

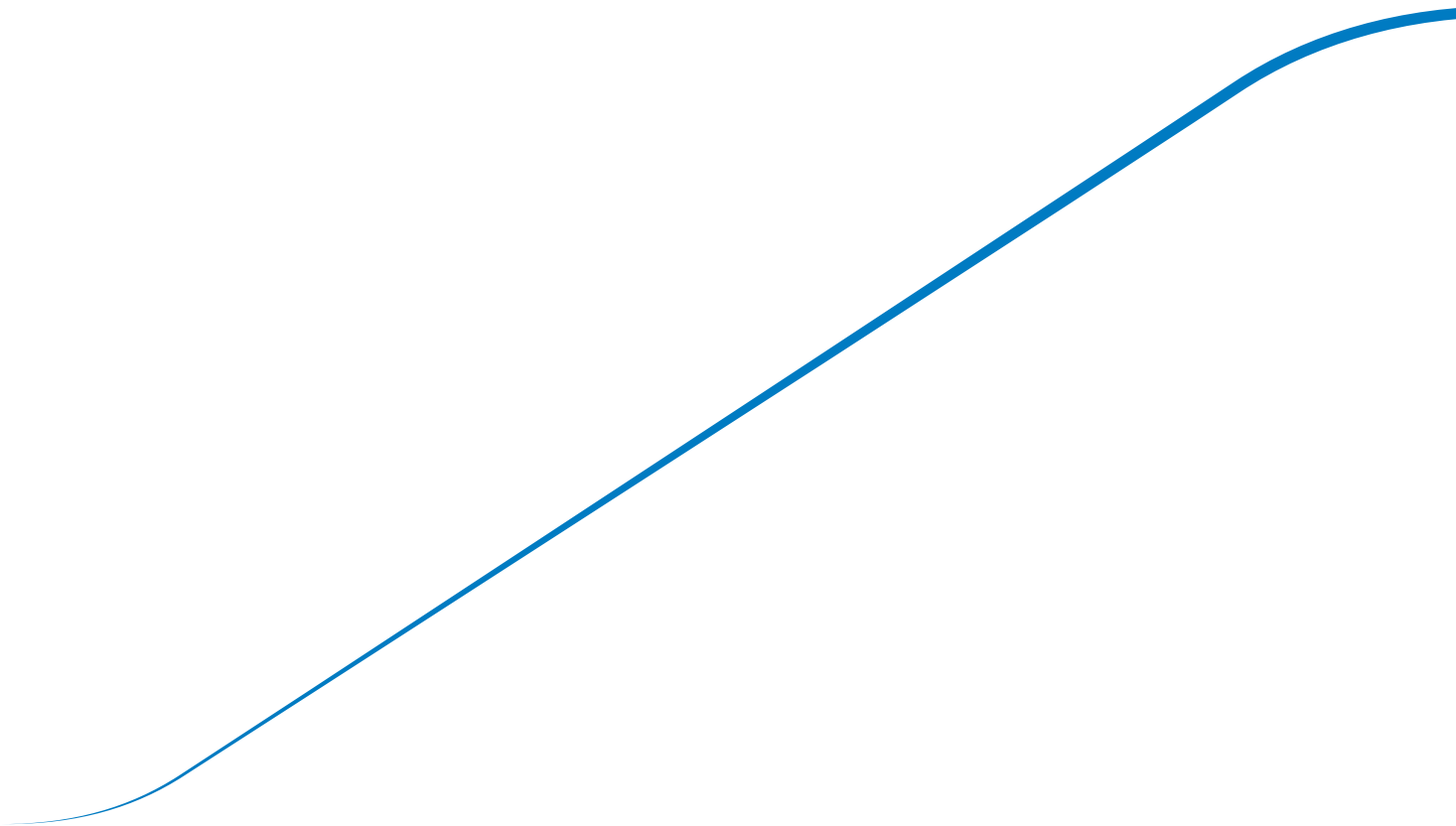


Expertise – Passion – Automation



New products 2020

Volume 2



New products 2020

Volume 2

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 an extended range of our rack mount type thermo-chiller, some IO-Link compatibility additions, an efficient blow gun that acts in the shortest time, and many more!

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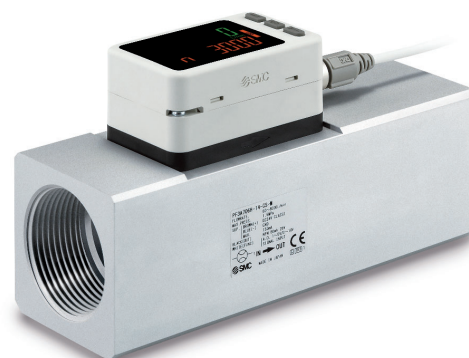
Digital flow switch for large flow, IO-Link compatible PF3A7□H Series

RoHS



Helping your efficiency

- **Flow ratio 100:1** – Wide range of flow measurement with one product
- **IO-Link compatible output** – Increased data availability, product diagnosis, standard wiring, remote access, easy sensor replacement, tamper-free
- **IP65**



More information at a glance

Due to the 3-colour and 3-label screen display the operator can easily take notes and do the setting while checking the measured value. Moreover, the display adapts to the installation rotating 90° or reversing



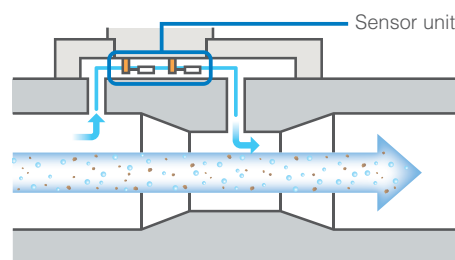
- ▶ **Employ a single product to detect leaks and keep air consumption in sight** – 100:1 Flow ratio with almost zero pressure loss
- ▶ **Get more information at a glance** – 2-line display with up to 3 simultaneous values and colour changes at switching points. Display rotates 90° and can be reversed
- ▶ **Smartly automate your monitoring process** – IO-Link for online parameterization and extraction of numeric data. Parallel analogue output possible.

