounted



- ▶ **LVM series** can be used in applications such as analytical and diagnostic equipment

Air servo cylinder

IN-777 Series



Precise & sturdy solution for difficult environments

- ▶ **Fast response and high positioning repeatability**
Positioning repeatability: ± 0.5 mm
- ▶ **Ambient temperature: -20 °C to 60 °C**
- ▶ **Speed adjustment function**
Capable of 10-level speed setting.
- ▶ **Environmental resistance IP67**

Cylinder with an integrated servo valve and controller.



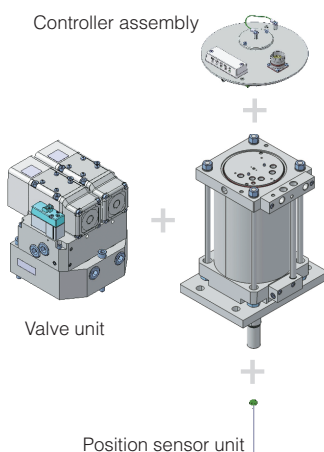
Built-in self-diagnosis function



- LED display
- It is possible to output digital signals.

▶ Easier maintenance due to unitization

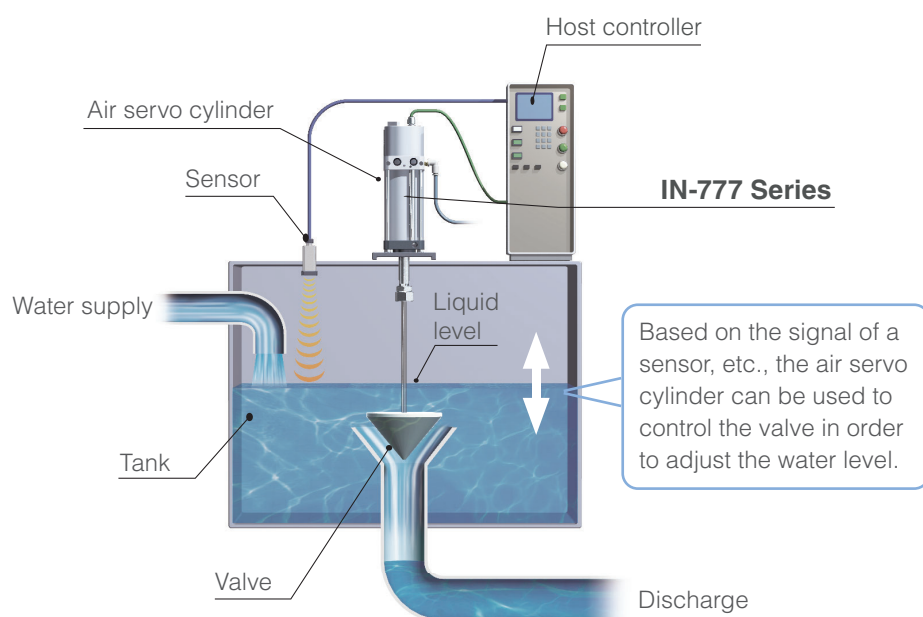
The valve unit, pilot valve, controller assembly, seal kit, etc., are replaceable. (Same replacement parts for all cylinders)



- ▶ **Achieve precise and efficient movements** – Fast response and high positioning repeatability: ± 0.5 mm
- ▶ **Use it with confidence in dusty environments** – Long service life in dusty environments IP67
- ▶ **Ease your maintenance** – Built-in self-diagnosis function and replacement parts unitization.

Applications

IN-777 series has been developed mainly for gate opening and closing applications, such as floatation tanks.



Easy initial setting

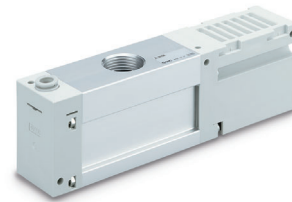
Input an I/O signal to move the rod forward, and set the rod stop position to 20 mA (or 4 mA).