Analogue output gives more and detailed information of the application performance

The external input can reset the accumulated value, peak value and bottom value without manipulation

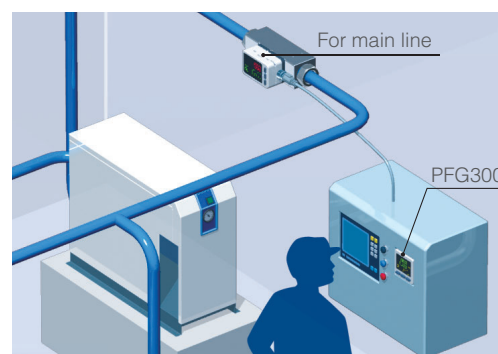
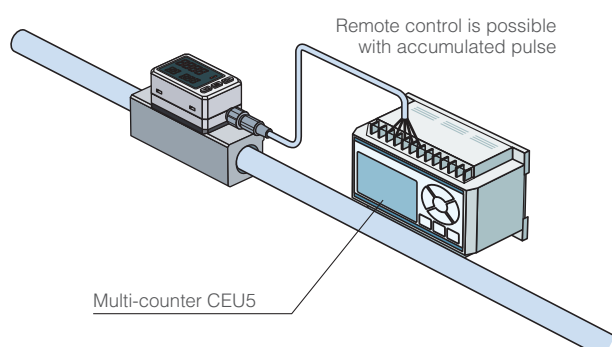
AC 17470 HI 1500 Ln PF3A

- ▶ **Extended Life** – Improved drainage and resistance to foreign matter. Reduced pressure loss maintenance-free fluid passage. The aluminium structure of the body is sturdy and tough



Applications

Air flow consumption monitoring of the main line, branch or specific equipment. Air consumption monitoring is the first step for energy efficiency.



Digital flow switch, IO-Link compatible PF2M7 Series



One switch, several fluids



► **It can be selected according to the fluid used**

Dry air, N₂, CO₂ & Ar can be applied

► **Wide range of flow measurement with one product**

- 2 new flow range options: 0.01 to 1 l/min and 0.02 to 2 l/min
- Flow ratio 100:1
- Smallest settable increment: 0.001 l/min

► **IO-Link compatible output**

Increased data availability, product diagnosis, standard wiring, remote access, easy sensor replacement, tamper-free.

- **Reduce your stock** – One single switch for CO₂, Dry air, N₂ & Ar
- **Ensure great accuracy & long life service** – Bypass construction improves drainage and resistance to foreign matter
- **Get more information at a glance** – 2-colour digital display, with reversible mode
- **Get ready for IIoT with IO-Link** – Exchange data and parameters remotely via network.

Compact size with reduced weight

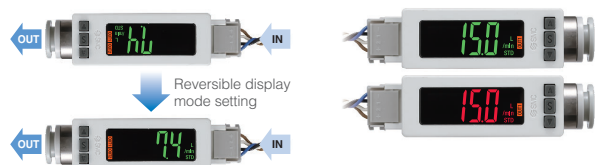
55 g to 40 g. 4.5 mm shorter in height and 4.7 mm shorter in length

Multiple port size options

Rc1/8, Rc1/4, NPT1/8, NPT1/4, G1/8, G1/4, Ø 4, Ø 6 or Ø 8 one-touch fitting

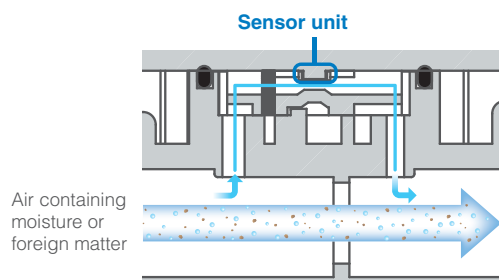
Improved display visibility

2-colour digital display with reversible mode



Improved drainage and resistance to foreign matter

Bypass construction reduces the moist air or foreign matter in contact with the sensor



Applications

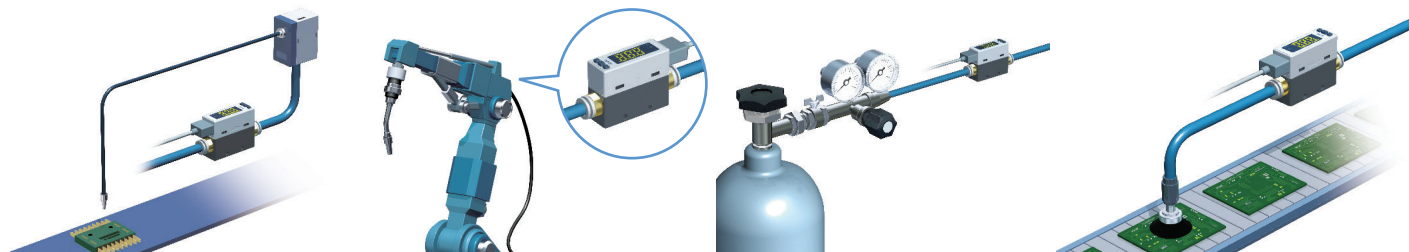
Series PF2M7 was developed for applications where pressure switches cannot emit a reliable signal due to the minor pressure drop and where the flow characteristics, although small, are more significant. Some examples of applications are given below

Metal wire tension controller

Welding machines

N₂ gas cylinder peripherals

Workpiece suction check



IO-Link master unit

EX600 Series



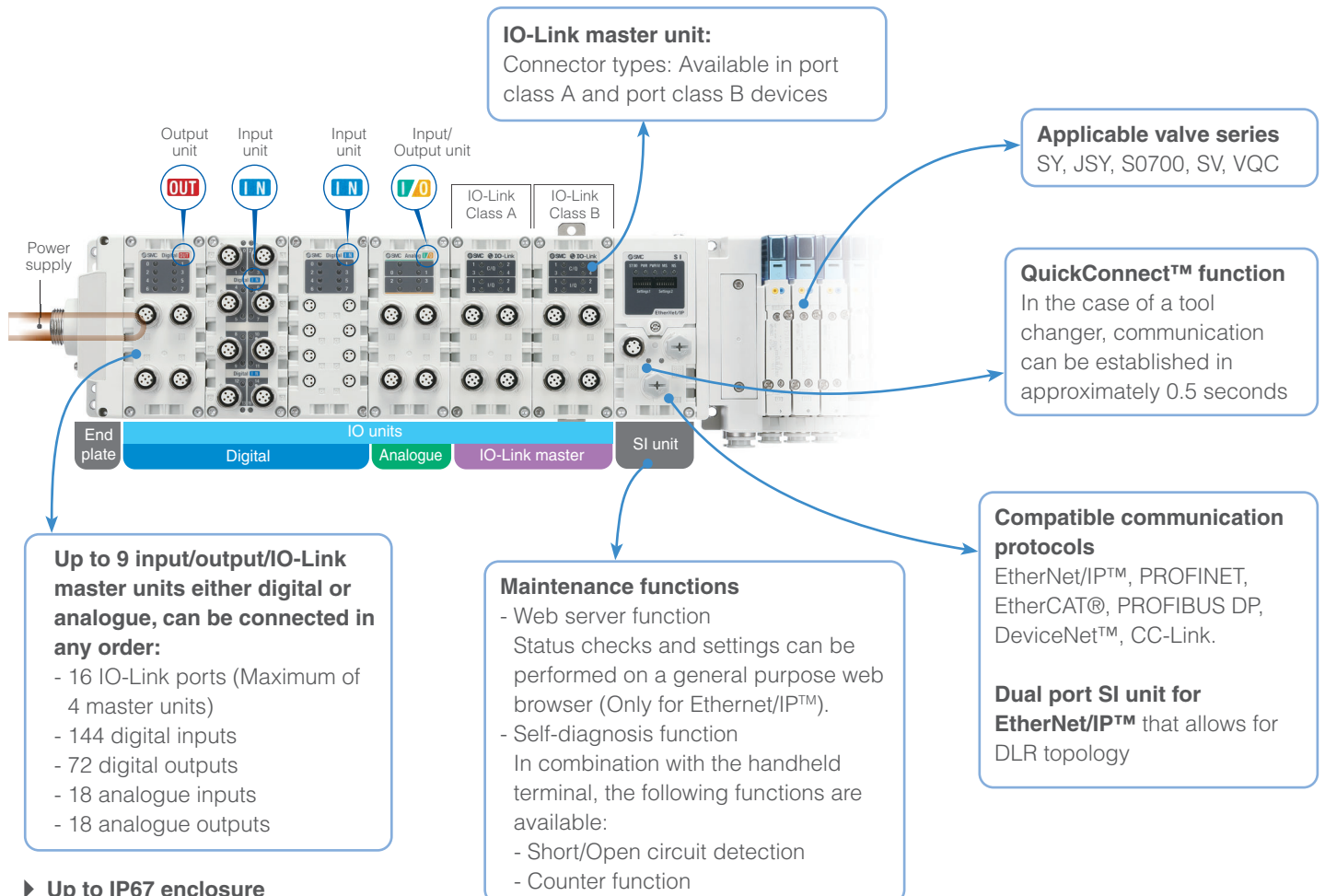
Increase the capabilities of your communications



EX600 SI unit

► Centralised & compact Fieldbus system

- **Ensure communication at all times**
 - DLR and MRP supported
- **Obtain greater flexibility** – Availability of digital and analogue input/output units together with IO-Link communication
- **Enhance efficiency with easier maintenance** – Self-diagnosis function and LED display. IO-Link communication for device parameters control
- **Reduce installation and wiring time** – Joint type connection method.



Applications

Target industry of Fieldbus System EX600 is general industry, for nearly every application and automatic machine where the control structure has a certain degree of complexity.

- Suitable for quick connection in tool changes on robot arms
- Suitable for collaborative robotics with improved machine safety
- Suitable for the transport of solids, remote control.