Multistage ejector

ZL1/ZL3/ZL6 Series



A light efficient push to your suction



► **Lightweight and compact body:**

- ZL1 series 180 g (60 % reduction from ZL112)
- ZL3 series 390 g (44 % reduction from ZL212)
- ZL6 series 470 g.

► **High-efficient 3 stage diffuser construction** makes its suction flow rate increase by 250 %. Diverse range of suction flow rate, with 3 different types:

- ZL1 series 100 l/min
- ZL3 series 300 l/min
- ZL6 series 600 l/min.

► **Energy saving ejector (ZL3/ZL6 series)**

It gives the possibility of having a pressure switch for vacuum with an energy saving function mounted.

With ZL3 and ZL6, approximately 90 % energy saving is achieved when selecting the energy-saving function.

► **Branch piping connection with one touch fittings available**, without the need of bushing (ZL3/ZL6 series)

Exhaust type

- Silencer exhaust

ZL3

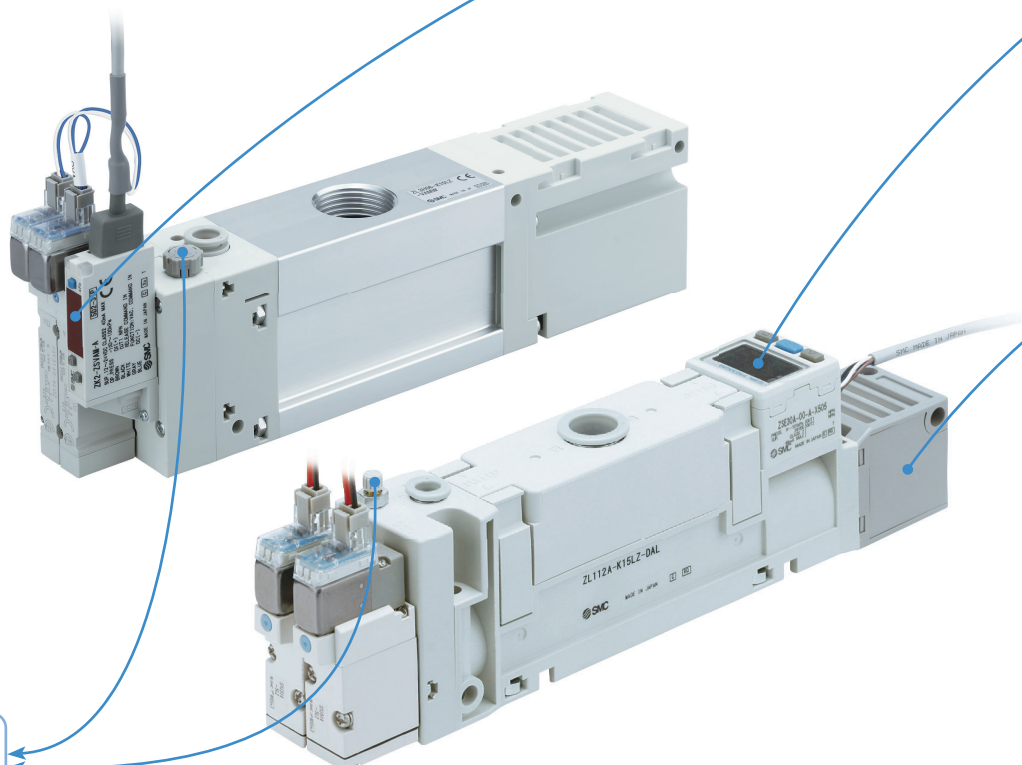


ZL6



- Port exhaust

ZL3/ZL6



Vacuum break flow adjusting needle

- ▶ **Perform the suction with a very light solution** – The ideal solution for robots' moving parts
- ▶ **Introduce efficiency in your vacuum applications** – High suction flow with 3 stage diffuser construction
- ▶ **Obtain a wide range of applications** – Higher maximum suction flow rate
- ▶ **Minimise your air consumption** – Energy saving function is available.