Battery-less absolute encoder type electric actuators

LE Battery-less Series



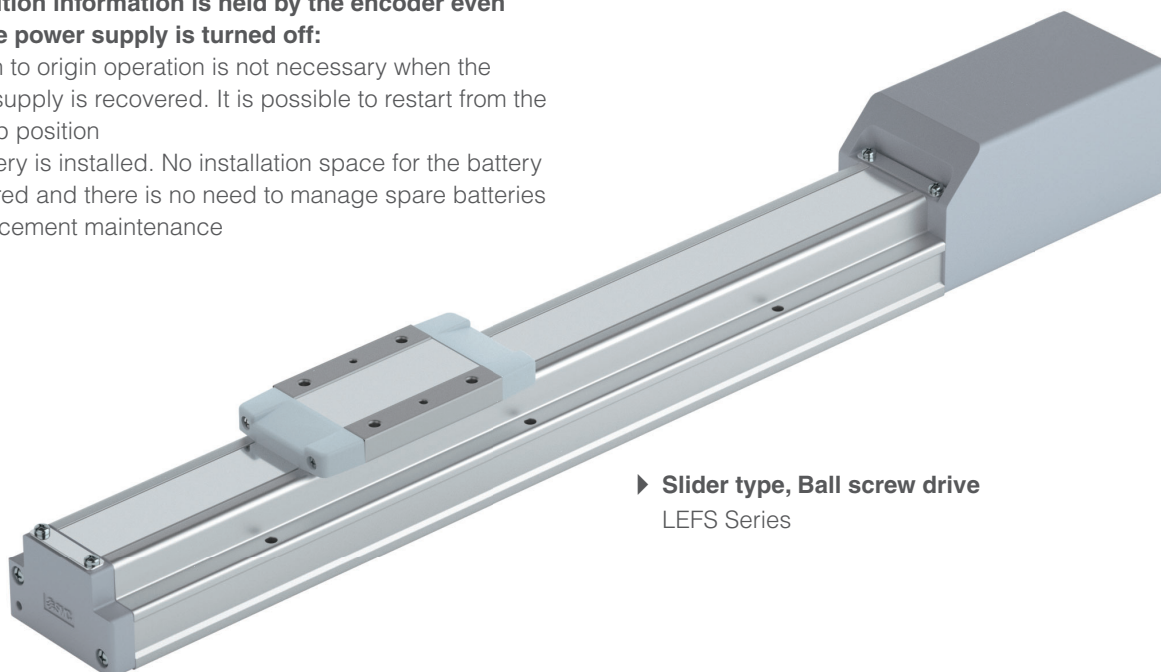
Motion in your power



- ▶ **Perform any movement, anywhere, in any way you want** – A world of motion at your disposal
- ▶ **Control it as suits you best** – Digital I/Os or Fieldbus command available
- ▶ **Smart up your factory** – SMC electric solutions are Industry 4.0-friendly.

▶ **The position information is held by the encoder even when the power supply is turned off:**

- A return to origin operation is not necessary when the power supply is recovered. It is possible to restart from the last stop position
- No battery is installed. No installation space for the battery is required and there is no need to manage spare batteries or replacement maintenance



▶ **Slider type, Ball screw drive**
LEFS Series

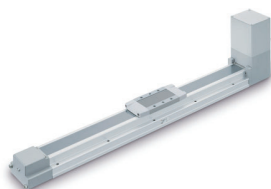
Slider type, Belt drive
LEFB Series

Rod/Guide rod type
LEY(G) Series

Slide table
LES(H) Series

**Electric gripper,
2-Finger type**
LEHF Series

Rotary table
LER Series



▶ **Applicable network/Control method:**

EtherCAT[®]

DeviceNet[™]

CC-Link

PROFI[®]
NET

EtherNet/IP[™]

IO-Link

Step motor controller
JXC□1 Series



High precision slide table

LESYH-X171 Series

Compact & robust actuator for transfer applications



► **High-precision type:**

- Positioning repeatability $\pm 0.01\text{mm}$
- Vertical workload: up to 20kg
- Horizontal workload: up to 12 Kg
- Available sizes: 16/25

► **Lost motion: 0.1 mm or less**

► **Battery-less absolute encoder:**

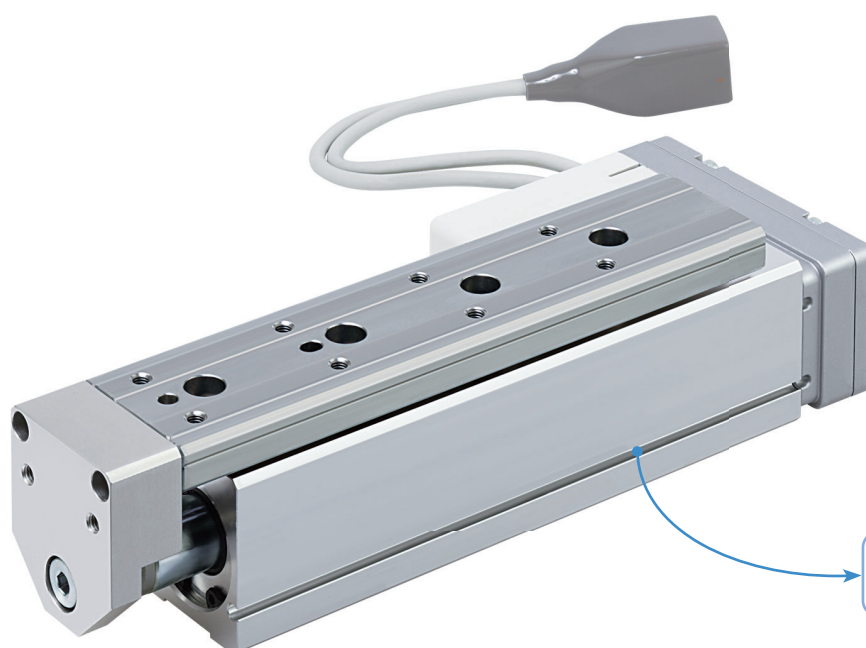
- No battery
- No loss of position

► **Optimise your space** – Compact dimensions, as little as 33 mm height and 32 mm width with motor in-line