3 types of vacuum pressure sensors:

Digital vacuum pressure switch for ZL3/ZL6



Digital vacuum pressure switch for ZL1



Vacuum pressure gauge



Vacuum port adapter (Rc1/8)



Exhaust type ZL1

- Silencer exhaust

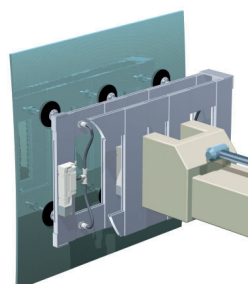
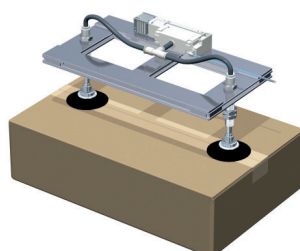
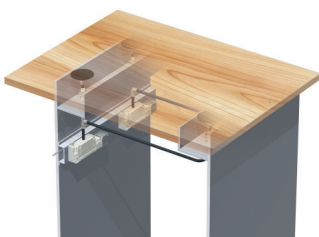


- Port exhaust



Applications

Suitable for workpieces with uneven surfaces such as cardboard, wooden or high porosity materials.



Low profile 2/3-port solenoid valve SX90/090 Series



Get great flow despite its small size

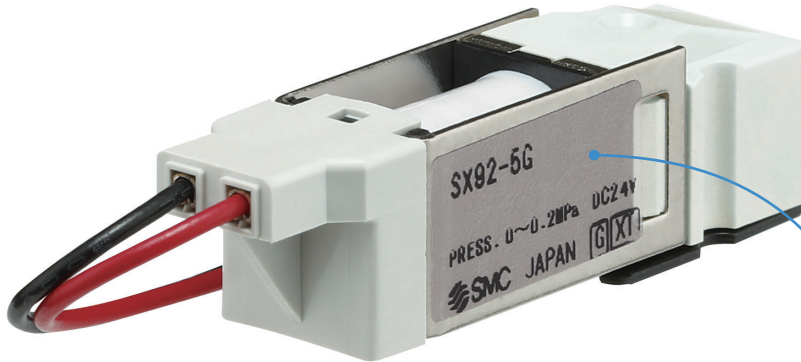


- ▶ Reduces space requirements so that it can be used on portable equipment – Lightweight and compact design
- ▶ Get these same features, or better than bigger valves – High flow rate
- ▶ Energy and cost savings – Low power consumption.

High flow rate

	2-port/N.C.	3-port
Flow rate [l/min (ANR)]	45 ¹⁾	90 ¹⁾

1) At 0.2 MPa

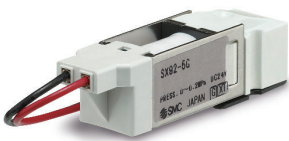


Compact and lightweight

	2-port	3-port
Overall length	Approx. 38 mm	54 mm
Valve width/height	10 mm	
Weight	10 g	20 g

▶ 2 Types of actuation: Normally closed and universal

▶ 2 models:



2-port valves



3-port valves

Applications

SX90/090 can be used in general automation, medical and electronic industries. It is used in applications such as air blowing, blood pressure measuring devices, portable oxygen concentrators, pneumatic massaging devices and chip mounters.

Blood pressure measuring devices

Pneumatic massaging devices

Portable oxygen concentrators

Chip mounters



High rigidity slider type electric actuator, ball screw drive, high power (750 W)

LEJS100-X400 Series

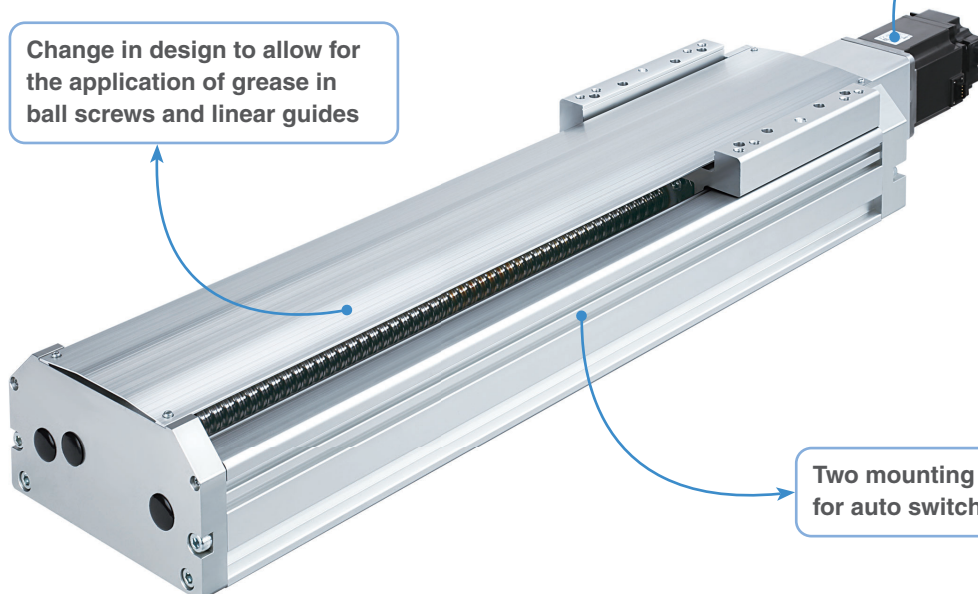


Our most powerful electric actuator



- ▶ **High power, 750 W equivalent:**
 - Maximum acceleration/deceleration: 9800 mm/s²
 - Maximum speed: 2300 mm/s
 - Maximum workload: horizontally 400 kg, vertically 80 kg.
- ▶ **Flexibility of body assembly:** up or down
- ▶ **High precision positioning:** ±0.01
- ▶ **The double axis linear guide construction provides high precision and high rigidity**
- ▶ **Motorless availability applicable to many types of engines**

Change in design to allow for the application of grease in ball screws and linear guides



Two mounting grooves for auto switches

- ▶ **Increase your productivity** – High-speed transport of heavy workloads, up to 400 kg
- ▶ **Ensure robustness in your application** – Double axis linear guide construction supports eccentric loads with high acceleration
- ▶ **Use your own motor and driver** – Motorless type
- ▶ **Improve your position repeatability and lost motion** – High-precision type ±0.01 mm.

Compatible with LECSB-T9 AC servo motor driver:

- Positioning up to 255 point tables
- STO (Safe Torque Off) safety function available
- Absolute 22-bit encoder, with a resolution of 4194304 p/rev
- Parallel input/output: 10 inputs / 6 outputs.



Applications

This transfer solution, appropriate for moving heavy loads with absolute precision, is perfect to fit in any general industrial machinery with the requirement for handling heavy loads at very high speed, either horizontally or vertically.



Handling of heavy workloads or eccentric loads at very high speed



High-speed track control and/or pick & place (x-axis)

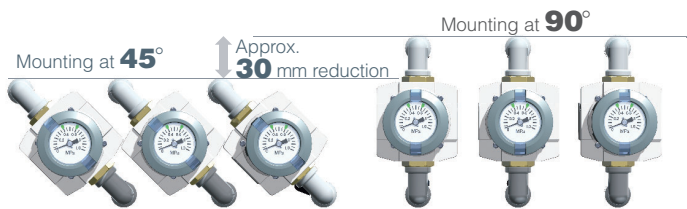
Regulator and filter regulator with built-in pressure gauge ACG/ARG/AWG Series