► **Boost your productivity** – Maximum speed of 400 mm/s and maximum acceleration of 5000 mm/s^2

► **Succeed in offering remarkable rigidity and precision** – Reduced deflection. ± 0.01 position repeatability and great harshness with LESYH-X171

► **Assemble it as your needs** – Step or servo motor. In-line or parallel motor



Auto switches are mountable

► **Applicable network/Control method:**

EtherCAT[®]

DeviceNet[™]

CC-Link

PROFI[®]
NET

EtherNet/IP[™]

IO-Link

Step data input type

JXC51, JXC61 Series



Applications

- For all pressing and press fitting with pushing operation
- For positioning applications including the alignment, transferring, and picking and placing of work pieces
- For high-speed track control applications

Impact blow gun

IBG Series



Instant blow, long-term saving

RoHS

- Air consumption 87 % reduction
- Work time 97 % reduction



Chip guard option

Guards against the blown machining chips and workpiece.



► Instantaneous air blow

The instant blow is possible thanks to a durable membrane that pushes the air at high speed

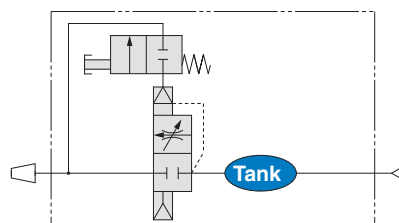
► Compliant with OSHA Standards

80dB(A) maximum noise level ¹⁾

1) Based on SMC's measurement conditions

► Stable discharge

Built-in tank guarantees an stable discharge without pressure drops on the line.



- ▶ **Save plenty of work time** – 97 % of work time reduction thanks to instant discharge
- ▶ **Reduce drastically the energy consumption** – 87 % of air saving compared to conventional blow guns
- ▶ **Adapt the blowing force to your application** – Adjuster with indicator allows peak pressure regulation.

Peak pressure adjuster with indicator

Selector available to choose between 5 levels of peak pressure.

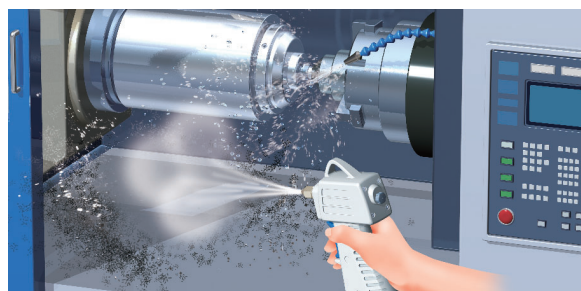


Operational force: 10 N or less

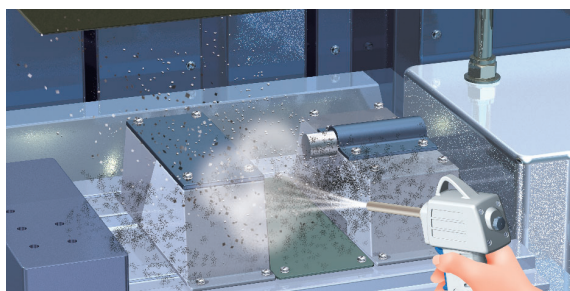
Applications

Secured and simple removal of machining chips, foreign matter and water droplets.

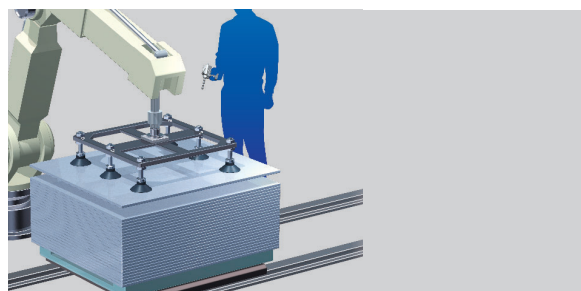
For the quick removal of machining chips coated with oil



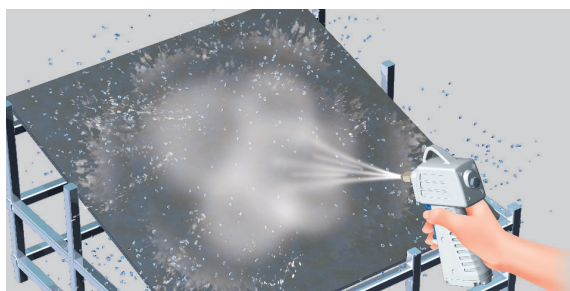
For the removal of foreign matter with a single shot from a distance



For the separation of workpieces stuck together with oil, etc.