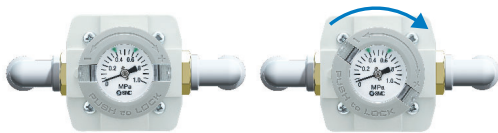
Regulation on sight

RoHS

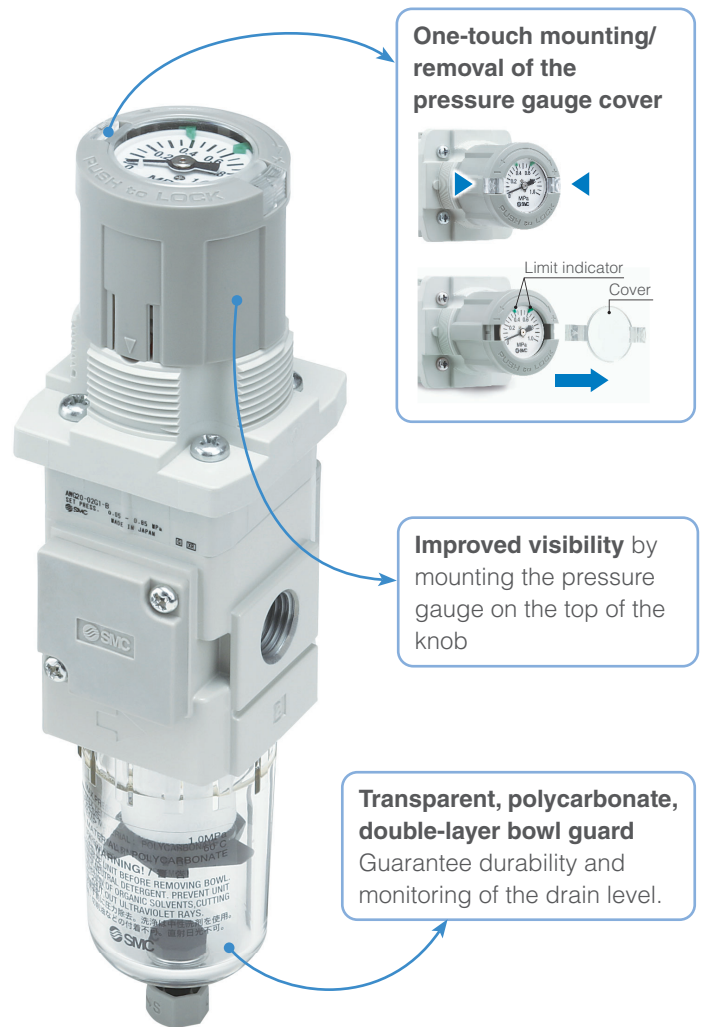
- ▶ **Easy replacement of older version due to interchangeability with previous ARG/AWG**
- ▶ **Contribution to machine overall weight reduction thanks to the lighter design** (approx. 12 % for AWG40)
- ▶ **Special option for 0.4 MPa setting**
- ▶ **Special option for customised mounting angle makes space saving possible**



- ▶ **Pressure gauge anti-revolving mechanism**
Does not rotate during knob operation.

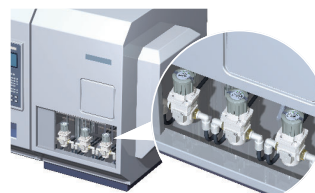


- ▶ **Reduce maintenance labours** – Pressure gauge on the top of the knob
- ▶ **Guarantee durability** – Double-layer, transparent polycarbonate bowl
- ▶ **Manipulate it easily** – Pressure gauge anti-revolving mechanism and one touch pressure gauge cover.

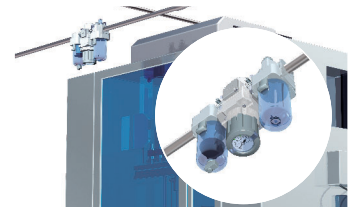


Applications

The new ACG/ARG/AWG series is suitable for general pneumatic applications where pressure regulation is required. It is also suitable for places of reduced visibility or accessibility, because the position of the knob allows observing it from below or above.



Installation at lower locations

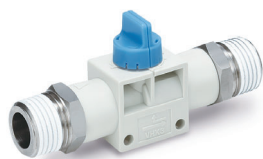


Installation at higher locations

See more improved versions in our product portfolio

Finger valve

VHK Series



A refreshed version of our finger valve that includes a function to prevent the knob from coming out. These valves are used to manually control compressed air in pneumatic applications. It switches air pressure devices by simply turning the knob (on/off).

Speed controller with large flow rate

AS-X778 Series



A new version of our most popular series of speed controller that allows higher speed cylinder movement thanks to the 3.8 times increase in flow rate (1000 l/min with a 1/8 port size) compared with the standard model.