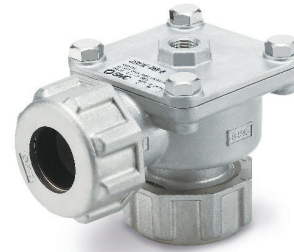
For the quick removal of water droplets



Pulse valve JSXFA Series



An impulse towards efficiency

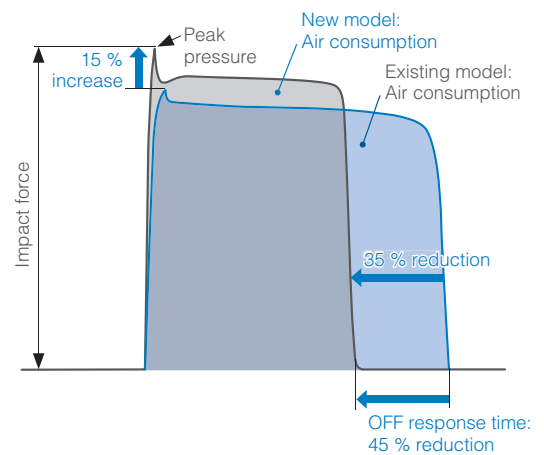


► High peak pressure

Increased pulse efficiency

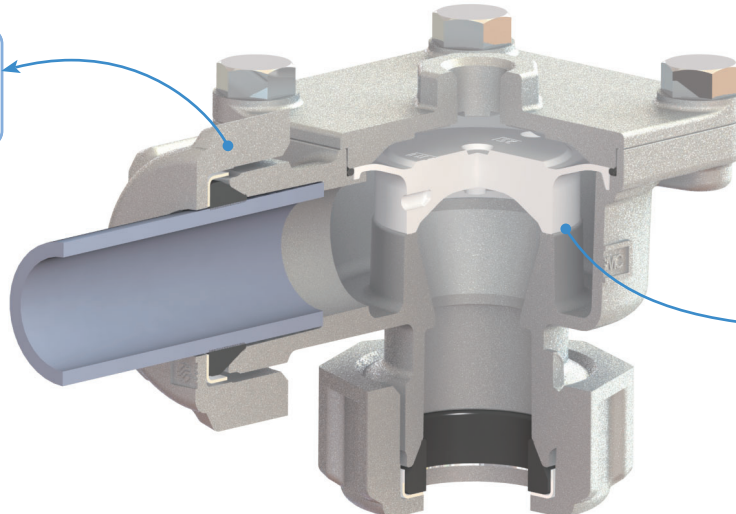
► Low air consumption & fast response time

Reduction of 35 % of current air consumption and 45 % of current OFF response time compared with existing model



Compression fitting type

Ease of installation and fast piping assembly



Springless diaphragm

Ease of maintenance

► Long service life: 10 million cycles

More reliable and durable product

► Fluid temperature: -40 to 60 °C

► Operating pressure differential: 0.1 to 0.9 MPa.

► New models have been added:

Immersion type

ATEX category 2 type

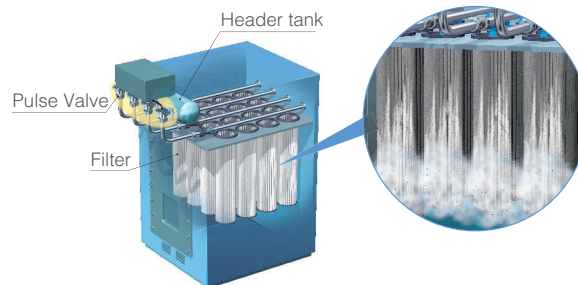


- ▶ **Increased pulse blow efficiency** – High-peak pressure
- ▶ **Energy savings** – Low air consumption & fast response time
- ▶ **Guaranteed endurance** – 10 million cycles or more thanks to its elastomer diaphragm
- ▶ **Install it simply & quickly** – Compression fitting and immersion type available.

Applications

This product is suitable for any applications where an air pulse is required to remove foreign matters. Commonly used to remove particles from filters (bag filters, cartridge filters, envelope filters, ceramic filters, sintered metal fibre filters) or to remove adhering matters.

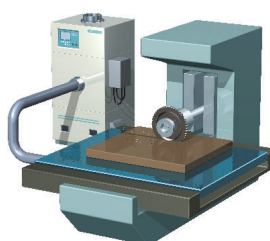
Remove fine particles using the pulse valve!



Mixing



Cutting



Pressing
(Blanking / Piercing)



Low profile air gripper with one finger fixed MHF2-F Series



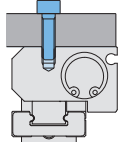
Cling to the maximum narrowness

RoHS

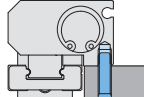
- ▶ 3 stroke lengths can be selected for moving finger: Small, medium and large

- ▶ Three types of mounting are possible

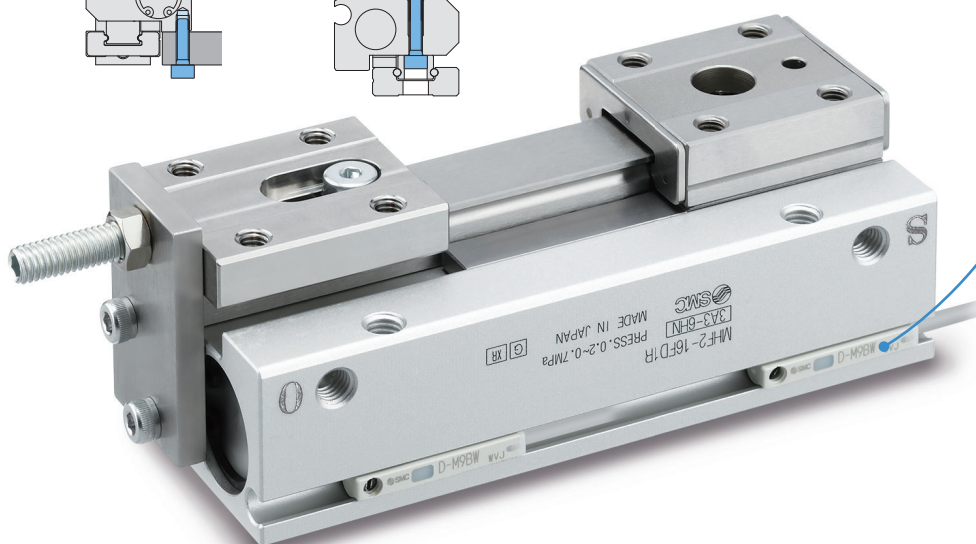
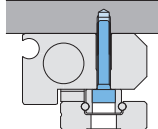
1 Top mounting
(Body tapped)



2 Bottom mounting
(Body tapped)



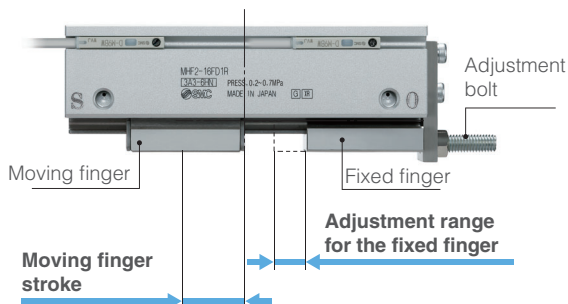
3 Bottom mounting
(Body through-holes)



Compact solid state auto switches are mountable

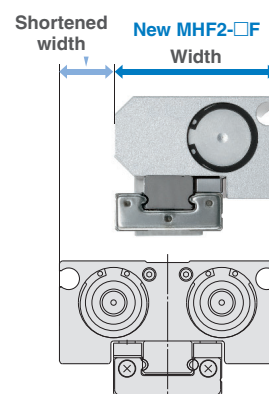
- ▶ Fixed finger position adjustment function

Fine adjustment is possible by using the adjustment bolt



- ▶ Compact and lightweight

High compactness due to 25 % reduction of width and weight compared to MHF2 series model, Ø 12.



Existing MHF2 series model

Applications

- General pick and place applications
- Small parts manufacturing
- Component assembling.



Air gripper unit for collaborative robots JMHZ2-X7400B Series



Let your robot grip it



UNIVERSAL ROBOTS+
Certified

► Plug & Play

Operate by simply connecting 1 air supply tube and an electrical wiring M8 connector

► Universal robots certified*:

For use with: UR3(e), UR5(e), UR10(e) and UR16e

* Please contact SMC for other collaborative options

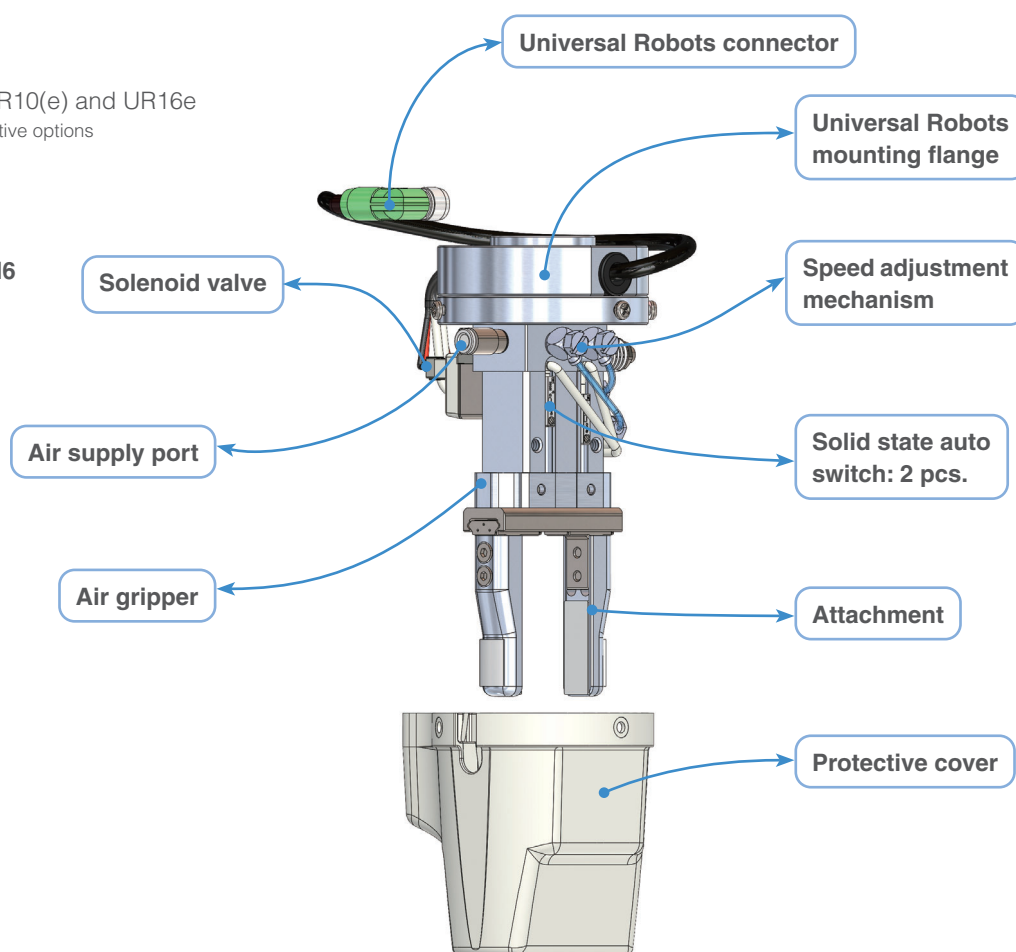
► High precision linear guide:

Repeatability: ± 0.01 mm

► Conform to ISO 9409-1-50-4-M6

► URCap

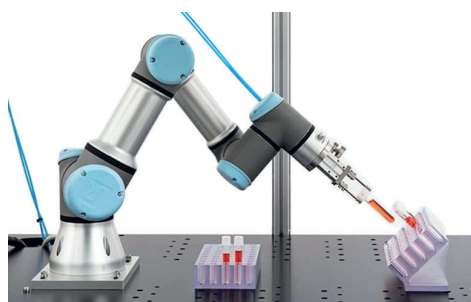
- **Suitable for use in collaborative robots** – Air gripper unit with integrated solenoid valve and speed adjustment mechanism
- **Reduce your set up time** – Plug and Play configuration for immediate use in a UR collaborative robot
- **Achieve precise handling** – Precision repeatability as low as ± 0.01 mm.



Applications

The JMHZ2-X7400B series has been specifically designed to be used in collaborative robots (UR) for pick and place, packaging or palletizing applications.

Pick and place



Assembly



Rack mount type thermo-chiller

HRR Series



Simplify your temperature control



Particle filter, de-ionised water filter, bypass piping, bypass valve and flow sensor are built-in

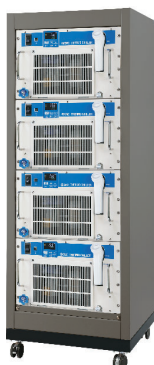


Particle filter (standard)

Bypass valve (standard)

► Stackable and compact

Perfect to stack in a 19-inch (482.6 mm) rack. Height reduction of 305 mm and volume reduction by 28 % (comparison between HRR012 and HRS012)



► Self-diagnosis function and alarm code display

Display of 24 types of alarm codes

► Menu for maintenance schedule

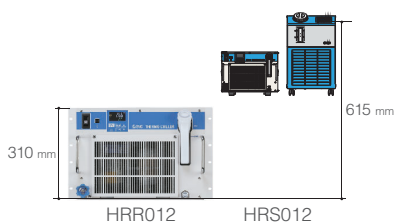
Time for periodical checks for the pumps, fan motor, dustproof filter, etc. will generate a maintenance code

► Displaying screen for operating conditions

► Cooling capacity: 0.9/1.6/2.0/2.5 kW (50 Hz)

► Temperature stability: $\pm 0.1^{\circ}\text{C}$

► Set temperature range: 5 to 35 $^{\circ}\text{C}$ (15 to 35 $^{\circ}\text{C}$ HRR010).



- ▶ **Save space** – Mount multiple equipment units together in a rack
- ▶ **Ease your control, service and maintenance** – Filters and drainage accessible via front panel
- ▶ **Facilitate installation** – Built-in filters, flow sensors and bypass piping.

Front access

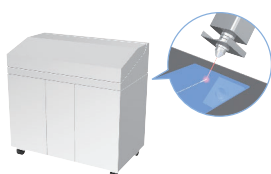
Key components can be replaced and adjusted via the front panel when the product is installed in a rack (there is no need to remove the unit from the rack)

DI filter (option)

Applications

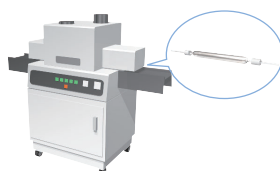
Laser machining

Cooling of laser irradiated part



UV curing device (printing, painting, bonding and sealing)

Cooling of UV lamp

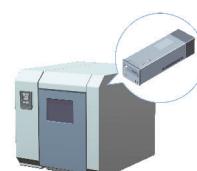


Electronic microscope

Temperature control of electron-beam irradiated part

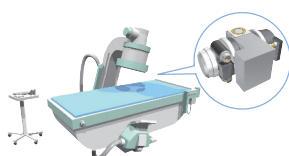


Laser oscillator



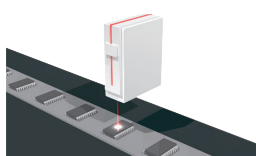
X-ray (digital) instrument

Temperature control of X-ray tube and X-ray light sensing part



Laser marker

Cooling of laser irradiated part

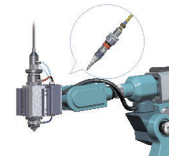


Ultra sonic wave inspection machine

Temperature control of ultrasonic wave laser part



Transmission cable connector for fiber laser



See more improved versions in our product portfolio

CC-Link direct input type controller

JXCM1 Series



Our JXC step motor controllers for electric actuators are now extended with the CC-Link communication protocol unit. These controllers, suitable for real-time control, are also compatible with battery-less absolute encoders.

Step data input type controller

JXC51/61 Series



Two new types of controllers for electric actuators, compatible with battery-less absolute encoder and operated by parallel I/O, are added to the range of our step motor controllers for electric actuators JXC.

Heavy-duty stopper with lock release specification

RS2H-XC102 Series



A stopper cylinder to decelerate and stop heavy loads. Now perfect, preventing an unexpected backward movement thanks to the new lock release function.



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