AC servo motor drivers

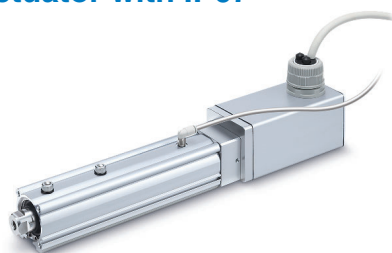
LECSB-T & LECSC-T Series



Two new models of AC servo motor driver, both absolute type, added to the current LECS range to allow you to meet requirements for high precision, speed and force. The LECSB-T is a pulse input type available with STO (Safe Torque Off) safety function and the LECSC-T is a CC-Link direct input type. Together, they expand your options for electric actuation solutions.

Rod type electric actuator with IP67 enclosure

LEY-X7 Series



The improved version of our current LEY series, now dust-tight and immersion-proof, is the perfect solution for working either vertically or horizontally in harsh and corrosive environments.

Step motor controller with input signals to perform jog operation

LECP1-XB182 Series



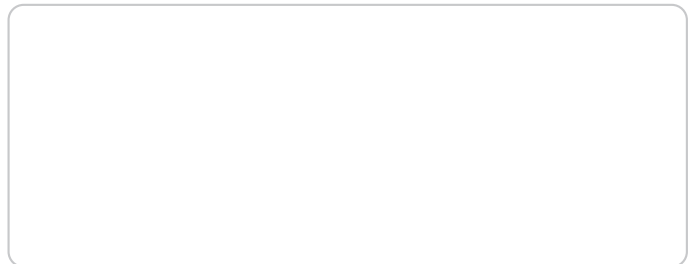
A simplified non-programmable version of our LECP1 Series that uses parallel input signals as motion instructions. Perfect for applications where the position setup has to be done manually at the application.



Expertise – Passion – Automation

SMC Corporation

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



Austria	+43 (0)2262622800	www.smc.at	office@smc.at
Belgium	+32 (0)33551464	www.smc.be	info@smc.be
Bulgaria	+359 (0)2807670	www.smc.bg	office@smc.bg
Croatia	+385 (0)13707288	www.smc.hr	office@smc.hr
Czech Republic	+420 541424611	www.smc.cz	office@smc.cz
Denmark	+45 70252900	www.smc.dk.com	smc@smc.dk.com
Estonia	+372 6510370	www.smc.pneumatics.ee	smc@info@smcee.ee
Finland	+358 207513513	www.smc.fi	smc@smc.fi
France	+33 (0)164761000	www.smc-france.fr	info@smc-france.fr
Germany	+49 (0)61034020	www.smc.de	info@smc.de
Greece	+30 210 2717265	www.smchellas.gr	sales@smchellas.gr
Hungary	+36 23513000	www.smc.hu	office@smc.hu
Ireland	+353 (0)14039000	www.smcautomation.ie	sales@smcautomation.ie
Italy	+39 03990691	www.smcitalia.it	mailbox@smcitalia.it
Latvia	+371 67817700	www.smc.lv	info@smc.lv

Lithuania	+370 5 2308118	www.smclt.lt	info@smclt.lt
Netherlands	+31 (0)205318888	www.smc.nl	info@smc.nl
Norway	+47 67129020	www.smc-norge.no	post@smc-norge.no
Poland	+48 222119600	www.smc.pl	office@smc.pl
Portugal	+351 214724500	www.smc.eu	apoioclientept@smc.smces.es
Romania	+40 213205111	www.smcromania.ro	smcromania@smcromania.ro
Russia	+7 8123036600	www.smc.eu	sales@smcru.com
Slovakia	+421 (0)413213212	www.smc.sk	office@smc.sk
Slovenia	+386 (0)73885412	www.smc.si	office@smc.si
Spain	+34 945184100	www.smc.eu	post@smc.smces.es
Sweden	+46 (0)86031200	www.smc.nu	smc@smc.nu
Switzerland	+41 (0)523963131	www.smc.ch	helpcenter@smc.ch
Turkey	+90 212 489 0 440	www.smc.pnomatik.com.tr	info@smcpnomatik.com.tr
UK	+44 (0)845 121 5122	www.smc.uk	sales@smc.uk